



INFLUENCE OF PROJECT MANAGEMENT PARTICIPATION ON COMPLETION OF MASABA WATER AND SANITATION PROJECT IN TRANS-NZOIA COUNTY, KENYA

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ABSTRACT

The ultimate goal of a community water project is to benefit all members of the community. As such, it is apparent that community members are incorporated as critical stakeholders in such projects. As expounded within the extant literature, failure to include project management participation during project implementation negatively influences project completion while allowing project management participation positively influences project completion. The current study investigated project management participation in Masaba Water and Sanitation Project in Trans-Nzoia County to ascertain its influence on completion of the water project. The study particularly emphasized the four tenets of project implementation, including project initiation, planning, risk management and monitoring. The researcher employed a descriptive research design and a targeted population of 340 participants involved in the project at different points, including the community members who were supposed to benefit from the project. A stratified sampling technique was employed in the study; 183 participants were sampled to respond to the survey questionnaires. One hundred two respondents filled and returned the questionnaires that the researcher analyzed. Cronbach alpha test was employed on reliability test and a value of 0.99 was obtained hence verified the data used. The regression analysis results suggested that the measurements adopted (demographic data) were convenient as per the values of coefficient of determination (R^2). The findings revealed that three of the analyzed objectives depicted R^2 values of less than (0.5) while only one of the objectives yielded a statistical outcome R^2 value higher than (0.5). The researcher concluded the study's general objective that minimal involvement of project management participation on completion of the project could make a project collapse before its prime time of completion. The researcher recommended that further studies that dwell on project management participatory levels at different implementation stages based in other geographical locations can be done using different instruments and participatory categories to ascertain the conclusion made on the study's general objective.

Keywords: Participation, Initiation, Planning, Monitoring, Risk Management

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INTRODUCTION

Project management participation is an undertaking that permits allocation of some control on the project to the beneficiaries, more so the critical stakeholders of the project. Project management participation helps to bring out an understanding of ownership on the project's deliverable by according the beneficiaries the chance of engaging in some of the decision-making components of project management. It may not necessarily mean that they need to do the project's construction work, but they can be involved in ideas contribution, decision-making, and taking responsibilities. Stakeholders who are affected by these circumstances are given maximum opportunity to participate in programs that the concerned agencies initiate to help them overcome the challenges they face. Some people would say, allowing project management participation in community-based projects is complex and bureaucratic (Giampiccoli & Saayman, 2018).

Organizing groups of people are one of the most challenging tasks that constrain time within the project and cost implications, especially to donors working in foreign environments (Lannon & Walsh, 2019). Project management participation has proven to be successful in improving the outcomes of education and health. However, it has been less effective in reducing the level of poverty and in capacity building for collaborative action (Giampiccoli & Saayman, 2018). The most critical factor behind the success of project management participation is support gained from the responsive state.

Objectives of the Study

The aim of this study was to investigate the influence of project management participation on completion of water and sanitation projects in Kenya with specific reference to the Masaba water and sanitation project in Trans-Nzoia County. The specific objectives of the study were stated as follows:

- To assess the influence of project management participation at project initiation on completion

of Masaba water and sanitation project in Trans-Nzoia County, Kenya

- To examine the influence of project management participation at project planning on completion of Masaba water and sanitation project in Trans-Nzoia County, Kenya
- To assess the influence of project management participation at project risk management on completion of Masaba water and sanitation project in Trans-Nzoia County, Kenya
- To determine the influence of project management participation at project monitoring on completion of Masaba water and sanitation project in Trans-Nzoia County, Kenya

The study was guided by the following research questions

- What was the influence of project management participation at project initiation on completion of Masaba water and sanitation project in Trans-Nzoia County, Kenya?
- What was the influence of project management participation at project planning on completion of Masaba water and sanitation project in Trans-Nzoia County, Kenya?
- What was the influence of project management participation at project risk management on completion of Masaba water and sanitation project in Trans-Nzoia County, Kenya?
- What was the influence of project management participation at project monitoring on completion of Masaba water and sanitation project in Trans-Nzoia County, Kenya?

Statement of the Problem

Although the extant literature on community project management aspects underscores the significance of stakeholder engagement in community projects (Andersen et al., 2021; Kobusingye et al., 2017), evidence of project management participation lacks in different levels of most community projects' executions (Kobusingye et al., 2017). Less than 40 percent of community projects completed in Kenya sufficiently involve project management participation at the initiation and planning stages, resulting in poor

timeline performances and dissents in the execution of the projects (Kobusingye et al., 2017). Fernando et al. (2018) study conducted within the East African context identified weaknesses in stakeholder involvement, suggesting that only 50 percent (or less) community projects considered project management participation in project risk assessments. Fernando et al. (2018) similarly attributed 35 percent of underperforming projects to the absence of consultation with the local stakeholders at different community projects' execution stages. These studies broadly suggest that failure to enhance project management participation at various stages of community project implementation might result in poor project management and completion of the same. Yet, there is limited statistical evidence relating project management involvement to the different tenets of project completion (Canevari-Luzardo, 2017).

Despite the concurrence on the significance of evaluating project management participation at different stages of project completion, fewer studies consider aspects of project management that link stakeholder participation with community project initiation, planning, monitoring, and risk management. More studies that evaluate the relationship between these specific aspects of project management and stakeholder participation emanate from the European and North American context, with only limited studies based on the Kenyan context (Damoah et al., 2018). The established gap in project management literature and specific attributes of project performance at different stages of project management participation within the Kenyan context prompted the need to understand the influence of project management participation at specific stages of project completion with a particular reference to the Masaba water and sanitation project in Trans-Nzoia County, Kenya.

LITERATURE REVIEW

The Social Learning Theory

Social Learning Theory (SLT) focuses on learning, practice, and reality in social contexts (Kumi et al., 2020; Strecker, 2018). This study used the social learning framework to highlight how the study situation disclosed the social practice and learning and reality in project management participation. Connected the relevance of the SLT in approach to how it was utilized as a platform for inquiry and reflection that assisted in the unique diagnosis of every given circumstance of project management, spanning initiation, planning, risk management, and monitoring. For instance, the current study objectives emphasized the assessment of practice behaviors in initiation, planning, monitoring, and risk management requirements concerning implementation success; these are a priority for the project or intervention to address by application in each instance of progress. Concisely, the study evaluated the participative conditions of the scenario and how the project team reacted in each phase. Usually, a participatory approach includes the project proponents, managers, and stakeholders in examining its strengths, limitations, and needs. The approach also collectively analyses priorities to improve the evaluation's usefulness and those engaged in its implementation's overall efficacy and comprehension (Kabirifar & Mojtahedi, 2019); here, there is evidence of social learning and practice as SLT emphasizes.

The opportunity to create knowledge and competency by applying the SLT in linking the initiation and planning stages of a project to implementation success is appealing. The Masaba Water Project is an example of this. Knowledge of the project's social learning challenges leads to more efficacy in the project's initiation and delivery stages and some vital study and development strategies for establishing collaboration and learning platforms for successful community projects. However, it is contingent on a diagnostic approach to issue resolution that focuses on socialistic issue solving capabilities rather than

physical problems. In addition to conducting initial scoping of the project management participation stages using SLT critique, the application of the theory also considered how the research objectives correspond to the social learning capacity requirements. For instance, the application determined whether initiation, planning, risk management, and monitoring, to success, depend on the stakeholders' learning and practice orientation (Horsburgh & Ippolito, 2018). Potentially, good relation between social learning and assessment techniques aimed at surfacing project logic to improve the connection between expected outcomes and operational objectives and the implementation path. Moreover, because the current research scenario may not stay the same across time, it is in the principle of successful project management to keep an eye on changes occurring, significant issues in progress, and the critical components in the changing project context. All these impacts a project's performance and happens through learning and practice (Horsburgh & Ippolito, 2018). For instance, it may be necessary to track changes in the institutional setting that may make decision-making more or less available to multiple stakeholders (this may be at the implementation and monitoring stages); learning and practice as emphasized in SLT makes theoretical explanation to this.

Concisely, the SLT can be used in conjunction with initiation, planning, and implementation outcome evaluation to develop monitoring parameters and serve as a foundation for the ongoing project collaborative participation study. Analyzing from the point of view of SLT thus allows the project team to track improvements in a social context for decision-making rather than improvements based on more physical aspects to which the project implementation occurs.

People-Centred Development Approach

Influence and success in project management participation at various stages of the local projects can be explained from the people-centered development approach as proposed by

Korten (1990). The system considers enhancing social justice, community self-sufficiency, equity, and democratic decision-making in local community development projects. It acknowledges that economic progress alone does not always lead to stability of human development, and so advocates for reforms in social, political, and environmental values and practices. This theory adopts humanistic thinking that any action should be conducted holistically, emphasizing the materials gains and the socio-cultural aspects, political and institutional structures (Korten, 1990). For the current study, this approach involves community members at initiation, planning, risk management, and monitoring stages akin to enhancing their capabilities to manage their affairs and environment.

It emerged from the extant reviews (Kobusingye et al., 2017). This study problem statement that many project sponsors and implementors focused more on economic aspects of a project than the social aspects that characterize initiation, planning, and implementation. Aligning the current study to the people-centered approach arguments draws attention to the fact that beneficiaries enhance their personal and institutional capacity to mobilize and manage resources to achieve long-term, justly distributed gains in their quality of life compatible with their aspirations. For instance, involving the community members at the initiation and planning stages gave the implementers a better insight into resource injection and planning for implementation success.

It is essential first to understand the feeling of empowerment and capability for community members to assess project management participation in the initiation, planning, risk management, and monitoring stage regarding success. The people-centered development approach emphasizes the need to commence a development project by empowering the social, political, and institutional capabilities of the members of a participatory group to enable a better outcome.

Communicative Action Theory

The assessment of the four objectives of influence of project management participation (at initiation, planning, risk management, and monitoring) on the success of completion can be assessed from the point of view of project dialogue and engagement at various stages of project implementation via communicative action theory. Communicative action theory explains human rationality as an essential outcome of successful communication (Strecker, 2018). The theory suggests that rationality is inherent in communication and action, representing a critical synthesis. For the current study, the approach may explain the quality of dialogue in project initiation, planning, risk management, and the monitoring phases of the project. Tuomela (2020) described the theory to integrate social and scientific learning perspectives within a societal context. The approach emphasized two critical components to study dialogue in public participation; the role of culture and language and argumentation. The approach is based on intercommunicating practices

on communicative rationality and planning to explain the new directions in policy-making and planning processes (Strecker, 2018).

Planning and policy-making are all formulations of shared rationalities in any development project, which may not be achieved when social/cultural diversities are prevalent reasoning. Gunderson et al. (2019) underscore the significance of communication in decimating diversities in projects at all stages. Further, in multicultural and cosmopolitan contexts, community members may see things differently based on their interpretation of words, objects, and expressions. For instance, Lentz (2020) explained that marginalized people might not be privileged to speak the same language as the elite and middle class in economically and socially fragmented communities, alienating them from participation in development. Language and cultural diversities present severe limitations in participation and implementation of community projects and thus the need for a rational basis to construct ends and means in democratic societies.

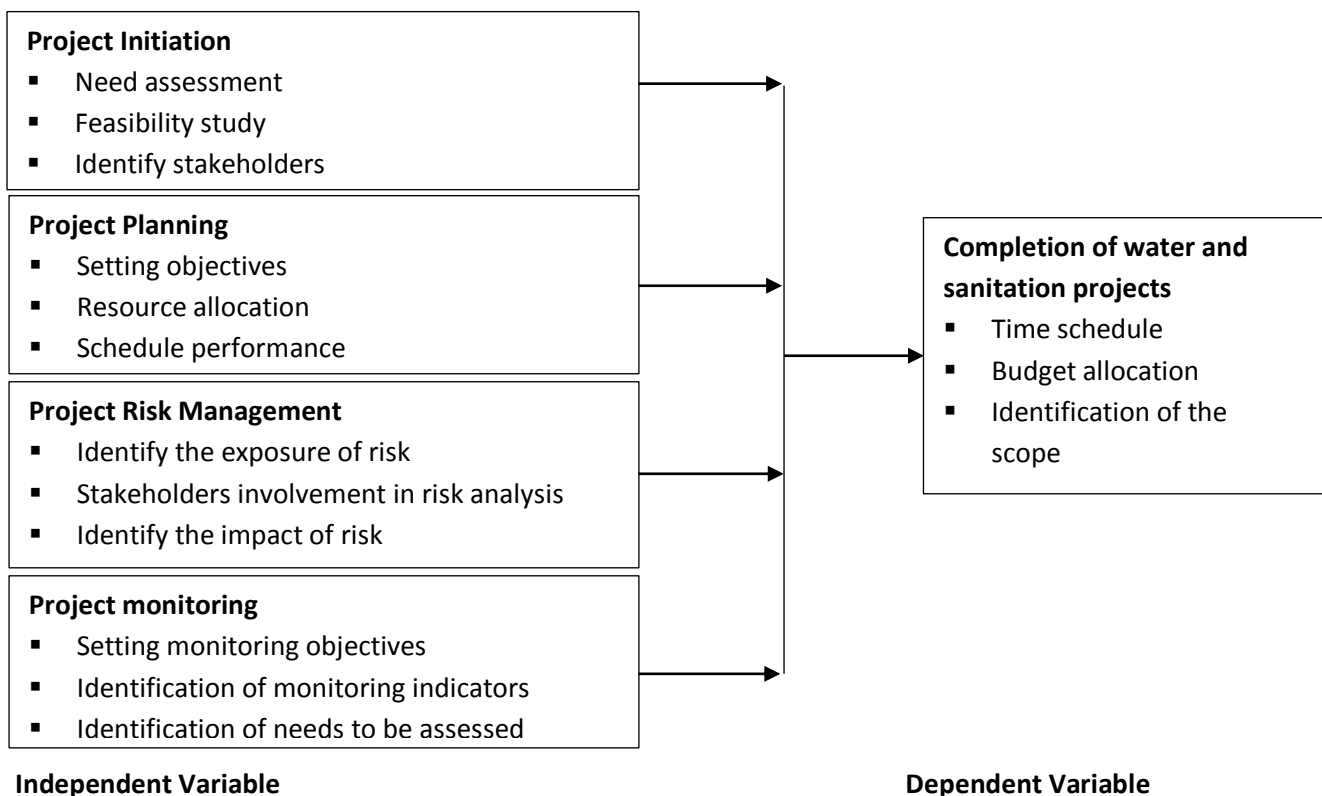


Figure 1: Conceptual Framework

Project Initiation

Project initiation is the stage of a project that entails developing a preliminary proposal for the most appropriate set of interventions and course of action within a specific time and budget frame to address a particular goal of development within a particular region or setting (Williams et al., 2019). Williams et al. (2019) submitted that project initiation is based on the needs assessment and feasibility study on the area of concern. Further, initiation anchors on analyzing stakeholders' needs and the risks that stakeholders are likely to face during the project implementation process. According to Di Maddaloni and Davis (2018), an analysis of stakeholder needs is a better place to commence project initiation processes. Gruden and Stare (2018) found out that practitioners and implementers of any project must spend considerable time identifying the significance of a project and the issues surrounding the project. The recommendation is based on initial feasibility, evaluating how the local political climate and community acceptance can support or impede project completion.

Project Planning

Usually, planning is an initial step in the life of a project, which helps with defining the broader outcomes that are expected to complete by the end of project time (Velayudhan & Thomas, 2018). To assert the importance of project planning, Velayudhan and Thomas (2018) explained that planning must be concise and clear, must outline the desired project's outcome clearly. Further, most studies suggested that project planning documents must include baseline and inspirational indicators to ease monitoring projects and measure project results (Nderitu, 2020). Planning must contain a description of how a given project will be implemented, including allocating resources, strategy, costs, management arrangements and any other required output. To make community projects more effective, getting an accurate idea of the project objectives requires assessing the project and stakeholder needs. As Nderitu (2020)

explained, a successful project is designed based on annual work plans, which clearly show all the activities that will undertake to advance the overall project outcomes. Nderitu (2020) further underscored the significance of an inclusive approach in project planning documents. Properly designed project programs incorporate all the stakeholders within a given task to facilitate a participatory process to community projects.

Establishing project indicators during the planning stage is the best way to measure the results of community projects (Velayudhan & Thomas, 2018). Planning can make the community project completion process cost-effective if integrated with the technical corporation strategies that are expected during the project completion stages. Effective project planning includes using different tools to predict the impact and success of various activities in the life of a project, with a view of confining the project to the proper boundaries. Among the tools used to facilitate project planning documents include surveys on stakeholders, interviews and informal feedback sessions with anticipated project teams (Velayudhan & Thomas, 2018). More importantly, planning of project goals should entail dialogue between the project implementation team and the community to enable all the stakeholders to work together through project completion processes.

Project Risk Management

Project risk management entails identifying, analyzing and then responding to any risk that arises over the project life cycle to help the project remain on track and meet its goal (Burtonshaw-Gunn, 2017). According to Burtonshaw-Gunn (2017), risk is anything that affects project timelines, budget and performance. Although risks are just potentialities, they often are classified as issues and challenges that must address once they become realities. Project risk management entails assessing a project complying with applicable laws, ordinances, regulations, and standards, can mitigate significant impacts, and what certification conditions are required to ensure compliance and

eventual implementation of a project at a particular geographical area (Sebahana & Iravo, 2017). Risk management considers several key issues, including the environmental impacts, social and economic impacts on the life cycle of a project. Usually, risk management determines whether essential elements for completing a project are in place, then after that, operationalization of the project. Harrison and Lock (2017) explained good stakeholder involvement in risk management would not necessarily eliminate all potential risks in a project. It actively supports the swift progress and eventually improves the quality of the delivered results in a product cycle. As such, stakeholder management implies effective use of the stakeholders' time and expertise to influence and help a project achieve its goals. Tonchia (2018) viewed risk management through the engagement of stakeholders as access to additional and free resources to achieve project goals. On the other hand, Carvalho and Rabechini Junior (2015) considered risk management by engaging stakeholders as an increased perception of a project implementation success. He explains that good management of stakeholders throughout the life of a project is vital in ensuring that the stakeholders view a project in a positive light regardless of the project's actual outcome. Consequently, stakeholders whose expectations are carefully managed over the entire duration of a project are more likely to perceive a project as a success than the stakeholders who are ignored in project implementation processes.

Project Monitoring

Velayudhan and Thomas (2018) established that the absence of effective monitoring processes results in failures of the projects. Consequently, there is a need to set monitoring objectives and establishing some indicators that may guide one during the process. Besides, Kukubo (2020) studied the influence of management practices on the sustainability of projects in Kangema, Muranga County, in Kenya. The author found out that the monitoring aspect of project management used

focused group interviews to gather information from thirteen groups involved in different projects, groups of which were identified through stratified sampling.

Triangulating literature review, case study, and quantitative research approach, Mdemu et al. (2020) established that the local community members were not involved in monitoring practices of the food security intervention projects. Failure to enhance local community participation in the food security intervention projects resulted in stagnation and collapse of the majority of the projects since they did not establish the required indicators.

While a majority of the studies seeking to explore project monitoring tend to report weaker monitoring practices that result in project failures, other studies have highlighted successful implementation of community projects through effective identification of the set objectives in monitoring practices. Gicharu (2018) studied the participatory monitoring of the local community in projects funded by NG-CDF in Ainamoi Constituency, Kenya. Researchers reported the presence of external monitoring teams. The evidence of community involvement in participatory monitoring had seen specific NG-CDF-funded projects in the constituency operate beyond five years, compared to poorly coordinated projects that dwindled within the first two years of operation. According to Gicharu (2018), some studies suggest the non-significance of monitoring practices on the sustainability of community projects.

Completion of Water Project

Completing the water project, as was executed in the proposed study, is measured by deliverables obtained in terms of the value for money and the project's scope (Onyancha, 2020). In addition, Hayat et al. (2019) assessed scope management, cost management, time management, risk management, quality management, human resource management, procurement management, and integration management concerning project completion. The

author established that the discussed factors were closely linked to Onyancha (2020), but an emphasis on the literature review was placed on completing the project within a defined period.

Hayat et al. (2019) realized that project management organizations with mature time management practices deliver more successful completed projects than project management organizations with less mature time management practices. A project schedule is an absolute time; the time is calculated as the number of days/weeks from the start on site to practical project completion. Hayat et al. (2019) stated that the speed of project implementation is the relative time. Marzouk and Enaba (2019) found out that construction firms are interested in monitoring project time variance and verifying contractor progress payments requests. In addition, Marzouk and Enaba (2019) echoed that they completed energy sector projects on time due to factors such as favourable climatic factors, efficient procurement procedures, and timely availability of funds and proper utilization of project planning tools.

Completing the project within a given budget can also measure project success. Costs can be computed in the form of a percentage of net variation, unit cost, over the final price, among others (Onyancha, 2020). The project monitoring team may control the costs using several techniques, including PERT and CPM. Projects often face cost overruns during the implementation phase; hence, a proactive approach is essential for monitoring project costs and detecting potential problems. Technical performance is also a relative cost of measuring project success. Onyancha (2020) identified technical performance as one of the indicators of project success factors, such as schedule performance and cost performance. Quality achievement by projects is also another dimension of assessing project success. Hayat et al. (2019) emphasized that the quality of projects and project information significantly influences project completion. Closely related to quality and technical

requirement dimensions is the scope. Project completion within the defined area is considered as one of the success factors. The project charter of work requires the implementers to develop a range of achievable work in a specified period, containing achievable objectives and milestones.

Empirical Literature Review

Project initiation is the initial step in the strategic planning processes of a project. Currently, there is limited literature on the role of project initiation to its completion within the extant literature. The studies are even sparser in Kenya, in the context on which the proposed research is based. However, the fewer studies available suggest that the project initiation process plays a significant role in project completion success. Williams et al. (2019) conducted a study in Paris to determine critical determinants in initiating and completing any project. From the study, the author revealed that practitioners and implementers of any project must spend considerable time in identifying the significance of a project and issues surrounding the project. His recommendation was based on initial feasibility, evaluating how the local political climate and community acceptance can support or impede project completion.

Pan and Zhang (2021) state that the project initiation phase is significant because it offers cost-effective space to determine fundamental issues about project parameters. Being the initial phase of the project, it can easily make changes without affecting the entire project. When a project team seeks to change the project's objective, it is easier to do so before the project is underway hence portraying the significance of the project initiation stage. Within the Nigerian context, in Anambra State, Nzekwe et al. (2015) conducted a study to understand factors that influenced project implementation, including the initiation phase. The study aimed to help stem the high incidences of project failures. Primary information used in the research was sourced from a survey of one hundred (100) project professionals, each possessing a minimum of 5 years of experience. The study

findings showed that the most critical factor for project success is handling unexpected crises above client commitment; this should be identified at the project initiation stage. The results of the study are helpful in community enlightenment and further policy guidance and regulation.

Empirical studies on how project planning influences completion tend to suggest that the planning stage of a project is essential for the success of the completion. Majority of studies emphasize the need to define the broader aspects of the project to guide through the completion of the study. Nderitu (2020), while highlighting the significance of project planning in the successful completion of projects in Kenya, underscored the importance of establishing project indicators within the project planning. Further, Nderitu (2020) study submitted that project planning is essential for guiding the project costs and project completion time.

In a study seeking to measure, assess and evaluate education projects in Florida, US, Velayudhan and Thomas (2018) sought to understand the role of planning in completing the tasks. The study revealed that planning enabled clear outlining of the project objectives and specifics, enabling timely completion of the projects. Further, project planning provided baseline and inspirational indicators, allowing for ease of monitoring projects and measuring project results (Nderitu, 2020). The study also underscored the importance of project planning in describing how a given project is implemented, including allocating resources, strategy, costs, management arrangements and any other required output.

Project risk and stakeholder management, like other stages, influence the implementation and completion of water projects. In London, Tonchia (2018) made a study based on an analysis of stakeholders' needs and the risks that stakeholders will face during the project implementation process. The researcher found out that there is a need to identify risks earlier in the project through project initiation processes. In addition to that, he asserted

that an analysis of stakeholder needs is a better place to commence project initiation processes. The researcher further states that there is a need to propose measures to solve critical issues identified in project development strategy while meeting diverse project implementation needs.

Burtonshaw-Gunn (2017), mirroring the US context, suggested that after risk analysis of any project, the next step is to establish a project concept, which can effectively serve the stakeholder perspectives. Consequently, there is a need to assess the project's priority during risk/stakeholder management, particularly within the context of the community's economic and social needs. Moreover, the risk management phase of a project is essential in aligning any project within the consistency of a regional or a country's master plan regarding social and economic needs. Elsewhere, Harrison and Lock (2017) linked project risk and stakeholder management to cash flow improvements and cost reduction. Tonchia (2018) suggested that stakeholder management decisions influence the delivery of benefits to the community once a project is completed.

Although the extant literature on monitoring within the current study context may be insufficient, literature exists on monitoring and its impact on project completion. Velayudhan and Thomas (2018) studied the influence of monitoring on the completion of rural water supply and sustainable developments in Ghana and Nigeria. The study explored the sustainability issues and challenges that are usually associated with community water project developments. Undertaking a comparative review of the micro-projects within Volta Region Community Water Supply and those in Nigeria, the researchers revealed an absence of effective monitoring processes, resulting in failures of the projects. The researchers recommended that the sustainability of community-based hand pump-operated rural water supply projects require full monitoring measures for practical completion.

Furthermore, Gicharu (2018) studied the influence of management practices on the sustainability of projects in Kangema, Muranga County, in Kenya. The study, which emphasized monitoring aspects of project management, used focused group interviews to gather information from thirteen groups involved in different projects, identified through stratified sampling. The study results suggested that effective monitoring measures significantly impacted on completion and sustainability of community projects. Another study conducted in Kenya explored the role of monitoring practices in the success of donor-funded food security projects in the Kibwezi Sub-County (Kukubo, 2020). Triangulating literature review, case study, and quantitative research approach, Kukubo (2020) established that the local community members were not involved in monitoring practices of the food security intervention projects. Failure to enhance local community participation in the food security intervention projects resulted in stagnation and collapse of the majority of the projects. Consequently, the study's findings recognized the role of participatory monitoring in sustainability and the success of community projects.

METHODOLOGY

A descriptive research design was employed in this study. The study had a targeted population of 60 employees of Lake Victoria North Water Services Board as obtained from the organization's human resources manager, ten community project officials of the Masaba water project, and 270

community members who were actively involved in the project.

Sampling was based on Yamane's (1967) formula for populations of less than 10,000;

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Desired sample size for the population of less than 10,000.

e = sampling error at 95% confidence level assumed to be 0.05.

Therefore, the sample size was arrived at as follows:

$$n = \frac{340}{1 + 340(0.05)^2}$$

From the displayed formula, 183 respondents were considered for the study. Semi-structured survey questionnaires were used to collect data from the participants. However, 102 participants successfully completed the survey questionnaires.

FINDINGS

Project Initiation and Completion

The first research question assessed the relationship between the involvement of project management at the initiation stage of the project and participants' scores at the current non-completion stage of the project. The findings presented a significant R^2 (0.26), a standard error of 0.66, and a lower P-value of 3.23×10^{-8} . A summary of the findings was presented in Tables (1, 2, and 3) and Figures (2 and 3).

Table 1: Summary of output on project initiation and completion

<i>Regression Statistics</i>	
Multiple R	0.51424778
R Square	0.26445078
Adjusted R Square	0.257095287
Standard Error	0.660843644
Observations	102

From the above results in Table 1, it was evident that project management involvement was insufficient. The current study sought to understand

the level at which the community members, project leaders, and implementers felt involved and what the interpretation of the involvement was. From

the findings, there was some linear relationship between project initiation and project completion since the R2 was not zero (Frost, 2019). However, the statistical outcome established that R2 = 0.26, implying that 26% of the variance in project completion was connected to project initiation. Therefore, there was minimal involvement of project management participation at the initiation stage of the project.

The finding achieved an interpretation of why the project stopped before completion. Frost (2019) revealed that when R2 values are small, there is no indication that there is a problem between the variables. When the R2 values are high, it is not automatic that the relationship between the variables is good. From observations, the outcome of a variable like the behavior of humans has a lower coefficient of determination (R2). The findings also established a standard error of 0.66. The latter figure explained the measure of the precision of the regression model. Besides, it revealed the percentage of wrong assumptions one could make when using a regression model to assess the variables of interest or the dependent variable.

Involving project management at the initial stages of the project spurs a tendency amongst the

community members to own the project hence successful completion of the project (Williams et al., 2019). However, participants' response to this variable, 'on whether there was sufficient involvement at the initiation stage,' paints a picture of project management limitedly involved in this process. In an earlier study, Burtonshaw-Gunn (2017) reported that most community projects fail, as the implementers do not sufficiently involve the project management participation. The involvement of the project management at such earlier stages of the project would mean that dissenting opinions regarding the project are addressed, with the needs of the stakeholders take into consideration before implementation (Williams et al., 2019). In turn, this would ensure that the completion of the project is done within the set timelines. Burtonshaw-Gunn (2017) indicated effective involvement of project management participation implies that more community members are keen to be part of the process, with a majority wanting to be involved in the project's decision-making processes. Beneficiaries understand their day-to-day problems better than the implementers of the project. According to Onyancha (2020), one of the ways of ensuring involvement of the project management is through proper representation of the beneficiaries in decision-making.

Table 2: ANOVA on Project Initiation Involvement and Completion Scores

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	15.70112	15.70112	35.95283	3.23 x 10 ⁻⁸
Residual	100	43.67143	0.436714		
Total	101	59.37255			

Table 2 and Table 3 explained the statistical significance of the regression model. Given that P (3.23 x 10⁻⁸) <0.05, there was a revelation that the overall regression model for the data was a good fit.

The findings of P (3.23 x 10⁻⁸) <0.05 suggested a rejection of the null hypothesis and provided higher confidence levels for the data and conclusions of the study.

Table 3: P-Value Analysis Scores for Project Initiation Involvement and Completion

	<i>Coefficient</i>	Standard Error	t-stat	P-value error	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	1.60508	0.22910	7.00597	2.9E-10	1.150549	2.05961	1.15055	2.05961
Project initiation	0.51796	0.08638	5.99606	3.23x 10 ⁻⁸	0.346576	0.68933	0.34657	0.68933

Figures 2 and 3 presented below gave a graphical presentation of the above information. Both graphs suggested a positive relationship between the

involvement of project management at project initiation and completion of the project.

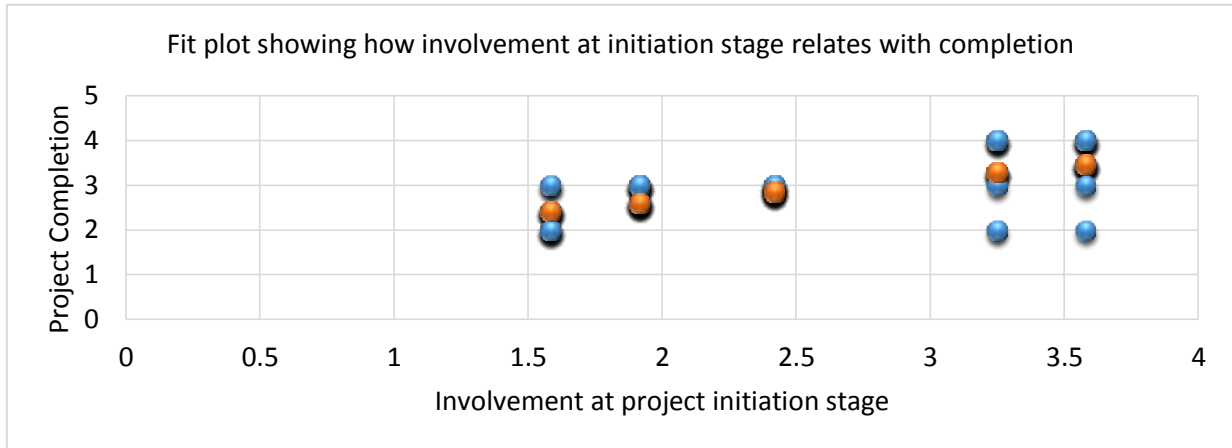


Figure 2: Fit Plot of Project Initiation Involvement Vs Completion Scores

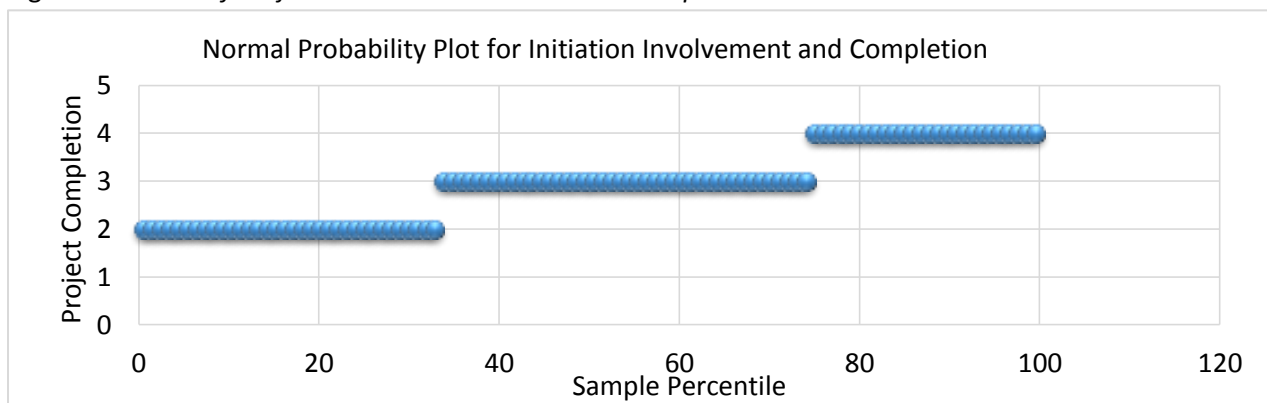


Figure 3: Normal Probability Plot for Initiation Involvement and Completion

Project Planning and Completion

The second research question determined the relationship between project management participation at the project's planning stage and participants' scores at the current state of a non-

completed phase of the project. After analyzed the data, R2 was obtained as 0.24, standard error as 0.64, and a lower P-value of (1.53 x 10⁻⁷) were determined as presented in Tables (4, 5, and 6) and Figures (4 and 5)

Table 4: Summary Output on Project Planning and Completion

<i>Regression Statistics</i>	
Multiple R	0.49175402
R ²	0.24182202
Adjusted R Square	0.23424024
Standard Error	0.63985632
Observations	102

From the findings, $R^2=0.24$ meant that approximately 24% of the outcome variance was explained from the model. The results demonstrated that the involvement of project management participation at the planning stage seemed to be minimal. Also, the researcher obtained a standard error of 0.66399. The data captured realized that more engaged community project leaders during the project are planning stage than the community members. Literature expands that project management participation in the planning stages of the project was deemed helpful in arranging different work needs of the project based on the working habits of the local community (Nderitu, 2020). Based on the set

objectives, developed the study to weigh the level within which project management participation interpreted planning of the project, implementers of the project, project leaders, and the extent to which the respondent felt involved. The findings realized a linear relationship between project planning and the completion of the project. Concisely, the study findings on planning mirror the extant literature that most project implementers sparsely involve project management in planning activities, which bear the potential to hamper the success of such projects (Tonchia, 2018). Masaba Community water project did not have proper planning strategies in place at implementation. As a result, the project stopped before completion.

Table 5: ANOVA on Project Planning Involvement and Completion Scores

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	13.05839	13.05839	31.89515	1.53×10^{-7}
Residual	100	40.94161	0.409416		
Total	101	54			

From the ANOVA Table 5 and Table 6, an F-ratio of 31.89515 and P (1.53×10^{-7}) < 0.05 indicated that a statistical significance of the regression model was

realized (Frost, 2019). Hence rejected perceived null hypothesis and analysis of the study to be good.

Table 6: P-Value Analysis Scores for Project Planning Involvement and Completion

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.7994047	0.22182	8.11179	1.31×10^{-12}	1.35930	1.35930	2.2395	2.2395
Project planning	0.4723598	0.08363	5.64757	1.53×10^{-7}	0.30642	0.30642	0.63829	0.63829

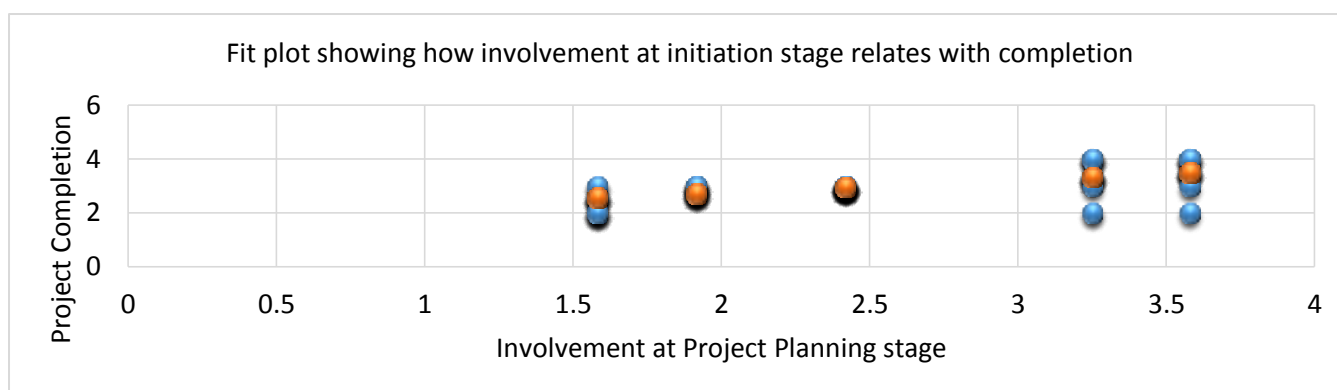


Figure 4: Fit Plot of Project Planning Involvement Vs Completion Scores

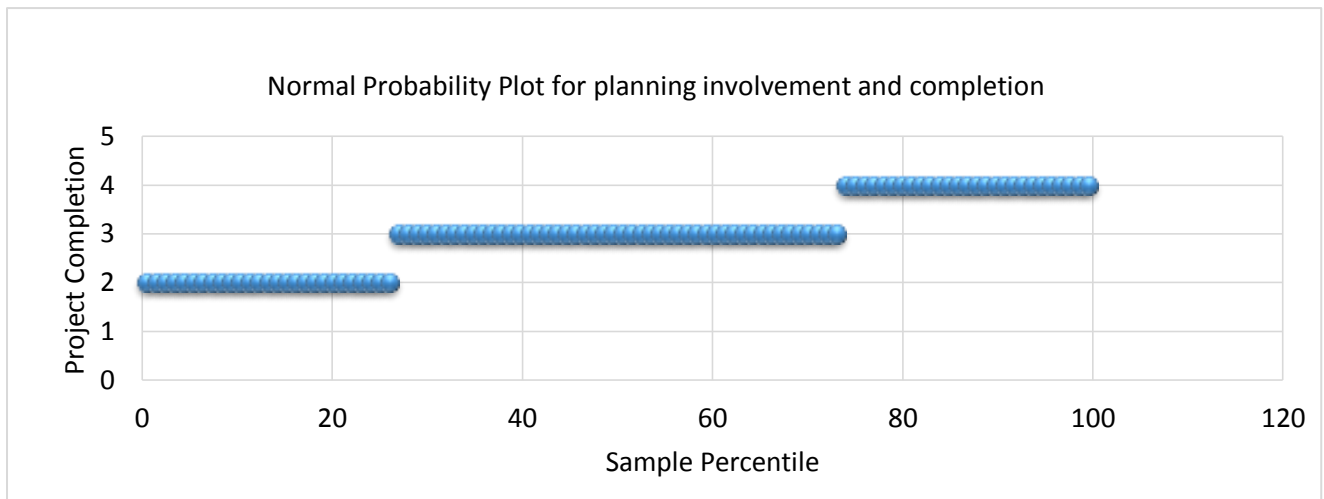


Figure 5: Normal Probability plot for planning involvement and completion.

Project Risk Management and Completion

The third objective was to assess the influence of project management participation at the project risk management stage of the project and participants' scores at the current state of a

non-completed phase of the project. Statistical findings established R^2 as 0.56, a standard error of 0.51, and a lower P-value of (9.43×10^{-20}) was determined as presented in Tables (7, 8, and 9) and Figures (6 and 7).

Table 7: Summary Output on Project Risk Management and Completion

<i>Regression Statistics</i>	
Multiple R	0.751287297
R^2	0.564432602
Adjusted R Square	0.560076928
Standard Error	0.508534627
Observations	102

Sebahana and Iravo (2017) recommend that risk management in project management participation be active, early, and continuous, involving all stakeholders (community members and partners). Even though the need for project management involvement has mainly been recognized, there is less implementation concerning the assessment of risks and management in a project. However, the current study's findings implicated a higher response of project management participation involvement at risk management than other stated objectives. The regression analysis found the R^2 value to be 0.56. The results explained more than half of the variance in the outcome. Although the

R^2 value was slightly above the 0.05 determinant value, the result was not solid enough to ascertain that the participants approved of them been engaged in project risk management. The $R^2 > 0.5$ could be differently explained (Harrison & Lock, 2017) that majority of the respondent did not understand what project risk management entailed. From different research studies that are rooted within East Africa, it has been established that risk management is done in approximately 92 percent of the community projects (Choge & Muturi, 2014). Despite that, a smaller percentage (less than 50 percent) involves project management participation during the risk management analysis.

Table 8: ANOVA on Project Risk Management Involvement and Completion Scores

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	33.5118	33.5118	129.5856	9.43×10^{-20}
Residual	100	25.86075	0.258607		
Total	101	59.37255			

Tables 8 and 9 indicated that $P (9.43 \times 10^{-20}) < 0.05$. From a regression analysis point of view, the latter values suggested that the study was good for research since there was a significant relationship between the variables-project risk management

and completion of the project. The concept explained why rejected the null hypothesis. Thus, it established high confidence levels for the data and findings of the study.

Table 9: P-Value Analysis Scores for Project Risk Management Involvement and Completion

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.155115	0.176299	6.552023	2.49E-09	0.80534	1.50488	0.805343	1.504887
Risk Management	0.756706	0.066474	11.38357	9.43E-20	0.62482	0.88858	0.624824	0.888587

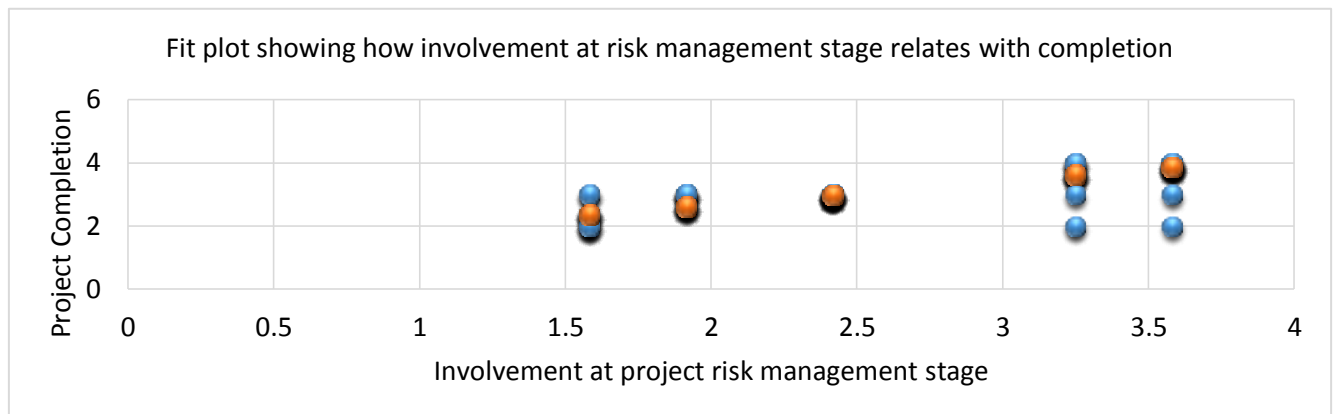


Figure 6: Fit Plot of Project Risk Management Involvement Vs Completion Scores

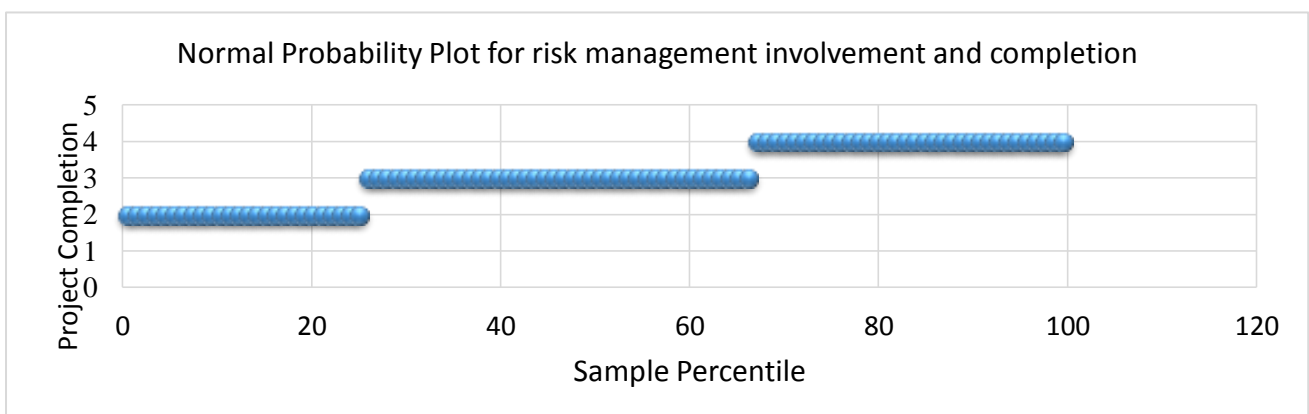


Figure 7: Normal Probability Plot for Risk Management Involvement and Completion.

Project Monitoring and Completion

The fourth objective was to determine the influence of project management participation at the project monitoring stage of the project and participants' scores at the current state of a non-completed

phase of the project. Findings revealed R^2 0.34, standard error 0.56, and a P-value of (1.69×10^{-10}) was obtained as presented in Tables (10, 11, and 12) and Figures (8 and 9).

Table 10: Summary Output on Project Monitoring and Completion

<i>Regression Statistics</i>	
Multiple R	0.579917995
R^2	0.336304881
Adjusted R Square	0.329667929
Standard Error	0.5556513
Observations	102

The current study findings deviated from an earlier study by Mdemu et al. (2020) on the need to engage beneficiaries in a participatory way as much as possible to ensure the successful completion of community projects. Besides, Kukubo (2020) emphasized that the success of a project is bestowed on the sole planning skills and visions of the implementing agency without highlighting the role of project management participation on involvement at the monitoring stage. Instead,

Gicharu (2018) concurred with the current study by suggesting that many community project implementers poorly engage the project management participation in projects. The outcome of these projects is usually unsuccessful. Based on the findings ($R^2 = 0.34$), the researcher realized that only 34% of the variance explained the outcome. Also, Project monitoring and project completion established a linear relationship.

Table 11: ANOVA on Project Monitoring Involvement and Completion Scores

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	15.64477	15.64477	50.67159	1.69×10^{-10}
Residual	100	30.87484	0.308748		
Total	101	46.51961			

The tables justified that there was a statistical significance between the variable of study since $P (1.69 \times 10^{-10}) < 0.05$. Hence, an alternative

hypothesis was accepted and obtained high confidence levels for the data and findings of the study.

Table 12: P-Value Analysis Scores for Project Monitoring Involvement and Completion

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	1.754503		9.1079	8.92×10^{-15}	1.37232	2.13668		
	189	0.192633	9		4	2	1.372324	2.136682
Project monitoring	0.517026		7.1183	1.69×10^{-10}	0.37292	0.66112		
	513	0.072632	98		6	7	0.372926	0.661127

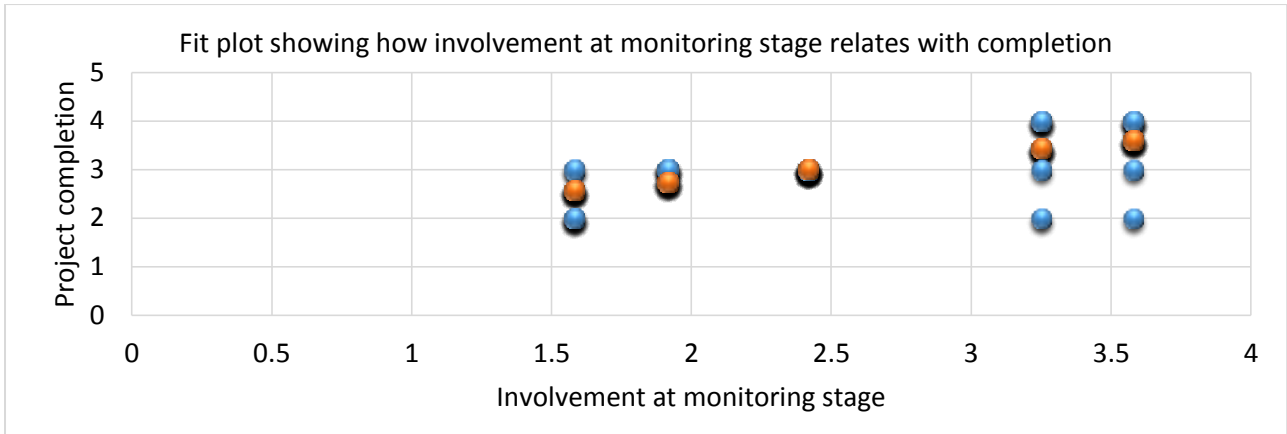


Figure 8: Fit Plot of Project Monitoring Involvement Vs Completion Scores

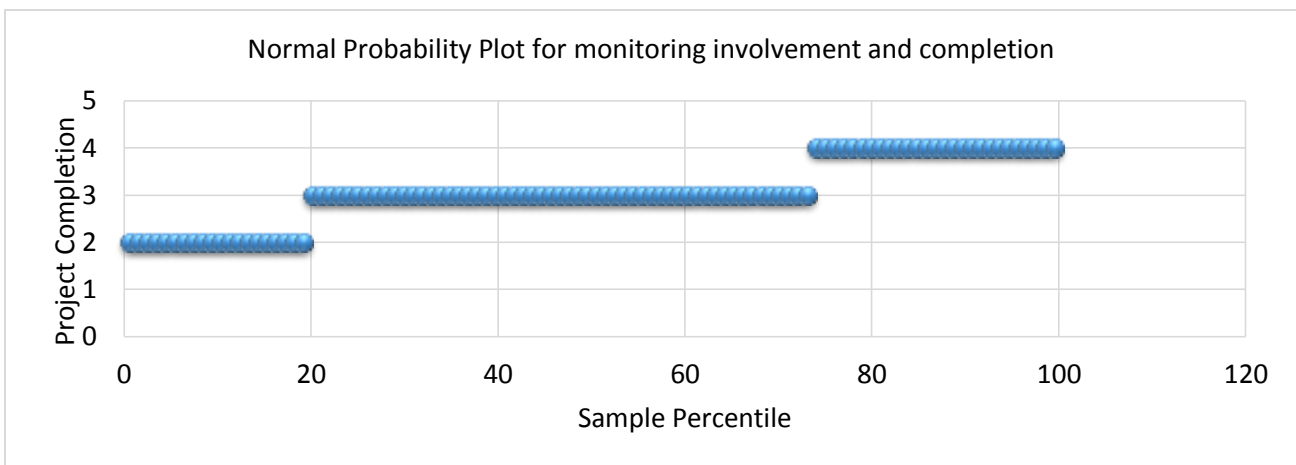


Figure 9: Normal Probability Plot for Monitoring Involvement and Completion

Findings from Tests of Hypotheses

Table 13: Findings from Tests of Hypotheses

Research Question	Relationship	Std. Error	R-Squared	P-value	Supported
1	Community involvement in initiation and success	0.660843644	0.26445078	3.23×10^{-8}	Yes
2	Community involvement in planning and success	0.63985632	0.24182202	1.53×10^{-7}	Yes
3	Community involvement in risk management and success	0.508534627	0.564432602	9.43×10^{-20}	No
4	Community involvement in monitoring and success	0.5556513	0.336304881	1.69×10^{-10}	Yes

Table 13 provided an overview of the findings from the study. P-values and significance F from the ANOVA Tables displayed the tests of hypotheses from each of the relationships between the independent and dependent variables. Coefficient

of determination values less than 0.5 were rated to support the study. Those whose coefficient of determination was more significant than 0.5 did not support the analysis.

CONCLUSION AND RECOMMENDATIONS

On the first objective regarding involvement at the initiation stage, the study established that beneficiaries were poorly involved. Thus, the project management participation had minimal insight into the project. Furthermore, the project implementers had limited information on beneficiaries' needs. Due to the established gap between the community members and the implementers of the project, it proved challenging to work together to identify issues that would later be significant during the implementation phase of the project. From the results and triangulation with the extant literature, the current study suggested that the insignificant participation of project management at the initiation phase of the project explained the sudden stop of the project before completion. The study thus concluded that ineffective project management involvement at the initiation stage of a community project enhanced the unsuccessful completion of the project during the implementation phase.

On the second objective (involvement at the planning phase), the involvement results may not be as significant as the initiation stage, but dominant enough to suggest that still, there was insufficient involvement of project management participation at the planning stage of the project. The moderate approvals in this study were interpreted that a limited number of project management participation was involved in the planning phase, as opposed to the initiation phase. Nevertheless, the findings depict that minimal involvement of project management participation at the planning phase of a community project significantly influenced the unsuccessful completion of the project at the implementation stage.

On the third objective, the findings showed high scores concerning project management participation in the risk management activities of the project; this was interpreted as the fact that the implementers effectively involve the respondents, particularly the community members, in risk management activities. Alternatively, the

respondents could have wrongly interpreted the items on the questionnaires since they did not understand the different cadres of project risk management activities for which they were involved. Despite the substantial involvement in the risk management activities of the project, there were no indications to conclude that the project implementation and success flourished as a result. Consequently, the current study suggests that project management participation in the project's risk management phase did not significantly influence the implementation and eventual completion of the project.

The study findings, triangulated with the extant literature, supported the fact that minimal involvement of project management participation in monitoring activities of a project significantly influences unsuccessful completion of the project. Since the progress and eventual completion of the project were not well graded, the findings supported the fact that monitoring should be a collective responsibility that involves all stakeholders. Further, the results have shown that the lack of involving participants in a community project's monitoring phase is paramount to implement a project within a defined schedule. Additionally, it is difficult for the project implementers to determine how well the implementation achieves its targets concerning the community's needs. The study thus suggested that insufficient involvement of project management participation at the monitoring phase of a community project reduced effective implementation and eventual unsuccessful completion of the project.

From the study findings, there was minimal involvement of project management participation in the water and sanitation project at Masaba. The study findings depicted that minimal involvement influenced the incompleteness state of the project (project stopped before completion). The results for each of the analyzed objectives were as follows:

The first objective evaluated the relationship between project initiation and completion of the

Masaba water and sanitation project presented significant R2 (0.26). The results suggested minimal involvement of the project management participation at the project initiation stage of the project. From the R2 value, the researcher concluded that the Masaba water project could have stopped before completion due to the minimal involvement of the project management participation at this stage.

The second objective analyzed project management participation at the planning stage influenced the current incompleteness state of the Masaba water and sanitation project. From the statistical outcome, R2 being (0.24), the researcher concluded that the lower levels of involvement of project management participation at the planning stage influenced the Masaba water project to stop before completion.

The third objective on project risk management and completion stage of the project revealed a unique finding; the regression analysis outcome portrayed the significance R squared value as (0.56). The stated value was higher than (0.5), meaning that 56% of the respondent suggested that involved project management participation during the project risk management stage of the project. However, the variance was not so high that the researcher had to conclude that the respondents suggested that project management participation was highly involved in the Masaba water and sanitation project.

The last objective of project monitoring on completing the project reflected a similar finding trend as that of the first and second objectives. The statistical outcome yielded an R2 value of (0.33). The researcher concluded that minimal involvement of project management participation at project monitoring influenced the incompleteness state of the Masaba water and sanitation project.

Since the first, second, and four objectives displayed R2 values below (0.5), the researcher concluded the study's general objective that minimal involvement of project management participation on completion of the project can make a project collapse before its prime time of completion.

Recommendations and Implications

As noted in the literature review, several studies on project management participation in local projects in Kenya and beyond yield mixed results, some of which differed from the current study findings. However, this study acknowledged that most of the studies emanated on largely unsuccessful projects, the aim being to determine how lack of project management participation spurs failure. Consequently, further studies delving into the participatory levels at different stages of implementation in other geographic areas should consider. Moreover, repeated studies were conducted for the Masaba project, but with different instruments and participatory categories.

The current study findings is a potential source of information for changing the perceptions of project management and project implementers concerning participation in implementing community projects elsewhere; this was particularly important given that most projects struggle at implementation phases. It was also apparent from the current study that expanding information scale and enhancing support for project management participation in local project implementation was essential for the practical completion of local projects. This study, therefore, recommended strengthening requirements that project management participation and their representatives be involved in all stages of project completion processes.

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