



**EFFECT OF PROJECT MONITORING PRACTICES ON IMPLEMENTATION OF ROAD CONSTRUCTION PROJECTS. A
CASE STUDY OF KILIFI COUNTY**

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ABSTRACT

The general objective of the study was to evaluate the effect of project monitoring practices on implementation of road construction projects. The study was carried out in Kilifi County, Kenya. This study was guided by the following specific objectives; determine the effect of communication, determine the effect of monitoring tools, investigate the influence of stakeholder's participation, establish the effect of staff competency on implementation of road construction projects in Kilifi County. The research study adopted a descriptive research design targeting 150 project managers, committee members, monitoring committee employees of (KeNHA, KeRRA, KURA and KWS) and stakeholders in Kilifi County. A closed ended structured questionnaire was used to collect primary data from 109 sampled respondents. A pilot study was conducted to ascertain the reliability and validity of the instruments. The quality and consistency of the study was further assessed using Cronbach's alpha. Data analysis was performed using Statistical Package for Social Science (SPSS) version 23. Data presentation was done using frequency counts, percentages, means, standard deviations, regression, correlation and the information was presented in form of tables. The findings of correlation analysis indicated that the project monitoring practices had positive and significant relationship with project implementation. The study, thus, concluded that thoroughness in project monitoring practices enhances road construction project implementation in Kilifi County: Perfection in project communication, project monitoring tools and techniques, staff competency and stakeholders participations, being the pillars, is imperative. The study recommended that road construction agencies adopt and invest in the same to enhance efficiency in project monitoring practices and implementation of road construction projects in Kilifi County.

Key Words: Communication, Monitoring Tools, Stakeholder's Participation, Staff Competency

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INTRODUCTION

The concept of monitoring has gained much ascendancy and prominence in the last decades, and this has been due to heightened awareness to enhance performance in project management with specific focus on implementation process. The idea of monitoring process which this study sought to interrogate is aligned to the questions about project implementation process in road construction industries, and the roles played by various agencies in ensuring success of the project for the benefits of the society. Due to this, monitoring process has increasingly become important tool acting as a check and balance tool to achieve economic and social sustainability in projects and programs development (OECD, 2016 & Plumecocq, 2014). At international scales, sustainability criteria and indicators for monitoring have become important tools for defining, monitoring and reporting on economic, ecological and social trends, tracking progress towards goals, influencing policy and practices (United Nations, 2017, World Bank, 2014). At regional and sub-regional scales of monitoring is a critical element in assessing the sustainability of local practices, which is an important tool in management planning (Montaño, Arce & Louman, 2015).

In Kenya, infrastructure has been given the highest priority to ensure that roads are in a motorable condition. To realize this, several legislations such as the Public Service Commission Act, the Public Procurement and Disposal Act, and the Constitution of Kenya 2010, have been passed to create demand for project monitoring process as a mandatory for all public projects to ensure accountability and transparency from public institutions. However, the main question that still begs is to what extent project monitoring process has been effective and efficient in implementation of projects? Creation of the 47 counties, to be responsible of their own development and projects financing, has also increased the need for project monitoring processes in project

management services at the county level Centre for Learning on Evaluation and Results (CLEAR) initiative (2013). According to the Ministry of Roads Service Charter report (2008), roads infrastructure accounts for about 80% of all cargoes and passengers in the country, and due to the importance of roads in socio-economic development of the country, the government has in the recent past increased budget allocation for infrastructure in last financial year 2017/2018 to the tune of Sh134.9 billion. This includes Sh27 billion for low-volume seal roads financed by development partners. However, despite this effort by the governments, road projects in Kenya still face huge challenges such as; delay in completion, cost overruns, and low completion rates, lengthy and tedious procurement procedures, project financing, low technological uptake by construction companies and exposure levels of stakeholders to international best practices, poor quality of works due to poor workmanship, unethical conduct, unfair business practices, lack of skilled and competent workforce, lack of a standard project monitoring practices framework and inadequate capacity for law enforcement of standards and regulations.

Roads are the main transport infrastructure and single public owned national asset used by millions of commuters across the world on daily basis. According to (The World Road Association, 2014 report), roads are key national asset which underpins economic activities of a country. It is unarguably regarded as a valuable and noteworthy public asset which should be constructed and carefully managed during its life cycle. In Kenya Vision 2030, a long term planning blueprint launched in the year 2008 recognizes the improvement of infrastructure as one of its foundations to creating a globally competitive and prosperous country with high quality of life by the year 2030 (Kenya Rural Roads Authority, 2013). Kilifi County is characterized by lack of attractive public road transport and transport services due to insufficient transport facilities. The county

government of Kilifi in conjunction with national government and development partners' have impacted on upgrading all urban roads to bitumen standards to improve motor ability of the roads in the county. The county government is also impacting on opening up of new feeder roads in the rural areas, upgrading, rehabilitating and maintaining of road network to improve accessibility to county resources and other socio-economic activities.

The Constitution of Kenya 2010 assigns the responsibility of managing the public road network in Kenya to the National Government (National Trunk Roads) and the County Governments (County Roads). As such Kilifi County and all other county governments have the responsibility to deliver developmental programs such as reliable infrastructure to assist in the transportation of goods and passengers to markets in different counties and countries (Khisra, 2015). In Kilifi County, the entire road network covers about 3000Kms. Of this 1,320 km is rural classified network, about 450kms is national classified network and the rest are unclassified. Approximately 30km of rural county roads are of bitumen standards, 220Km of rural county roads are graveled and the rest are earth roads. For a long time, poor transport facility has remained a challenge in the county especially in the hinterland areas. The underdeveloped particularly in terms of inter-modality and logistics hampers efficient communication and flow of information and services in the county which is important for development because a few available roads that do not provide a fast and high-quality accessibility in the county (Kirui, 2016). A spatial distribution of road, rail and air transport network is skewed in favour of coastal corridor and along Malindi-Kilifi-Mtwapa and Mazeras-Mariakani highways. Opening up essential roads particularly those that link the hinterland to the major centers will be an important strategy for long-term development of the county as it will facilitate

improved mobility to areas of opportunity (Jeyakanthan & Jayawardane, 2017).

Statement of the Problem

Roads are a key national asset which underpins economic activities of a country. It is unarguably regarded as a valuable and noteworthy public asset which should be constructed and carefully managed during its life cycle. The Kenya Vision 2030, a long term planning blueprint launched in the year 2008 recognizes the improvement of infrastructure to create a globally competitive and prosperous country with high quality of life by the year 2030 (Kenya Rural Roads Authority, 2013). Due to its significance in socio-economic development of the country, the national and county governments have in the recent years steadily increased budget allocation to the tune of Sh134.9 billion towards infrastructure in 2017/2018 financial year. This includes Sh63.6 billion for ongoing road construction, Sh44.3 billion for foreign financed roads and Sh27 billion for low-volume sea. This is in addition of Sh49.3 billion from the Road Maintenance Levy for road maintenance.

In Kilifi County, road allocation in 2015/2017 financial year was 1.5 billion. Auditor general's 2016/2017 report revealed delay in implementation of projects such as upgrading of Malindi Township roads to Bitumen, contract amount 222,113,018 million, project stalled and is late by 9 months, Eden Rock road, contracted amount 1million, contract expired when the work was 70% complete, Ngala – HGM-Kisumu Ndogo, a 3kmroad contracted amount 183,963,340 million, paid only 73,369,448 million, project stalled after upgrading only 0.9km. The auditor general also found that the KES 5 billion rehabilitation of Bachuma Gate-Maji ya Chumvi section of Mombasa road was going on at a slow rate. The project was awarded to China Dalian International Economic and Technical Corporation Group Company limited started in November 2014 to be completed within two years. However, a monthly progress report since June 2016 showed that the

percentage of physical works completed was 20 percent with percentage of time elapsed at 79 percent, which may lead to escalation of costs in interest payments

According to Kenya Transporters Association (KTA), the construction of Mariakani-Kaloleni-Mavueni road by KeNHA which is an alternative bypass for tourists visiting Tsavo National Park from the North Coast, the works on this road have dragged for more than seven years. The report further says that the contractors ignored the ministry's procedure and schedule, hence contributing to the delay in completion of the project. This confirms earlier observations by Kamau (2015) that many projects fail due to weak monitoring function by management, Kanda, Muchelule and Mamadi (2016) adds that factors such as owner's interference and decision making that relates to client have negative influence on project success. Similarly, Iyer and Jha (2015) alluded to the fact that lack of top management support, owner's competence, monitoring and feedback by participants and proper coordination have influence on project quality, cost and time. KeNHA further acknowledged that the construction of the Kilifi – Kaloleni road funded by the Government at a cost of approximately Sh2.3 billion is yet to be completed. The slow pace of constructing of this road has agitated transporters to protest against the government blaming it for slow pace in completing the road section.

A study by Wanjiku (2015) on factors influencing the performance of road infrastructural projects in Nyandarua County and from researcher's perspective it was concluded that, little has been done or researched on in deeper details on the effect of the monitoring process on implementation of infrastructure projects in the country more specifically in construction industry. This raises serious issues as to whether the monitoring process employed is effective enough to achieve project success, or perhaps the monitoring team may be lacking the necessary capacity or strength to carry out

their work effectively, or they may be approaching their work using incorrect methodologies. The project monitoring team may also be lacking the necessary management support. It is upon this that this study sought to investigate the effect of project monitoring practices on implementation of road construction projects in Kilifi County.

Research Objectives

The general objective of this study was to evaluate the effect of project monitoring practices on implementation of roads construction projects in Kilifi County. The specific objectives were;

- To determine the effect of project communication on project implementation of road construction projects in Kilifi County.
- To determine the effect of project monitoring tools on implementation of road construction projects in Kilifi County.
- To establish the effect of project staff competency on implementation of road construction projects in Kilifi County.
- To investigate the effect of project stakeholder's participation on implementation of road construction projects in Kilifi County.

The study was guided by the following hypothesis;

- **H₀₁:** Project communication has no significant effect on implementation of road construction projects in Kilifi County.
- **H₀₂:** Project monitoring tools have no significant effect on implementation road construction projects in Kilifi County.
- **H₀₃:** Project Staff competency has no significant effect on implementation of road construction projects in Kilifi County.
- **H₀₄:** Project Stakeholders participation has no significant effect on implementation of road construction projects in Kilifi County.

LITERATURE REVIEW

Management Theory

Management theory commonly known as Frederick Taylor's Scientific Management. In his theory, Frederick Taylor emphasized on efficient training of workers and breaking down of a complex task (Work Breakdown Structure) into small units to optimize the performance (Harper, 2014). This theory has been regarded as his main contribution towards work management where management plays a role of performing the science and instruction while workers in each group performs "the work for which it was best suited" to optimize the performance of the subtasks (Mulder, 2015). This theory gives a modest conceptual framework and a plan that can guide a firm to achieve its objectives. Monitoring processes is regarded as one of the key instrument that guarantees effective project undertakings (Kasaija, 2015; Chapman, 2014). This however, calls for a detailed and sound management to monitor tasks of various groups at each stage of project implementation in order to improve workers performance and capacity of agencies to accomplish their central role (Muchelule, 2018). This theory resonates well with the second variable: to determine the effect of project monitoring tools and techniques on implementation of road construction projects in Kilifi County.

Theory of Constraints

The theory of constraints (TOC) was developed by Eliyahu Goldratt. The theory is based on the belief that every project has constraints or limiting factors that may hinder performance (Nyaoga, 2015). The theory of constraints holds that every system is faced with constraints that limits it from achieving its objectives, and identification of these constraints forms the main basis of improving the production system. Some of the limiting factors are associated with planning, production control, managing of the projects and performance measurements during project implementation. The theory is applicable in

this study since capital, management skills and stakeholders are some of the constraints road contractors are faced with when implementing road projects. And, the most productive way to solve these problems is to devise a mechanism of countering these challenges and removing the barriers in implementing road projects.

Social Change Theory

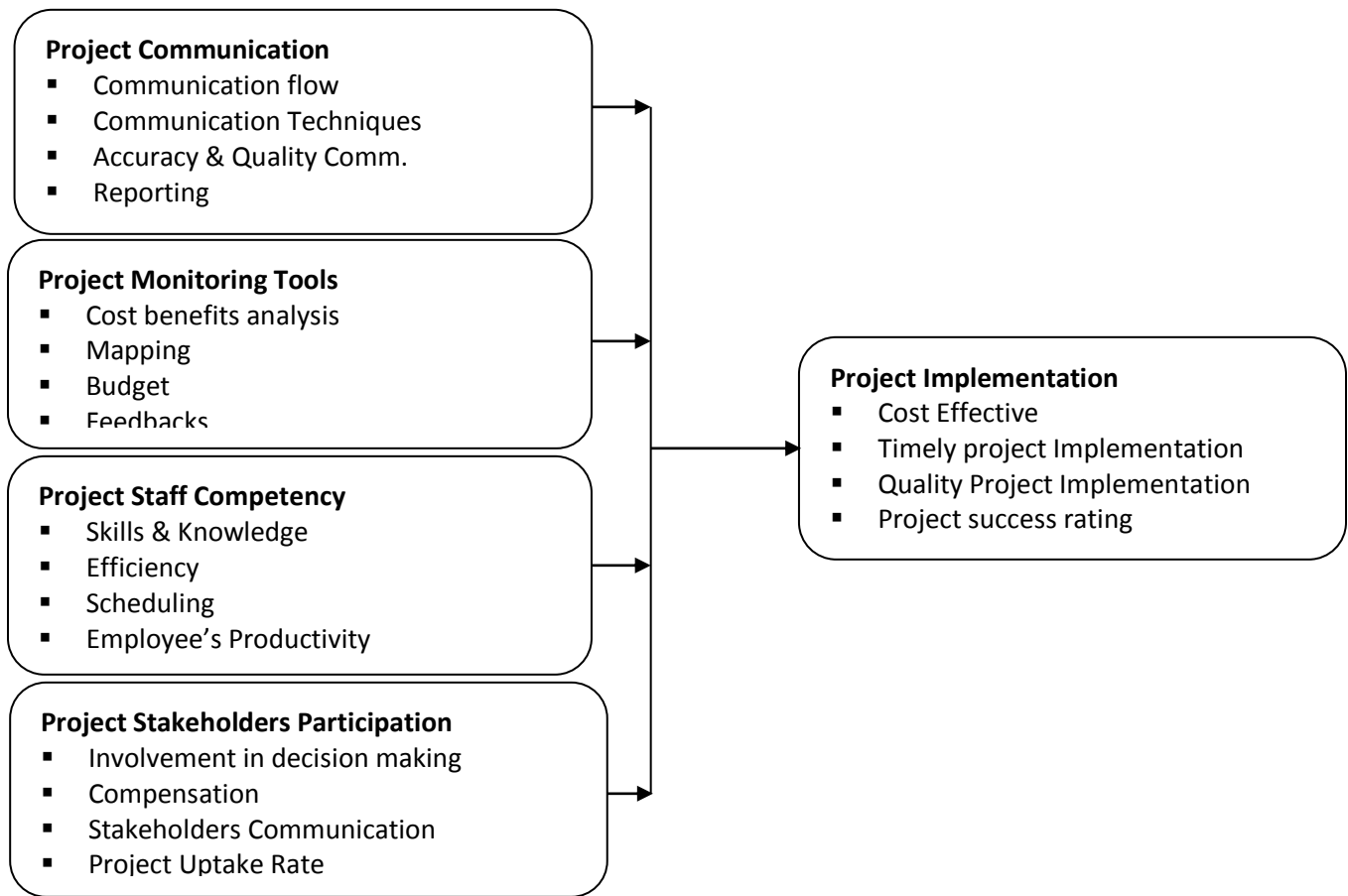
In social change theory, most development practitioners are influenced by the work of a Brazilian scholar Paulo Freire that was developed in the context of his work with communities battling against poverty and social inequalities. For Freire, Community Mobilization involves the processes of dialogue and critical thinking by marginalized people (Mutua, 2015; Harris, 2015). Construction industries operate in a complex environment. Due to this complexity, it requires participation and inputs of all stakeholders at different levels during project implementation (Mohammed, 2013; Lukasiewicz & Baldwin, 2017; Mladenovic, 2013), facilitated by these external change agent, and addressing their concerns regarding the project, enables the project manager tackle the key problems in the stakeholder management process and any potential impact it could have on the success of the project (Eskerod & Jepsen, 2013; Nguyen, 2015; Yang, 2013; El-Sawalhi, 2015). In practice the social change theory, advocates for empowerment of all stakeholders through participation for prudent planning and coordination, surveillance and capacity building as opposed to the top down approach, previously practiced in implementation of project, something that negatively affected project sustainability.

Program Theory

Program theory as postulated by Weiss (2012) is a theory developed to guide monitoring process in project management by identifying and relating key project elements to each other (UNDP, 2015). Using this theory project team draws data collection plan and collect data using different methods within the

frame work. The collected data by different methods or sources on the same program element are triangulated. Weiss as cited by Muchelule (2018) suggested that ‘use of path diagrams to model the sequences of steps between a programs’ intervention and the desired outcomes helps the evaluator identify the variable to include in the monitoring, discover where in the chain of events the sequence breaks down, and stay attuned to changes in program implementation that may affect the pattern depicted in the model. This interjection anchors well with

second variable: to determine the effect of project monitoring tools and techniques on implementation of road construction projects in Kilifi County. This intervention to monitor is recognized as one of the key instrument used to guarantee that project undertakings are effective (Kasaija, 2015; Chapman, 2014). As well put by Srivastave & Teo (2016) it is a strategic plan procedure that builds up to a scope of methodologies that will eventually lead to achievement of intended goal.



Independent Variable

Dependent variable

Figure 1: Conceptual Framework

Empirical Review

A study carried out by Nyakundi (2013) on factors influencing implementation of monitoring and evaluation processes on funded projects indicates

that staff technical skills, poor budget allocation and stakeholders’ participation affects the implementation of monitoring and evaluation. It observed that only 20.8% of the projects were implemented on time and budget, while 79.2%

unveiled some form of failure. In his study, he attributed causes of failures to insufficient implementing strategies, poor project management, weak project design and political interference.

Wairimu (2016) carried out a study on factors influencing completion of road construction projects in Embakasi, Nairobi county Kenya. The study aimed to identify factors that lead to successful implementation of road projects. The study identified and used the following factors: resources, competency of staff, stakeholders' participation and procurement procedures as factors that influences completion of road projects. A descriptive research design was used. The findings showed that competency of staff have a positive influence on completion of road construction projects in Embakasi, Nairobi County. It was concluded that staff are able to perform project task if they acquire skills, experience and knowledge. It also found out that stakeholder's participation have a positive and a significant influence on completion of road construction projects and that stakeholders should be encouraged to participate in road projects.

A comparative study was conducted by Republic of Kenya (2014) on the state of its national highways in 43 counties, where 983 respondents were requested to give their opinion on the state national highways. The results showed that, on the issue of monitoring, 947 respondents strongly agreed that factors like; monitoring, planning, personnel, budget, communication, contractor's experience, political heat and many more influenced the M&E process. In Sudan, Omran, Abdurrahman and Pakir (2015) conducted a study to analyze construction and performance of road projects ranging from simple to more complex road construction projects. Their findings indicated that all road construction projects are increasingly experiencing cost overruns, delay in completion, unmet project objectives and unsatisfactory quality workmanship. A study by

Kamau and Mohamed (2015) on effect of monitoring and evaluation function on road construction projects in Kenya. The factors were analyzed and grouped into four main categories namely: Strength of monitoring team, political influence, monitoring, and project lifecycle stage. The study findings revealed that monitoring processes to function requires management support as a mediating factor for a project to succeed. They concluded that without management support, monitoring tools cannot make a project succeed.

Phiri (2015) conducted a study on the influence of monitoring project performance a case study of African Virtual University. In this study analyzed; M&E planning, baseline surveys, M&E training, and information systems as monitoring and evaluation activities. Spearman correlation analysis was used to analyze data. The results finding showed a positive relationship of 0.600 between M&E and project performance. On average, it was found that M&E planning and M&E training had significant correlation with project performance. The study recommended the integration of M&E as integral part of organizational strategy in project implementation.

METHODOLOGY

The research adopted a descriptive research design. The study population focused on 150 employees drawn from four road construction agencies working in Kilifi County. The participant were monitoring committee members, project managers and project manager drawn from four agencies working in Kilifi County. The study considered employees from four agencies (monitoring committee members, project managers and project manager). The study used proportionate stratification. The study aimed at determining the effect of project monitoring practices on implementation of road construction projects in Kilifi County. To obtain the study's objectives, a mixture of structured questions was used in the

questionnaire. Secondary data was obtained from available textbooks, academic journal, newspapers and such other published materials. A structured questionnaire was used as data collection instruments. Statistical Package for Social Sciences (SPSS) versions 23 was used to code and analyze data.

RESULTS

Project Communication

As illustrated in Table 1 below, the statement that communication informs all employees at all levels and motivates them to support project implementation had a (mean=3.76, SD=.667). This was in support of Jones (2017) who observed that communication is a cohesion factor that brings unity of purpose and direction which is an effective tool in all facets of project activities, and its role in interlinking all project stakeholders is very critical in determining success of the project. On whether goals and objectives of project are usually communicated well, respondents strongly disagreed as demonstrated with a (mean=1.01, SD=.104). In line with this (Noreen, Smith & Mackey, 2015) holds that more emphasis

should be put on significance of project team to identify limitations and establish effective ways to deal with these limitations at early stages of project implementation to reduce their impact on project implementations.

Respondents were further asked on whether success of project implementation depends on communication capabilities of an organization which respondents agreed as indicated with a (mean=4.67, SD=.631). Their views were in agreement with Braun & Surtaewa, (2014) who noted that internal communication improves and enhances achievement of organization's objectives. Finally, respondents were in agreement with a (mean=4.13, SD=.811) that effective project communication have a greater impact in project implementation if well applied. This concurs with Flyvberg (2015) observations that efficient communication is a key factor in achieving desired project outcomes. The table below shows that the responses had an overall mean score of 3.39 which is greater than 3.0. This implies that project communication have a great effect on implementation of project in Kilifi County.

Table 1: Project Communication

	N	Mean	Std. Deviation
Communication informs all employees at all levels and motivates them to support project implementation.	93	3.76	.667
The goals and objectives of project implementations are usually communicated well.	93	1.01	.104
Success of project implementation depends on communication capabilities of an organization.	93	4.67	.631
Effective communication can have a greater impact in project implementation if applied well.	93	4.13	.811
Overall mean		3.39	

Monitoring Tools

The study determined the effect of project monitoring tools on implementation of road construction projects in Kilifi County. Results from

Table 2 below showed that inadequate monitoring by road agencies was a major cause of delay of project implementation as indicated by a (mean=4.25, SD=.637). In support of this (Pilkington, 2013; PMI,

2013) inadequate monitoring by road agencies was a major cause of delay of project implementation, it was further argued that unspecified meeting site between consultants, contractors and all stakeholders contributes to delay in project implementations. The statement on whether there applicability of logical framework as a monitoring tool enhances success in project implementation had a (mean=4.84, SD= .370). This concurred with (Hummel (2016) who explained that logical framework is the most recognized and widely applied monitoring tool used by both government and nongovernmental organization used in monitoring project activities. On

whether the absence of monitoring tools impacts negatively in achieving successful project implementations, respondents agreed with a (mean=3.95, SD=.309). Finally, respondents were in agreement that use of monitoring tools increases probability of project implementation success in a shortest time and at lower costs as demonstrated by a (mean= 4.48, SD=.583. Table 2 below indicated that the responses had an overall mean score of 4.38 which was greater than 3.0, implying that monitoring tool play a significant role in implementation of road projects in Kilifi County.

Table 2: Monitoring Tools

	N	Mean	Std. Deviation
Inadequate monitoring by road agencies is major cause of delay of project implementations.	93	4.25	.637
Applicability of logical framework as a monitoring tool enhances success in project implementations.	93	4.84	.370
The absence of monitoring tools impacts negatively in achieving successful project implementations.	93	3.95	.308
Use of monitoring tools increases probability of project implementations success in a shortest time and at lower costs.	93	4.48	.583
Overall mean		4.38	

Staff Competency

The study investigated the effect of staff competency on implementation of road construction projects in Kilifi County. As illustrated in Table 3 below the respondents were neutral with a (mean=3.46, SD=.498) that staffs had knowledge and skills to implement road projects. The statement that staffs had ability to encourage and inspire others to perform their activities had a (mean=4.12, SD= .689). Further respondents were asked whether staffs were effective and achieved their project goals which respondents strongly agreed with a (mean=4.55,

SD=.668). With a (mean=4.63, SD=.626), respondents also agreed with a statement that inadequate training affects staff in implementation of roads projects. In agreement with their views (KPMG-PMI, 2014 report) revealed that that lack of trained human capital and inadequate technical skills contributes to road project delays which ultimately affect implementation of projects. With overall mean of 4.30 as indicated in Table3 below, it demonstrated that staff competency have a significant effect on project implementation in Kilifi County.

Table 3: Staff Competency

	N	Mean	Std. Deviation
Staffs have knowledge and skills to implement road projects.	93	3.46	.498
Staffs have ability to encourage and inspire others to perform their activities.	93	4.12	.689
Staffs are effective and achieve their project goals.	93	4.55	.668
Inadequate training affects staff in implementation of roads projects.	93	4.75	.434
Overall mean	4.30		

Stakeholders Participations

The study determined the influence of stakeholder's participations level on implementations of road projects in Kilifi County. Referring to Table 4, the statement that there was need to involve stakeholders in each stage of project implementations had a (mean=3.83, SD= .564). Their views concurred with Ruwa (2016) who established that involving stakeholders in project monitoring empowers them to hold implementers accountable. He further explains that it contributes to efficiency in terms cost, time and assurance of project sustainability. On whether too much involvement of stakeholders' could lead to undue delay in project implementations had a (mean=4.14, SD= .432). Further, respondents strongly agreed with a (mean=4.75, SD= .434) that information generated and shared during project implementations process encourages stakeholders to take a greater degree of responsibility. These concurred with (PMI, 2017) findings that engaging stakeholders in a deeper forms of participation increased project up-take and maintenance. However, in line with this Silviu &

Schipper (2014) explained that the absence of stakeholder's ownership and support would lead to limited costs recovery of project. Finally, with a (mean= 4.22, SD=.735) respondents agreed that absence of stakeholder ownership and support during project implementation leads to poor project maintenance. In line with this Njuki *et al* (2015) acknowledged that engaging stakeholders in project implementation improves project outputs, and outcomes that reflect community's interest. This concurs with Wamugu & Ogollah (2017) who established that involving stakeholders at the initial stages of project initiation have highest influence in determining success of the project. In support of this Ruwa (2016) adds that "involving stakeholders in proposing solutions and project identification leads to projects implementation within time and within proposed budget". With an overall mean of 4.24 which was greater than 3.0, it implied that stakeholder participation played a critical part in implementation of road project in Kilifi County.

Table 4: Stakeholders Participations

	N	Mean	Std. Deviation
There is need to involve stakeholders in each stage of project implementations.	93	3.83	.564
Too much stakeholders' involvement could lead to undue delay in project implementations.	93	4.14	.432

Information generated and shared during project implementations process encourages stakeholders to take a greater degree of responsibility.	93	4.75	.434
Absence of stakeholder ownership and support during project implementation leads to poor project maintenance.	93	4.22	.735
Overall mean		4.24	

Project Implementations

The main objective of the study was to evaluate the effect of project monitoring practices on implementation of roads construction projects in Kilifi County. As illustrated in Table 5 below, it was revealed that there was no timely and comprehensive control during project implementation. This was indicated by a mean score of (mean=3.46, SD=.317). In line with this respondents were also neutral with a (mean=3.37, SD=.265) on the statement that project team was effective in implementing of road projects in Kilifi County. However, it was strongly agreed as

indicated with a mean of (mean=4.29, SD=.456) that stakeholders' satisfaction is always adequate during project implementation. On whether road contractors have a high level of technical staff, respondents respondent with a (mean=3.57, SD=.544). Projects implementation entails the process of seeing the proposed projects being effectively and efficiently completed within a structured time frame and budget. In line with fore going discussion, a study by (OECD, 2015) showed that success of project implementation entails proper monitoring which is closely tied to the time allocated for project activities.

Table 5: Project Implementation

	N	Mean	Std. Deviation
There is a timely and comprehensive control during project implementation.	93	3.46	.317
Project team is effective in implementation of road projects.	93	3.37	.265
Stakeholders' satisfaction is always adequate during project implementation.	93	4.29	.456
road contractors have a high level of technical staff	93	3.57	.544
Overall mean		3.67	

Correlation Analysis

As tabulated in Table 6 below, results findings showed that there was a positive and a significant correlation between the independent variables; project communication, monitoring tools, staff competency and stakeholder's participation, and the dependent variable, project implementation. The analysis indicated that Pearson correlation (*r*) data

analysis yielded a positive correlation coefficient (*r*) equal to 0.703, 0.871, 0.820 and 0.685 for project communication, monitoring tools and techniques, staff competency and stakeholder's participation. This illustrated that that there is a positive and significant relationship between the independent variables.

Table 6: Pearson Correlations

Implementation	Comm. Monitoring	Competency	Stakeholders
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Implementation	1					
Sig. (2-tailed)						
N	93					
Comm.	.703**	1				
Sig. (2-tailed)	.000					
N	93	93				
Monitoring	.871**	.847**	1			
Sig. (2-tailed)	.000	.000				
N	93	93	93			
Competency	.820**	.911**	.916**	1		
Sig. (2-tailed)	.000	.000	.000			
N	93	93	93	93		
Stakeholders	.685**	.828**	.831**	.875**	1	
Sig. (2-tailed)	.000	.000	.000	.000		
N	93	93	93	93	93	93

** Correlation is significant at the 0.01 level (2-tailed).

Comm. (Project Communication),

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.887a	.787	.778	.479

a Predictors: (Constant), Stakeholders, Communication, Monitoring, Competency

As illustrated in Table 7, the model explained 78.7% of the variance (Adjusted R Square = 0.778) on project implementation in Kilifi County. This revealed that the relationship between project monitoring practices factors under investigation and project implementation was positive and strong. The R² which

was .787 revealed that the independent variables (project communication, monitoring tools and techniques, staff competency and stakeholder's participation) explained 78.7% of project implementation in Kilifi County whereas other factors not studied explains 21.3%.

Table 8: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	74.932	4	18.733	81.491	.000b
	Residual	20.229	88	.230		
	Total	95.161	92			

a Dependent Variable: Implementation

b Predictors: (Constant), Stakeholders, Communication, Monitoring, Competency

Table 9: Multiple Regressions (Coefficients)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	8.644	.613		14.102	.000
	Communication.	.188	.082	.277	2.296	.024
	Monitoring	.503	.078	.801	6.461	.000

Competency	.260	.085	.519	3.075	.003
Stakeholders	.214	.062	.206	3.451	.001

a Dependent Variable: Implementation

The results findings for the hypostasized regression model, and the interpretation of the results findings was as indicated below.

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

Therefore, from the regression findings, the research model becomes;

$$Y = 8.644 + 0.188X_1 + 0.503X_2 + 0.260X_3 + 0.214X_4$$

Whereby Y = Project Implementation

X_1 = Project Communication X_2 = monitoring tools, X_3 = staff Competency X_4 = and Stakeholders Participation.

The above model showed that holding four investigating factors (Project Communication, monitoring tools, Staff Competency and Stakeholders Participation) at zero, project implementation in Kilifi County will be 8.644. However, a unit positive change in project communication would results to 27.7% increase in project implementation in Kilifi County ($\beta_1=0.188$, Sig=.024) a unit positive change in monitoring tools would results to 80.1% increase in project implementation in Kilifi County ($\beta_2=0.503$, Sig=.000) a unit positive change in staff competency would results to 51.9% increase in project implementation in Kilifi County ($\beta_3=.260$, Sig=.003) a unit positive change in stakeholders participation would results to 20.6% increase in project implementation ($\beta_4=.214$, Sig=.001). The study also revealed that monitoring tools at 80.1% was the most critical and significant factor that ought to be considered by road construction agencies in Kilifi County in order to enhance project implementation, followed by staff competency at 51.9%, project communication at 27.7%, and the least was stakeholder's participation at 20.6%.

Hypothesis Testing Results

The first null hypothesis, H_{01} , stated that project communication has no significant effect on implementation of road construction projects in Kilifi

County. The results indicated that ($\beta_{01}=0.277$; $t=2.296$; $p < 0.000$), hence the H_{01} hypothesis was rejected leading to the conclusion that project communication has significant effect on implementation of road construction projects in Kilifi County. This concurs with Braun & Surtaewa, (2014) findings that both internal and external communications improves organization and enhances in achievement of its goals and objectives.

The second null hypothesis, H_{02} , stated that project monitoring tools have no significant effect on implementation road construction projects in Kilifi County. The results indicated that ($\beta_{02}=0.801$; $t=6.461$; $p < 0.005$), hence the H_{02} was rejected leading to the conclusion that project monitoring tools have significant effect on implementation road construction projects in Kilifi County. This concurs with Phiri (2015) who noted that there is a positive and significant relationship between project monitoring practices and project performance; hence, incorporating monitoring tools in project implementation will improves project performance.

The third null hypothesis, H_{01} , stated that staff competency has no significant effect on implementation of road construction projects in Kilifi County. The results indicated that ($\beta_{03}=0.519$; $t=3.075$; $p < 0.005$), hence the H_{03} was rejected leading to the conclusion that staff competency has significant effect on implementation of road construction projects in Kilifi County. In support of this (Toroitich, Mburugu & Waweru, 2017; Peidong, Jinjian &, Lin (2018) noted that staff competency is one of the organizational factors that impacts positively on project implementation and their performance. Competent staffs operate effectively and efficiently. This contributes to efficient flow of activities during project implementation processes.

Similarly, Iyer & Jha (2015) adds that staff competence is one of the factors that influences project cost performance in terms of coordination among project participants, provision of leadership skills, monitoring and feedback by the participants and decision-making among others.

The fourth null hypothesis, H_{04} , stated that stakeholder's participation has no significant effect on implementation of road construction projects in Kilifi County. The results indicated that ($\beta_{04}=0.206$; $t=$

3.451 ; $p < 0.005$), hence the H_{04} was rejected leading to the conclusion that stakeholders participation has significant effect on implementation of road construction projects in Kilifi County. This concurs with Bourne (2015) observations that marginalization of stakeholders could restricts the attainment of desired project outcomes. In line with this Project Management Institute (2017) acknowledges that absences of stakeholders participation in project implementation could lead to low project up-take due to lack of stakeholder's support and ownership.

Table 10: Hypothesis Testing Results

Hypothesis Statement	B	T	p-value	Decision
H_{01} : Project Communication has no significant effect on implementation of road construction projects in Kilifi County	.277	2.296	0.024	Reject the H_{01}
H_{02} : Project monitoring tools and techniques have no significant effect on implementation road construction projects in Kilifi County.	.801	6.461	0.000	Reject the H_{02}
H_{03} : Project Staff competency has no significant effect on implementation of road construction projects in Kilifi County.	.519	3.075	0.003	Reject the H_{03}
H_{04} : Stakeholders Participation has no significant effect on implementation of road construction projects in Kilifi County.	0.206	3.451	0.001	Reject the H_{04}

CONCLUSIONS AND RECOMMENDATIONS

On project communication, study concluded that there is a positive link between project communication and project implementation. The study concluded that project communication has a significant positive effect on project implementation in Kilifi County. Effective project communication is the life blood of a project success in terms of project initiating, planning, executing, monitoring and closing out the project to various individuals and project stakeholders. It was also further concluded that other factors such as organization structure can be a hindrance to communication follow in a project environment and this can hamper its success.

On monitoring tools, the study concluded that established that it plays essential part in

implementation of road projects in Kilifi County. A strong positive link between monitoring tools and project implementation suggests that monitoring tools and techniques plays a significant role in implementation of road projects in Kilifi County. The study also concluded that adhering to project monitoring practices in project implementation would contribute to project success. Projects may fail due to weak monitoring function by management. This confirms earlier observations by previous scholars who showed that there is a positive and significant relationship between project monitoring practices and project performance, and that project monitoring practices should form part of integral part of organizational strategy in project implementation.

On staff competency, study concluded that staff competency have a significant effect on project implementation of road construction projects in Kilifi County. This concurs with other scholars' findings that staff competency is one of the organizational factors that affect project implementation in road construction industry. It was also observed that staff competency, resources, stakeholders' participation have a positive influence on completion of road construction projects and that staff competency plays a critical role in determining the performance and success of projects.

On stakeholder's participation, the study concluded that stakeholder's participation has great impact in project implementation of road projects in Kilifi County. In support of this, it can be noted that efficient management of stakeholders minimizes uncertainties posed by stakeholders on projects scope, cost, time, quality and objectives. It was also concluded that success of project implementation is hinged efficient management of stakeholders.

Based on the findings and the subsequent analysis from the study, it was established that project communication, monitoring tools, staff competency and stakeholder's participation have great effect on project implementation in Kilifi County. Based on study findings, the following recommendations on project implementation are imperative:

It emerged that to achieve successful project implementation it requires proper coordination among project participants, provision of leadership skills, monitoring and feedback by the participants, and better decision- making. The study recommends that staff and all stakeholders should be motivated to have the right attitude to enable them to cope with project implementation challenges.

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The study established that qualities of infrastructures are important for export-led economic growth; to achieve successful project implementation road agencies have to develop and maintain employees with skills and expertise that can carry out their tasks efficiently. The study recommends that road construction agencies should invest more in training of their staffs to empower them to be efficient in monitoring processes.

It was found that road construction projects are faced with ineffective monitoring which ought to be done consistently with a specific end goal of identifying risks and mitigate on them early enough before they leave hand. The study recommends that monitoring should be a non-stop undertaking that uses methodical gathering of information to give administration and the fundamental partners of a continuous improvement intercession.

The study findings revealed that for monitoring processes to function properly it requires management support as a mediating factor for a project to succeed. The study recommends management should give their support to all levels of stakeholders for projects to succeed.

Suggestions for Further Study

This study focused on factors affecting project implementation in Kilifi County. From the analysis, study variables explained only 78.7%. Since only 78.7% was explained by the independent variables in this study; it is important that other studies be carried out to focus on other aspects of capital resources to fund projects, corruption and training and how they influence implementations of road construction projects in Kilifi County.

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