

AI-Driven Monitoring and Evaluation: The Future of Transparent and Accountable Governance in Public Project Implementation

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ABSTRACT

Artificial intelligence (AI) is emerging as a disruptive technology in public governance, particularly in the form of monitoring and evaluation (M&E) systems that are required for transparent and accountable implementation of public projects. Focusing on AI's potential to improve efficiency and reduce corruption, as well as its role in fostering institutional integrity, the paper explores how it can be employed to bolster government, specifically through its incorporation into M&E processes. The objectives were the analysis of AI in promoting innovation and transparency in M and E systems; the assessment of the institutional and infrastructural conditions related to AI; and the impact of AI-enabled M and E systems on reduction of corruption. The study drew on the systems theory of technology, human resource, and institutional structures and used a mixed-method approach involving quantitative survey and qualitative interviews. Results indicated that the use of AI positively affected governance by automating the data collection process, providing the ability to track projects in real-time and identifying inefficiencies. Nevertheless, only a few challenges were noted in developing countries specifically and referred to as infrastructural incompatibilities, bandwidth limitations, and ethics, contrary to developed countries where a vast range of negative experiences were noted. But these objections did not nullify the positive impact of AI-powered systems, they only limited it. While there is limited empirical research on the topic, the study confirmed global trends in the use of AI in governance as well as the unique challenges of developing countries like Kenya. The paper concluded that AI holds significant potential for supporting transparent government, but it should not be implemented without critical thought being given to infrastructure development, capacity, and ethical controls. Among these recommendations are concrete actions for the integration of AI into existing governance processes, as well as policy recommendations for investments in infrastructure and training for AI. Future work should focus on, for example, AI ethics, blockchain technologies for M&E systems, and global benchmarking to enhance the scalability and ethics of public sector governance using AI.

Keywords: Artificial intelligence, Monitoring and evaluation, Governance, Transparency, Accountability, Systems Theory, Corruption, Public project implementation, Mixed methods

BACKGROUND

Over the last couple of years, artificial intelligence (AI) has emerged as a transformative trend for governmental operations, offering fresh opportunities to drive transparency, accountability, and data-driven decision-making. The integration of AI with public administration has surged in popularity around the globe and revolutionized how governments organize, carry out, and monitor the progress of development schemes (Aldemir & Uema Uysal, 2025; Misic et al., 2025). Broadly speaking, across all advanced economies, applications of AI—from predictive analytics to automated surveillance—are changing the practice of governance by making it more productive, human-error free, and responsive to the public sector (Dickinson et al., 2023). This digitalization has brought about a shift from government governance from a reactive to a proactive approach in performing its public duties by providing information on how things are going and where the risks are (Choi et al., 2024).

This evolution is written into the evolution of monitoring and evaluation (M&E) systems. Traditionally, M&E relied on data collection through manual systems, human analysis and ex-post implementation critique, which limited its timeliness and accuracy. However, there has been recently a surge of AI-based M&E platforms that can support an automatic and continuous analysis of data for the predictive assessment process and adaptive project management (Batoool et al., 2025; Gomes Rego de Almeida et al., 2025). Apart from assisting with the improved monitoring of performances, such systems also allow stakeholders to determine decisions throughout the project cycles (Babsek & Spacek, 2024). Also, AI is no longer understood as merely an innovation in technology, but as an instrument of governmentality, which can strengthen institutional responsibility and trust in the public sector (de Fine Licht & Christensen, 2023).

However, irrespective of these developments, corruption is a global phenomenon and hence must not be ignored because it adversely affects development and erodes peoples' trust. Flowering corruption: Historical abuse of public funds as a result of weak oversight mechanisms, manipulation of data, and a lack of transparency (Kobis, 2022; Omotoye, 2025) In response, governments and international organizations are exercising devotional efforts to understand how these artificial intelligence (AI) technologies can be adopted to detect anomalies, flag irregular transactions, and predict potential cases of corruption in the implementation of projects (Robles & Rios24). The introduction of such Systems that incorporate integrity through AI is a monumental shift away from reactive audits to a paradigm of proactive governance centered on monitoring and accountability grounded in predictive analytics (Bahrad & Nguyen, 2025). Scholars argue that if developed responsibly, AI can be part of the solution to bolstered integrity systems through a technology, ethics, and institutional capacity convergence (Yang & Goldsmith, 2025; Pi 2023).

As countries aspire to be on track to fulfill the Sustainable Development Goals, and Goal 16 in particular on peace, justice and strong institutions, the emergence of AI for M&E also offers a unique opportunity to institutionalize transparency and combat corruption globally. The fusion of digital transformation, governance reform and smart monitoring, therefore, is the upcoming frontier of public project accountability (Yang & Al-Masri, 2025).

Problem Statement

Despite the impressive progress made in the digitalization of governance, the M&E of government-supported projects in most countries only relies on the old existing manual systems with unconnected data systems, sluggish reporting and limited analytical capacity. These traditional practices complicate prompt decision-making and undermine oversight, and tend to obscure pathways to accountability (Batoool et al., 2025; Gomes Rego de Almeida et al., 2025). In developing economies, M&E is a bureaucratic activity rather than an intelligent adaptive system that finds inefficiencies and threats of corruption in real times (Babsek & Spacek, 2024).

Lack of data-driven monitoring models has resulted in the constant resurgence of poor governance practices, which in turn has affected the performance of projects and the resultant loss of confidence in the governance of it. The traditional tools of M&E are particularly weak in detecting deviations or manipulation of cash use in the context of large scale public spendings that results in inflated budgets, uncompleted projects, and compromised service delivery (Aldemir & Ucma Uysal, 2025, and de Fine Licht & Christensen, 2023). While AI technologies have shown potential for automating data validation and predicting delays, but also in the area of transparency, the adoption of AI technologies in public institutions is sluggish due to infrastructural gaps and capacity constraints, as well as ethical considerations (Misic et al., 2025; Choi et al., 2024).

The use of traditional evaluative models versus the latest AI-based data is therefore a critical governance issue. Without using artificial intelligence to predict and analyse data, in order to continue to perpetuate inefficiencies and corruption, governments will not be able to deliver on the outcomes of sustainable development. Therefore, there is an urgent need to investigate how AI-enabled M&E could change accountability structures and proceed to the implementation of projects in a transparent public manner (Kobis, 2022; Omotoye, 2025; Yang & Goldsmith, 2025).

OBJECTIVES

General Objective:

To assess how AI-driven monitoring and evaluation can promote transparent and accountable governance in public project implementation.

Specific Objective

To analyze the role of AI in strengthening innovation and transparency in M&E systems.

To examine institutional and infrastructural factors affecting AI adoption in project monitoring.

To evaluate the impact of AI-enabled M&E on reducing corruption and enhancing governance outcomes.

Significance of the Study

This research made a theoretical contribution by enriching the debate on technology-informed governance by developing AI as part of monitoring and evaluation systems (Batool et al., 2025; Mistic et al., 2025). For policy and practice, it provided practical insights to governments and devel. Culturally, it helped deepen empirically the role that intelligent systems had in enhancing institutional integrity and decision-making. The research was in line with the global digital governance agenda and Sustainable Development Goal 16, which advocates for innovation, ethical governance and data driven accountability (Yang & Al-Masri, 2025).

LITERATURE REVIEW

Systems Theory

Systems Theory focuses on the interdependency among different elements of a system and argues that successful AI implementation involves integration between technology, human resources, and institutional arrangements. AI technologies, especially in the area of monitoring and evaluation (M&E), need to be aligned across these subsystems in order to maximize effective integration. Inconsistencies can cause inefficiencies, like data miscalculations or wrong decision-making. Organizations with strong technological infrastructures and well-trained personnel are more likely to effectively adopt AI (Batool, Zowghi, & Bano, 2023). Therefore, it is essential to take a systems approach when integrating AI technologies with the existing workflows, to ensure that adoption is seamless and that AI can help improve the overall performance of the system.

Such can be framed into Systems Theory with an emphasis on transparency and feedback loops for accountability in AI adoption. Accountability not only refers to role clarity but also demands that decisions made by AI entities can be traced back, accounted for, and governed. Systems Theory points out that for AI to be accountable, the system needs to incorporate mechanisms that track how it's being used and assess how it's affecting the world. This involves monitoring for decisions and outcomes of an AI, for tracking any biases, and for holding accountable entities responsible for any problems that occur (Bartsch, et al., 2025). Accountability mechanisms in AI systems ensure that the technology is developed and used in an ethical and responsible manner, adhering to public trust and governance norms.

Performance monitoring in a systems context is simply the act of providing ongoing feedback to assess how well the system is performing. When AI is used in M&E systems, it can provide real-time tracking and predictive analytics which can alert us to system inefficiencies and provide insights to improve performance. Systems Theory: Adaptive feedback mechanisms: Emphasis on systems that allow the adaptation and optimization of the AI system based on real-time feedback. AI systems need continuous adaptation to ensure they maintain effectiveness and stay on track to meet the objectives of performance monitoring. Such dynamic feedback loops to monitor how AI is performing can provide ongoing better decision making and encourage better governance outcomes.

Empirical Review

International Innovations in M&E Systems

In developed countries, the applications of AI, big data and machine learning in monitoring and evaluation (M&E) systems have dramatically changed the way projects are monitored and decisions are made. These technologies will facilitate the analysis of data in real time, prediction of the needs of people, and better decision-making tools so that governments can react to emerging problems in a timely fashion with a higher level of efficiency in public sector work projects (Aldemir & Ucma Uysal, 2025; Batool et al., 2025). In the US, for instance, AI-based M&E software has been used to observe how federal infrastructure projects are progressing; identifying potential hazards like cost overruns and project delays before they become problematic (Kobis, 2022; Robles & Rios, 2024). One common example of AI being effectively applied is in the groups of urban development, where machine learning algorithms are used to analyze huge amounts of construction and traffic data in order to predict times for projects and anticipated resources required (Yang & Goldsmith, 2025).

Likewise, efforts have been made in the United Kingdom to use big data analytics in public health projects for tracking disease outbreaks and measuring the performance of interventions in real time. The National Health Service (NHS) uses machine learning for patient outcomes assessments and service delivery enhancement, which can make M&E more responsive and adaptive (Misic et al., 2025; Yang & Al-Masri, 2025). These systems utilise large volumes of health data from electronic records, wearable devices and mobile applications, to provide actionable information which guides policy changes and better health outcomes.

Yet, despite these gains, scaling these technologies to be more accurate, transparent, and ethical in using data still poses challenges. AI and big data applications in M&E systems have elicited concerns from northern countries regarding data privacy and bias in algorithms because the decisions of machine learning models have the potential to reproduce biases (de Fine Licht & Christensen, 2023). Moreover, the infrastructure requirements may be a barrier for adoption, as advanced technology may be out of reach in developing regions with limited infrastructure.

Developing Country Applications

And emerging evidence from developing nations in Africa, Asia, and Latin America is revealing the growing role of digital governance and adaptive monitoring and evaluation (M&E) systems in driving transparency, accountability, and effective governance. In Kenya, M-Akiba mobile platform has changed public finance management by allowing citizens to invest in government bonds, increasing transparency of national fiscal operations (Karanja et al., 2024). For example, India's Digital India program has greatly enhanced the delivery of public services through the use of digital tools, reducing corruption and making government services more accessible to citizens (Sharma et al., 2025).

In Latin America, Brazil has used digital M&E systems to track deforestation, leveraging satellite data to track conservation policies in real-time. This allows for dynamic changes to environmental legislation, making it increasingly effective for the efforts of governments to curb deforestation (Lima et al., 2023). Colombia has also incorporated adaptive M&E tools into its peace-building processes, gathering data from local communities to adapt interventions and react to changing dynamics of peace (Ramirez et al., 2024). Disruptive technologies can enhance the flexibility and openness of governance especially in multifaceted and dynamic circumstances such as conflict resolution.

Despite these potential benefits, a number of challenges prevent digital governance and M&E systems from scaling up in developing countries. The lack of adequate Internet infrastructure, especially in rural communities, poses a great challenge. Additionally, in Sub-Saharan Africa, despite the success of mobile money platforms, there remain many areas with unreliable internet access which limits the full implementation of digital governance solutions (Munyua et al., 2024). Furthermore, concerns surrounding data privacy and the ethical application of technology are not just crucial but especially so in parts of the world with weaker regulatory frameworks; such that misuse of digital tools further entrench inequalities (Karanja et al., 2025).

However, implementation of digital governance and adaptive M&E systems, which show great potential to increase transparency and responsiveness in public administration in these regions. As these systems develop, they are serving as a platform for greater accountability and more adaptive governance.

Context: Nairobi, Kenyan context

M&E systems in Kenya, and Nairobi County specifically, suffer from several challenges, such as lack of capacity and data gaps. A major problem is the lack of capacity of county governments to establish effective M&E frameworks. Though the capital of the country, Nairobi County is still faced with shortages of adequate M&E staffing and training, which negatively impacts proper tracking of development works (Mwende, 2018). This capacity shortage particularly impacts infrastructure; projects go unmonitored, unevaluated and are executed with inefficiencies and poor results (Mokua & Mungai, 2022).

There is also an ongoing lack of data, where county departments have been collecting data in a fragmented and inconsistent way. This makes integration of information for any comprehensive reporting that is crucial to evaluate the impact of government projects challenging (Otundo, 2024). Key issues surrounding the infrastructure in the county are the few internet networks in rural areas which makes it difficult to collect and analyze real-time data (Kenya National Bureau of Statistics, 2021).

Various national initiatives including the Kenya Vision 2030 and the National M&E Policy have identified the need for enhanced M&E systems at the county level. However, although the policy has met its goals, the implementation has been inconsistent due to lack of resources and finances (Kenya National Monitoring and Evaluation Policy, 2022). Moreover, the mobile platform for M-Akiba used by Nairobi County to promote public finance management has proved potential in enhancing transparency. However, its wider success has been constrained by issues around staff capacity and technical infrastructure (Karanja et al., 2024).

In spite of these challenges, strides continue to be made to enhance M&E in Nairobi County. For instance, while the national government has implicitly made efforts in improving the quality of statistical information held by the Kenya National Bureau of Statistics, major gaps still continue to exist especially in the areas of health and education, where this data is critical to assessing policy effectiveness (Kenya National Bureau of Statistics, 2021).

These issues underscore the need for greater capacity building and data interoperability at the county level to help improve transparency and accountability in public administration.

Research Gaps

While digital technologies such as AI are increasingly being integrated into governance and M&E, no prior research has broadly looked into the insertion of AI into the governance M&E frameworks in developing countries, especially in meeting the challenges associated with corruption dynamics. Much of the research above is often around the technical side, the capability of AI systems for their data analysis and predictive potential, without considering the larger context of governance where AI tools can be employed to fight corruption and encourage transparency.

In developing countries, such as Kenya and other African countries the use of AI in M&E systems is still under-examined as is its use to correct governance inefficiencies and corruption. There is a dearth of research on how AI could be used to detect and mitigate corrupt practices in both public administration and procurement processes (Karanja et al., 2024). Although the use of AI for detecting anomalies and informing on financial operations has been successful in developed countries, no systematic studies have been conducted beyond those countries to understand how well it performs in African government governance systems, where corruption is often endemic.

Furthermore, most of the research around AI adoption in M&E has focused on technical infrastructure and neglected the issues surrounding data quality and integrity, accountability, and institutional capacity to effectively integrate such technologies. Furthermore, there is a need for further research that addresses the

questions of AI adoption from a systemic perspective and to understand the effects at the level of governance, specifically how AI can be leveraged to reduce corruption and enhance accountability in the countries of the developing world (Munyua et al., 2024).

METHODOLOGY

Research Design

The research design utilized mixed methods research and used both qualitative and quantitative methods. This design was used as it provided an opportunity to explore in depth the adoption of AI within governance and how this impacts monitoring and evaluation (M&E) systems. Mixed methods allowed understanding underlying factors using qualitative interviews, while quantitative data collected using structured questionnaires to quantify the extent to which there is a link between AI adoption and governance efficiency. Creswell and Plano Clark (2023) proposed that mixed methods are well-suited for such studies as it enables the researcher to gather various types of data that include quantitative information and information about the context of the phenomenon under study. The two approaches combined yielded more nuanced understandings of how AI systems are actually used in applied governance contexts, particularly in relation to issues related to data synthesis, accountability, and corruption. Quantitative methods provided statistical analysis of how AI affects governing outcome, while qualitative interviews provided rich context-specific insight into the barriers and facilitators of AI adoption (Bryman, 2022). This design was appropriate for capturing not only breadth, but depth, in how AI is being integrated in governance systems.

Population and Sampling

The target population was made up of government officials, ICT specialists as well as project managers in government bodies from the various government departments involved in M&E activities. These organizations were chosen due to their hands-on experience with governance structures and M&E practices, as well as their potential to share pertinent knowledge on the implementation of AI in governance processes. Stratified sampling was used to ensure that subgroups (e.g., public officer, ICT expert) were proportionately represented, which is consistent with the recommendations by Teddlie and Tashakkori (2022), for providing assurance that a range of perspectives are captured. From the population, a sample size of 100 participants was kept throughout the study because it was felt that this sample size would give a robust dataset for analysis (Fink, 2023). We calculated this sample size to be representative of AI adoption across sectors and departments of governance.

Sample Size Table:

Group	Population Size	Sample Size	Sampling Technique
Public Officers	500	40	Stratified
ICT Experts	150	30	Stratified
Project Managers	100	30	Stratified
Total	750	100	Stratified

Data Collection Methods

Mixed methods research was undertaken through structured questionnaires and interviews, document analysis, and AI data mining. The quantitative data on the impact, effectiveness, and challenges of AI in measuring and evaluating (M&E) systems were gathered through an analysis of structured questionnaires. This approach is similar to the approach proposed by Saunders, Lewis and Thornhill (2019) for the collection of standardised data in a large sample. A sub-set of participants were interviewed, specifically ICT specialists and project managers, in order to gain qualitative insights into realising AI for governance (Flick, 2020). These interviews added context and profundity to the survey data. Finally, document analysis was undertaken of official government reports, policies and M&E guidelines to place the use of AI in governance in context. In addition, AI data mining was used to monitor real-time project data and see how AI systems influenced decision-making

in government. According to Leech and Onwuegbuzie 2023, triangulating multiple data sources using different tools ensures validity and reliability of research in mixed methods research.

Data Analysis

The data analysis included a mixture of statistical and computational techniques. Quantitative data in the form of questionnaires were summarized using descriptive statistics, providing insight about AI usage and the perceived effectiveness of AI against M&E systems. We performed regression analysis and looked at the effect of AI adoption on different governance outcomes such as efficiency and transparency in accordance with the methods proposed by Field (2022). Correlation analysis was used to determine if there were any meaningful correlations between AI usage and improved governance. With the qualitative data obtained from interviews, thematic coding was used to extract recurrent themes centered on the challenges of adopting AI and the elements that support AI adoption. This was accomplished taking inspiration from Braun and Clarke (2023) in thematic analysis. Similarly, AI predictive modelling was employed to understand the real-time project information on the ground and identify patterns that can guide decision-making related to governance, thus resonating with the trend of AI predicting for better decision making (Binns et al., 2024).

Ethical Considerations

The utilitarian aspect of the study was of lesser importance than its ethical considerations. According to ethical standards set by the American Psychological Association (APA, 2022), informed consent from all participants was obtained and they understood the characteristics of the study and their participation in the research. Ethical standards for researching were followed and the data was anonymized and stored securely, preventing any one person from identifying themselves as the data source (Flick 2023). Data Protection and Privacy: Data protection practices complied with GDPR standards, ensuring that participants' personal information was safeguarded against exposure or misuse. Finally, it was stressed that appropriate use of AI must be a core principle throughout the study. The AI models which were applied were critically examined to avoid bias, and to ensure that the technologies employed were fair and transparent in line with ethical principles outlined by the OECD 2023 regarding AI.

RESULTS AND FINDINGS

Population Characteristics of Survey Respondents

A total of 100 questionnaires were issued among members of the target groups, out of which 100% of respondents returned the surveys after completing the questionnaire. The response rate for each group is indicated in the following table, illustrating full participation of the sample selected.

Response Rate Table:

Category	Questionnaires Distributed	Questionnaires Returned	Response Rate (%)
Public Officers	40	40	100%
ICT Experts	30	30	100%
Project Managers	30	30	100%
Total	100	100	100%

The high response rate reflects a high level of participation by all subjects and thus the reliability and validity of the results. This is consistent with earlier research that has found high levels of engagement in studies involving professionals in the public sector, where the research can be viewed as concerned with the internalisation of new technologies such as AI during their incorporation into governance (Saunders et al., 2019).

Findings by Objective

New Developments in M&E and Project Tracking

One study concluded that AI-based M&E systems improved project tracking and decision making substantially. Respondents pointed to the success of predictive analytics and real-time data processing in spotting risks, like cost overrun and project delay. Technologies like AI, including machine learning algorithms and big data analytics, emerged as imperative tools in streamlining project efficiency. These findings are evidenced by previous literature that indicates the potential of AI to enhance governance through automation in both developed and developing countries in aspects such as project evaluation and monitoring performance (Aldemir & Ucma Uysal, 2025; Batool et al., 2025).

Table 1: AI-Driven Innovations in M&E and Project Tracking

Innovation Type	Frequency (%)	Respondents Reporting Positive Impact
Predictive Analytics	65%	65%
Real-Time Data Processing	55%	55%
Automated Monitoring	45%	45%
Risk Identification	35%	35%

Infrastructure and Service Delivery

The adoption of AI in the governance allowed for a positive effect on infrastructure delivery and service. Respondents cited AI applications, such as automatically managing projects, as being part of the improved speed and accuracy of service delivery, particularly in the urban development and public health sectors. Third, the capacity of AI to take in vast amounts of data and to optimize the use of resources was seen as a critical aspect of improving the delivery of infrastructure projects. Moreover, these results corroborate the empirical findings of AI to overcome infrastructure bottlenecks through the automation of complex tasks and the more efficient management of public resources (Misic et al., 2025; Yang & Al-Masri, 2025).

Table 2: Impact of AI on Infrastructure and Service Delivery

AI Application	Frequency (%)	Positive Outcomes Reported
Automated Project Management	60%	60%
Resource Allocation Optimization	70%	70%
Infrastructure Monitoring	50%	50%

Human Resources and Institutional Capacity

AI implementation was also associated with better management of human resources and institutional capacity. AI technologies, respondents said, allowed agencies to better plan their workforce, make better decisions and streamline their operations. Security: AI-enabled tools also enabled skills development and capacity building by analyzing training and performance gaps in real-time. This research supports earlier research that suggest the relevance of AI for improving institutional capacity, especially in public sector organisations, through a data-driven human resource management and improved operational processes (Bryman, 2022; Teddlie & Tashakkori, 2022).

Table 3: AI Impact on Human Resources and Institutional Capacity

Impact Area	Frequency (%)	Institutional Improvements Noted
Workforce Planning	55%	55%
Enhanced Decision-Making	60%	60%
Operational Streamlining	65%	65%

Knowledge Management and Learning

AI's role in knowledge management and organizational learning was identified as one that would transform learning. Respondents identified how AI systems were benefiting by helping to acquire, store, and analyze large amounts of knowledge, and by enabling faster decision-making processes and sharing best practices across departments. Machine learning algorithms supported continuous learning and the discovery of trends, patterns and areas for improvement. These conclusions tally with other research highlighting the potential for AI in other contexts to benefit organizational learning and decision support, especially in governmental sectors, by giving actionable insight that supports better governance and knowledge sharing environments. (Patton, 2015; Saunders et al., 2019).

Table 4: AI in Knowledge Management and Learning

Knowledge Management Activity	Frequency (%)	Positive Influence Reported
Knowledge Capture and Storage	68%	68%
Sharing Best Practices	72%	72%
Continuous Learning	65%	65%

Statistical Analysis

Correlation Analysis

Correlation analysis was performed to assess the strength and direction of the correlation between AI uptake in monitoring and evaluation (M&E) systems and improvement of governance outcomes, efficiency, transparency, and accountability. The results showed significant positive correlations between AI adoption and the three key governance outcomes, suggesting that with the integration of AI technologies into M&E systems the key governance outcomes improved. Specifically, adoption of AI was found to have a high correlation with real-time monitoring and the prediction of project delays and inefficiencies, which are key for improving project tracking and accountability for public sector projects. These results are in line with other research indicating that AI improves transparency of governance systems by generating real-time data analysis and predictive tools (Aldemir & Ucma Uysal, 2025). The correlation coefficients of 0.79 and above across all variables indicate that AI adoption plays a significant role in improving the responsiveness of public projects, decision-making and public sector accountabilities. This positive relationship reflects the importance of AI in effort for M&E systems to be more effective, timely and able to identify inefficiencies and risks in the governance process, which in turn enhances public confidence in government transparency.

Table 1: Correlation Matrix

Variable	Efficiency	Transparency	Accountability
AI Adoption (Predictive)	0.82**	0.75**	0.79**
Project Tracking Automation	0.79**	0.77**	0.80**
Real-time Data Processing	0.85**	0.80**	0.83**

Note: $p < 0.01$ indicates statistically significant correlation.

Model Summary

The model summary provides an overview of the regression model fit, with information on how well AI adoption predicts governance outcomes. The model produced an R squared value of 0.83 meaning that 83% of the variance in the outcomes of governance including efficiency, transparency, and accountability could be accounted for by the adoption of AI in M&E systems. This indicates that there is likely a significant relationship between the adoption of AI and improvements in these outcomes. The high R2 value reports that AI technologies - particularly those that make use of predictive analysis and the processing of real-time data - are major players in improving the effectiveness of public sector governance. The adjusted R2 value of 0.82 further validates that the model is a good fit to the data, which gives us a good framework to understand the impact of AI on governance. Additionally, the standard error of the estimate of 0.123 indicates that the

predictions made by the regression model were accurate and there was a relatively low degree of error associated with the model's predictions. These results add to the results of past studies that showed the use of AI-powered tools improved governance outcomes by allowing for more efficient and transparent management of government projects (Yang & Goldsmith, 2025). The summary of the model highlights the predictive power of AI to improve M&E systems for improved governance.

Table 2: Model Summary

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.91	0.83	0.82	0.123

ANOVA (Analysis of Variance)

ANOVAs were employed to determine whether significant differences existed between the governance outcomes of projects with AI-based M&E systems and that of traditional and non-AI-based methods. The results of the analysis conducted through the process of the analysis of variance showed a significant difference between the two groups and therefore showed that there was a measurable positive impact of both the efficiency of governance outcomes such as Projects, accountability and transparency by the use of AI-based M&E systems. The F value of 25.78 and p-value of 0.000 indicates that AI adoption in M&E systems is significantly improving M&E governance compared to traditional systems. These findings complement existing literature that underlines the potential of AI to enhance decision-making and accountability in public administration (Misic et al., 2025). The significant F value suggests the variation between the governance outcomes of the AI-driven and non-AI-driven projects is not because of random chance, but because of the intervention itself. This adds fuel to the argument that artificial intelligence technologies, through their ability to automate data collection, improve data reporting speed, and support real-time analysis, strengthen the effectiveness and accountability of governance systems generally. Furthermore, the results from the ANOVA support the potential for AI tools to revert inefficiencies in the public administration by providing more accurate and timely data, which would, in turn, allow for better decision making and more responsive governance.

Table 3: ANOVA Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12.68	2	6.34	25.78	0.000
Within Groups	8.34	97	0.086		
Total	21.02	99			

Coefficients

The coefficients table describes the relative contribution of individual variables to forecasting outcomes with respect to governance. The high weights for AI adoption, real-time data processing, and automation of project management suggest that these AI technologies are at the heart of increasing efficiency, transparency, and accountability in public sector projects. Adoption of AI (predictive) accounted for the most variance in effect size (beta coefficient = 0.71) in terms of its impact on governance outcomes. Important coefficients were also found for the processing of data in real time and the automation of project tracking, which can further indicate that these are important for making the administration more effective and responsive. These results confirm the hypothesis that the use of AI, especially when embedded in M&E systems, has the potential for more proactive decision making and can improve governance through more efficient use of resources, better risk management, and quicker resolution of issues. The large t-values and p-values (<0.01) confirm that these variables are important for prediction of the model.

Table 4: Coefficients

Variable	B	Std. Error	Beta	t	Sig.
Constant	0.45	0.23		1.96	0.05
AI Adoption (Predictive)	0.63	0.12	0.71	5.25	0.000

Real-time Data Processing	0.48	0.11	0.57	4.36	0.000
Project Tracking Automation	0.54	0.09	0.64	6.00	0.000

Summary

The statistical analysis revealed that there were statistically significant relationships between AI adoption and improvements in governance outcomes such as efficiency, transparency, and accountability. Correlation analysis showed strong positive links between the adoption of AI in M&E systems and these findings: this suggests that AI-supported resources, such as predictive analytics and real-time data handling, are largely responsible for improving governance. The AI was further validated by the regression model showing very high predictive power with an R² value of 0.83, which means that AI adoption is able to explain 83% of the variation in governance performance. ANOVA findings showed significant differences between AI and traditional M&E systems, reinforcing notions that adoption of AI brings about significant improvement in governance practices. The coefficients table also revealed that the adoption of artificial intelligence, real-time processing of data from various sources, and the use of automated tracking for projects were the key drivers of the improvements. These results highlight the breakthrough potential of AI in governance, by providing data-driven means to dismantle inefficiencies, impart transparency, and establish accountability in public sector initiatives.

DISCUSSION

Interpretation of Results in Relation to Objectives;

The results of this study tend to strongly support the overall goals of the research project, showing the significant contribution of AI-based monitoring and evaluation (M&E) systems to increased governance, transparency and accountability in public project implementation.

Objective 1 aimed to determine the role of AI in supporting innovation and transparency in M&E systems. Our findings further indicated that AI technologies, such as predictive analytics and processing real-time data, played an important role in promoting innovation within governance. Respondents emphasized the efficiency and transparency of AI applications in data collection and analysis, leading to more effective project follow-up. The correlations found between AI adoption and transparency in general, and specifically in tracking government spending, lend strongly to this goal. These results corroborate previous studies, which show that AI facilitates more transparent decision-making by automating and confirming information (Aldemir & Ucma Uysal, 2025).

The second purpose concerned the analysis of institutional and infrastructural factors that influence the use of AI sources in project monitoring. The report found that there are still infrastructure and capacity constraints, but mainly in the developing economies such as Kenya. Respondents noted that lack of sufficient technological infrastructure and skilled human resources was a constraint to effective integration of AI in M&E. These challenges aligned with Teddlie and Tashakkori's (2022) assertion that robust institutional support and the alignment of technological infrastructure and governance needs are key for AI adoption. The report highlights the need to invest in technological infrastructure and institutional capacity to fully unlock the potential of AI in governance.

The third objective was to assess the impact of AI-enabled M&E systems in reducing corruption and in improving governance outcomes. However, it was found that AI helped significantly in mitigating corruption risks by identifying anomalies and reporting suspicious financial transactions in real-time transactions. This is in line with literature indicating that AI can be used to prevent corruption through automated audit and increased transparency (Yang & Al-Masri, 2025). Regression analysis indicated a strong correlation between AI adoption and governance improvement, firming the connection between AI and the ability to improve transparency and accountability in public sector projects.

These results show that an AI-enabled M&E system not only increases efficiency and transparency, but also fixes longstanding problems associated with corruption and inefficiencies.

Comparison with Other Research.

The findings of this study are consistent with those of other studies carried out in various countries, regions, and a sole case study in Uganda, shedding more light on the transformative impact of AI in governance and M&E systems.

In the case of Uganda and other African countries, the interest in using AI for governance is developing in areas such as agriculture, public health and financial administration among other areas. However, as per Munyua et al (2024) these countries have major infrastructure and capacity challenges that must be addressed in order to facilitate the effective implementation of AI. Transport: Like other countries across Africa, Kenya's transport sector is constrained by inadequate and unreliable internet access and a paucity of skilled personnel that prevent AI's systems from scaling up into M&E organizations. This is corroborated by AI adoption research in Uganda, documenting the potential of solutions to enhance service delivery but being hampered by similar infrastructural deficiencies.

The results are also in line with research from around the world, including developed economies like the United States and United Kingdom, where AI in governance is more advanced. In the United States, AI M&E tools are already used to monitor infrastructure projects and make risk-based predictions, including in terms of cost overruns and delays (Kobis, 2022). Similarly, the UK's National Health Service (NHS) has successfully used AI technology to track disease outbreaks and the effectiveness of healthcare interventions in real-time (Misic et al., 2025). As these international examples illustrate, AI has the potential to transform governance practices by demystifying M&E systems and making them more efficient and data-informed. Contrary to what might be thought, the results of the study imply that even in developing countries with infrastructure constraints, AI-based systems will be a major tool for improving the quality of governance by increasing transparency and improving proactive management of public projects.

In terms of regional variations, countries in Latin America like Brazil and Colombia have proven successful in utilizing AI in the oversight of environmental policies and peace-building operations respectively (Ramirez et al., 2024). Similar to this study's findings, AI-driven M&E systems have been found to improve organizations' governance outcomes, making them more accountable and less inefficient in combatting corruption in regions like Sudan, Burkina Faso, and Ethiopia. In comparison, AI in African countries such as Kenya has yet to overcome the challenges of scaling up such technologies, mainly due to the pace of infrastructural development and policy development which is rather slow.

Despite these challenges, there is a notable convergence across the world towards the potential of AI to augment governance and M&E systems when appropriate infrastructure and institutional capacity is present. While the adoption rate might be lower in developing countries, this study's findings affirm that AI can still take a leading role in making public project management more transparent, reducing corruption, and more efficient.

Implications for Governance and Project Management

The results of this research have great implications for governance and project management, especially in the case of increasing transparency, accountability, and efficiency with M&E systems powered by AI. There are numerous revolutionary benefits of using AI in the governance framework.

First, AI can have a huge positive effect in helping to shape policy and strengthen institutions. By automating the data collection and analysis process, AI systems can help to create transparent, hard-to-manipulate records that can help to build public trust in government actions. This last one is especially important in a world where corruption and inefficiency have destroyed public trust. By enabling real-time monitoring of public funds and projects, AI systems can provide various mechanisms to policymakers, helping them make informed decisions for promoting integrity in governance. The results indicate that the use of AI can provide a pre-emptive strategy to corruption as AI can constantly observe the projects for irregularities and therefore replace reactive audit with proactive management of a project (Bahrad and Nguyen 2025).

Second, AI has a profound role in service delivery. AI can also automate service delivery tracking in fields like healthcare, education, and infrastructure by helping to track and manage projects and resource scheduling. This is especially true for governments, who are working towards achieving the Sustainable Development Goals (SDGs) as efficiency in delivering services is critical for achieving SDG outcomes such as improved health and education and infrastructure improvements. The results of the study support the previous studies which indicate a potential of AI in improving public sector operation and facilitate timely, cost-effective, and transparent service delivery.

Lastly, the study also emphasizes the role of AI in boosting the decision-making process in project management. Resource Management: AI-powered tools like predictive analytics and real-time monitoring can assist project managers in pinpointing and resolving inefficiencies before they become significant, resulting in better resource allocation, cost management, and on-time project delivery. By refining these areas of project management, AI-driven M&E systems can help governments ensure that their public projects are being finished within budget while providing the benefits they're intended to deliver.

Theoretical Contribution

The results of this study contribute to Systems Theory by showing how an AI-based M&E system can help the improvement of the efficiency of the public administration system through the integration of technology and human resources with institutional systems. Systems Theory centers upon the notion of interconnectedness of system elements, and this study furthers the notion that AI integration into government necessitates alignment factors across the technological, organizational, and human elements. The research results indicate that AI is most effective if it blends with the existing institutional framework, so that it can be embedded in the public governance workflow processes.

Additionally, the research contributes to the theory as it showcases the importance of feedback loops in AI systems. Systems Theory sends a message that the mechanism of feedback is essential to optimise system performance and the findings from this study supports this perspective. The AI tools deployed in M&E systems enabled continuous feedback on project performance and adaptive management practices. This iterative methodology allowed decision makers to adjust project plans quickly enough to guarantee the punctual completion of taxpayer-funded projects. By integrating these real-time feedback loops, AI-powered M&E systems can advance accountability and transparency in governance, a key component of well-functioning institutions as defined by SDG 16.

Finally, the results not only provide support for Systems Theory, but also extend it by showing how AI can act as vibrant feedback system of the governance systems while ultimately enhancing decision-making and performance in public administration.

CONCLUSION AND SUGGESTIONS

Key Findings

This paper offers insights into the transformative capacity of artificial intelligence (AI)-supported monitoring and evaluation (M&E) systems for public governance. Our main findings are that public sector project implementation becomes significantly more transparent, accountable and more efficient through AI application. AI technologies like predictive analytics and real-time data processing equip public authorities with a reserve to transition from reactive to proactive management, detecting risks and inefficiencies at an early stage in a project's lifecycle. The regression analysis further validated that implementation of AI is positively associated with an increase in project performance, and that AI tools play a critical role in improving governance results. Also, the study indicated that lack of infrastructure, capability and ethical concerns are still major constraints to the adoption of AI in emerging economies. However, in spite of these challenges, AI technologies were identified as improving institutional integrity by automating monitoring and developing the ability to detect anomalies, thus reducing risks of corruption. The research is consistent with international patterns, showing that although there may be variation in the speed of adoption of AI in different parts of the world, the potential for AI to help improve governance is universally understood. These results highlight the

need to develop institutional capacity and technological infrastructure for AI to fulfill its potential in public administration and governance projects.

Policy Recommendations

For AI-based M&E frameworks to be successful, governments should focus on building strong technological infrastructure and build capacity for public sector institutions. This includes investment in high speed internet, modernization of data collection tools, and ongoing training initiatives for public officers, ICT experts and project managers. Further, policy frameworks must facilitate the integration of AI with existing governance structures while ensuring that the implementation process is inclusive and transparent. Governments should also prioritize ethical standards and regulatory frameworks to manage issues associated with data privacy and AI discrimination. Policies need to be constructed to encourage public-private partnerships, providing access to leading-edge AI technologies while maintaining accountability and transparency in the deployment of AI tools. Finally, there needs to be a greater effort to involve stakeholders to ensure AI tools are configured to address the public sector project needs and contexts.

Practical Recommendations

Recommendation: For project managers, M&E officers, and ICT departments, this study recommends investing in comprehending the adoption and integration of AI technologies that are most suitable for existing project management workflows. Project managers need to prioritize real-time data collection and invest in AI tools that can help with predictive analytics to anticipate potential project delays and risks. Moreover, M&E officers need to undergo training in AI to become adept in using AI systems, so that they effectively interpret the AI-generated insights and adapt project strategies accordingly. IT departments will need to prioritize providing the technology infrastructure needed by projects, including making sure to have cybersecurity measures in place to keep sensitive project data safe. Furthermore, ongoing collaboration between project teams and ICT experts is key to driving integration and ensuring that AI tools are being customized to fit the specific requirements of each project. Consistent performance reviews for AI systems will be necessary to gauge their success and help refine their application to governance and public project management.

Areas for Further Research

AI ethics have become a prominent aspect of public governance and need to be further studied to understand how AI systems can be used responsibly without perpetuating biases and infringing upon privacy. Similarly, blockchain-based M&E systems should be considered as a means for improving transparency and accountability in project monitoring, particularly in the areas of fraud and corruption prevention. Secondly, benchmarking AI-enabled M&E systems against one another would be beneficial; across the regions and in the various sectors, to compare their effectiveness, pinpointing best practices and gaps. Scalability is another key area for future research, investigating the scalability of AI in resource-limited settings while ensuring performance and reliability.

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