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Research Article

Stakeholder Mapping for Effective M&E: Insights from a Digital Literacy Program in Moiben, Uasin Gishu County

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Abstract: This qualitative case study examines how a stakeholder mapping tool enhances monitoring and evaluation (M&E) within Kenya's Digital Literacy Programme (DLP) in Moiben Sub-County, Uasin Gishu County. Twenty-five stakeholders which included teachers, head teachers, parents, learners, Ministry of Education officials, and ICT Authority representatives—participated through semi-structured interviews and focus groups. Stakeholders were systematically categorized by influence, interest, and M&E roles, uncovering challenges such as role ambiguity, uneven participation, and limited M&E capacity. The mapping tool clarified responsibilities, revealed under engaged groups such as parents and learners, and highlighted opportunities for more inclusive and effective evaluation practices. Findings offer actionable insights for digital literacy programs in Kenya and beyond, evidencing how stakeholder mapping can strengthen evaluative systems. Future efforts should expand to multiple regions and assess impacts on learning outcomes.

Keywords: *stakeholder mapping, digital literacy, monitoring and evaluation, Digital Literacy Programme, Kenya*

1. Introduction

The integration of information and communication technologies (ICT) into education has been widely recognized as a catalyst for improved learning, social inclusion, and economic opportunity. Globally, digital literacy is viewed as a fundamental skill in the 21st century, enabling learners to participate effectively in knowledge-driven economies (UNESCO, 2018). Across many countries, investments in ICT for education have sought not only to bridge the digital divide but also to improve teaching and learning processes. However, despite these efforts, research has shown that ICT initiatives often face challenges of sustainability, role ambiguity among stakeholders, and weak monitoring and evaluation (M&E) structures that limit their impact (Adukaite et al; Trucano, 2016)

In the African context, governments have increasingly embraced digital literacy programs as part of wider education reforms. Initiatives such as Rwanda's "One Laptop per Child" and South Africa's "Operation Phakisa ICT in Education" have demonstrated both the promise and complexity of integrating digital tools in classrooms (Isaacs, 2017). A key lesson emerging from these experiences is that effective M&E is crucial in identifying successes, bottlenecks, and areas for improvement. Yet, many African ICT-in-education programs have been critiqued for top-down evaluation approaches that underrepresent grassroots stakeholders such as teachers, parents, and learners, thereby reducing accountability and ownership (Nikolov et al., 2018).
In Kenya, the Digital Literacy Programme (DLP) was launched in 2016 to provide digital devices to all public primary schools, train teachers, and embed ICT in the Competency-Based Curriculum (CBC) (Republic of Kenya, 2016). The DLP is one of the most ambitious ICT-in-education projects in sub-Saharan Africa. While the initiative has made notable progress in device distribution and teacher training, evaluations point to uneven implementation, lack of clarity in stakeholder roles, and limited participation of parents and local communities in monitoring and evaluation (Gichana, 2023; Karimi, Mulwa, & Kyalo, 2021). These challenges threaten the long-term sustainability of the program.

Monitoring and evaluation of the DLP depend on the involvement of diverse stakeholders—teachers, head teachers, learners, parents, Boards of Management, Ministry of Education officials, and the ICT Authority. However, many stakeholders in Kenya face challenges such as unclear responsibilities, inconsistent engagement, and inadequate M&E capacity (Wanjala, 2019; Mutisya & Rotich, 2020). These issues compromise the ability of M&E systems to generate useful insights for policy and practice. Stakeholder mapping—a tool used to systematically identify and categorize

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stakeholders based on their influence, interest, and roles—has been widely applied in business and project management (Brugha&Varvasovszky, 2000; Project Management Institute [PMI], 2017), but its application in educational digital literacy programs, particularly in Kenya, remains limited.

Against this backdrop, this study investigates how stakeholder mapping can be used to systematically identify and categorize stakeholders involved in the monitoring and evaluation of the Digital Literacy Programme in Moiben Sub-County, Uasin Gishu County.

2. Problem statement

Information and communications technologies have the potential to give people the freedom they need to lead the lives they value (Qureshi, 2012). Research in digital education has often examined the roles of teachers, government agencies, and NGOs as implementers or beneficiaries, but rarely has it explored how these stakeholders are systematically integrated into feedback and evaluation mechanisms. Effective monitoring and evaluation of digital literacy programs frequently depends on the active involvement of a diverse range of stakeholders. However, many initiatives struggle to accurately identify, categorize, and engage stakeholders in ways that reflect their varying levels of influence, interest, and roles. This lack of clarity can lead to poor communication, misaligned expectations, and underrepresentation of key actors. While existing literature emphasizes the importance of stakeholder engagement in digital literacy initiatives (e.g., Warschauer, 2003), most studies focus on program implementation and outcomes rather than the underlying processes that shape stakeholder involvement in monitoring and evaluation (M&E). Without systematic profiling, M&E efforts risk inefficiency, poor engagement, and missed opportunities for accountability and learning. Stakeholder mapping has been widely used in business management and project management and development planning, its application in the context of digital literacy programs and monitoring and evaluation remains limited. There is limited targeted research representing a critical gap in both digital inclusion and M&E literature, pointing to the need for context-specific studies that explore how stakeholder mapping can improve the design, implementation, and assessment of digital literacy programs. In Kenya, the Digital Literacy Programme (DLP) aims to integrate ICT into primary education to enhance learning outcomes. However, limited empirical evidence exists on the influence of stakeholder participation in planning its M&E activities, particularly in Moiben Sub-County. Preliminary observations suggest that stakeholders frequently face challenges including unclear roles, inconsistent involvement, and limited capacity to contribute effectively to M&E. These gaps potentially compromise the quality of evaluation plans and limit the strategic use of findings for program improvement.

3. Objective

To investigate the use of stakeholder mapping in systematically identifying and categorizing stakeholders involved in the monitoring and evaluation of digital literacy programs.

4. Literature Review

Theoretical Framework

This study draws on stakeholder theory (Freeman, 1984) and participatory monitoring and evaluation (PM&E) frameworks (Estrella & Gaventa, 2020). Stakeholder theory emphasizes that organizations and programs succeed when they recognize and address the interests of all stakeholders rather than focusing narrowly on primary beneficiaries. PM&E underscores the importance of involving diverse stakeholders in the design, implementation, and review of interventions, thereby promoting accountability, ownership, and learning.

Concept of Stakeholder Mapping

Stakeholder mapping is a systematic tool that identifies, categorizes, and prioritizes stakeholders based on their power, influence, and interest (PMI, 2017). Widely applied in project management, healthcare, and development planning (Brugha&Varvasovszky, 2000; Reed et al., 2009), stakeholder mapping supports decision-makers in clarifying roles, minimizing conflict, and promoting inclusivity. However, its application in educational technology programs—especially in monitoring and evaluation—remains underexplored (Kamau & Wamuyu, 2019).

Role of Stakeholders in Monitoring and Evaluation

Effective M&E requires diverse stakeholder participation in planning, data collection, analysis, and dissemination of findings. Studies in Kenya have shown that insufficient clarity on roles often undermines program performance (Karimi et al., 2021). Teachers and administrators typically play frontline roles in data collection, while government agencies provide oversight. Parents and learners are frequently underrepresented, despite their potential to contribute valuable contextual insights (Wanjala, 2019; Mutisya & Rotich, 2020).

Empirical Studies

Globally, digital literacy research has emphasized program access and outcomes rather than stakeholder engagement in M&E (Qureshi, 2012; Warschauer, 2003). In Africa, evaluations of ICT-in-education programs highlight gaps in participatory approaches, noting that centralized systems often marginalize community-level actors (Adukaite et al., 2017; Isaacs, 2017). In Kenya, emerging studies have explored stakeholder needs identification in digital literacy programs (Gichana, 2023) and capacity building for M&E in literacy programs (Karimi et al., 2021), but systematic stakeholder mapping in M&E remains limited.

Research Gap

While existing literature underscores the importance of stakeholder engagement, few studies link stakeholder mapping directly to M&E effectiveness in digital literacy programs. This gap is particularly evident in Kenya's DLP, where empirical evidence on stakeholder participation in M&E remains limited, especially at the sub-county level. This study addresses that gap by examining how stakeholder mapping can enhance inclusivity, role clarity, and efficiency in the DLP's M&E in Moiben Sub-County.

5. Methodology

This research employed a qualitative case study design in early 2025 in Moiben Sub-County. Twenty-five stakeholders participated: eight teachers, four head teachers, five parents, five learners, two Ministry of Education officials, and one ICT Authority staff member. Data collection involved 15 semi-structured interviews and two focus groups (five participants each). Interview guides explored stakeholder roles, challenges, and perceptions of stakeholder mapping in M&E.

Ethical approval was obtained from a local university, and informed consent and confidentiality were ensured. Transcripts were coded using thematic analysis, with themes such as "role clarity," "engagement gaps," and "capacity constraints." Stakeholders were then mapped using a structured tool that classified each group by influence (high, medium, low), interest (high, medium, low), and roles in M&E planning, data collection/analysis, and dissemination/utilization.

6. Results

The stakeholder mapping tool provided a structured categorization of actors in the DLP's M&E.

Table 1

Stakeholder Mapping Tool for M&E of the Digital Literacy Programme (DLP) in Moiben

Stakeholder	Level of Influence	Level of Interest	Role in M&E Planning Activities	Role in Data Collection & Analysis	Role in Sharing & Utilization of Findings
Ministry of Education (MoE)	High	High	Provides overall policy direction, sets M&E frameworks, allocates resources, and coordinates national planning workshops.	Offers technical teams to support analysis, consolidates school and county-level reports, and ensures data quality.	Disseminates national reports, integrates findings into education policies, and issues circulars to guide implementation.
Teachers	Medium	High	Provide inputs on feasible M&E indicators, contribute to setting school-level targets, and identify priority areas.	Collect learner performance data, record ICT usage, analyze classroom outcomes, and provide feedback.	Share findings in staff meetings, apply feedback to improve teaching practices, and guide learners based on results.
Learners	Low	High	Participate in identifying relevant learning challenges to be monitored.	Provide feedback through surveys, focus groups, and classroom assessments on device use and learning experiences.	Share experiences with peers and teachers; findings inform adjustments in learning approaches and digital engagement.
Head Teachers	High	High	Coordinate school-level M&E planning, ensure alignment with MoE frameworks, and mobilize staff for participatory planning.	Supervise data collection, validate school records, and prepare consolidated reports for submission.	Present findings to staff, Boards of Management, and education officials, and use insights for school improvement plans.
Board of Management (BoM)	Medium	Medium	Participate in planning meetings, approve M&E activities, and mobilize community resources to support implementation.	Provide oversight in data validation and endorse school-level reports.	Review and utilize findings for accountability, resource allocation, and community reporting.

ICT Authority	High	Medium	Develops ICT-related M&E indicators, sets standards for device usage monitoring, and advises schools on digital data tools.	Provides technical support for device usage tracking, generates system-based reports, and assists in analysis of ICT integration.	Shares infrastructure-related findings with MoE, schools, and stakeholders to guide improvements in technology deployment.

The mapping highlighted three key challenges:

1. **Role ambiguity** – Teachers and parents often lacked clarity on their M&E responsibilities.
2. **Uneven engagement** – MoE and head teachers dominated planning, while learners and parents had limited roles.
3. **Capacity gaps** – About 70% of participants lacked M&E training, reducing their effectiveness.

7. Discussion

The stakeholder mapping tool revealed how roles, influence, and interests were distributed in the DLP's M&E system. Teachers were enthusiastic but unclear about expectations, while parents were minimally engaged despite their potential to provide valuable insights. Learners, though highly interested, had low influence in planning processes.This centralization was expected, reflecting their oversight and policy-making authority. Teachers and head teachers occupied a moderate level of influence, particularly in classroom-level data collection and reporting, whereas learners and parents, despite high interest, were largely marginalized with minimal influence in planning and evaluation processes. This imbalance mirrors findings from participatory evaluation research that stresses the importance of empowering grassroots stakeholders (Estrella & Gaventa, 2020). It also aligns with Karimi et al. (2021), who found that limited capacity building hampers the ability of stakeholders to contribute meaningfully to educational evaluations in Kenya.

At the policy level, the Ministry of Education and ICT Authority exerted significant influence but often in top-down ways, echoing critiques of ICT projects in Africa that fail to fully include communities (Nikolov et al., 2018). Such centralized control creates risks of role confusion and disengagement among local actors. This finding resonates with Isaacs (2017), who observed that African ICT-in-education initiatives frequently privilege policy-level perspectives over school- and community-level voices. The mapping tool thus proves useful in highlighting where power and responsibility are concentrated, and where participation gaps exist.

These findings carry important strategic implications for M&E. High-influence actors naturally dominate monitoring and decision-making, which can streamline policy implementation but risks sidelining other stakeholders. Low-influence actors, including learners and parents, contribute limited input under the current system, constraining the inclusivity and richness of evaluation outcomes. Systematic inclusion of these groups through structured feedback mechanisms, learner-led surveys, or community-based forums could improve both the quality and legitimacy of M&E activities.

From a theoretical perspective, the study contributes to stakeholder theory (Freeman, 1984) by showing how power–interest mapping can be extended into the education and ICT policy domain. While stakeholder theory has been widely applied in business management, its application to educational M&E demonstrates its versatility in clarifying expectations and aligning diverse interests. The study also operationalizes participatory M&E principles (Estrella & Gaventa, 2020), providing a practical framework to include marginalized actors such as learners and parents in structured and meaningful ways.

Practically, the mapping tool offers several implications:

- For the Ministry of Education**,** it highlights the need to decentralize M&E responsibilities and provide clear role guidelines to schools.
- For teachers and head teachers**,** it identifies the need for targeted M&E training to build confidence in data collection and reporting.
- For parents and learners**,** it emphasizes the importance of deliberate inclusion strategies, such as community-based surveys or learner-led feedback forums.
- For the ICT Authority**,** it suggests a stronger role in communicating infrastructure-related findings to schools in ways that directly support teaching and learning.

A critical finding was the marginalization of certain groups. Learners and parents held limited influence, reflecting structural power imbalances between policy authorities and school-level actors, as well as between school staff and learners. Addressing these disparities through participatory M&E tools, capacity-building initiatives, and structured feedback channels is essential for promoting equity and improving the effectiveness of the programme.

Finally, the study points to opportunities for future research. Expanding stakeholder mapping to other counties could test whether similar role ambiguities and engagement gaps exist across Kenya. Moreover, mixed-methods research could examine whether enhanced stakeholder clarity leads to measurable improvements in program outcomes, such as student digital literacy levels or teacher pedagogical practices. Longitudinal studies may also assess whether systematic mapping improves sustainability of ICT-in-education initiatives by ensuring continuous stakeholder ownership and accountability.

Overall, the findings demonstrate that stakeholder mapping is not merely a diagnostic tool but also a mechanism for rethinking how M&E can become more inclusive, participatory, and effective in advancing Kenya's Digital Literacy Programme.

8. Conclusion

This study demonstrates that stakeholder mapping can strengthen the M&E of Kenya's Digital Literacy Programme by clarifying roles, addressing engagement gaps, and promoting inclusivity in Moiben Sub-County. Policy makers and program leaders should adopt stakeholder mapping to build capacity, integrate marginalized voices, and make evaluations more effective. Future research should replicate this approach across counties and assess its impact on educational outcomes, including digital competencies and learning achievement.

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