

INFLUENCE OF PROJECT INITIATION PROCESS ON THE PERFORMANCE OF WATER PROJECTS IN MURANG'A COUNTY, KENYA

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Abstract: In contrast to other counties in Kenya, Murang'a County enjoys an abundance of water as a natural resource, which is enjoyed by the locals there. The Murang'a Water and Sanitation Company reports that despite the fact that Murang'a County is one of the counties with many water projects, its residents continue to experience issues with access to water, including outdated infrastructure and distribution barriers. Therefore, this study investigated the influence of project initiation process on the performance of water projects in Murang'a County, Kenya. The research method used was descriptive. The 20 constructed water projects in Murang'a County were the target population. With the help of a semi-structured questionnaire, primary data was gathered. In order to determine the validity and reliability of the instrument, the questionnaires underwent pilot testing in Kiambu County. With the aid of the statistical package for social scientists (SPSS) version 27 as the analysis tool, the collected data was examined through descriptive and inferential analysis. To aid in interpretation and understanding, the results were presented in the form of a report with tables, diagrams, and graphs. According to the study, the performance of water projects in Murang'a County was positively and significantly impacted by project initiation. The study concluded that establishing a high-level definition of the project is the goal of the project initiation process and link it to the organizationally desired solution to the business problem. This project recommends that Project managers need to think about all partners who might be impacted or need funding, as well as the project's viability during the project initiation stage.

Keywords: Project initiation process, project performance.

1. INTRODUCTION

The success of a project is determined by its performance, which is based on the project's complexity, the contracting arrangements made, the relationships between the parties involved, the project manager's abilities, and those of the other parties (DeCotiis & Dyer, 2019). According to Cao and Hoffman (2020) the implementation of a project is measured based on how it performs. These measures are the typical ways to gather and present relevant data in terms of inputs, project effectiveness, and efficiency. Therefore, the effectiveness of a project can be evaluated based on its cost, duration, quality, and whether it meets user needs.

Shenhar and Dvir (2017) observe that in order to explain the effects of various behavioral issues on the project organization, life cycles are used in project management. It can be challenging to pinpoint crucial project success factors because there are so many activities that occur throughout a project's life cycle that are frequently very different from one another. According to Turner and Zolin (2019), a project's effectiveness is crucial to its success because, if it is completed late and costs more than expected, it is unlikely to be a commercial success. As a result, it is essential to start with a precise definition

of what is implied as a result. To put it another way, The project team must have a clear project concept that includes project vision, objectives, scope, and outcomes.

In Malaysia, after the privatization exercise in 1987, water projects are managed and run by both state authority and concession companies. While some states have fully privatized and/or corporatized their water projects, others have limited the privatization of their water supply services to specific areas, such as the operation and upkeep of water treatment facilities through concession agreements. (Kun, Talib & Redzwan, 2017). In addition, Bin, Marhani, Yaman, Noor and Rashid (2019) observed that the water projects may be run and maintained by several private companies in a specific state. It has been challenging to monitor, contrast, and evaluate the performance of these projects and the quality of services offered to consumers in Malaysia because the water projects are managed by various authorities and businesses.

Ihuah and Kakulu (2020) reported on a case study in Nigeria to show that the Federal Government of Nigeria has given the development of safe and adequate water supply and sanitation services high priority as a crucial tool for combating poverty and accelerating socioeconomic development in the nation. However, due to malfunctioning machinery, a lack of power or fuel for pumping, or other factors, water production facilities in urban areas are rarely used to their full capacity. Poor maintenance of mechanical equipment and pipes causes frequent failures and high water loss due to leaks. Significant revenue losses are caused by inadequate metering, dated information systems, and inconsistent billing procedures. Therefore, there is need for the proper management of water project management life cycles to improve the projects' performance.

Jacob and Gichuki (2020) observed that several Kenyan communities have hailed the effectiveness and viability of community water supply projects as a promising direction. The initial assumptions made about sustainability during project planning and design may alter with time, endangering a project's ability to continue operating. For instance, the majority of community-managed water projects rely on a steady supply of water, unchanging water regulations, and ongoing local management capabilities. However, Kariuki (2021) noted that excessive water use or even the effects of climate change, which could disrupt source recharge rates, could result in a reduction in water supply. Therefore, to be sustainable, community-managed water projects in Kenya need constant outside assistance long after the project is finished, as well as meaningful participation at every stage of the project cycle.

The life cycle of the project is the span from the conception of the idea to its full realization. The project goes through several phases at that time. To more effectively monitor and manage the project itself, the phases of project development and improvement should be clearly defined (Uher & Toakley, 2019). According to Anderson and Merna (2021) the project life cycle outlines each phase of the project, from planning to completion. It may be simpler for project managers to decide whether to take into account the feasibility study at the early stages of a project realization if they use the life cycle principles of the project. Project life cycle stages covered in this study included project initiation, project planning, project execution, and monitoring and evaluation.

The project initiation stage is the very start of the project and its goal is to get the project off to the best possible start by speaking with the appropriate stakeholders and gathering the necessary data to begin more in-depth project planning (Wieggers, 2017). Kloppenborg, Manolis and Tesch (2019) observed that one of the most crucial components of the construction project management model is the initialization process because it takes into account important factors like a preliminary project analysis, allowing for the development of the project's core ideas on its basis. To put it another way, the project initiation phase gives the project managers the ability to build a solid project foundation, obtain the required approvals, then verify the project's viability and properly identify project team members.

2. STATEMENT OF THE PROBLEM

Project performance measurement is essential for managing projects because it helps the project manager identify budget and scope issues as they arise and develop appropriate solutions (Hoda & Murugesan, 2018). However, According to Hwang and Ng (2020), those in charge of managing the project do not take proactive steps in order to handle the unknowns. Because potential risks are disregarded, projects frequently experience delays and budget overruns. Lack of knowledge and poor project management caused cost overruns, delays in completion, and early termination of the project, among other problems.

Murang'a County is one of the counties with numerous water projects, but it still has water issues. More than 40 years have passed since the construction of Murang'a Town's water distribution system, and according to the Murang'a County Government (2017), it was intended to supply 3,000 m³ of water per day to a population of about 20,000 households at

the time. Currently, there are around 70,000 households, which require a minimum of 7,500 m³/day of water. The water distribution projects rely on this aging, crumbling network, which results in a significantly lower level of service for the population that is constantly growing. This issue would have been identified by effective life cycle management during monitoring and During the execution stage, evaluation activities were carried out, and upgrading the current distribution network probably would have solved the problem. However, since this is not the case, water projects in Murang'a County, Kenya face the same difficulty with regard to water distribution.

The Northern Water Collector Tunnel Project is one of the Murang'a projects whose objective is to enhance water distribution in the Murang'a and Nairobi region. Whole rivers and streams would have dried up along the tunnel's downflow because of the way it was designed, according to an EIA report by NEMA (2015). The technical committee left this up in the air because they thought it might have negative effects on the county's ability to conserve water and the environment. This, in my opinion, was caused by planning failing at the very first stage when stakeholders were consulted to develop a plan for risk assessment. Additionally, the National Environmental Management Authority (NEMA) failed to address how everyone could exercise their right to community participation in public projects, which is a crucial component of project success (Thuita, 2019).

Additionally, the Murang'a Water and Sanitation Company (MUWASCO) has jurisdiction over 145 km², but as of right now, only 60 km², or 41%, of that area have been covered. One water treatment facility is currently being run by the Water Service Providers (WSP) (Kiawambeu). The Kayahwe water treatment plant is still under construction. 10,000 water connections are currently active according to the company. Approximately 60,000 people are served by the WSP (Murang'a County Government, 2017). This means that in order to close the gap, connections must be increased by another 50%. If the project had carried out evaluation procedures in accordance with the project life cycle stages, this issue could have been resolved.

According to a previous report by MUWASCO (2017), Maragua Town is the urban area most affected by water shortages out of all the MUWASCO service areas. This is a result of difficulties with water transmission brought on by outdated infrastructure. The Maragua Water Supply Project is one of the enhancement programs being undertaken by the proponent as a result of these difficulties. The Development Initiative (2018) reports that improvements in access to water from improved sources have been made in the majority of counties. A significant increase from 42% in 2005 to about 62% in 2015/2016 was made in Murang'a. However, based on the rate of development, the county government's target of 82% by 2022 may not be achieved unless something is done.

3. LITERATURE REVIEW

Theoretical Literature Review

The theory of change is thought to have been realized in the 1990s. Carol Weiss was the one who created the theory. In her book, Roundtable Evaluation Advisory Committee member Carol Weiss asserts that the traditions they support are poorly expressed, which is one of the main reasons complex programs are challenging to evaluate. She made the case that project partners from large, complex organizations frequently lack precise knowledge of how the deal interaction will go and as a result do not give much thought to the immediate and intermediate changes anticipated to achieve a longer-term goal (Weiss, 1998).

The theory of change essentially states that actions must be taken to bring about this change in order for a positive outcome to occur. These steps might be impacted by interventions like policies, projects, or programs, among others. The idea is essentially described as a thorough justification and example of how and why trade is likely to appear in a specific context by the Center for the theory of Change. It continues by saying that the emphasis is on locating the "missing center" between a change program or initiative's actions and how they result in the discovery or realization of the desired dreams. It accomplishes this by first identifying the long-term goals and then approaching them to become conscious of the conditions that must be met for the desires to manifest (Serrat, 2017).

Over time, the theory has been used more and more, with the majority of organizations, governments, and research institutions attesting to its applicability. According to theory-based research, approaches to change are no longer viewed as being linear. They do, however, have a lot of criticism loops that need to be understood. As a result, it has enabled strengthening of monitoring, evaluation, and learning. Additionally, it has aided in understanding and assessing the impact in hard-to-graduate fields like governance, skill development, and institutional improvement.

In this study, the theory is applicable, particularly in light of our independent variables, which include the monitoring and evaluation procedures, planning and execution progress managements, and initiation stage management. As change is inevitable, the project management team must put mechanisms in place to adapt and produce the desired results and outcomes.

Empirical Literature Review

Kisumbi, Mulwa and Mbugua (2022) study examined the effectiveness of mango farming projects in Makueni County as a result of the initiation of a participatory project. A multistage sampling method was used to select the 375 participants for the study from a population of 12,622 people. F-test and correlation were the primary data analysis tools, and descriptive and inferential statistics were also used. The null hypothesis, which was put to the test, claimed that there was no connection between the success of mango farming projects and the initiation of participatory projects. The null hypothesis was rejected because the study's findings showed that at a 95% confidence level, there is a significant correlation between the start of a participatory project and mango performance.

Mutwiri, Were, and Otieno (2018) examined the effects of project initiation and identification procedures on the accomplishment of CDF construction projects in Kenya. The CDF projects were sampled using stratified random sampling. When gathering data from the experts, purposeful sampling was used. Questionnaires were used to gather the data. According to the coefficient of determination, project initiation and identification account for 43.4% of CDF project success. The study discovered that the success of CDF construction projects in Kenya is significantly and positively impacted by project identification and initiation practices.

Hussein (2019) study investigated the influence of project initiation process on project success factors. Insights from 21 real life project cases from Norway. Twenty business professionals participated in the case analysis to help create the framework collectively. Under the author's supervision, 120 business professionals worked in groups, completed individual assignments, and participated in group discussions to analyze the cases and create the framework. The study identified a set of context-specific success factors for each project characteristic that must be followed to increase the likelihood of success, using 21 projects as an empirical basis for analysis. The findings also show that there are success factors independent of project characteristics.

4. RESEARCH METHODOLOGY

The research method used was descriptive. The 20 constructed water projects in Murang'a County were the target population. With the help of a semi-structured questionnaire, primary data was gathered. In order to determine the validity and reliability of the instrument, the questionnaires underwent pilot testing in Kiambu County. With the aid of the statistical package for social scientists (SPSS) version 27 as the analysis tool, the collected data was examined through descriptive and inferential analysis. Tables, diagrams, and graphs were included in the report formatted results for easier interpretation and comprehension.

5. FINDINGS

The descriptive statistics results of project initiation process are presented in Table 1.

Table 1: Project Initiation Process

	N	M	SD
An improved use of portfolio funding has been made possible by the project initiation process.	105	3.74	1.26
The organization's strategic goals have been connected to the projects through the project initiation process.	105	4.55	0.45
Project managers have been able to establish a solid foundation for a new project thanks to the project initiation process.	105	4.33	1.67
The organization's early involvement of stakeholders in the project's initiation process has enabled it to secure crucial resources.	105	4.73	0.27
Roles and responsibilities for the project implementation have been broadly broken down through the project initiation process.	105	4.23	0.77

The respondents were agreed strongly that the project management team had laid a strong foundation for the new project thanks to the project initiation process (M=4.33, SD=1.67) and had aided in connecting the initiatives to the organization's strategic objectives (M=4.55, SD=0.45). This result is consistent with Pulmanis and Bruno's (2018) study on the project initiation process, which found that it was a crucial component of the project management model and had a significant impact on construction projects.

Respondents agreed that project initiation helped project managers create a strong foundation for the new project (M=4.33, SD=1.67), provided a common outline of roles and responsibilities during project implementation (M=4.23, SD=0.77), and led to more efficient use of portfolio financing (M=3.74, SD=1.26). A study by Obalemo (2019) looked at the impact of project initiation processes on project success and found that when project initiation processes are well managed, there is a very high probability of a viable project that will ensure reliable business success.

Results of Inferential Statistics

Correlation analysis

Table 2: Correlation Analysis

		Process initiation process	Project performance
Project initiation process	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	105	
Project performance	Pearson Correlation	.643	1
	Sig. (2-tailed)	.000	
	N	105	105

Table 2 shows that the correlation coefficient for project initiation process and project performance was found to be 0.643 indicating that there is a moderate positive linear relationship between these variables.

Results of Regression Analysis

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.809 ^a	.771	.768	.607	1.304

The findings as illustrated in Table 3 show that 0.768(76.8) is the adjusted R square value that identifies the degree to which project performance was influenced by the project initiation process. In this case, the unaccounted-for variables are represented by the remaining percentage (23.2%).

Table 4: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.014	1	5.014	16.762	.000
	Residual	30.810	103	.2991		
	Total	35.824	104			

The statistical significance of the model's predictions regarding how the dependent variable was influenced by the independent variable is implied by the value 0.000, which is less than 0.05. The F calculated value (16.762) is greater than the F tabulated value (5.014) at the 5% level of significance, indicating the model's significance.

Table 5: Coefficient

		Unstandardised coefficients		Unstandardised coefficients		
		B	Sd.Err	Beta	t	Sig.
Model	(Constant)	0.512	.269		1.903	.000
1	Project initiation process	.659	.059	.161	11.169	.000

Table 5 shows that when the project initiation procedure is kept constant, the performance of water projects in Murang'a County, Kenya, changes by a constant value of 0.512. In addition, the study observed that a unit change in project initiation process would lead to an increase of performance of water projects in Murang'a County, Kenya by a factor of 0.659. The following is the expression of the resulting regression equation.

Project performance = 0.512 + 0.659 project initiation process

Further, the study observed that the t-value was positive at 11.169 with a level of significance less than 0.05 at 0.000. This implied that project initiation process had a significant prediction on the project performance.

6. CONCLUSIONS

The study concluded that establishing a high-level definition of the project is the goal of the project initiation process and link it to the organizationally desired solution to the business problem. Additionally, the project initiation process allows project managers to establish distinct goals, which aids the project team in remaining on course because they are aware of exactly what they are aiming to achieve.

7. RECOMMENDATIONS

This project recommends that Project managers need to think about all partners who might be impacted or need funding, as well as the project's viability during the project initiation stage. Create an undertaking contract, also known as a task inception archive, that outlines the purpose and requirements of the undertaking. Determine the goal and deliverables of the project, as well as the resources needed to carry out your plan, to define project scope.

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