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The Strategic JOURNAL of Business & Change MANAGEMENT
ISSN: 2312-9492 www.strategicjournals.com
Vol. 5, Iss. 2, pp 2518 - 2532, June 28, 2018. www.strategicjournals.com, ©strategic Journals

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Accepted: June 20, 2018

ABSTRACT

The purpose of this study was to establish project management practices affecting effective implementation of health projects in public hospitals in Nyeri County, Kenya. The study adopted a descriptive cross-sectional survey design. The target population of this study was the 150-man hospital management teams, 75 project implementers and 25 representatives from government agencies and non-governmental organizations totalling to 250 persons who were involved in the health projects in one way or the other. Slovins formula was used to come up with a sample of 154 respondents who were recruited using stratified random sampling. Data was collected by use of questionnaires. Descriptive statistics and regression analysis were used to analyze data with the help of SPSS. The study found that there was a strong positive correlation (r=0.796) between project management practices and implementation of health projects in public hospitals. The findings showed that government policies (p=0.006), project planning (p=0.035) and funding (p=0.00) are significant. Project funding was the most important of the four variables under investigation. The study concluded that project management practices contribute positively to implementation of health projects in public hospitals. The study recommended that hospital management teams should be given more autonomy to plan and implement their projects free of control from the government and politicians.

Key Words: *Government policy, Human resource Management, Project funding, Project Implementation and Project Planning*

INTRODUCTION

To implement a project means to carry out activities proposed in the application form with the aim to achieve project objectives and deliver results and outputs. Its success depends on many internal and external factors (Nwankwo, 2006). According to Zwikael and Globerson (2006), the implementation phase of the project management process puts the project into action. It consists of four sub phases: Execution, Monitoring & Control, and Move to Production. The Project Management Institute (2000) indicates that the project implementation phase requires close collaboration with clients to ensure that the project is delivered on time within the defined scope and cost to meet the organization's needs. According to Srivastava (2014) project implementation can fail for a number of reasons ranging from unrealistic expectations, poor methodology, poor requirements, inadequate resources, poor project management, untrained teams, unrealistic budgets, to poor communication and more.

Project Management Practices also referred to as critical success factors (CSFs) are characteristics, conditions or variables that, when properly sustained, maintained, or managed, can have a significant impact on the success of a firm competing in particular industry. CSFs are inputs to project management practice, which can lead directly or indirectly to project success. It encompasses many elements, which have to be synchronized to ensure the project delivery on time (Alias *et al.*, 2014). Amade, Ogbonna and Kaduru (2012) indicate that there are twelve potential critical factors categorized into economic, environmental, technical and human can affect the delivery of a project either negatively or positively. Meredith and Mantel (2003) warn that the factors considered critical for the success of a project are different for different types of projects and industries.

Thomas and Martin (2014) believe that no project exists in a vacuum but is rather subject to an array of influences from regulatory control to political and industrial intervention and opined that managers of projects will take cognizance of the political aspect that can produce an uncertain environment such as unstable government, unpredictable shifts in the economy and unexpected changes in consumer demand. Public service is plagued by an unusually high level of bureaucracy which makes the implementation of projects to be very challenging. This stifling bureaucracy is encountered in project registration and approvals, and also documentation and fund release. Because in many cases, government departments are supposed to monitor ongoing projects, the opportunity offered by this oversight can be abused and turned into excessive checks and meddlesomeness which threaten the project itself (Nzekwe, Oladejo, & Emoh, 2015). Government policies in this study included project regulations, bureaucracy, politics and political stability

Project planning involves collection of baseline data, needs assessment, developing an action plan, implementation and evaluation. Target groups need to been well understood before goals, activities and resources required are formulated (Kariungi, 2014). Baldwin and Bordoli (2014) state that regardless of the definition chosen for project planning, it has the objective of achieving a number of common factors including the production of realistic schedules and costs, the completion of a project to defined standards of quality, design criteria, project resources, health and safety, and meeting projects stakeholders' expectations. Physical planning includes the scheduling of the project's tasks in terms of time while financial planning shows the required cash flow for each time period (Zwikael & Saleh, 2007). According to Githenya and Ngugi (2014), regular plan review should focus more on the role level rather than the activity level. This

approach is said to increase the planning of a project which will lead to better completion results. The Gantt chart is the commonly used planning tool on projects.

Human resources management is an inevitable dimension of project management since it is people who deliver projects. People are the predominant resource in an organization and there is a positive association between human resources management practices and achievement of outstanding success. According to Chuang, Liu and Chen (2015), human resource capability is valuable, rare, irreplaceable, and difficult to imitate; therefore, it is crucial for creating sustainable competitive advantages. Human resource capability can be appropriately used to improve the performance of an organization. Human resource management department has fundamental role for personnel recruiting, orientation and performance appraisal and so on. To ensure successful accomplishment of projects, quality performance of the project team is required to be maintained (Naqvi *et al.*, 2011). Human resource management can be measured by looking at staffing, training, HRIS services, employee turnover, employee absence control, and the pay and benefits system (Kipngok, Wanyoike, & Kemboi, 2014)

Funding is a major issue for all projects. Projects suffer from dearth of funding even after budgetary provisions were made for their funding. This is because the mere fact that a sum of money was budgeted for does not mean that the said amount will be ultimately released for the project, due to other considerations (Nzekwe *et al.*, 2015). Price Water House Coopers (2014) indicated that funds in many government projects in Africa is limited and is a challenging factor. The Kenyan health sector relies heavily on out-of-pocket payments. Government funds are mainly allocated through historical incremental approach (Chuma & Okungu, 2011). The sector is largely underfunded and health care contributions are regressive (the poor contribute a larger proportion of their income to health care than the rich). Health financing in Kenya is fragmented and there is very limited risk and income cross-subsidization. The country has made little progress towards achieving international benchmarks including the Abuja target of allocating 15percent of government's budget to the health sector. In this study, project financing was assessed through assessment of investment cost, Financing mechanisms and operation and maintenance cost

Nyeri County is located in Central and constitutes 6 constituencies; Tetu, Kieni, Mathira, Othaya, Mukurwe-ini and Nyeri town. According to Kenya National Bureau of Statistics (2010) the county has a population of 761,407 people with a population of 208 people per km^2.As at January, 2015; the county has 103 public health facilities. In 2011, the preventive services budget stood at KES 981 per capita whereas the curative services budget stood at KES 1,200 per capital (RoK, 2013). Nyeri County has one level- 5 hospital, four level- 4, three mission and three private hospitals. It also has one nursing home, 30 level- 3, 84 level- 2, 33 levels- 1, one hospice and 228 private clinics spread across the county. The doctor/population ratio is about 1:7610 and a nurse/population ratio of 1:834 depicting shortage of medical personnel to serve the people. The county through the Public Health and Sanitation sub-sector funded by APHIA II and GOK has been able to train 365 Community Health Workers to help the households in maintaining good health status and sanitation. Majority of projects in the county involve upgrading and equipping existing facilities.

Statement of the Problem

Anecdotal evidence shows that majority of health care projects especially infrastructure projects do not achieve success. In Nyeri County for example, many projects have not taken off while others have stalled as shown in Appendix I. The lack of

completion of the above projects is a problem of public health concern since it limits health care delivery to the people of Nyeri. Despite the commitment from the government and private sector to enhance health access and delivery, evidence shows that majority of health care projects especially infrastructure projects do not achieve success. Majority of studies assessing project implementation such as Idoro (2009), Kipngok, Wanyoike, & Kemboi (2014), Chuma & Okungu (2011) and Akannia, Oke and Akpomiemie (2015) have focused on other areas such as construction and financial services. Published information on project success in the health sector is scarce. This study therefore sought to establish project management practices affecting effective implementation of health projects in public hospitals in Nyeri County.

Purpose of the Study

To establish project management practices affecting effective implementation of health projects in public hospitals in Nyeri County, Kenya. The objectives were:-

- To determine how government policies affects implementation of health projects in public hospitals in Nyeri County, Kenya
- To assess how planning affects implementation of health projects in public hospitals in Nyeri County, Kenya
- To establish how human resources affect implementation of health projects in public hospitals in Nyeri County, Kenya
- To find out how project funding affects implementation of health projects in public hospitals in Nyeri County, Kenya

LITERATURE REVIEW

Theoretical Literature

The study is anchored in the theory of Constraints and systems theory. The Theory of Constraints (TOC) is an overall philosophy developed by Goldratt (1997) usually applied to running and improving an organization. It is a methodology for identifying the most important limiting factor that stands in the way of achieving a goal and then systematically improving that constraint until it is no longer the limiting factor (Noreen, Smith & Mackey, 1995). Simply put, TOC means identifying constraints and managing them, resulting in: on-Time In-Full (OTIF) delivery to customers, elimination of stock-outs across the supply chain, better control over operations and far less firefighting, reduced cycle times and therefore inventories, rapid response culture and fewer chronic conflicts between team members and exposing additional production capacity without any investment (Schragenheim, Dettmer & Patterson, 2009). Project management is a mature area that has systemic problems similar to many found in manufacturing processes, and the theory of constraints works well when dealing with individual projects. The theory of constraints allows the project managers to focus on the constraints in the project (Schragenheim *et al.*, 2009).

Systems theory was proposed by Bertalanffy (1968) and furthered by Ashby (1956). Systems theory is an interdisciplinary theory about the nature of complex systems in nature, society, and science, and is a framework by which one can investigate and/or describe any group of objects that work together to produce some result. Systems theory models of decision-making in human groups and organizations emphasize their interaction with "outside" actors and organizations and concentrate on identifying the particular elements in the environment of the group or organization that significantly affect the outcomes of its decision-making (Stichweh, 2011). Project management utilises the systems approach to management by having functional personnel (the vertical hierarchy) assigned to a specific project (the horizontal hierarchy). Most project managers are dealing with

complex systems. Typical nonlinearities are often unanticipated changes in the scope of the project, the dismissal of project managers, shedding people with critical labour skills or the termination of credit arrangements with banks. According to Sheffield *et al.* (2012), complexity in project management may be tamed by systems thinking.

Empirical Literature

Akannia, Oke and Akpomiemie (2015) assessed the impact of environmental factors on building project performance in the Delta State, Nigeria. Political factors were found to be significant. The unnecessary delays usually experienced during development approval processes, continuity in financing of projects whenever there is a change of government might have responsible for this impact. Assefa *et al.* (2013) investigated the development effectiveness of the African Development Bank Group-financed projects using 229 concluded projects between 2004 and 2012 to assess the major determinants of project performance. The study affirmed that country policies and institutions and country capacity in general is positively correlated with project performance whilst parallel project implementation units were not correlated. Inda and Moronge (2015) examined the effect of government policy on successful implementation of domestic biogas projects in Kenya. The study found that government policy was significant (p=0.00).

Idoro (2009) compared the level of project planning on public and private sectors projects and its impact on performance. The results showed that the level of preconstruction planning on private sector projects is higher than that of public sector projects while the level of contract planning done by the latter is higher than that of the former. Furthermore, the performance of private sector projects is higher than that of public sector projects in many of the parameters used. In an analysis of Project management practices, found that project planning is significantly correlated with project success. Another study by Chesiyna and Wanyoike (2016) sought to establish the determinants of effective implementation of CDF funded projects in Baringo Central Constituency, Kenya. Project planning (p=0.018) was found to be significant and a unit increase in project planning would cause an increase in effective implementation of CDF projects by a factor of 0.231. Githenya and Ngugi (2014) assessed the determinants of housing projects implementation in Kenya. The study found that project planning has a great influence on housing project implementation in Kenya.

Belout and Gauvreau (2014) found a significant correlation between the Personnel factor and project success, which confirms a link between these two variables. Naqvi *et al.* (2011) study confirmed a correlation and dependency of project outcome on HR performance management by the project manager through quality of performance monitoring. The study concluded to consider HR management function performance management as one of the tools for ensuring project success giving its significant precedence. Kipngok *et al.* (2014) indicated that human capacity is central towards implementation of geothermal projects in Kenya citing that the projected electricity to be generated (MWe) against optimized staff shows a significant deficit in skilled technical staff. Wambua (2013) established that management, staff welfare issues, technical expertise and planning have varying effects on organization performance to the extent of implementation of the practice. A similar study Mugira (2014) established that training and development carried out by the organization had no significant influence on the project implementation activities as a large population pay for their own training and they may not have traced the benefit to the organization.

Amade *et al.* (2012) found that commitment of Clients to project financing obligations is a necessary condition for contractor commitment to

project plans. A similar study by Kiarie and Wanyoike (2016) in Kenya concluded that funds disbursement by government influenced the success of projects albeit marginally. Projects require financing to take off but government projects are still influenced by other factors including political interference and this reduces the influence of funding. Kipngok, Wanyoike, & Kemboi (2014) findings showed that finances are key to implementation of geothermal projects, citing that on average for example, it costs about 3.5 to 5 million USD to develop 1 MWe of geothermal power. Kengara (2014) assessed the donor funding environment paying attention to the effect of funds disbursement procedures on implementation of public sector donor projects in Homa Bay County. There was delayed receipt of funds by projects of up to 15 months and unresolved audit issues resulting in donors suspending aid and returning huge unspent funds to Treasury.

METHODOLOGY

The study adopted a descriptive cross-sectional survey design to establish project management practices affecting effective implementation of health projects in public hospitals in Nyeri County, Kenya. The target population of this study was the 150-man hospital management teams, 75 project implementers and 25 representatives from government agencies and non-governmental organizations totalling to 250 persons who were involved in the health projects in one way or the other. In this study, Slovins formula was used to come up with a sample of 154 respondents who were recruited using stratified random sampling. Data was collected by use of questionnaires. Descriptive methods such as frequency distribution, percentages, mean and standard deviation were used to organize quantitative data. The qualitative data was analyzed using thematic analysis and presented by narration. Linear regression was used to help indicate if selected variables have a significant relationship with project implementation and to indicate the relative strength of different independent variables' effects on project implementation. All analysis was conducted with the help of SPSS version 22 for windows. Regression analysis was conducted at 95% confidence level. Findings were presented using tables and figures.

FINDINGS

Descriptive Statistics

Project Implementation

The study sought to establish the extent to which projects had been implemented in public hospitals in Nyeri County. The average mean 2.93+0.541 shows that project implementation in public hospitals in Nyeri County was poor.

Table 1: Project Implementation

	N	Minimum	Maximum	Mean	SD
Project implemented within budget	145	1	5	3.6	0.608
Project implemented as per specification	145	1	4	1.94	0.278
Project implemented in scheduled time	145	1	5	3.72	0.781
Sustainability of project	145	1	4	2.44	0.496
Total				11.7	2.162
Average				2.93	0.541

Government Policies and Project Implementation

The study sought to establish government policies that affect project implementation. The average mean of 4.11+1.061 signified a high agreement among respondents on the items tested. The findings therefore showed that the government and

government policies were an important factors controlling project implementation in public hospitals.

Table 2: Government Policies and Project Implementation

	N	Min.	Max.	Mean	SD
Projects are subject to regulatory control	145	2	5	4.66	1.587
Projects are subject to unpredictable shifts in the economy	145	1	5	4.1	1.022
Projects are affected by interference from politicians	145	1	5	3.78	0.856
Political stability affects project implementation	145	3	5	4.62	1.271
There is great bureaucracy in implementing projects in this hospital	145	1	5	4.16	0.987
The government carries out monitoring and evaluation of projects	145	1	5	3.32	0.640
Total				24.64	6.363
Average				4.11	1.061

Project Planning and Project Implementation

The study sought to establish project-planning practices of project management teams in public hospitals. The average mean of the 9 items tested 3.75+1.029 signifies that project planning was highly observed in projects in public hospitals. This is because majority of the principles of project planning were adhered to such as scope definition, schedule development, resource planning, cost estimating and budgeting.

Table 3: Project Planning and Project Implementation

	N	Min.	Max.	Mean	SD
Projects are clearly planned for in terms of scope, time and completion schedule	145	4	5	4.42	1.613
We normally develop realistic schedules for project implementation and completion	145	3	5	4.76	1.505
The project stakeholders also develop realistic cost estimates with accompanying contingent plans	145	1	5	2.97	0.440
In planning for projects we often assign and coordinate resources based on budgets and timelines set in the project plan	145	3	5	4.83	1.654
The views of all project stakeholders are taken into account in every step of project planning	145	1	5	2.58	0.160
There is always a deliberate attempt to include health and safety and environmental management aspect in planning for projects	145	1	5	3.76	0.874
The planning team ensures there are quality standards and indicator for every stage of the project lifecycle	145	2	5	4.43	1.200
Project planning normally involves provision of functional and technical specifications to be met for every section of the implementation stages	145	2	5	4.63	1.518
Project planning is the greatest hindrance to implementation of projects	145	1	3	1.38	0.293
Total				33.76	9.257
Average				3.75	1.029

Human Resources and Project Implementation

The study assessed human resource management practices in projects in public hospitals. The average mean of 3.75+1.130 showed that the project management had good human resource management practices as they observed proper recruitment, training and remuneration measures. However, the finding suggested that motivation of project staff was not adequately catered for.

Table 4: Human Resource Management Practices in Projects

	N	Min.	Max.	Mean	SD
The hospital undertakes recruitment process with integrity and in a transparent manner which makes all employees satisfied	145	4	5	4.96	1.905
Only candidates with the relevant skills are considered for positions during interview process.	145	4	5	4.88	1.722
All team members interact well ensuring that there is cooperation and collaboration in the unit/program	145	3	5	4.4	1.054
The project manager analyzes all the training needs that have been identified for all staff in the program and ensures that they are undertaken through specialized training	145	1	5	3.94	1.194
The hospital management provides competitive salaries in comparison with other institutions	145	1	4	2.66	0.686
There are bonuses for highly performing staff	145	1	5	1.66	0.221
Total				22.50	6.782
Mean				3.75	1.130

Funding and Project Implementation

Findings in Figure 1 showed that 48% indicated that the source of funds was from the government while 30% got funds from public-private partnerships. The findings therefore showed that funding for hospital projects was sourced from a variety of sources.

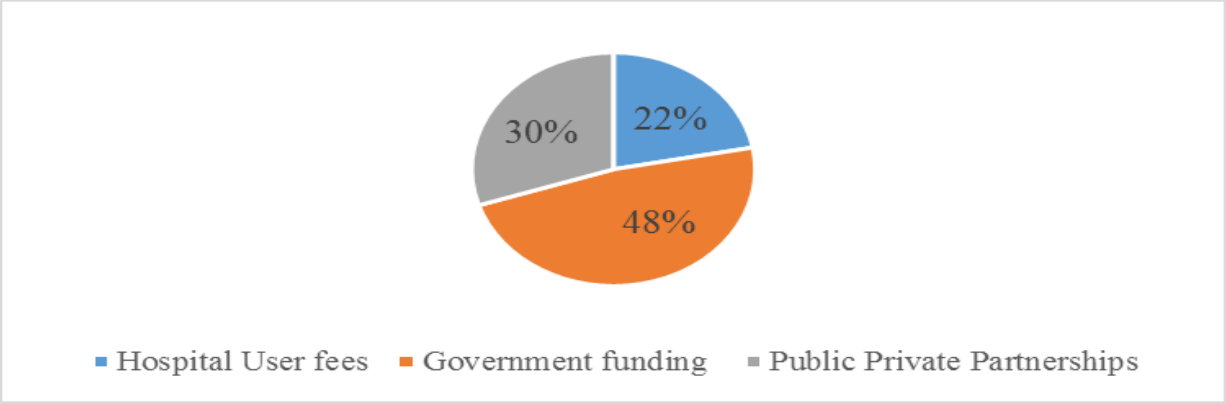

Figure 1: Source of funds

The vast majority of respondents indicated that the investment cost for projects was high. Similarly, the vast majority of respondents indicated that the operational cost was high. Findings in Table 5 showed that majority of respondents indicated that the availability of funding was low. Similarly,

majority indicated that the timeliness of funding was low. The vast majority also indicated that the adequacy of funding was low.

Table 5: Nature of Funding for Hospital Projects

	N	Minimum	Maximum	Mean	Standard Deviation
Investment cost	145	1	3	1.36	0.299
Operation cost	145	1	4	1.12	0.351
Availability of funding	145	2	5	4.44	1.095
Timeliness of funding	145	1	5	3.99	0.808
Adequacy of funding	145	3	5	4.64	1.368
Total				15.55	3.921
Average				3.11	0.784

Regression Analysis

Multiple regression was conducted in the study. The purpose of the regression analysis was to determine the statistical significance of the attempted prediction and determine the strength of association between project implementation and the multiple independent variables. The findings from regression analysis also helped predict the values of project implementation from the values of the multiple independent variables. Regression analysis was conducted using SPSS at 95% confidence level. Findings are presented in Table 6.

Table 6: Regression Output

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.332	.187		1.775	.064
	Policies	-.329	.117	-.319	-2.804	.006
	Planning	.208	.098	.284	2.131	.035
	Human Resources	.020	.094	.030	.212	.832
	Funding	.592	.102	.606	5.794	.000
$R=0.796$, $R^2=0.633$. Adjusted $R^2= 0.630$, Std Error = 0.616, F = 202.235, Sig =0.000						

There was a strong positive correlation (r=0.796) between project management practices and implementation of health projects in public hospitals. More specifically, the findings showed that project management practices account for 63.3% of project implementation. The findings therefore showed that project management practices contribute positively to implementation of health projects in public hospitals. The overall regression model was significant (F=202.235, P=0.000indicating that project management practices significantly predict project implementation.

Looking at the beta values in Table 6, project funding is the most influencing as it has the biggest beta value of the four. This implies that project funding is the most important of the four variables under investigation. The p values indicated the significance of the four variables. The findings showed that government policies (p=0.006), project planning (p=0.035) and funding (p=0.00) were significant. This means that the three variables significantly predict project implementation albeit variably as indicated by the beta values in the new model.

Discussion

The study found that there was a strong positive correlation (r=0.796) between project management practices and implementation of health projects in public hospitals. The findings showed that government policies (p=0.006), project planning (p=0.035) and funding (p=0.00) are significant. Project funding was the most important of the four variables under investigation. The findings therefore show that project management practices contribute positively to implementation of health projects in public hospitals. This was consistent with Alias *et al.* (2014) finding that project management practices are conditions when properly sustained, maintained, or managed, can have a significant impact on the success of a project. These findings are consistent with findings of Thomas and Martin (2014) finding that public service is plagued by an unusually high level of bureaucracy which makes the implementation of projects to be very challenging. This finding is also in agreement with Baldwin and Bordoli (2014) who stated that regardless of the definition chosen for project planning, it has the objective of achieving a number of common factors including the production of realistic schedules and costs, the completion of a project to defined standards of quality, design criteria, project resources, health and safety, and meeting projects stakeholders' expectations. The findings are in tandem with finding of Kiarie and Wanyoike (2016) that projects require financing to take off but government projects are still influenced by other factors including political interference and this reduces the influence of funding. In addition, the findings are in agreement with findings of Chuma and Okungu (2011) that the health sector is largely underfunded and health care contributions are regressive. This is in agreement with findings of Wambua (2013) who established that management, staff welfare issues, technical expertise and planning have varying effects on organization performance to the extent of implementation of the practice.

Conclusion

The study concluded that government polices negatively affect project implementation in public hospitals. Increased regulation by government leads to increased bureaucracy which limits smooth implementation of projects. The bureaucracy is most evident in funding where monies are allocated are not enough and the disbursement takes a long time leading to delayed project implementation. The study concludes that project planning positively affects project management in public hospitals. The study found that project planning was well executed in the participating public hospitals. This is because majority of the principles of project planning were adhered to such as scope definition, schedule development, resource planning, cost estimating and budgeting.

The study concluded that human resources do not affect project management in public hospitals. Although, project management observed proper recruitment, training and remuneration measures, motivation of project staff was not adequately catered for leading to reduced employee performance and reduced implementation albeit to a small extent. This may be attributed to the fact hospital projects use existing hospital staff as the planners and executers of the projects without additional remuneration or remuneration. The study concludes that funding negatively affects project implementation in public hospitals. In particular, the lack of adequate funding is a major impediment to successful project implementation. Further, delayed disbursement of funds owing to bureaucracy in the government limits timely initiation and therefore implementation of projects. Funding is a major problem especially because health projects are resource intensive and therefore a shortfall in funding greatly affects project implementation.

Recommendations

The study recommended that hospital management teams should be given more autonomy to plan and implement their projects free of control from the government and politicians. The study recommends that project management teams should enhance stakeholder participation to ensure customer satisfaction and ownership of the projects. The study recommends that project staff should be motivated by incentives such as bonuses on their salaries. The study also recommends that tendering processes in the government should be reviewed to reduce bureaucracy to timely initiation and therefore implementation of projects.

Limitations of the Study

The descriptive nature of the current study could only establish association but not causality between selected variables and project implementation. Generalization of the findings of the current study is limited because the study solely focuses on public hospitals in Nyeri County, which has a few hospitals as compared to the total number of hospitals in Kenya. Further, whereas there are many factors that may affect project implementation in public hospitals, this study only focused on government policies, planning, human resources and funding.

Suggestions for Further Study

The study was limited to a few hospitals; future studies should therefore use a bigger sample to enhance generalization of findings. The current study was conducted within Nyeri County; studies should be conducted in other counties and cross-county studies carried out to enable a deeper understanding of the effect of project management practices affecting effective implementation of health projects in public hospitals. Private hospitals should also be incorporated in future studies.

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