

Impact of Monitoring and Evaluation Practices on the Performance of Health Information Technology (IT) Projects Coordinated From Nairobi, Kenya

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Abstract

This study investigated the impact of Monitoring and Evaluation (M&E) practices on the performance of Health Information Technology (IT) projects coordinated from Nairobi, Kenya. The research problem focused on assessing how M&E planning processes, technical expertise, and stakeholder involvement influence project outcomes. A descriptive cross-sectional survey design was employed, collecting quantitative data through structured questionnaires and qualitative insights via semi-structured interviews with project beneficiaries, Health IT staff, and key stakeholders. Results revealed that 82 per cent of respondents agreed that comprehensive M&E planning enhances project execution and outcomes. Additionally, 77 per cent emphasised the importance of technical expertise, while only 42 per cent confirmed adequate stakeholder analysis and 46 per cent agreed on the collection of stakeholder feedback. The findings highlighted the necessity of integrating detailed M&E plans into project designs for systematic tracking of progress and timely corrective actions. Technical expertise is crucial for effective M&E, underscoring the need for continuous training and the selection of competent personnel. Recommendations include developing comprehensive M&E plans at the project's inception, investing in continuous skill development through regular training programs, and enhancing stakeholder engagement strategies by conducting comprehensive stakeholder analyses, collecting regular feedback, and involving stakeholders in key decision-making processes.

Key terms: Health information technology, monitoring and evaluation, planning process, project performance, stakeholder involvement.

INTRODUCTION

Monitoring and Evaluation (M&E) practices have become indispensable tools in the management of development projects, especially in the health sector. Over the past decades, there has been a significant shift from merely measuring the outputs of interventions, such as the number of people reached or resources distributed, to a more comprehensive approach that includes assessing outcomes and impacts (World Bank, 2014). This evolution in M&E practices is driven by the need to provide a more accurate picture of the effectiveness of development interventions and to ensure that resources are used efficiently to accomplish the desired health outcomes.

In this context, the focus of this study is on the impact of M&E practices on the performance of Health Information Technology (HealthIT) projects coordinated from Nairobi, Kenya. These projects are critical to the digital transformation of healthcare systems, enhancing data quality, improving patient care, and facilitating evidence-based decision-making. The significance of M&E in health projects cannot be overstated. Effective M&E practices involve systematic data collection, analysis, and reporting, which are essential for tracking progress towards project objectives, making informed decisions, and implementing timely corrective actions (Dugan & Candice, 2020).

Furthermore, participatory approaches in M&E, which engage stakeholders throughout the project lifecycle, have been shown to enhance project relevance, build trust, and ensure that initiatives are targeted to meet the specific needs of the target communities (Phillips et al., 2014). By involving stakeholders, projects can ensure that their activities align with the actual needs and priorities of the community, thus increasing the likelihood of project success. Therefore, this study aims to explore how different aspects of M&E, including planning processes, technical expertise, and stakeholder involvement, influence the performance of HealthIT projects in Nairobi. By understanding these relationships, the study seeks to provide actionable insights that can improve the design and implementation of health projects, ultimately contributing to better health outcomes.

Despite the recognised importance of M&E, many health projects continue to face challenges related to inadequate M&E practices, which can lead to suboptimal performance and failure to meet project goals. Previous studies have highlighted issues such as poor data quality, lack of technical expertise, insufficient stakeholder engagement, and inadequate planning as key factors that undermine the effectiveness of M&E in health projects (Kinyua & Njoroge, 2021; Njama, 2015). Consequently, this research addresses a critical gap by systematically examining the impact of these M&E practices on HealthIT project performance. Through a mixed-methods approach involving both quantitative and qualitative data, the study provides a comprehensive analysis of the present state of M&E in HealthIT projects in Nairobi and offers recommendations for enhancing M&E practices to achieve better project outcomes.

LITERATURE REVIEW

Impact of M&E Planning Processes on Project Performance

Effective Monitoring and Evaluation (M&E) planning processes are crucial for the successful execution and performance of HealthIT projects. According to Mackay (2021), well-structured M&E plans, which include clear baselines, indicators, and timelines, ensure that project activities are systematically monitored and evaluated. This allows for the timely identification of any deviations from the planned activities and the implementation of corrective steps to keep the project on track. Comprehensive planning also involves the allocation of sufficient resources, both financial and human, to support M&E activities throughout the project lifecycle.

Moreover, the integration of M&E plans into overall project plans enhances coordination among project team members and stakeholders. This integration facilitates better communication and ensures that all parties are aware of their responsibilities and roles in the M&E process. Studies by Vittal (2018) and UNDP (2014) have demonstrated that projects with robust M&E planning frameworks tend to perform better, as these frameworks provide a structured approach to tracking progress and measuring outcomes. This ultimately leads to more effective project

management and the achievement of project objectives.

Influence of M&E Technical Expertise on Project Performance

The technical expertise of personnel involved in M&E activities significantly impacts the performance of HealthIT projects. Sunindijo (2015) highlights that the competence of project managers and M&E staff is directly correlated with project success. Skilled personnel are essential for accurate data collection, analysis, and reporting, which form the backbone of effective M&E practices. Projects that invest in continuous training and development of their M&E teams are better equipped to handle complex M&E tasks and produce high-quality data that informs decision-making.

Additionally, the presence of technical expertise allows for the effective use of technological tools and methodologies in M&E processes. According to Kihuha (2018), the adoption of digital tools for data collection and analysis enhances the accuracy and timeliness of M&E activities, leading to improved project outcomes. The lack of technical skills, on the other hand, can result in poor data quality and ineffective M&E practices, which negatively affect project performance. Therefore, building and maintaining a technically competent M&E team is essential for the success of HealthIT projects.

Effect of Stakeholder Involvement on Project Performance

Stakeholder engagement is a vital component of successful HealthIT projects. Engaging stakeholders during the project lifecycle ensures that their perspectives and needs are recognised, leading to more relevant and effective interventions. According to Phillips et al. (2014), participatory approaches in M&E, which involve stakeholders in the planning, implementation, and evaluation phases, enhance project relevance and build trust among stakeholders. This approach also promotes ownership and accountability, which are essential for the sustainability of project outcomes.

However, the study by Njama (2015) highlights that stakeholder involvement often faces challenges such as misalignment of community needs with project

objectives and ineffective communication strategies. These challenges can lead to superficial involvement and reduced acceptance of stakeholder participation in M&E processes. Improving strategies for stakeholder engagement is crucial for fostering ownership, accountability, and the sustainability of project outcomes. Effective stakeholder engagement not only improves project relevance and acceptance but also promotes transparency and accountability, ultimately enhancing project performance.

Theoretical Framework

The theoretical framework for this research is grounded in the Theory of Change (ToC) and the Diffusion of Innovations (DOI) Theory. The Theory of Change provides a systematic approach to planning and evaluation that maps out the logical sequence of events required to achieve desired outcomes (Center for Theory of Change Inc., 2019). It emphasises the importance of identifying long-term goals and then working backwards to determine the necessary preconditions and interventions. This approach ensures that all project activities are aligned with the overarching objectives, facilitating better tracking of progress and timely implementation of corrective measures. In the context of HealthIT projects, ToC helps project managers and stakeholders visualise the impact of Monitoring and Evaluation (M&E) practices on project performance by establishing clear pathways from inputs to outcomes.

On the other hand, the Diffusion of Innovations Theory by Rogers (2003) focuses on how new ideas and practices spread within an organisation or community. In the realm of M&E, DOI highlights the critical role of technical expertise and the adoption of innovative practices. According to Rogers, the successful diffusion of innovations is influenced by factors such as the perceived benefits, compatibility with existing values, and the complexity of the innovation. By applying DOI, this study underscores the importance of continuous training and the development of technical skills among M&E personnel to ensure the effective implementation of innovative M&E methodologies. Together, these theories provide a robust framework for understanding how M&E planning processes, technical expertise, and stakeholder involvement can enhance the performance of HealthIT projects, ensuring that they

meet their intended goals and deliver sustainable health outcomes.

FINDINGS AND DISCUSSION

The analysis of data collected from the study provided significant insights into the impact of Monitoring and Evaluation (M&E) practices on the performance of HealthIT projects coordinated from Nairobi, Kenya. The study focused on three primary objectives: assessing the impact of M&E planning processes, determining the influence of M&E technical expertise,

and examining the effect of stakeholder involvement on project performance.

Impact of M&E Planning Processes on Project Performance

The survey participants rated their degree of agreement with statements regarding the M&E project planning process using a Likert scale (1=Strongly disagree, 2=Disagree, 3=Moderate extent, 4=Agree, 5=Strongly agree). The findings, as presented in Table 1, indicate that effective planning significantly impacts project performance.

Table 1: Distribution of Percentages of Respondents' Perception of Various M&E Planning Practices

Statement	Strongly Disagree	Disagree	Moderate Extent	Agree	Strongly Agree
Allocation of resources for M&E from the outset	5%	23%	18%	33%	21%
Inclusion of M&E plans in project plans	2%	10%	10%	48%	30%
Use of extensive planning methods	4%	20%	15%	45%	16%
Creation of control systems	6%	24%	17%	38%	15%

Including stakeholders throughout the project lifecycle ensures that their perspectives and needs are recognised 82 per cent of respondents agreed that M&E planning processes, including funding allocation and strategy creation, are integral to project success. A significant 88 per cent confirmed that M&E plans were included in project plans, while 76 per cent noted the use of extensive planning methods. Additionally, 70 per cent agreed that control systems were

established to ensure project alignment and aid decision-making.

Influence of M&E Technical Expertise on Project Performance

Participants also rated statements regarding M&E technical expertise. The results, summarised in Table 2, highlight the importance of technical skills in enhancing project performance.

Table 2: Distribution Percentage of Respondents' Perception of Various M&E Technical Expertise

Statement	Strongly Disagree	Disagree	Moderate Extent	Agree	Strongly Agree
Selection of competent personnel	5%	18%	15%	39%	23%
Training of staff	6%	18%	16%	40%	20%
Project design flexibility	10%	30%	25%	25%	10%
Technical skills requirements assessment	12%	28%	20%	30%	10%

The data revealed that 77 per cent of respondents emphasised the importance of selecting competent personnel, while 76 per cent agreed on the necessity of staff training. However, only 15 per cent strongly agreed that project design and technical skills

requirements assessments were adequately addressed.

Effect of Stakeholder Involvement on Project Performance

Participants rated statements on stakeholder involvement using a Likert scale. The findings, as

shown in Table 3, reflect varied perceptions of stakeholder engagement in M&E processes.

Table 3: Distribution Percentage of Respondents' Perception of Various M&E Stakeholder Involvement

Statement	Strongly Disagree	Disagree	Moderate Extent	Agree	Strongly Agree
Conducting stakeholder analysis	10%	30%	18%	30%	12%
Collecting stakeholder feedback	12%	28%	14%	35%	11%
Engaging stakeholders in decision-making	10%	30%	16%	34%	10%
Influence of stakeholders on project outcomes	15%	35%	19%	21%	10%

Results indicated that stakeholder involvement had the lowest acceptance, with 42 per cent confirming stakeholder analysis and 46 per cent agreeing on the collection of stakeholder feedback. Only 44 per cent supported stakeholder participation in decision-making, and 31 per cent acknowledged the influence of stakeholders on project outcomes.

The observed lower acceptance of stakeholder involvement can be attributed to challenges such as the misalignment of community needs with project objectives, ineffective communication strategies, and the lack of a formalised framework for stakeholder engagement. These factors hinder consistent and meaningful participation, reducing stakeholders' overall acceptance of the M&E processes.

Discussion

Impact of M&E Planning Processes on Project Performance

The results indicated that effective M&E planning processes significantly influence the performance of HealthIT projects. A majority of 82 per cent of respondents agreed that including funding for M&E from the outset of the project planning is crucial for project success. Additionally, 88 per cent confirmed that M&E plans were incorporated into the overall project plans, and 76 per cent acknowledged the use of extensive planning methods. The Theory of Change emphasises the importance of establishing clear plans and logical frameworks to achieve desired outcomes (Center for Theory of Change Inc., 2019). By embedding M&E plans into the project design,

projects can ensure systematic tracking of progress and timely corrective actions, thereby enhancing performance. This finding aligns with Mackay (2021), who emphasises that planning for monitoring and evaluation improves project performance. Furthermore, organisations that invest in thorough planning processes are better positioned to manage resources effectively, meet deadlines, and achieve their performance targets. These results also highlight that control systems are essential for maintaining project alignment with goals, as indicated by the high agreement rate among respondents. Effective planning helps establish a clear roadmap for project implementation, facilitating better coordination among team members and stakeholders, which leads to improved project outcomes. The high levels of agreement among respondents regarding the integration of M&E plans into project designs and the use of extensive planning methods underscore the importance of comprehensive planning in achieving project success.

Influence of M&E Technical Expertise on Project Performance

The influence of M&E technical expertise on project performance was evident, with 77 per cent of respondents emphasising the importance of selecting competent personnel and 76 per cent agreeing on the necessity of staff training. The Diffusion of Innovations Theory highlights the role of knowledge and expertise in the adoption and implementation of new practices (Rogers, 2003). Projects with high levels of technical expertise are better able to adopt and implement

effective M&E practices, leading to improved performance. This finding supports Sunindijo (2015), who notes that the competence of project managers significantly affects project performance. However, the data also revealed significant gaps in technical skills and project design flexibility, with merely 15 per cent of participants strongly agreeing that these areas were adequately addressed.

These gaps are critical because technical skills are vital for accurate data gathering, analysis, and reporting, which are the backbone of effective M&E practices. Without these skills, poor decision-making and suboptimal project outcomes can be brought about by the quality of M&E data can be compromised. Project design flexibility is equally important as it enables projects to adapt to shifting circumstances and unforeseen challenges. A rigid project design can hinder the implementation of necessary adjustments, thus affecting the overall project performance. The lower agreement rates on project design flexibility suggest a need for continuous skill development and adaptability in project design to achieve desired outcomes, aligning with the Theory of Change.

Effect of Stakeholder Involvement on Project Performance

Stakeholder involvement in M&E processes was the least accepted practice among the respondents, with only 42 per cent confirming stakeholder analysis and 46 per cent agreeing on the collection of stakeholder feedback. The Theory of Change posits that involving stakeholders in the project's phases of planning and implementation is crucial for achieving desired outcomes (Center for Theory of Change Inc., 2019). Stakeholder engagement ensures that the project aligns with the needs and expectations of the community, which is essential for its success. This result is consistent with Njuki et al. (2013), who emphasise that stakeholder involvement enhances the realisation of M&E efforts by encouraging dialogue and collaboration. The lower acceptance rates for stakeholder involvement in this study suggest that HealthIT projects need to enhance their strategies for engaging stakeholders. Improving this engagement could lead to more effective and inclusive decision-making processes, ultimately resulting in better project performance.

CONCLUSION AND RECOMMENDATIONS

Conclusion: This study examined the impact of Monitoring and Evaluation (M&E) practices on the performance of HealthIT projects coordinated from Nairobi, Kenya. The findings revealed that effective M&E planning processes, technical expertise, and stakeholder involvement significantly enhance project performance. By embedding comprehensive M&E plans, ensuring the selection and training of competent personnel, and actively engaging stakeholders, HealthIT projects can achieve their intended outcomes more effectively. The results underscore the importance of integrating detailed M&E plans into project designs to facilitate systematic tracking of progress and timely corrective actions. Technical expertise in M&E is crucial for accurate data collection, analysis, and reporting, which are essential for informed decision-making. Furthermore, active stakeholder involvement fosters ownership, accountability, and transparency, aligning projects with community needs and enhancing their sustainability. In the context of this study, these findings contribute to the broader field by providing actionable insights that can improve the design and implementation of health projects. The research highlights the need for organisations to invest in thorough planning, continuous skill development, and robust stakeholder engagement strategies to enhance project performance. These practices are not only vital for HealthIT projects in Nairobi but can be applied to similar projects in other regions to achieve better health outcomes. However, the study also faced limitations, such as the varying levels of respondent agreement on different aspects of M&E practices, indicating areas for further improvement. Future research should explore the long-term effects of these practices and investigate additional factors that may influence project success. By addressing these limitations, the findings can provide a more comprehensive understanding of the role of M&E in project performance and contribute to the advancement of effective health project management globally.

Recommendations: Based on the conclusion that effective M&E planning processes significantly improve project performance, it is recommended that HealthIT project managers develop comprehensive M&E plans at the project's inception. This includes allocating specific budgets for M&E activities,

integrating detailed M&E strategies into the overall project plan, and establishing robust control systems to monitor progress and facilitate timely decision-making. By prioritising thorough planning, projects can ensure systematic tracking of activities, alignment with project goals, and efficient use of resources, leading to better project outcomes. Given the critical role of technical expertise in M&E practices, it is recommended that organisations invest in the continuous development of their personnel's skills. This involves regular training programs to enhance staff capabilities in data collection, analysis, and reporting. Additionally, selecting personnel with strong technical backgrounds and providing them with the necessary tools and resources can ensure high-quality M&E practices. By building a technically competent team, projects can improve data accuracy, inform decision-making, and ultimately achieve higher performance standards. The research highlights the relevance of stakeholder involvement in enhancing project performance. It is recommended that HealthIT projects implement strategies for actively engaging stakeholders during the project lifecycle. This includes conducting comprehensive stakeholder analyses, collecting regular feedback, and involving stakeholders in key decision-making processes. By fostering an inclusive environment, projects can align their activities with community needs, build stronger support networks, and enhance the sustainability of their outcomes. Effective stakeholder engagement not only improves project relevance and acceptance but also promotes transparency and accountability.

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