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Promotion of Artificial Intelligence (AI) Technology in East African Community (EAC) Justice Delivery: The Case of Tanzania

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Abstract

This study examines the promotion and integration of Artificial Intelligence (AI) technology within the Tanzanian justice delivery system, with a specific focus on its implications and potential policy recommendations. AI technology has the potential to revolutionise legal processes, enhance efficiency, and improve decision-making within the justice domain. The study employs a qualitative approach, encompassing desk reviews, qualitative data collection through interviews, analysis of case studies, and interventions to raise awareness about AI's intersection with the justice system.

The findings underscore a varied awareness of AI adoption among legal professionals, with a significant proportion acknowledging its potential benefits. However, challenges such as limited training, infrastructure constraints, and ethical considerations hinder seamless integration. The study advocates for targeted AI training programs, fostering collaborations for knowledge sharing, and crafting a comprehensive policy framework to address legal, ethical, and technological aspects. These policy recommendations strive to facilitate responsible AI adoption and promote a technologically proficient Tanzanian justice system, ultimately ensuring fair, accessible, and efficient legal processes.

Keywords: Artificial Intelligence, Justice Delivery, AI Ethics, e-judiciary, e-filing

Preface

In the foreword of this study, we delve into the foundational motivations and intentions that propelled the research journey towards the intersection of Artificial Intelligence (AI) and the justice delivery system within the East African context, with a primary focus on Tanzania. Our aspirations are rooted in the imperative to comprehend and explore how AI technologies could potentially revolutionise the justice administration processes, thus contributing to a more efficient and equitable legal system. This preface invites the reader to explore AI's role and impact in the realm of justice.

This study is driven by a vision for a technologically enriched judicial landscape in Tanzania, aligning with global advancements and acknowledging the transformative potential of AI. The aspiration was to investigate the current landscape, gaps, challenges, and opportunities within the Tanzanian justice system and its readiness for AI adoption. Additionally, we aimed to offer pragmatic recommendations that could pave the way for informed decision-making and policy formulations. Through this study, we seek to contribute substantively to the ongoing conversation around the fusion of AI and the justice sector, nurturing an informed narrative essential for the betterment of legal processes and access to justice in Tanzania and beyond.

Acronyms & Abbreviations

AI	Artificial Intelligence
DPP	Directorate of Public Prosecution
EAC	East African Community
ICT	Information and Communication Technology
JSDS	Judiciary Case Management System
NICTBB	National ICT Broadband Backbone
R&D	Research and Development
SMS	Short Message Service
TLS	Tanganyika Law Society
UNESCO	United Nations Educational, Scientific and Cultural Organization
USSD	Unstructured Supplementary Service Data

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Introduction

Artificial Intelligence (AI) has demonstrated substantial potential for transforming various sectors globally, and its future impact on the legal industry, particularly in terms of enhancing efficiency and decision-making, is of great interest.

This research aims to investigate the current extent to which the Tanzanian justice system has adopted AI technology, and its implications for legal processes and outcomes. The integration of AI in legal domains worldwide, including advancements in due diligence, case prediction, and document management, is helpful to understand the potential benefits AI could offer. The study also identifies the challenges and barriers hindering the widespread adoption of AI in the Tanzanian legal system, including infrastructural limitations, financial constraints, and ethical considerations.

This study conducts a comprehensive analysis encompassing literature review, qualitative data collection, case studies, and awareness interventions with the ultimate goal of providing useful insights and policy recommendations.

Key Research Questions

The first facet of this study concerns the level of awareness and adoption of AI technology among legal professionals and stakeholders within Tanzanian courts. Understanding if and how they perceive and engage with AI, as well as their awareness of its potential applications and benefits in the justice system, forms a foundational aspect of this research.

The second dimension looks at how Tanzanian courts use AI. This includes a thorough exploration of the specific areas or tasks where AI is currently being applied or potentially being considered for integration. Investigating the existing landscape of AI implementation provides essential insights into the technology's practical application.

The third critical dimension involves identifying and understanding the challenges and limitations facing AI integration initiatives. These challenges range from technological, financial, ethical, and infrastructural aspects and understanding them is crucial to propose effective policy recommendations and strategies to overcome hurdles. By comprehensively addressing these questions, this study aims to present a holistic view of the current state of AI integration within the Tanzanian justice system, its implications, and potential pathways for policy and practical advancements.

Literature Review

Internationally, AI technologies have made significant inroads into the legal industry. AI technologies are used for various legal tasks, including due diligence in contracts and investments, predicting legal case outcomes, automating document management, and providing insights into intellectual property rights.[2] AI systems assist judges by analysing case details and historical data, enabling better-informed decisions and potentially reducing case processing times. The application of AI in the judicial system has the potential to save time, reduce costs, and revolutionise decision-making processes. China, in particular, has made substantial strides in implementing AI in its judicial processes, promoting the combination of technology and human expertise.[3]

Advancements in technology, particularly the utilisation of AI and robotics, have been instrumental in driving transformative changes in economies worldwide.[4] While these technologies have demonstrated the potential for high impact in various sectors, including agriculture, healthcare, and public services, their integration into the legal sphere, particularly in Africa, has been relatively slow and limited.

Different regions have varying levels of AI adoption in the legal sector. For instance, Brazil has developed AI systems like VICTOR, SOCRATES, and SIGMA, aimed at improving efficiency and decision-making within the legal system.[5] In India, AI systems have been employed to assist judges in granting bail and parole, addressing the growing backlog of cases and ensuring timely justice delivery. Latin American countries are recognizing the importance of AI policies and strategies to prepare for the AI revolution.[6]

In contrast to the promising potential of technological advancements, numerous structural impediments obstruct the adoption of AI in African judicial systems. These hurdles encompass infrastructure limitations, with many African nations lacking essential technological prerequisites like reliable internet connectivity and power sources vital for effective AI integration. Moreover, financial constraints pose a significant barrier, hindering investments in AI technologies and challenging the funding of judiciary-focused AI initiatives. Additionally, a

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[2] Zhong, Y. L. (2021). *On the Application of Artificial Intelligence Technology in the Field of Judicial Adjudication.*

[3] Aini, G. (2020). *A Summary of the Research on the Judicial Application of Artificial Intelligence.*

[4] European Union (2017). *Standard Eurobarometer 87 - Spring 2017.* Retrieved 2023 from https://europa.eu/eurobarometer/surveys/detail/2142

[5] Sanctis, F. D. (2021). *Artificial Intelligence and Innovation in Brazilian Justice.* International Annals of Criminology.

[6] Jain, P. (2018). *Artificial Intelligence for Sustainable and Effective Justice Delivery in India.*

scarcity of AI-related expertise and skills among legal and technical professionals hampers the development and implementation of AI solutions. Limited access to comprehensive legal data in numerous African countries further impedes AI system training and performance.[7] The integration of AI into judicial systems introduces intricate legal and ethical dilemmas, necessitating legal reforms to address issues related to fairness, bias, accountability, and transparency. Furthermore, status quo and cultural resistance to change and entrenched traditional legal practices are hindering the acceptance of AI-driven solutions within the legal domain. Also, the adoption of AI in the legal sector raises ethical and legal concerns, including issues related to civil liability for AI actions, copyright protection for AI-generated works, algorithmic biases affecting due process, and privacy concerns regarding personal data use.[8]

UNESCO and the Smart Africa Digital Academy have conducted interregional training programs to promote responsible AI adoption in the legal system across African countries.[9] Some African nations have taken steps toward adopting AI in their judicial systems. In Tanzania, for example, initiatives such as AI transcription and translation software have been implemented to enhance transparency, efficiency, and the delivery of justice, reducing case backlogs and introducing digital tools for court proceedings. East African governments, including Kenya, have engaged in partnerships to build skills and capacity in AI and have made efforts to share open data in various development sectors.[10]

The administration of justice has been significantly impacted by technological development, creating new opportunities for academics and attorneys. Legal informatics have added new applications for AI, creating new opportunities. Lawyers will soon have to decide whether or not AI can be applied to judicial decision-making. However, for AI to be integrated into judicial activities, a well-functioning AI system and thorough legal compliance analysis are also required.[11] While AI holds immense potential to transform the legal sector globally, African nations face unique challenges in adopting these technologies. It is imperative to address infrastructure limitations, skills gaps, data quality issues, and ethical considerations to harness the benefits of AI in delivering efficient and accessible justice systems. As AI continues to

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[7] CEPEJ. (2020). *Possible introduction of a mechanism for certifying artificial intelligence tools and services in the sphere of justice and the judiciary.*

[8] Arias, P. (2020). *Artificial Intelligence & Machine Learning: a model for a new judicial system?*

[9] UNESCO. (2022). *Strengthening capacities of judicial operators in Africa.*

[10] Plantinga, P. (2022). *Digital discretion and public administration in Africa: Implications for the use of artificial intelligence.*

[11] Adeyoju, A. (2018). *Artificial Intelligence and the Future of Law Practice in Africa.*

evolve, finding a balance between human judgement and AI assistance remains crucial for achieving fair and efficient legal processes.[12]

The Tanzania Judiciary is poised to modernise its practices by transitioning from manual proceedings and evidence-taking to the adoption of AI transcription and translation software. This initiative aims to enhance the accuracy and efficiency of recording proceedings and evidence, aligning with a broader commitment to legal education and improving legal services during the upcoming Law Week celebrations. The overarching theme of this effort is to prepare stakeholders in the legal sector for the transition towards an e-judiciary and the substantial benefits stemming from significant investments in Information and Communication Technology (ICT).[13]

To facilitate this transformation, the Judiciary has partnered with Almawave, an Italian company specialising in AI, natural language analysis, and big data solutions. Almawave, a subsidiary of the Almaviva Group with access to a substantial fund totaling USD 155 million, has been entrusted with the task of implementing automatic transcription and translation of court sessions in Tanzania's major cities. This initiative is part of the Citizen-Centric Judicial Modernisation and Justice Service Delivery program, funded by the World Bank and the International Development Association (IDA). Leveraging the proprietary speech recognition technologies of PerVoice, a subsidiary of the Almawave group, the project will develop Swahili language capabilities to automate the transcription of court proceedings in both Swahili and English, with automatic translation between the two languages. Initially implemented in 50 courtrooms across the nation's 169 courts, this project is set to expand to additional locations and sites over the course of the four-year framework agreement, with a total value that may surpass Euro 3 million.[14]

Conceptual Framework

The conceptual framework for this study is anchored in the intersection of AI technology and the justice delivery system, particularly within the context of the East African Community (EAC), with a focus on Tanzania. At its core, the framework encompasses three key pillars;

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[12] Chula, L. (2018). *East African Court of Justice and Human Rights Jurisdiction: Drawing the Line.*

[13] AllAfrica. (2023). *Tanzania: Judiciary Eyes Artificial Intelligence in Justice Delivery.* Retrieved 2023, from https://allafrica.com/stories/202201170099.html#:~:text=THE%20Judiciary%20is%20investing%20heavily,of%20justice%20to%20the%20public

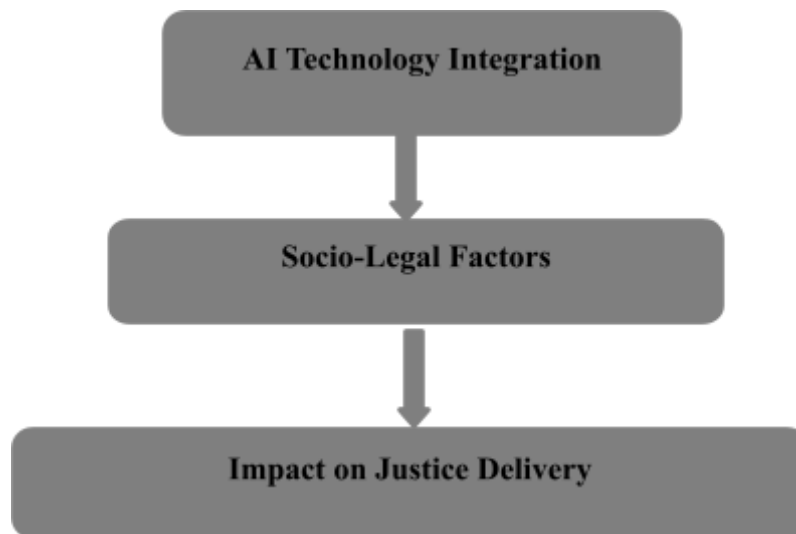[14] Almawave. (2022). *Almawave's Artificial Intelligence in support of the Tanzanian Justice System.* Rome.

Figure 1: Conceptual framework

Figure 1 visually illustrates the conceptual framework with three interconnected pillars: "AI Technology Integration", "Socio-Legal Factors", and "Impact on Justice Delivery". The top pillar signifies the technical aspects of AI, encompassing machine learning and infrastructure. The middle pillar represents social and legal elements like public perception, ethics, and cultural acceptance. The bottom pillar highlights the outcomes of AI integration, such as efficiency gains and improved decision-making in the justice system. Arrows between sub-sections demonstrate the intricate influence and relationship among these aspects in the context of AI and the justice delivery system.

Methodology

To achieve the objectives of this study, a qualitative approach in collecting data, along with intervention to awareness is employed. This approach includes both quantitative and qualitative research methods, enabling a comprehensive analysis of the promotion of AI technology in the Tanzanian justice delivery system.

Phase 1: Desk Review

A systematic literature review was conducted to gather and analyse existing research, scholarly articles, reports, and policy documents related to AI in justice systems in Tanzania and globally.

It involved mapping the ecosystem around AI in justice delivery. This phase was intended to identify and bring to the surface the key players around AI and the legal industry and the associated information which included, but is not limited to, research and training capacity, application of AI in justice delivery, existing policies, regulations and integration of legal AI in other existing policies. This review provided an overview of the current state of knowledge, helped to identify gaps in research, and inform subsequent stages of the study.

Phase 2: Qualitative Data Collection

This qualitative primary data collection phase involved in-depth interviews with judges, magistrates, advocates, court clerks, court administrators, policymakers, and practitioners in the Tanzanian justice system. These interviews provided valuable insights into the current level of AI adoption, perceptions, and attitudes toward AI technology, as well as the existing challenges and opportunities facing the justice sector. It further allowed a deeper exploration of the potential benefits, risks, and ethical considerations associated with AI technology adoption in the justice sector. The data was analysed thematically to identify patterns, trends, and emerging themes.

Phase 3: Case Studies and Best Practices

Existing case studies and best practices from Tanzania and other countries such as China, Brazil, India, were also examined to identify successful models of ethical AI implementation in justice systems. These case studies were critically analysed to extract key lessons and strategies that can be applied in the Tanzanian context.

Phase 4: Intervention to Awareness

In this phase, the focus will be on increasing awareness regarding the intersection of AI and the justice system. This will be achieved through a series of activities including webinars, dissemination workshops, and appearances on TV or radio, where in-depth discussions on the subject will be presented.

Context of the Study

Tanzania, like many other countries, is navigating the transformative potential of AI across various sectors. In this specific study, the legal domain, a cornerstone of societal governance and order, is under examination for the potential integration of AI technology. The Tanzanian

legal system is transitioning from traditional, manual proceedings to incorporating AI technologies to enhance accuracy, efficiency, and accessibility in the administration of justice.

The study responds to a global trend where AI is progressively finding applications in the legal industry, improving processes such as contract analysis, case outcome prediction, document management, and intellectual property insights. However, the adoption of AI in legal systems, including Tanzania, is challenged by factors such as infrastructure limitations, financial constraints, scarcity of AI expertise, and ethical considerations. The study aims to understand these challenges within the Tanzanian context and propose recommendations to overcome them.

The broader context includes global advancements in AI and their impact on various sectors. Nations around the world, including some in Africa, are proactively exploring and incorporating AI into their governance, public services, and judiciaries. Tanzania, in this context, seeks to embrace AI to modernise its justice system, aligning with its commitment to technological advancement and enhanced service delivery. The study is designed to explore this effort, aiming to contribute insights that align with Tanzania's technological trajectory and promote a more efficient and accessible justice delivery system.

Sample Size and Sampling Frame

In this specific study, a total of 56 participants were involved. These participants are made up of legal professionals, policymakers, academics, and other stakeholders within the Tanzanian legal domain.

The sample, representing the larger population from which this sample was drawn, had individuals from the legal community including lawyers, judges, government officials, and academicians. The study aimed to gather diverse perspectives and insights from this targeted population to comprehensively analyse the adoption and integration of AI technology in the Tanzanian justice delivery system. The sample size of 56 participants was determined based on statistical considerations, the research objectives, and practical constraints while striving for a representative sample.

Data Presentation, Analysis and Discussion of the Findings

This section discusses findings from both the interviews and review of secondary information

Strengths and Opportunities for AI Adoption in Tanzanian Courts

Tanzania's unique strengths and strategic opportunities position it favourably for the integration of AI in sustainable justice delivery, both in the technological and policy arenas. This alignment is evident through various facets:

1. **National ICT Policy of Tanzania, 2016:** Tanzania's drive to incorporate AI for sustainable justice delivery aligns seamlessly with the principles articulated in the NICTP 2016. This policy places a strong emphasis on the necessity of a robust ICT infrastructure, encompassing ample capacity, high-speed connectivity, and comprehensive nationwide coverage. By adhering to this policy, Tanzania has embarked on a transformative journey to enhance its justice delivery system through the potential of AI. The integration of AI technologies is well-positioned to harness the envisaged robust ICT infrastructure, ushering in a new era characterised by efficiency, accessibility, and transparency within the justice system.

2. The importance of a dependable and advanced ICT infrastructure harmonises perfectly with the transformative potential of AI in justice delivery. AI-driven solutions depend on a solid foundation of ICT capabilities, including seamless data communication, high-speed networks, and comprehensive coverage that reaches even the most remote corners of the country.

3. **The Judiciary's 5-year Strategic Plan of 2020/21- 2024/25:** Tanzania's Judiciary has delineated a 5-year Strategic Plan that seamlessly aligns with the e-Justice initiative. The plan places emphasis on several key areas such as enhanced business processes, increased utilisation of ICT, timely information management, infrastructure enhancement, stakeholder engagement, and collaborative efforts. This alignment underscores the significance of unified strategies among diverse stakeholders in the pursuit of AI integration.

4. **Robust ICT Infrastructure:** The National ICT Broadband Backbone (NICTBB) project has furnished Tanzania with a dependable and expansive ICT network. The infrastructure serves as a sturdy foundation for the implementation of AI applications, facilitating seamless data sharing, communication, and remote access to legal resources. It establishes the requisite backbone for the seamless integration of AI into the justice delivery system.

5. **Aligned Vision:** The Strategic Plan of the Tanzanian Judiciary, which concentrates on augmenting efficiency through ICT, promoting transparency, and nurturing stakeholder collaboration, closely resonates with the principles underpinning AI integration. Additionally, shared values of integrity, transparency, and professionalism among key stakeholders, such as the Directorate of Public Prosecutions (DPP) and the Tanganyika Law Society (TLS), create an environment conducive to reforms driven by AI. This convergence of vision and values fosters a harmonious and cooperative atmosphere conducive to the adoption of AI in the justice sector.

6. **Digital Awareness:** The government's endeavours to heighten awareness of constitutional rights have yielded heightened demand for prompt justice. This growing demand aligns seamlessly with the capabilities of AI to expedite case resolution, offering an effective response to citizens' calls for swift outcomes. AI can contribute to reducing case backlogs and streamlining legal procedures, effectively addressing the rising expectations of citizens for expeditious justice.

7. **Innovation Commitment:** Tanzania's unwavering commitment to investment and innovation in the realm of ICT, exemplified by the NICTBB project, reflects the nation's forward-thinking approach. Collaborative ventures between the public and private sectors can leverage this commitment to develop AI-driven solutions tailored to the specific needs of the justice delivery system. The dedication to innovation ensures that Tanzania remains at the forefront of utilising AI for sustainable justice delivery.

Potential of Legal AI in Tanzania

The potential of legal AI in Tanzania is vast and multifaceted. The nation is experiencing a growing demand for expeditious justice, propelled by heightened public awareness of constitutional rights. This demand aligns well with the capabilities of AI, which can accelerate case processing and alleviate backlogs. Furthermore, the escalating complexity of emerging legal challenges, such as cybercrimes and money laundering, underscores the pivotal role of AI in analysing extensive volumes of data and generating insights to facilitate swift and informed decision-making.

Moreover, legal AI can play a pivotal role in the realm of legal research and analysis. It possesses the ability to sift through extensive legal databases, extract pertinent precedents, and

provide precise legal opinions, thereby significantly enhancing the efficiency of legal professionals. AI-powered legal research tools can facilitate comprehensive case analyses, resulting in more robust legal arguments and well-informed judicial decisions.

Specifically, the integration of AI into Tanzania's legal system promises numerous potentials as highlighted during interviews with respondents:

1. **Enhanced Case Management and Information Exchange:** e-justice represents a transformative shift by empowering courts to harness databases, thereby enhancing their control over extensive caseloads. This newfound control translates into well-informed decision-making in case management. Additionally, through the electronic interlinking of case databases nationwide, e-justice facilitates seamless information exchange among courts. Judges are equipped with a robust research tool, ultimately enhancing the quality of their decisions.

2. **Accelerated Case Disposition and Error Mitigation:** e-justice's potential to expedite case resolution is underscored by the adoption of an electronic filing system (e-filing). This innovation not only expedites legal proceedings but also reduces the likelihood of errors associated with manual record-keeping in court registries. It effectively mitigates deliberate delays and potential bribery within these registries. Furthermore, the availability of audio recordings and transcripts addresses the challenge of precise record-keeping during court sessions.

3. **Refined Court Fee Assessment and Collection:** e-justice provides a solution to challenges related to court fee assessments and collections. By incorporating precise calculation software, the system ensures accuracy and transparency, mitigating the risk of bribery. Furthermore, e-justice introduces convenient payment methods, including online and mobile transactions, ushering in an era of modernity and efficiency.

4. **Streamlined Proceedings through Video Conferencing:** e-justice offers an innovative solution through video conferencing, eliminating the need for physical attendance of witnesses and prisoners in court. This not only reduces costs related to prisoner transport but also enhances security for all parties involved, including witnesses, inmates, and prison officers.

5. **Amplified Transparency and Accessibility:** e-justice augments transparency by facilitating the recording and accessibility of all court decisions through e-archiving and internet platforms. This accessibility extends to the creation of virtual justice systems, where legal services are available via the internet and broadband-enabled channels, enhancing the public's access to justice.

6. **Transition toward a Paperless Environment:** e-justice paves the way for a paperless office environment by providing digitised court records to stakeholders, effectively reducing reliance on paper files. Moreover, the shift toward electronic trials, where judges work exclusively on computers, results in significant savings on printing costs.

7. **Efficient Communication through Modern Messaging:** e-justice addresses the challenge of delivering notifications to involved parties through modern messaging methods, including email and other services such as USSD and SMS. This ensures swift and reliable communication, enhancing the overall efficiency of legal proceedings.

8. **Economic Savings and Legal Support:** An inherent benefit of computer systems, as witnessed in e-justice, is the reduction in staffing costs due to streamlined operations. Legal professionals, including advocates and court brokers, are expected to embrace e-justice due to its potential to lower costs for their clients, fostering a collaborative partnership in the pursuit of justice.

Challenges Associated with AI for Sustainable Justice Delivery in Tanzania

Table 1: Summary of AI Challenges

Challenges	Causal Factors
The policy framework of most stakeholders is not supportive of e-Justice, and the necessary regulations and legislation are still absent	Paper-based documents are still widely used and accepted as court evidence
The majority of stakeholders do not provide any electronic services.	• Low level of ICT and AI skills • e-Services are not defined
There is no unified strategy for adopting ICT in the justice sector.	• Lack of coordination across the sector • Weaknesses of the National ICT policy

Institutions are not broadband ready	• Old buildings • Building regulations do not demand broadband readiness
Key stakeholders are not linked and do not collaborate well	Lack of shared or common strategies and coordination.
A unified dashboard for the justice sector is currently unavailable.	ICT/AI strategies for sector monitoring, evaluation, research and development, and statistics either remain unimplemented or do not exist.
Many legal and judiciary personnel lack the necessary ICT/AI skills and capabilities.	The absence of ICT/AI training programs hinders the sustainable development of essential competencies

The prevailing policy framework among many stakeholders appears to be inadequately supportive of the e-justice initiative, presenting a significant obstacle to its effective implementation. A notable challenge lies in the absence of essential regulations and legislation required to facilitate the seamless integration of electronic systems within the justice system. Furthermore, some institutions within the judicial landscape lack well-defined ICT policies, which can hinder the efficient adoption of e-justice solutions. Another critical issue is the reluctance within the legal community to fully embrace digital evidence in court proceedings, with paper-based documents still widely favoured and accepted as primary forms of courtroom evidence

Another prevalent issue in the current landscape is that most stakeholders in the justice sector are not providing any e-services, thus hindering the advancement of e-justice initiatives. The utilisation of ICT remains at a minimal level, primarily limited to basic communication functions. The challenge is compounded by the low level of ICT skills among stakeholders, which serves as a barrier to effectively harnessing digital tools and platforms for enhanced justice services. Additionally, the absence of clear definitions and guidelines for e-services further complicates the adoption process.

Also, a significant challenge facing AI in the justice sector is the absence of a unified strategy for adopting ICT. Currently, there is no cohesive approach guiding ICT adoption across the sector. Instead, some stakeholders are implementing ICT strategies independently, while others lack any defined strategy altogether. This lack of coordination and consistency poses several obstacles to the effective integration of digital tools and platforms within the justice system.

Furthermore, this issue underscores weaknesses within the National ICT policy, which should ideally provide a framework for harmonising ICT adoption efforts across the sector.

Additionally, lack of readiness for broadband connectivity is one of a notable impediment to the modernization of institutions within the justice sector for the functioning of AI technologies. Many of these institutions currently lack the essential infrastructure, equipment, and reliable power supply required to facilitate seamless broadband access. This deficiency is particularly acute in older buildings, which may not have been designed to accommodate the technological demands of the digital age. Moreover, existing building regulations do not mandate the inclusion of broadband readiness as a standard requirement, further exacerbating the issue.

A lack of effective linkage and collaboration among key stakeholders is yet another pressing challenge for e-justice. Currently, these critical actors operate in relative isolation, with minimal exchange of information and a regrettable tendency toward duplicated efforts. This fragmented approach is further compounded by the absence of shared or common strategies and a lack of coordination. To foster meaningful progress in the realm of justice, it is imperative to address these deficiencies by establishing robust channels for collaboration, facilitating the exchange of vital information, and developing shared strategies that can harness the collective expertise of stakeholders.

Furthermore, another significant gap in the current state of the justice sector lies in the absence of a unified dashboard for comprehensive sector-wide monitoring and evaluation. Notably, even at the individual stakeholder level, there is a lack of dashboards for tracking and analysing relevant data and information. Furthermore, critical information and communication technology (ICT) strategies aimed at facilitating sector monitoring, research and development (R&D), and statistical analysis remain either unimplemented or, in some cases, entirely non-existent.

Findings from the questionnaires/interviews

1. **Awareness on AI Adoption in Tanzanian Courts:** The analysis revealed that 39.3% of respondents were aware of AI adoption in Tanzanian courts, while 35.7% were not. Additionally, 25% were unsure or had limited knowledge about AI adoption. These findings highlight a diverse range of awareness levels within the participant pool, underlining the need for targeted awareness campaigns and educational initiatives to enhance understanding of AI in the Tanzanian legal domain.

2. **Engagement with AI and Service Delivery:** Responses indicated varied levels of engagement with AI in the context of court services. Approximately 39.29% expressed interest in engaging with AI or acknowledged its potential but had not started using it actively. About 35.71% of respondents reported active engagement with AI, utilising it for editing, researching, or other professional activities. However, a significant portion (25%) stated that they did not engage with AI due to limited knowledge or engagement opportunities. These findings suggest a need for comprehensive AI training and structured engagement opportunities to maximise its potential in service delivery within Tanzanian courts.

3. **AI Training and Workshops/Conferences Attendance:** The analysis illustrated that only 7.1% of respondents had received specific training in AI for service delivery in Tanzanian courts. Moreover, 71.4% had never attended any workshop or conference related to AI in the judicial system. These numbers emphasise a gap in training and exposure to AI-focused educational events, indicating the necessity for well-designed training programs and increased availability of AI-related workshops and conferences in Tanzania. Figure 2 shows the breakdown of responses reported together with their discussion.
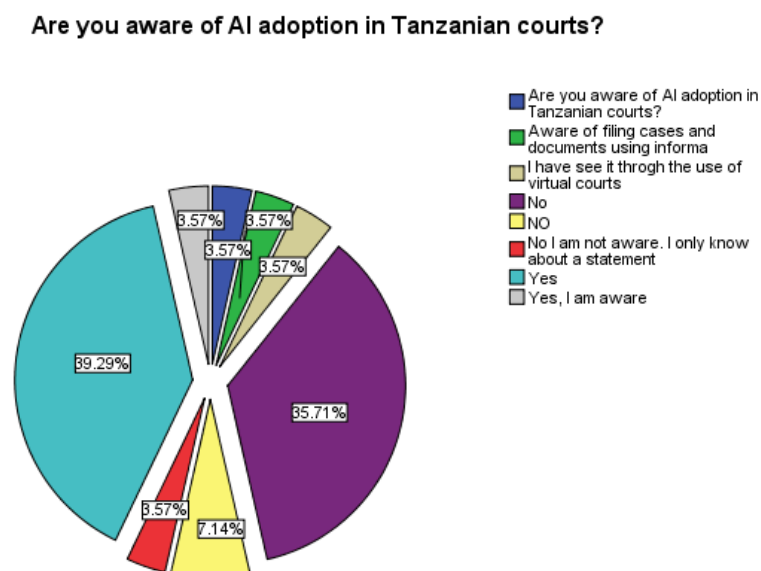
Awareness of AI Adoption in Tanzanian Courts

Figure 2: Awareness of AI adoption in Tanzania

The chart in Fig. 2 presents the distribution of responses to the question "Are you aware of AI adoption in Tanzanian courts?". The responses were categorised into different options, as well as frequencies and percentages for each category.

In the context of awareness of AI adoption in Tanzanian courts, the majority of respondents fall into two main categories: "Yes" and "No". The "Yes" category comprises 39.3% of the respondents, indicating that a significant portion of the participants is aware of AI adoption in Tanzanian courts. On the other hand, 35.7% responded "No", showing that a substantial portion of respondents are not aware of AI adoption in the Tanzanian court system.

Additionally, there is a smaller proportion of respondents who provided varied responses, such as indicating awareness of using AI through virtual courts and being aware of filing cases and documents using information technology. These responses, while less frequent, highlight diverse perspectives and experiences related to AI adoption within the Tanzanian judicial context. Overall, the majority of respondents have some level of awareness of AI adoption, but a notable proportion remains uninformed or unaware of this advancement in the legal domain.

Participation in Virtual Meetings/Court Proceedings which Speeds the Litigation Process
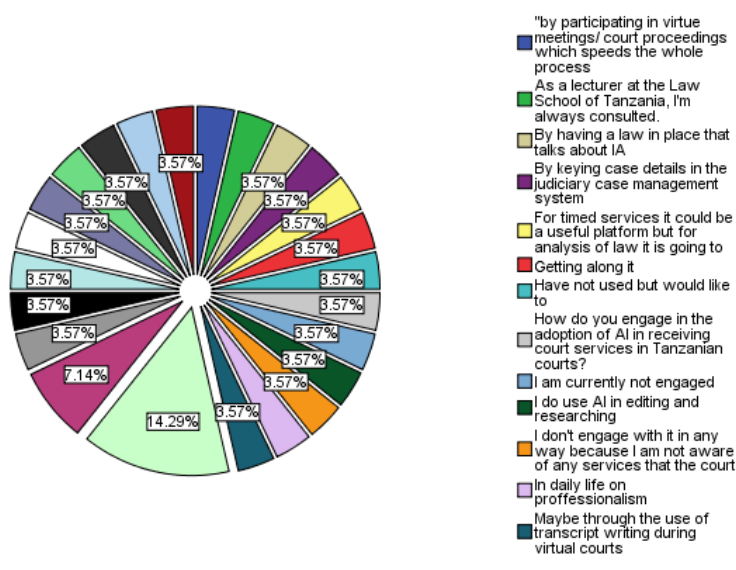

Figure 3. Participation in virtual meetings

Total numbers of respondents were 56. Responses vary widely, indicating diverse approaches and levels of engagement and awareness regarding AI adoption. Responses include participating in virtual meetings or court proceedings, using AI for editing and researching, providing case details through case management systems, and utilising AI for timely services.

Some respondents expressed challenges in engaging with AI, either due to limited knowledge or limited engagement opportunities. The responses show a range of perspectives on engagement with AI in the context of court services, reflecting the need for further education and exploration of AI's potential in the Tanzanian judicial system as broken down below:

Wish to Engage

The percentage of respondents who expressed interest in engaging with AI or acknowledged its potential, but have not started using it actively was 39.29%.

Already Engaged

The percentage of respondents who are actively using AI in their professional or daily activities related to the court system was 35.71%.

Don't Know about AI

The percentage of respondents who mentioned that they are not aware of AI adoption in Tanzanian courts or expressed uncertainty regarding AI-related engagement was 25%.

Training in the use of AI for service delivery

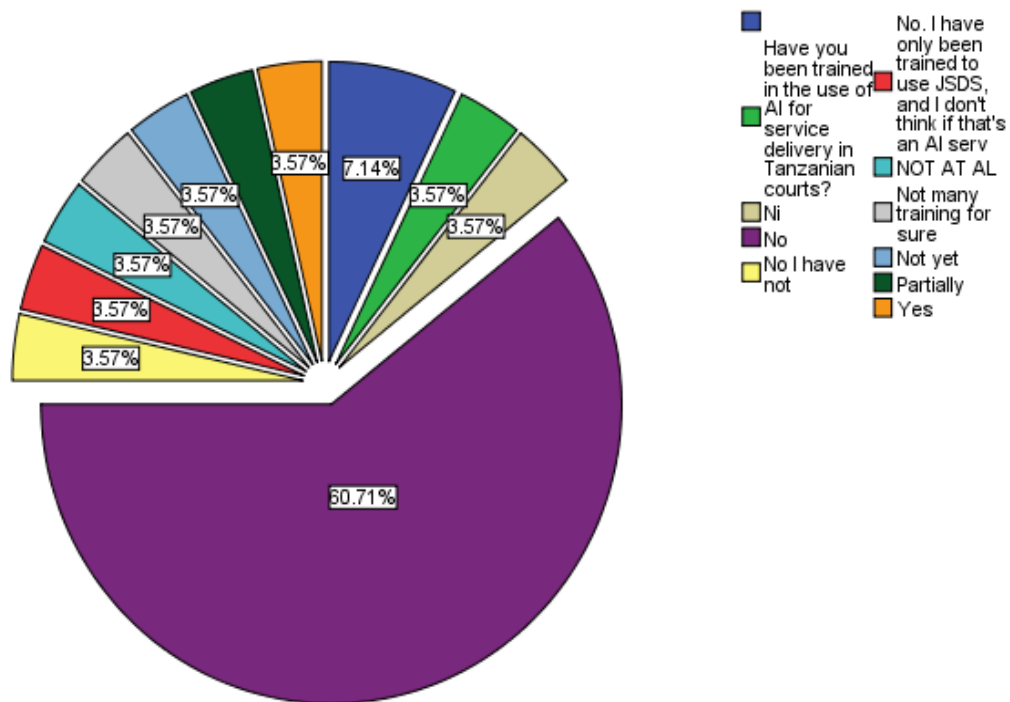**Have you been trained in the use of AI for service delivery in Tanzanian courts?**

Figure 4: Training in the use of AI

Total numbers of respondents were 56. The responses show a range of perspectives on Training in AI for Service Delivery and Training Engagement as broken down below;

1. *Training in AI for Service Delivery*

Figure 4 outlines the responses regarding training in the use of AI for service delivery in Tanzanian courts. Approximately 7.1% of respondents indicated they have received training in the utilisation of AI for service delivery within the judicial context. This shows that a small proportion of people have been through AI-specific training, demonstrating room for the further implementation of AI-driven approaches.

2. *Diverse Responses on Training Engagement*

The remaining 92.9% of responses reflected diverse perspectives on AI training. Responses were mixed, ranging from having not received AI training, having partial exposure to training, or expressing uncertainty about the nature and extent of their training in AI. Some respondents acknowledged being trained in related systems like JSDS but were unsure if it qualified as AI training. These responses underline a need for more comprehensive and clear-cut training programs to enhance AI literacy and proficiency.

The insights from these responses shed light on the current state of AI training. While a small percentage of respondents received training specifically focused on AI, most responses expressed a need for targeted and structured AI education. This is essential for fostering a technologically proficient environment, enabling optimal utilisation of AI for efficient service delivery.

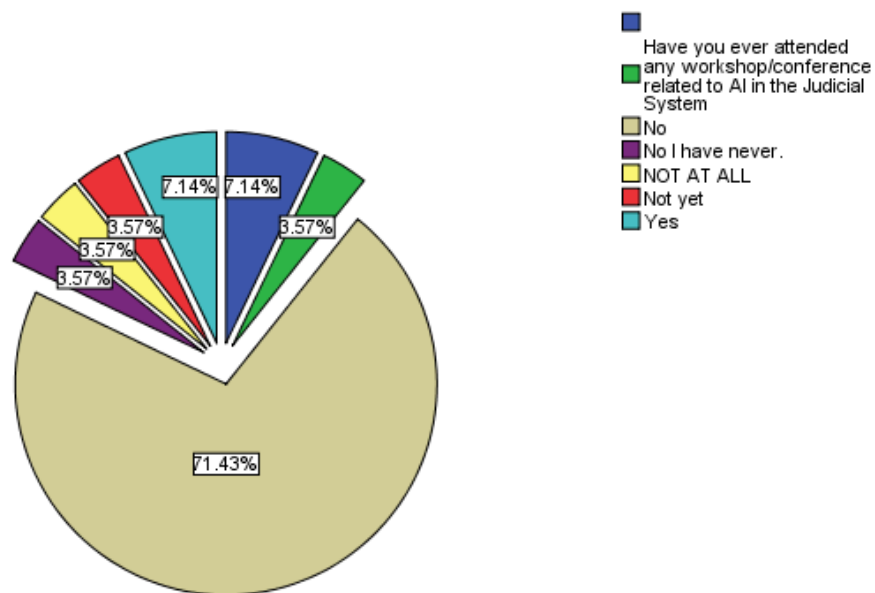## Attendance in Workshop/Conference Related to AI in the Judicial System

Figure 5: Attendance in workshop/conference

The presented data in Figure 5 offers insights into respondents' participation in workshops/conferences related to AI in the Judicial System. The responses are categorised into different options with respect to their frequencies and percentages.

Most respondents (71.4%) indicated not having attended an AI workshop or conference. This high percentage underscores a significant gap in their direct exposure to AI-focused educational events within the context of the judicial system.

On the other hand, a smaller portion of respondents (7.1%) reported attending workshops/conferences related to AI in the Judicial System, indicating some level of engagement or exposure to AI-related educational events. Additionally, a cumulative percentage of 10.7% represents those who have attended such workshops/conferences or have some level of engagement in AI-related educational activities.

Few respondents, representing 3.6%, answered with either "No I have never", "Not at all", or "Not yet", reflecting differing degrees of engagement, experience, or knowledge of AI workshops/conferences in the context of the judicial system.

These results suggest a need for targeted educational initiatives to increase the number of people participating in AI-related workshops or conferences.

Conclusions and Implications

Based on the research findings, it is evident that awareness and understanding of AI adoption in Tanzanian courts varies among respondents. A substantial portion is aware of AI implementation, while a notable group lacks awareness of this technology's potential in the justice system. Moreover, there are differing levels of engagement with AI in legal processes, ranging from active utilisation to expressed interest without active involvement. The study underlines the necessity for targeted AI education and training programs, emphasising the potential for broad AI integration within the Tanzanian legal sector. Additionally, addressing structural barriers like infrastructure limitations, financial constraints, and a scarcity of AI expertise is vital to facilitate the effective adoption of AI in the Tanzanian judicial system.

The research highlights a critical need for proactive measures to enhance AI education, public awareness, and collaborative efforts. Policymakers and stakeholders should focus on developing custom tailored training programs for legal professionals to improve their AI proficiency. Public awareness campaigns can bridge the knowledge gap, and partnerships between the public and

private sectors to leverage expertise and resources for successful AI integration. NICTP 2016 reforms addressing ethical and regulatory challenges, improvements in data quality and accessibility, investments in technological infrastructure, promotion of AI-related events, and continuous monitoring and evaluation are essential steps towards a transparent, efficient, and AI-inclusive Tanzanian justice system.

Policy Recommendations

In order to propel the integration of AI into the Tanzanian justice system, here are a series of policy recommendations.

1. The formulation of a comprehensive national AI strategy tailored specifically to the justice sector is crucial. This necessitates the establishment of a task force or committee composed of stakeholders from the government, academia, judiciary, and technology experts, tasked with outlining the vision, objectives, and roadmap for AI integration.

2. Equally important is the creation of AI training programs designed for legal professionals in collaboration with academic institutions and technology experts. These programs should aim to enhance AI literacy, impart an understanding of its potential in the justice sector, and equip professionals with the requisite skills for effective utilisation. Additionally, advocating for public-private partnerships, investing in AI infrastructure and resources, ensuring access to comprehensive legal data, and addressing ethical and legal concerns are vital components of fostering a conducive environment for successful AI integration.

3. Furthermore, it would be highly beneficial to promote a culture of innovation and collaboration within the justice sector, establishing a regulatory body to oversee responsible AI use, leveraging success stories and case studies for inspiration and education, and implementing a robust monitoring and evaluation framework.

These policy recommendations collectively strive to usher in a new era of efficiency, accessibility, and effectiveness in the Tanzanian legal landscape through the thoughtful incorporation of AI technologies.

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Appendices

Questionnaire

Questions for Court Administration

1. What efforts have been made by the court's administration to sensitise adoption of AI in this court?

2. What efforts have been made by the court's administration to streamline AI in this court?

3. Have your staff received AI training in the last 12 months?

4. Do you have an operational guideline for use of AI in administration of justice in this court?

Questions for Magistrates, Judges

1. What is your understanding of AI?

2. Are you acquainted with AI and its use in this court?

3. How is AI used in facilitating delivery/administration of justice in this court? (Case filing, organisation of evidence, delivery of judgement)

Questions for Court Clerks

1. Are you acquainted with AI and its use in this court?

2. Have you been trained on the use of AI in your daily activities? When was it conducted?

3. How is AI useful in the performance of your daily activities in court (organising case files, dispatch of files and other relevant functions within your domain?)

Questions for Relevant Official Members of the Public/Users

1. Are you aware of AI adoption in Tanzanian courts?

2. Are you involved in the implementation process?

3. How useful is AI in enabling timely provision of court service to you?

Questions for Advocates

1. Are you aware of AI adoption in Tanzanian courts?

2. How do you engage in the adoption of AI in receiving court services in Tanzanian courts?

3. Have you been trained in the use of AI for service delivery in Tanzanian courts?