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PROJECT MANAGEMENT PRACTICES INFLUENCE ON PERFORMANCE OF MATERNAL HEALTH SERVICE INFRASTRUCTURE PROJECTS IN HOMABAY COUNTY, KENYA

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ABSTRACT

Maternal and Child Health indicators are still markedly poor in the content of Africa. As part of mitigation measures, the Government of Kenya introduced free maternal health services in 2013 aimed at improving the poor indicators. The expected demand for services needed to go in tandem with expansion of related infrastructure since much of maternal health services are infrastructure or facility-dependent. Infrastructure project implementation need sound management practices in order to realize intended performance. It is against this background that this study was carried out. The general objective of the study was to determine Project Management Practices Influence on Performance of Maternal Health service infrastructure projects in Homabay County. Cross-sectional descriptive survey design was used with a target population of 122 key healthcare staffs, county officials managing maternal health in the county and Community Health Workers as community representatives. Stratified random sampling, purposive and simple random samplings were used to arrive at sample population, resulting into a sample size of 93 respondents as unit of observation. The unit of analysis was maternal health service projects in 20 health facilities.

Self-administered questionnaires were used for data collection. A pilot study was conducted on 10% of the target population to determine the reliability and validity of the instrument. Quantitative data was generated from the closed-ended questions. SPSS version 19 and Stata 15.1 were used to analyze the quantitative data. Descriptive and inferential statistics were used to analyze data and presentation made using graphs and tables. The key findings revealed that the four project management practices namely stakeholder participation, project funding, project leadership and monitoring had positive and significant relationship with, and therefore influenced, free maternal health service infrastructure project performance in Homabay county. The study concluded that by increasing stakeholder participation, project funding, project leadership by project monitoring would have positive and significant increase in project performance. The study recommended meaningful identification and engagement stakeholders; utilization of project funding be used according to project drawn plans; building and empowerment of teams by project managers, and identification of appropriate tools and techniques that are applicable in monitoring projects. Directions for further studies were suggested based on the outcomes of the study.

Key Words: *Project Leadership, Monitoring, Project Funding, Stakeholder Participation, Maternal Health Project*

BACKGROUND OF THE STUDY

Many young women now enter maternal healthcare bracket much earlier than in the past, commonly attributed to young girls becoming sexually active much earlier in their milestones due to exposure to explicit sex materials via technology. The young girls are also more likely to develop complications during pregnancy or during childbirth (WHO, 2018). WHO (2018) key facts indicate that developing countries produce 99% of all the maternal deaths. For example, Susanti (2014) reports that Indonesia is among the countries with the highest MMR, while high income countries record MMR of just about 12/100,000 live births (Kea et al., 2018). Say et al. (2014) reported that of all maternal deaths from analysis of 115 countries worldwide between 2003 – 2009, 75% were due to direct obstetric causes. Most of these deaths could be prevented if the mothers all delivered at health facilities under trained skilled service providers (HSP). Unless expansion and rehabilitation of maternal health infrastructure projects are executed with success, the situation may remain dim. Mridha, Anwar and Koblinsky (2009) note that in Bangladesh, "Rajshahi division has more facilities than the WHO (1996) standard (1 comprehensive EOC for 500,000 people) whereas Chittagong and Sylhet divisions have only 64% of their need for comprehensive Essential Obstetric Care (EOC) facilities.

The WHO 2005 recommendation (1 comprehensive EOC for 3,500 births) suggests that there is a need for nearly five times the existing national number of comprehensive EOC facilities". This indicates imbalance in the distribution of maternal health facilities as well as insufficiency in many areas. In African countries serious maternal health challenges still exist. For example, in 2015 Ethiopia had MMR of 353/100,000 live births (Kea et al., 2018). Hadis et al. (2014) in their systematic review, report that by 2007 WHO declared that Ethiopia had the lowest skilled birth attendance in the world, attributed partly to lack of infrastructure. In Nigeria, Ibrahim et al., (2016) in their study of monitoring maternal and newborn health outcomes report that the use of standards-based improvement interventions reduced maternal deaths/100,000 live births from 4113 to 1317 in 2010 to 2013 respectively, depicting the serious state of maternal health in Bauchi state of Nigeria. Namazzi et al. (2013) from their study in Uganda gave improved access to maternal services as one of their recommendations, citing among other things limited infrastructure. From Ghana, Atwoti (2017) reported that there were challenges in the country regarding utilization of donor resources in implementation of maternal health projects.

In Kenya, while the government has set it as its agenda to expand free maternal health project under the 'Big Four Agenda' (Government of Kenya [GoK], 2018), the challenge remains in insufficient maternal infrastructure where most of the projects experience issues. Some of the projects lag far behind schedule, others stall due to cost overruns, while a few get completed, though rarely in good time. Bourbonnais (2016) noted that only 36% of public health facilities in Kenya had the basic delivery infrastructure. Challenges with maternal healthcare include commodity supply constraints, inconsistent and unpredictable reimbursement of funds, and weak governance and accountability structures (KEMRI, 2017). Abdalla (2017) carrying out a study on county government infrastructural projects observed the challenges with infrastructural projects countrywide, with some abandoned, incomplete or underutilized.

Homabay County has over the years consistently registered poor maternal health indicators, for example severally being ranked with highest HIV&AIDS Prevention of Mother to Child Transmission (PMTCT) prevalence. For example: deliveries at health facilities stood at 61.9%, against country's 61.2%; Children (12-23 months) fully immunized averaged 53.7%, against country's 67.5%; HIV PMTCT was at 9%, against country's average of 8.5% (Homabay county website, 2020). As part of efforts to address the poor maternal health situation, United Nations Children's Fund (UNICEF) came with assistance and partnered with Homabay county government to: improve MNH service delivery, establish better support systems and strengthen existing health systems including human resource (United Nations Children's Fund [UNICEF], 2014). Major part of the assistance were two projects: to construct modern maternity units in selected hospitals, and to empower a number of maternal health service players on leadership under Leadership Development Program (LDP), thereby strengthening infrastructure system and human resource. These projects which were to run for five years, seemed to have gone fairly well. The urge for this study was to determine the role project management practices played in their execution. There were few purely county maternal health infrastructure projects that were either were already underway, or had delayed in their completion.

STATEMENT OF THE PROBLEM

In Africa, maternal health indicators are still markedly poor. For example, Hoviyeh et al., (2015) found that in the preceding two decades in Tanzania, facility deliveries averaged 52%. In 2012, seven million children died before their fifth birthday, while 287,000 women died due to pregnancy or delivery related causes in 2010, mostly in developing countries (MSH, 2015). African governments had in 2001 agreed in Abuja that 15% of total national budgets would go to health (DiMcIntyre & Mutyambizi, 2005), a feat yet to be achieved. For example, national health budget for Kenya was at 5.3% (Ksh 47 billion) in financial year 2009/2010 (Kwamboka et al., 2011). For Homabay County, in 2014 family planning was at 46.7% against national 58%; MMR was 583/100,000 live births against national 362/100,000; facility-skilled delivery was at 53% (Homabay County Government [HCG], 2018). Kwamboka et al. (2011) attributes such poor indicators to declining budgets for health, health system inefficiencies, persistent poor service quality and lack of equity. As part improving the poor indicators, Free Maternity Services (FMS) was introduced in Kenya in June 2013, after realization that the cost of antenatal care and delivery services was also a hindrance to accessing maternal health services (Matiang'i, 2018; Tuma et al., 2017).

Desired maternal health outcomes are determined by several issues among them infrastructure, appropriately trained human resource, funds for procuring required utilities like drugs and other medicine and conducive service environment. Towards improving maternal health outcomes, there have been projects either by the government alone or in partnership with Non-Governmental Organizations (NGOs). Maternal health infrastructure projects dot government hospitals

countrywide, with some of them stalled. Projects must observe timelines, scope and work within budget to be considered successful, which calls for appropriate application of project management practices. It is doubtful whether these projects use qualified project managers, putting into doubt the effective use of the project management practices. If these practices were in use, there would not be so many projects stalled in hospitals, or many lagging several months behind schedule, or costs escalating far beyond budget. For example, in the practice of stakeholder participation Tuma et al. (2017) in as study found that there was inadequate stakeholder participation in the implementation of the FMS, while Desalew et al. (2014) recommended strengthening community participation in projects as a means to better maternal health outcomes.

Homabay county had maternity infrastructure projects at various stages: some were complete like at Rangwe sub-county hospital, others were incomplete long behind schedule like at Ndhiwa sub-county hospital, while some had not taken off like at Othoro sub-county hospital. Due to these circumstances and the poor maternal health indicators in the county, UNICEF partnered with the county government to effect some projects including; to build staff capacity and to strengthen health systems to manage and deliver integrated maternal and newborn health services (UNICEF, 2014). The projects included maternal health service infrastructure development, and staff capacity building on leadership for the associated staff. It is of interest to know the role of project management practices in the implemented projects and their influence in the success of the undertaken projects, that makes a difference from the myriad of projects that have stalled within the county.

Objectives of the Study

i. To establish the influence of stakeholder participation on performance of maternal health service infrastructure projects in Homabay County
ii. To determine the influence of project funding on performance of maternal health service infrastructure projects in Homabay County
iii. To determine the influence of project leadership on performance of maternal health service infrastructure projects in Homabay County
iv. To explore the influence of project monitoring on performance of maternal health service infrastructure projects in Homabay County

THEORETICAL REVIEW

The study is anchored on the Systems theory, Leadership theories and Control theory discussed in the subsections that follow.

Systems theory

Health sector is a complex system, comprised of several systems and sub-systems. It is important to delve into the systems theory to understand how maternal health services is part of a larger health system, and infrastructure is one of the systems. Many authors attribute systems theory to one Australian biologist Karl Ludwing Von Bertalanffy. The theory argues that when shortcomings happen, it is not appropriate to focus only on the failings, but also on the environment linked to the occurrence. In the healthcare context, WHO (2013) gives health system components as patients, families, communities, health service providers, ministry of health and health financing bodies. These therefore make the stakeholders in any health project. These components interconnect into overall roles and functions summarized as oversight, service provision, financing, and management of resources.

In the understanding of the systems theory, WHO (2010) gives a health system framework comprising six health system building blocks namely: service delivery, health workforce, information, medical products, vaccines & technologies, financing and leadership and governance. MSH (2015) puts these building blocks as governance; information; human resource; finances; pharmaceuticals, vaccines and other technologies; and service delivery. The world health body stated that achieving desired health outcomes depends on strengthening the health systems based on the health system building blocks, most of these are components of project management practices. Service delivery considers quality, access, safety and coverage while financing entails adequacy of funds, allocation, purchase of goods at improving quality, equity and efficiency (WHO, 2010). According to MSH (2015), a strong health system should provide universal health coverage – where cost is not a barrier, and where services are equitably distributed, accessible and fulfills the needs of everyone.

Leadership Theories

A project should be driven by a project manager, who is the fulcrum of all activities, and leads other players in the attainment of project deliveries. The manager uses theories, principles and practices to achieve the deliverables (scope) of the job within allocated budget (cost) within the stipulated period (time). Ideally, project managers must also be leaders to spearhead the achievement of the objectives of the project. Leadership theories vary and based on Servant leadership theory propounded by Robert Greenleaf in 1977, a leader apart from interest in the achievement of set goals, must support and ensure the personal development of each member of his team. Another leadership theory is the Great Man Theory, propounded by Thomas Carlyle in 1847 arguing that leaders are born, and only those with inherent heroic potential would ever make it to leadership, claiming that behind every great deed has been great men. This theory therefore purports that for example, if a project manager does not possess inborn traits of leadership, then he most likely may not achieve project success. This then would bring into focus whether everybody trained in project management has what it takes to steer projects as leaders.

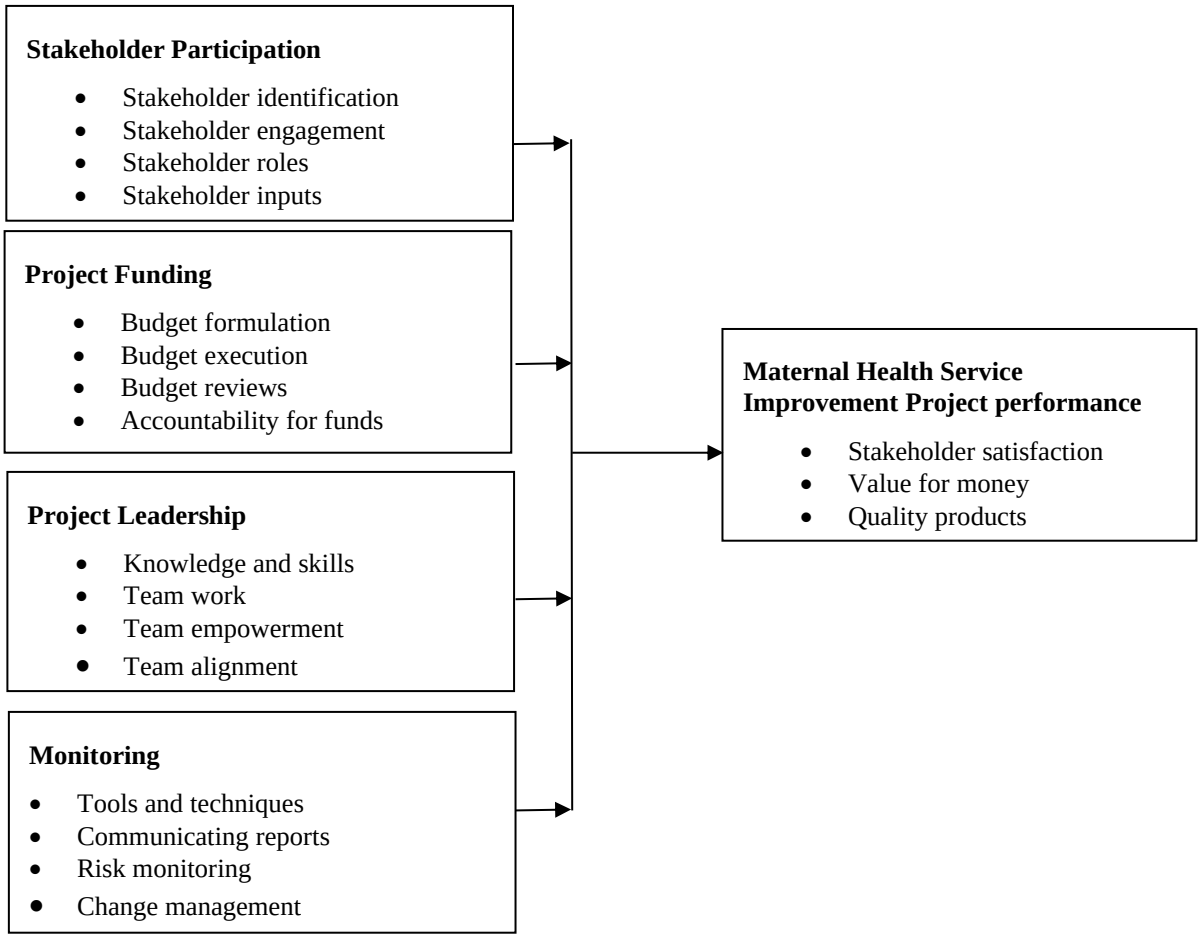
Asrar-ul-Haq & Anwar (2017) calls great man theory the "the trait theory", which contends that there are uncommon individuals who possess the capacity to change history or bring about true change in society. Since each project is unique and usually meant to bring about change, this theory tends to suggest that only few individuals have the capacity to manage and lead projects to bring meaningful change. Some of the traits they have are intelligence, alertness, insight, responsibility, initiative, persistence, self-confidence, and sociability as the traits uniquely held by effective leaders. Lastly, Contingency Theory on its part advances the idea that no leadership style is ideal for every situation, and that different circumstances may call for different leadership styles. The theory argues that leadership style is fixed and does not change, meaning that the style is only modified by situations. Khan, Nawaz and Khan (2016) give this theory the alternative name of situational theory, contending that internal and external forces would force the leader to adapt to the prevailing situation, meaning that it is the dynamics that make leaders appear to change.

Controlling Theory

According to Guyadeen & Seasons (2016), controlling theories and practices have been explored by scholars since 1960's. They add that there have since been developed some three types of evaluation: program controlling, plan controlling and planning controlling, with program controlling being wide encompassing fields like health, education and social welfare. They put it that program controlling looks at whether a program has achieved its objectives, while planning controlling considers planning process and developments of plans, although there have been attempts to develop controlling methodologies that incorporate the two. They contend that controlling plays pivotal role in policy planning, determining how successful an intervention is including cost-effectiveness, taking the process of problem identification, problem definition, problem formulation, implementation, then evaluation.

The duo brings out two approaches to controlling – formative, aimed at improving efficiency and summative that focuses on outcomes, while on the other hand, there are three types of controlling in planning – ex ante, ongoing and ex post. Projects as a process also requires controlling that would ascertain the achievement of scope (summative) and whether the project plan is likely to achieve desired results (formative).

CONCEPTUAL FRAMEWORK



Independent Variables **Dependent variable**

Figure 1: Conceptual Framework

EMPIRICAL LITERATURE REVIEW

The introduction of free maternal health services in Kenya was meant to increase access to the services but as MoH (2015) and KEMRI (2014) reported, there was no formal and clear policy to guide its operations, thereby making it unclear how infrastructure development would be achieved.

This section seeks to highlight works by other scholars about maternal health service infrastructure projects and determined influence on their performance by project management practices, specifically the influence of stakeholder participation, project funding, project leadership and monitoring. Andrea, et al., (2019) in their article "Mobilizing community action to improve maternal health in a rural district in Tanzania: lessons learned from two years of community group activities" gave a two-year community group implementation report, detailing the participatory processes and the outcomes from the actions. The groups engaged in participatory learning and action cycle aimed at improving maternal health. They reported that 95% of the community groups experienced positive impact, a clear case participation by the community as primary stakeholders resulting into remarkable performance of maternal health project, not necessarily infrastructural. Musau and Kirui (2018) did a study titled "Project management practices and implementation of government projects in Kenya, case of Machakos County government", in which they sought to investigate how government projects were impacted by project management practices. Two of their variables – stakeholder participation and monitoring were similar to those in this study. They employed qualitative descriptive research design, on purposively sampled respondents. Although their work was on general projects, findings were that both stakeholder participation and monitoring had significant influence on performance of the government projects.

Golina, Kalchschmidta and Landonib (2015) did a survey on "Adoption of project management practices: The impact on international development projects of non-governmental organizations", in which part of the objectives was to assess the influence of project management practices on project performance. Their respondents were 500 managers working on international development projects. In their findings and conclusion, they determined that project management practices where the right tools are employed have medium to high positive influence on project outcomes. Elmusharaf, Byrne and O'Donovan (2015) in their review article "Strategies to increase demand for maternal health services in resource limited settings: challenges to be addressed" opine that empowering woman through decision making in their own communities is the sure way to achieve universal health access. They showed that one of the key strategies to increase demand for maternal health services was stakeholder participation. It didn't come out clearly that demand for the services must be preceded by setting up of structurers, including infrastructure in which stakeholders still need to participate. They concluded that health service projects or programs, should involve a wide range of interested parties to create ownership, awareness and faith in the projects.

Pyone, Smith and Van den Broek (2017) carried out a study titled "Implementation of the free maternity services policy and its implications for health system governance in Kenya" to explore how the implementation of Kenya's financing policy has affected the way in which the rules governing health facilities are made, changed, monitored and enforced. Their study had qualitative approach with the use of semi-structured questionnaire, covering six counties in Kenya. One of their key findings was that there was lack of clarity on the policy regarding maternal health funding. They concluded that funding is a factor that affects health service performance, which typically include health projects in the sector, revealing that funding as project management practice affects health project performance.

Mathole et al. (2018) in a case study "Leadership and the functioning of maternal health services in two district hospitals in South Africa" reported that leadership had been found as a key factor affecting maternal health performance at health facility levels. The team used exploratory mixed-methods case study with units of analysis being two same capacity health facilities but with far different health outcomes – one well performing with another having poor record. They used descriptive thematic data analysis and, in their report, determined how sound leadership practices influenced maternal health outcomes in resource limited hospitals. It is important to note that maternal health services encompass providing

appropriate infrastructure generally falling under the influence of leadership.

Ocharo and Kimutai (2018) in their study titled "Project Management Practices and Implementation of Power Projects in Kenya", was to establish the effect of given project management practices on implementation of power projects using exploratory research design. One of their findings relevant to this study is that there was minimal stakeholder participation in most of the subjects right from the beginning, resulting into poor implementation of the projects and poor relationship between the management and other stakeholders. Although their work was on power projects, the findings is a pointer that project management practices have influence on projects, probably varying in extents and the context of study, with and obvious correlation. Nalianya and Luketero (2017) carried out a study "to determine the influence of monitoring and controlling systems on performance of non-governmental based maternal health projects in Bungoma South Sub-County, Kenya". They believed that strengthening M & E was the sure way NGOs could experience improvements in their interventions, and so specifically sought among other things to determine how M & E plans and information systems adopted influence the performance. They employed descriptive survey and correlation designs. They found strong correlation between M & E and performance of maternal health projects, demonstrating the influence of M & E in the performance of maternal health projects.

RESEARCH METHODOLOGY

A Cross-sectional descriptive survey design was used for this study. It's cross-sectional because information was obtained from respondents associated with maternal health service infrastructure projects spread across the County. The target population was 122 healthcare workers, community representatives (community health workers) and county officials associated with maternal health service in the county. This group had been trained by UNICEF for eight months in one of their projects – Leadership Development Program (LDP), mainly to support general maternal health services. They were later incorporated into maternal health infrastructure projects in their respective sub-counties. It was therefore the suitable population to take part in the study. The group was selected by the county Ministry of Health (MoH) with the support of UNICEF. To determine the sample size for this study, Yamane's (1967) formula was used since the population was less than 10,000. The formula is as follows:

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

Where:

n = Desired sample size for the population of less than 10,000; ε = sampling error at 95% confidence level assumed to be 0.05. Therefore, sample size was arrived at as follows:

$$n = \frac{122}{1 + 122(0.05)^2}$$

Therefore, the sample size was 93 from the target population.

To sample, the study adopted census method since the number was small to sample a mix of key maternal health service providers, senior county MoH staff associated with maternal health service and community health workers that represented the community. Simple random sampling was used to give equal opportunity to population in each stratum. Questionnaires were used in this study to collect data from the respondents, with the instrument having closed-ended questions for obtaining quantitative data. Given that the data was quantitative, both descriptive and inferential statistics were adopted for the study using SPSS version 19 and Stata 15.1.

A multiple linear regression analysis was conducted using Stata15.1. The regression analysis was to establish the relationship between the independent and dependent variables. The multiple equation for the dependent against the independent variables is stated thus:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

where: Y = Project performance; X_1 = stakeholder participation; X_2 = Project funding; X_3 = Project leadership; X_4 = Project monitoring; β_0 = the constant term; β_{1-4} = the regression coefficients and ε = Error Term

RESEARCH FINDINGS AND DISCUSSION

The sample size for the study was 93 key healthcare staffs, community health workers and county officials; all respondents were issued with questionnaires but only 78 questionnaires were received back having been dully filled. This translated to a response rate of 83.9%. According to Mugenda and Mugenda (2013) a response rate of 50% is adequate, 60% is good while 70% and above is excellent for analysis and reporting. Therefore, our response rate was considered excellent and was used for analysis.

Descriptive Statistics

In this section, the study presents findings on Likert scale questions where respondents were asked to indicate their level of agreement or disagreement with various statements relating to the project management practices influence on performance of maternal health service infrastructure projects in Homabay County. Respondents were asked to use a 5-point scale where 1- strongly disagree, 2- disagree, 3- neutral, 4- agree, 5strongly agree. The results were interpreted using their means and standard deviation where a mean value of 1-1.4 was strongly disagree, 1.5-2.4 disagree, 2.5-3.4 neutral, 3.5-4.4 agree and 4.5-5 strongly agree. A standard deviation value greater than 2 suggests that respondents had differing opinion, if the standard deviation is less than 2 it is an indication that respondent had similar opinion.

Stakeholder Participation and Infrastructure Projects

Respondents were asked to indicate their level of agreement with various statements about stakeholder participation influence on performance of maternal health service infrastructure projects in Homabay County. Table 1 presents the findings obtained.

Table 1: Descriptive Statistics on stakeholder participation

Statement	Mean	Std. Dev.
Inputs from the stakeholders are considered important for successful implementation of the projects	3.994	1.476
Stakeholder identification is satisfactory to all stakeholders involved in the maternal health service infrastructure projects	3.982	1.37
Stakeholders involved in the projects give their views freely without intimidation	3.961	1.476
Level of stakeholder engagement in the projects can be considered optimal	3.948	1.263
The role of all the stakeholders is considered critical to the success of the projects by the managers	3.915	1.343
Stakeholder identification takes into consideration stakeholder analysis to identify their interests	3.889	1.381
Stakeholders are given roles and responsibilities in the projects based on their skills and background	3.863	1.326
Projects managers have created a conducive environment for stakeholders to give their inputs	3.856	1.525
The role of all the stakeholders in the projects is clear to everyone involved	3.836	1.22
The process of stakeholder identification is transparent and ensures participation of relevant people	3.777	1.275
Stakeholders are engaged at all critical stages of the project life cycle	3.738	1.32
Stakeholders' views are always sought whenever important decisions are made	3.698	1.331
Aggregate Score	**3.871**	**1.359**

From the findings, the respondents agreed on average with the statements about the influence of stakeholder participation on maternal health service infrastructure project performance in Homabay County as shown by an aggregate mean of 3.871 and standard deviation of 1.359. The respondents specifically agreed that stakeholder participation has immense influence on performance of maternal health service infrastructure projects (M= 3.994, SD= 1.476); They agreed that process of stakeholder identification was transparent and ensured participation of relevant people (M= 3.982, SD= 1.37); and that stakeholder identification took into consideration stakeholder analysis to identify their interests (M= 3.961, SD= 1.476). The respondents also agreed that stakeholders were engaged at all critical stages of the project life cycle (M= 3.948, SD= 1.263); that stakeholders' views were always sought whenever important decisions were made (M= 3.915, SD= 1.343); and that considered level of stakeholder engagement in the projects optimal (M= 3.889, SD= 1.381).

The respondents further agreed that: stakeholders were given roles and responsibilities in the projects based on their skills and background (M= 3.863, SD= 1.326); that project managers had created a conducive environment for stakeholders to give their inputs (M= 3.856, SD= 1.525); that the role of all the stakeholders in the projects were clear to everyone involved (M= 3.836, SD= 1.22). In addition, they agreed that the process of stakeholder identification was transparent and ensured participation of relevant people (M= 3.777, SD= 1.275); those stakeholders were engaged at all critical stages of the project life cycle (M= 3.738, SD= 1.32); and finally, that stakeholder views were always sought whenever important

decisions were made (M= 3.698, SD= 1.331).

The study findings are in agreement with WHO (2013) that considers the participation of communities, a key stakeholder in projects, critical in any health projects. It follows that a functional health project, including the maternal health service infrastructure projects should have stakeholder participation right from the level of decision making. It also concurs with Andrea et al. (2019) who opined that stakeholder participation can enhance both understanding and effective implementation of health projects aimed at better health outcomes for mothers and newborns.

Project Funding and Infrastructure Projects

Respondents were asked to indicate their level of agreement with various statements about the influence of project funding on maternal health service infrastructure projects in Homabay County. Table 2 presents the findings obtained.

Table 2: Descriptive Statistics on Project Funding

Statement	Mean	Std. Dev.
Budget is periodically reviewed in line with monitoring plan	4.007	1.251
Budget formulation were informed by planned project activities and schedule	3.994	1.343
Flow of funds for the project has been regular and timely from the beginning	3.988	1.475
Project funds get fully accounted for during periodic reviews	3.975	1.169
Budget have been strictly adhered to in implementation of the project	3.961	1.674
Am fully aware of the sources of funding for the maternal health service infrastructure project	3.955	1.546
Budget reviews occasionally revealed areas that required adjustments but adhered to budgetary allocation	3.902	1.235
Project product reports have been revealing value for money	3.902	1.235
Budget formulation for the project was participatory from the beginning	3.836	1.426
Project funds allocation have been spent according to project plan and schedule	3.83	1.441
Funding for the project was adequate for the project activities planned	3.817	1.142
Project funding information has been shared with the stakeholders	3.764	1.168
Aggregate Score	**3.911**	**1.342**

Based on the findings, the aggregate mean of 3.911 and standard deviation of 1.342, the respondents agreed on average with the statements about the influence of project funding on performance of maternal health service infrastructure projects in Homabay County. The respondents specifically agreed that budget was periodically reviewed in line with monitoring plan (M= 4.007, SD= 1.251); that budget formulation was informed by planned project activities and schedule (M= 3.994, SD= 1.343); and that flow of funds for the project had been regular and timely from the beginning (M= 3.988, SD=1.475). Respondents also agreed that project funds were fully accounted for during periodic reviews (M= 3.975, SD= 1.169); that budget had been strictly adhered to in implementation of the project (M= 3.961, SD= 1.674); and that they were fully aware of the sources of funding for the maternal health service infrastructure project (M= 3.955, SD= 1.546).

The findings also show that the respondents were in agreement that budget reviews occasionally revealed areas that required adjustments but adhered to budgetary allocation (M= 3.902, SD= 1.235); that project product reports had been revealing value for money (M= 3.902, SD= 1.235); and that budget formulation for the project was participatory from the beginning (M= 3.836, SD= 1.426). In addition, respondents agreed that project funds allocation had been spent according to project plan and schedule (M= 3.83, SD= 1.441); that funding for the projects were adequate for the project activities planned (M= 3.817, SD= 1.142); and that project funding information had been shared with the stakeholders (M= 3.764, SD= 1.168). The findings agree with McIntyre, Gilson and Mutyambizi (2005) that funding, is not just a project management practice, but is also as the fuel that propels projects. The project practices should have influence even if other forces like economic circumstances which may hike material prices, or pandemics like corona exist. It also concurs with Pyone, Smith and Van den Broek (2017) that funding has influence on health service provision, part of which is infrastructure development.

Project Leadership and Infrastructure Projects

Respondents were asked to indicate their level of agreement with various statements about the influence of leadership capacity on performance of maternal health projects in Homabay County. Table 3 presents the findings obtained.

Table 3: Descriptive Statistics on Project Leadership

Statement	Mean	Std. Dev.
Am clear about the mission and objectives of the project	4.021	1.265
Stakeholders continuously feel the sense of teamwork	3.961	1.149
Teamwork has been promoted since the inception of the project	3.955	1.199
Leadership skills have been evident in all aspects of the project	3.902	1.345
I understand my individual and our collective roles regarding the project	3.902	1.235
I feel highly inspired participating in the project activities	3.896	1.21
Challenges encountered during project cycle have always been overcome with remarkable skills	3.836	1.207
Project activities are well coordinated and the actors work as a team	3.836	1.234
My individual contribution to project activities counts and is always appreciated	3.836	1.313
Project management has shown remarkable leadership knowledge and skills in their stewardship	3.83	1.3
I feel stakeholders are all focused on the attainment of project objectives	3.81	1.142
I take pride in the teamwork that exists in the project activities	3.803	1.248
Aggregate Score	**3.882**	**1.237**

From the findings, the aggregate score was 3.882 and standard deviation was 1.237, an indication that on average, the respondents agreed with statements about the influence of project leadership on performance of maternal health service infrastructure projects in Homabay County. The findings show that the respondents specifically agreed that they were clear about the mission and objectives of the projects (M= 4.021, SD= 1.265); that stakeholder continuously felt the sense of teamwork (M= 3.961, SD= 1.149); that teamwork had been promoted since the inception of the projects (M= 3.955, SD= 1.199). In addition, respondents agreed that leadership skills had been evident in all aspects of the project (M= 3.902,

SD= 1.345); that they understood individual and collective roles regarding the project (M= 3.902, SD= 1.235); and that they felt highly inspired participating in the project activities (M= 3.896, SD= 1.21).

The respondents further agreed that challenges encountered during project cycle had always been overcome with remarkable skills (M= 3.836, SD= 1.207); that project activities were well coordinated and the actors worked as a team (M= 3.836, SD= 1.234) and that their individual contributions to project activities counted and were always appreciated (M= 3.836, SD= 1.313). In addition, respondents agreed that project management had shown remarkable leadership knowledge and skills in their stewardship (M= 3.83, SD= 1.3); that they felt stakeholders were all focused on the attainment of project objectives (M= 3.81, SD= 1.142); and that they took pride in the teamwork that existed in the project activities (M= 3.803, SD= 1.248). The findings agree with Asrar-ul-Haq and Anwar (2018) that project managers with leadership skills influence those they lead to achieve set objectives and goals of the project or organization. Leadership is required in decision-making, leading change, building teamwork, problem-solving, and indeed championing desired ethical behaviour at various hierarchies. According to MSH (2015), decentralized leadership, management and governance capacity with appropriate resource allocation and control over the same results into better outcomes.

Monitoring and Infrastructure Projects

Respondents were asked to indicate their level of agreement with various statements about the influence of Monitoring on performance of maternal health service infrastructure projects in Homabay County. Table 4 presents the findings obtained.

Table 4: Descriptive Statistics on Project Monitoring

Statement	Mean	Std. Dev.
Changes that are necessary in the project cycle are usually well articulated	3.994	1.343
The techniques applied in monitoring project implementation are appropriate	3.988	1.182
Any changes or adjustments to the project plans have been inclusive	3.981	1.371
We routinely get feedback on our performance	3.909	1.359
Am well aware of the indicators for the project objectives	3.902	1.235
Risk identification and monitoring plan is in place	3.863	1.326
Monitoring reports are routinely discussed before progress adjustments	3.85	1.22
Reports from monitoring are routinely communicated to us	3.836	1.313
We are regularly updated on any new regulation and policy changes that might affect the projects	3.836	1.22
Any risks that emerge are discussed and acted upon according to plan	3.836	1.426
Implementation of any changes to plan have been gradual rather than sudden	3.777	1.275
Tools are in place for monitoring project implementation	3.738	1.168
Aggregate Score	**3.876**	**1.287**

The findings show that the aggregate mean was 3.876 and standard deviation was 1.287, an indication that on average, the respondents agreed with the statements about the influence of monitoring as a project management practice on performance of maternal health service projects in Homabay. Specifically, the respondents agreed that changes that were

necessary in the project cycle were usually well articulated (M= 3.994, SD= 1.343); that the techniques applied in monitoring the maternal health were appropriate (M= 3.988, SD= 1.182); and any changes or adjustments to the project plans had been inclusive (M= 3.981, SD= 1.371). They also agreed that they routinely got feedback on their performance (M= 3.909, SD= 1.359); that they were well aware of the indicators for the project objectives (M= 3.902, SD= 1.235); and that risk identification and monitoring plan was in place (M= 3.863, SD= 1.326). The findings also showed that the respondents agreed that monitoring reports were routinely discussed before progress adjustments (M= 3.85, SD= 1.22); that reports from monitoring were routinely communicated to them (M= 3.836, SD= 1.313); and that they were regularly updated on any new regulation and policy changes that might affect the projects (M= 3.836, SD= 1.22). Respondents further agreed that any risks that emerged were discussed and acted upon according to plan (M= 3.836, SD= 1.426); that implementation of any changes to plan had been gradual rather than sudden (M= 3.777, SD= 1.275); and those tools were in place for monitoring project implementation (M= 3.738, SD= 1.168).

This agrees with Mantel et al., (2011) that monitoring and controlling helps in detecting the emergence of anticipated risks and putting in place plans that had been formulated for mitigation. It is therefore likely to influence project outcomes since a project poorly monitored and controlled is likely to incur risks and end up with undesired outcomes. Monitoring also helps in detecting parts of the project plan that are not bringing intended results. Results also concur with Richardson (2015) who asserts that monitoring is used in tracking some of the common problems with projects, especially on status tracking, where he gave six project model measurement categories namely: team efficiency, process efficiency, project efficiency, quality, value and execution effectiveness

Maternal Health Infrastructure Project Performance

Respondents were asked to indicate their level of agreement with various statements about the influence of Monitoring on performance of maternal health service infrastructure projects in Homabay County. Table 5 presents the findings obtained.

Table 5: Descriptive Statistics on Project Performance

Statement	Mean	Std. Dev.
The project team alignment guards against working at crossroads which has resulted in attainment of desired result	3.994	1.476
Stakeholders are satisfied and feel part of the projects as their roles are appreciated	3.988	1.475
Teamwork and team empowerment ensures utilization of everybody's potential to deliver quality product (scope)	3.981	1.371
Risk monitoring and good change management has ensured any risks are promptly mitigated to finish projects on schedule	3.961	1.149
Budget execution ensures desired results and value for money	3.902	1.235
Stakeholders were satisfied with their identification and engagement processes which has resulted general satisfaction	3.856	1.525
Leadership knowledge and skills applied ensured attainment of quality product/results	3.85	1.22
Stakeholders are satisfied with the roles they play in the projects which contribute to desired project results	3.836	1.234
Employment of appropriate tools and techniques in monitoring resulted into completion of schedules on time	3.83	1.441
Inclusive project budget formulation process ensured value for money	3.817	1.142

Statement	Mean	Std. Dev.
Budget reviews ensured accountability in process and value for money	3.81	1.142
Regular communication of monitoring reports ensured timely use of the reports to minimize any delays in completion	3.764	1.168
Aggregate score	**3.882**	**1.298**

From the findings, an aggregate mean of 3.882 and standard deviation of 1.298 suggested that the respondents agreed on average with the statements about influence of project management practices on maternal health service infrastructure projects in Homabay County. Specifically, the findings show that the respondents agreed that the project team alignment guarded against working at crossroads which had resulted in attainment of desired result (M= 3.994, SD= 1.476); that stakeholder felt part of the projects as their roles were appreciated (M= 3.988, SD= 1.475); and that teamwork and team empowerment ensured utilization of everybody's potential to deliver quality product (scope) (M= 3.981, SD= 1.371). They also agreed that risk monitoring and good change management had ensured any risks were promptly mitigated to finish projects on schedule (M= 3.961, SD= 1.149); that the budget execution ensured desired results and value for money spent (M= 3.902, SD= 1.235); and those stakeholders were satisfied with their identification and engagement processes which resulted into general satisfaction (M= 3.856, SD= 1.525).

Respondents also agreed that leadership knowledge and skills applied ensured attainment of quality product/results (M= 3.85, SD= 1.22); that stakeholders were satisfied with the roles they played in the projects which contributed to desired project results (M= 3.836, SD= 1.234); and that employment of appropriate tools and techniques in monitoring had resulted into completion of schedules on time (M= 3.83, SD= 1.441); and that inclusive project budget formulation process ensured value for money (M= 3.817, SD= 1.142). Respondents further agreed that budget reviews ensured accountability in process and value for money (M= 3.81, SD= 1.142); and that regular communication of monitoring reports had ensured timely use of the reports to minimize any delays in completion (M= 3.764, SD= 1.168). The study findings concur with Project Management Institute (PMI, 2017) that successful output level of projects could consider stakeholder satisfaction, value for money in terms of delivering scope, delivery of qualities and working on schedule. The level of implementation of the project management practices resulting into desired project performance has been determined by level of agreement by the respondents.

Multiple Regression Analysis

The study computed multiple regressions to analyze the project management practices influence on performance of maternal health service infrastructure projects in Homabay County. The findings were presented in three tables discussed hereunder.

Model Summary

Model summary is used to determine the amount of variation in dependent variable that can be explained by changes in independent variables. In this study the amount of variation in project performance as a result of changes in stakeholder participation, project funding, project leadership and project monitoring was sought.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.874[a]	.764	.753	.07179
a. Predictors: (Constant), stakeholder participation, project funding, project leadership and monitoring				

From the findings, the value of adjusted R^2 was 0.753 which suggests that 75.3% variation in project performance can be attributed to changes in stakeholder participation, project funding, project leadership, and monitoring. Moreover, the remaining 24.7% suggest that there are other factors that can explain variation in project performance which were not included in this model. The findings further show that the variables being studied are strongly and positively related as indicated by correlation coefficient (R) value of 0.874.

Analysis of Variance

Analysis of variance is used to determine whether the model was a perfect fit for the data and whether the model is significant. The significance of the model was tested at 5% level of significance.

Table 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.276	4	0.569	10.934	.000
	Residual	3.796	73	0.052		
	Total	**6.072**	**77**			
a. Dependent Variable: project performance						
b. Predictors: (Constant), project stakeholder participation, project funding, project leadership and project monitoring						

The results indicate that the model was significant since the p-value (0.000) was less than 0.05 thus the model is statistically significant in determining project management practices influencing on performance of maternal health service infrastructure projects in Homabay County. Further, the F-calculated (10.934) was found to be more than the F-critical (2.497) which shows that the model was fit in establishing the influence of the four independent variables on the dependent variable (i.e., the influence of stakeholder participation, project funding, project leadership and project monitoring on performance of maternal health service infrastructure projects in Homabay County).

Model Coefficients

Table 8: Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.945	0.091		10.385	0.001
	Stakeholder participation	0.275	0.061	0.245	4.508	0.019
	Project funding	0.262	0.057	0.259	4.596	0.027
	Project leadership	0.296	0.041	0.282	7.220	0.003
	Project monitoring	0.121	0.026	0.191	4.654	0.032
a. Dependent Variable: Project performance						

The findings showed that stakeholder participation is statistically significant in explaining project performance ($\beta = 0.275$, $P = 0.019$), indicating that stakeholder participation positively and significantly relate with project performance. Therefore, increasing stakeholder performance by a single unit will lead to an increase in maternal health service infrastructure project performance in Homabay County by 0.275 units. Project funding is statistically significant in explaining project performance ($\beta = 0.262$, $P = 0.027$). This indicates that project funding positively and significantly relates with project performance.

Increasing project funding by a single unit will lead to increase in performance of maternal health service infrastructure project in Homabay County by 0.262 units. Project leadership is also statistically significant in explaining project performance ($\beta = 0.269$, $P = 0.003$). This indicates that project leadership positively and significantly relate with project performance. Therefore, increasing project leadership by a single unit will lead to an increase in performance of maternal health service infrastructure projects in Homabay County by 0.269 units. The findings further showed that project monitoring is statistically significant in explaining project performance ($\beta = 0.121$, $P = 0.032$). This indicates that project monitoring positively and significantly relates with organizational performance. Therefore, increasing project monitoring by a single unit will lead to increase in performance of maternal health service infrastructure projects in Homabay County by 0.121 units.

CONCLUSIONS

The study found that stakeholder participation was statistically significant in explaining project performance. This indicated that stakeholder participation positively and significantly related with performance of maternal health service projects. Based on the findings, the study concluded that increasing stakeholder participation by a single unit would lead to an increase in performance of maternal health service infrastructure projects in Homabay County. Project funding was found to be statistically significant in explaining project performance. This indicated that project funding positively and significantly related with project performance. Based on these findings, the study concluded that increasing project funding by a single unit would lead to an increase in performance of maternal health service infrastructure projects in Homabay County.

Project leadership was found to be statistically significant in explaining maternal health service infrastructure project performance. This indicated that project leadership positively and significantly related with project performance. From the findings, the study concluded that increasing project leadership by a single unit would lead to an increase in the performance of maternal health service infrastructure projects in Homabay County. The study further determined that project monitoring was statistically significant in explaining project performance. This indicated that monitoring positively and significantly related with organizational performance. Based on the findings, the study concluded that increasing monitoring by a single unit would lead to an increase in performance of maternal health service project performance in Homabay County.

RECOMMENDATIONS

The study established that stakeholder participation positively influenced performance of maternal health service infrastructure projects. The study recommended that in stakeholder participation, the project drivers enhance the participation of all the stakeholders as a practice by seeking their views in project process. Before implementing any project, identification of stakeholders should be done, and their interests and skills identified so that they participate meaningfully in project implementation, especially community projects such as this. Some roles and responsibilities can be directed to them to enhance project success. The study found that funding positively influenced performance of maternal health service infrastructure projects. Accordingly, the study recommended that maternal health service projects should utilize funds according to project drawn plans. To effectively use funds, budget formulation, budget execution is necessary. During implementation, budget reviews and accountability for the funds would enhance achieving value for money.

The study established that project leadership positively influenced performance of maternal health service infrastructure projects. The study recommended that project managers should seek the views of all project players to tap and make optimum use of human resource of the team through empowerment. Also, leaders should build teamwork, and align the stakeholders to the mission and vision of the project to enhance project implementation. The study determined that monitoring positively influenced performance of maternal health service infrastructure projects. The study recommended that project managers need to employ appropriate tools and techniques applicable to monitoring of projects. It is also necessary to communicate monitoring reports, monitor risks identified during planning. Any changes made should be gradual rather than abrupt, so as not to disrupt progress.

AUTHOR CONTRIBUTIONS

Humphreys Odete Aremo wrote the study concept, collected data and analyzed for the entire project under the guidance of Dr. Muchelule Yusuf as the university supervisor. Humphreys Odete Aremo also sought all the necessary permits from relevant authorities required to conduct the study.

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CONFLICT OF INTEREST

No potential conflict of interest was recorded by the authors.

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