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**Influence of Project Teams on Performance of Nairobi County
Government Health Center Projects in Kenya**

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Abstract

Purpose: The aim of the study was to examine the influence of project teams on performance of Nairobi County Government health centre projects in Kenya.

Methodology: This study adopted descriptive research design. The study targeted 15 completed healthcare projects by NMS. The target population for the study was therefore 399 project management employees. The sample size was derived from the target population using Yamane's sample size determination formula. 1.9975. The 200 respondents were chosen with the help of stratified random sampling technique. The study's primary data was obtained using semi-structured questionnaires. Quantitative and qualitative data was generated from the closed-ended and open-ended questions, respectively. Qualitative data was analyzed on thematic basis and the findings provided in a narrative form. Inferential and descriptive statistics was employed for analysis of quantitative data with the assistance of Statistical Package for Social Sciences (SPSS version 25). The study results were presented through use of tables and figures.

Findings: The study revealed that there was a significant relationship between project team communication and performance and Nairobi County health projects. It was further concluded that the size of the project team membership is effective and team members are constituted based on skills and abilities. The study also found that team members have order and ranks and formal organization never gets the way on how the job gets done. There is a policy framework that guides the formation of project team in the county and the project team has a clear vision. It was also showed that project team has a clear mission and the project team has a clear definition of the task to be performed. It was also concluded that project team development contributes to the productivity of the employees and training contributes to the development of project teams.

Unique Contribution to Theory, Practice and Policy: The study was anchored on the human capital theory which was developed by Schutz (1961) and the theory of constraints which was propounded by created by Eliyahu Goldratt in 1984. It is recommended to establish a well-defined project structure with clearly defined roles, ensuring that each team member understands their responsibilities and how they contribute to the overall project goals. Regular communication and updates on roles and responsibilities should be maintained throughout the project lifecycle. It also recommended that project team should be comprise people with skills, expertise and diversity.

Keywords: *Project Teams, Health Centers Projects, Performance, Nairobi County Government*

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INTRODUCTION

Project manager roles falls into three separate areas of responsibilities: responsibility to project team, responsibility to project and client and responsibility to the organisation. In our case, responsibility to the project team depends on the team consisting of outsourced consultants or organisation's personnel. If the team constitute outsourced consultants, the outsourced firm appoints the project team leader, while, if the project team consists of internal staffs, project manager takes role of the team leader (Meredith & Mantel, 2016). Project team normally consists of members with diverse areas of specialization and in some instances different cultures and organisations. Better development of personal relationships and learning each team member strengths, has been identified to play a significant role to project success (Smith & Wilkins, 2016).

Teamwork is a characteristic of project management and implementation, where projects are delivered by various professionals. These professionals include specialists, material suppliers, quantity surveyors, contractors, architects and others like government planners and engineers (Winch, 2019; Chow, *et al.*, 2015). Clear goals are major elements of project success The scope of the project work is brought off in a much better way when goals are apparently defined and substantially understood and thus prospects of project and team success is increased (Rad & Levin, 2016; Parker, 2018). Project team efficacy may have important effects on project performance. Hence, performance of each activity, is a central task for members of the project team, especially empowered and self-managing teams (Gibson, 2019).

Global Perspective of Project Teams

Globally, despite the importance of project management, research on project team is still at infancy stage in globally (Meredith, 2017). For instance, in 2018, project management in the United States (US) was an \$ 1.850 trillion industry, with a predicted growth rate of 20% per annum (Bounds, 2018). With this amount of investment capital at stake, project team management in capital projects is vital. However, expensive failures abound due to lack of it. More than 15% of authorized projects run 50% or more over budget. Slow project execution due to lack of stakeholder's teamwork, may cause a product to be late to market, turning a promising investment opportunity into an expensive failure (Procter & Gamble, 2017).

In India, Mathieu *et al.*, (2018) established that due to their ability to more effectively respond to the dynamic and complex environments faced by organizations today, work teams have become increasingly prevalent. Gibson, Randel, and Earley (2015) affirmed that the achievement of the strategic objectives of the work groups is a well-studied topic unlike project teams; in project management, the teams are more relevant than groups.

According to Iranian Construction Company, teamwork is critical in the attainment of project objectives in that the responsibility of implementing various activities rests with project team members (Omid & Mehdi, 2016). By encouraging teamwork in projects, managers place team members in their right positions. As a result, team members feel valued hence, helps the team member feel more ingrained in the assignment (Aydin & Ceylan, 2019).

Cohan and Bailey (2017), showed that 85% of large organizations especially those with large number of employees have embraced teamwork. In this case, commitment of each team member towards a common purpose in a team is very crucial. It is therefore good for individuals to learn to work in a team environment so that they will have teamwork skill when they are engaged for a task. Also, studies have shown that employees learn best from tasks that are carried out in a social manner (Dunkerley, 2015)

Regional Perspective of Project Teams

Regionally, in Ethiopia, government-based endogenous projects have helped to revitalize local resources through team-work approaches that help in rediscovering and activation of local potentials thus creating employment and income generating opportunities for enhanced livelihoods (Desta, 2017). Similarly, projects in the country, similarly team work and stakeholders challenge and problems, have been associated with high failure rates of community-based projects, it has been revealed that 79.1 % of these projects fails to meet its objectives in Ethiopia and if completed it is with an average cost overrun of more than 26.2% (Tekalign, 2014).

A study carried out in Uganda hospitals showed that project teamwork plays a multitude of roles, in managing modern organizations. It emphasized that team members need to work closely, dedicate them to work and be willing to act accordingly. To resolve challenges that may arise, the team needs to be accorded support and resources to deal with them in a constructive manner (Tukahebwa, 2010).

In South Africa, teamwork is becoming lucrative business idea, and most organizations have work on team based approach responsibilities, whereas in Ethiopia 60 per cent of construction projects have adopted team-based structure that has proved to be effective. Team members support each other, besides deciding on a common approach to accomplish their task, resolve conflicts and make decisions (Gordon, 2017).

In most African countries, use of work teams or a group of employees with interdependent interactions and mutually-shared responsibilities, has improved dramatically during the past decade. A study conducted by Ondumune (2014) in Nigeria, indicated that over 40% of the 200 organizational units studied were using teams and over 50% had more than half of their employees working in teams. Lawler et al. (2015) proved the trend continues to gain momentum, where 60% of the 113 organizations studied in Ethiopia stated increments in their use of teams over the next decade. Only 3% plan to discontinue the use of teams

Local Perspective of Project Teams

Locally, in Kenya, it has been revealed that project team management is one of impediments to the success of many health centres projects. This has been attributed to low level of empowerment of project members (Oino, *et al.*, 2015). Poor management of teams and stakeholders is has led to inefficiencies and ineffectiveness of health centres projects. Whereas appropriate and effective team development approaches in some of these projects has increased individual's sense of determination in performing project tasks on project success (Mwaura & Ngugi, 2014). A good number of health centres projects have delayed in their completion thus postponing the realization of the intended benefits. Further, delays in completion of the health centres projects are attributed to team dynamics among the team members and stakeholders who run these projects (Teller & Kock, 2015).

From the study by Mungeria (2016), it was clear that, success of any activity carried out in a group relies on leadership skills by team leader. This is because in a team, very member possess" skills that are exhibited at the same time, therefore, it requires good leadership to ensure that members complement each other within the group. Consequently, complex work is achieved through combined efforts of all team members. It is therefore, important that a team leader acquire the skills necessary to lead the rest of the members in the group. By so doing, the team members will have good sense of direction and guidance and eventually result in success of the project.

Statement of the Problem

Performance of health projects remains a key challenge globally. Globally, a quarter of health care facilities lacked basic water services in 2019, exposing 1.8 billion people, including health care workers and patients, to greater risk of infections (UNICEF, 2022). Teams and their constituents are clearly one of the critical success factors in a project. Efficient project execution is a key business objective in many domains and particularly so for capital projects, however, existing research in the domain gives little direction about how project team factors influence project success. Further, the concept of teamwork is side-lined by most managers. Most project managers, do not see importance of teamwork approach as a way to boost project performance, this has led to poor performance of health centre projects (Molleman *et al.*, 2019).

In Nairobi County, there have been several unfinished health centre projects some are finished but never put into intended purpose (Nganga, 2017) despite the government allocating funds. For example, over the period from FY 2015/16 to FY 2019/20, the health sector was projected to cost KSh 1,103 billion and in financial year 2021/2022 the government set aside Ksh 47.7 billion to fund UHC programs and activities (Health Policy Project Report, 2020, 2021, 2022). There have been claims that the 15 newly built and commissioned Nairobi Metropolitan Service (NMS) hospitals lack drugs and personnel and patients have to queue for long to get services (Mbau, Kabia, Honda, *et al.* 2022). The biggest challenge the facilities faced is said to be poor management and therefore, the hospitals only operate between 8 am and 5 pm despite the President's directive to have them function for 24 hours (Mbau, Kabia, Honda, *et al.* 2022). In addition, there has been underperformance of the managerial department and some have argued that institutional capacity of the implementing organs need scrutiny (Ochieng' & Tubey, 2018). For example in Embakasi constituency for instance Kshs. 22 million (31% of its total allocation) assigned for health centres project were unaccounted for (EACC, 2020). It is therefore essential to establish how project teams influence performance of Nairobi County Government health centre projects

Despite problems facing performance of health centres projects, few studies have been directed on the topic. For instance, Assaf, *et al.*, (2019), studied impact of project teams on the performance of Saudi Construction Projects where it was showed there exists a positive and high correlation between team effectiveness and project success. However the study environment does not support our current study. Munyaburanga (2017), conducted a case study of Ibyiringiro project, where teamwork and project implementation in non-profit projects in Rwanda, was studied. The study revealed that organizations with high performing teams have a greater chance of sustaining superior performance over time. Locally in Kenya, Waweru (2018) conducted a case study of road construction in Kericho County, where the influence of teamwork approach on project performance was examined. Nevertheless, none of these studies focused on the influence of project teams on performance of Nairobi County Government health centre projects in Kenya. To fill the highlighted gaps, the current study seeks to examine the influence of project teams on performance of Nairobi County Government health centre projects in Kenya.

Theoretical Review

Human Capital Theory

The human capital theory was developed by Schutz (1961) and extended by Becker (1964). The theory holds that the knowledge and skills possessed by the employees can be improved through training and education. In addition, the theory argues that organization employees are

not an expense to the organization but are assets having the capability of adding value to the organization and also giving essential contribution to the organization hence ensuring its survival in a very competitive environment (Pope, 2016).

The components of human capital entail the intellectual capacity (the unique knowledge as well as skills possessed by the employees), the social capital (which comprises of the flexible networks of the employees which allows the company to link with others hence facilitating diverse knowledge), the organizational capital (which comprises of the knowledge which the company owns and has stored in its manuals and database). Hogarh (2016) holds that emotional capital is concerned with the ability to change the potential in the intellectual capital into real action. Sutherland, Wachira, Gakure and Orwa (2016) indicate that organization employees possess a significant organizational value. However, when the employees leave the organization, they take with them the organizational value they possess. Therefore, organizational value is created by the knowledge, the skills as well as the individual abilities to create value. As a result, organizations should focus on how to attract, retain, develop and maintain human capital (Ebenezer & Tamatey, 2017). For the National Government water and sanitation projects to function effectively, the human resource (project team) should possess good monitoring and evaluation skills, better training and adequate experience in their area of expertise. This study will therefore use human capital theory to establish the influence team development on the performance of Nairobi County Government health centre projects in Kenya. Human capital theory argues that the knowledge and skills possessed by the employees can be improved through training and education. This implies that through training and education project teams can improve their productivity.

The Contingency Theory

The theory of constraints is a set of management tools created by Eliyahu Goldratt in 1984. The theory is applicable in many areas including project management and performance measurement among many others (Blackstone, 2010). The theory helps organizations to identify the most important constraints or bottlenecks in their processes and systems, and dealing with them in order to improve performance. According to Goldratt (2017), organizational performance is dictated by constraints present in processes and systems. Constraints are restrictions that hinder an organization from maximizing its performance and achieving its goals and objectives (Goldratt, 2018). He states that constraints can involve policies, equipment, information, supplies or even people, and can be either internal or external to an organization.

Theory of constraints can be applied in conjunction with other management techniques such as total quality management and risk management to ensure a comprehensive set of techniques that ensure continuous improvement in all areas of operation in an organization (Goldratt, 2018). Organizations use this for control and assessment based on their configuration. Managers can track and respond using both feedback mechanisms that is the bottomup and top-down in many ways. In some organizations, monitoring and evaluation may be automated. In the various stages of the project life cycle, companies also use various tracking and assessment methods (Otley, 2016)

Programs depend on the settings of the stakeholders and their actions. The key to the success of a program creativities is depended on how well it manages relationships with key stakeholders, which includes clients, staff, vendors, families, contributors and others, who which influence the goals achievement (Joslin, 2019) This theory will therefore be used to

establish the influence of team attributes on the performance of Nairobi County Government health centre projects in Kenya. The theory helps organizations to identify the most important constraints or bottlenecks in their processes and systems, and dealing with them in order to improve performance.

Empirical Review

In South Africa, Nyandongo and Maralise (2015) conducted a study on the impact of communication on project performance. A quantitative research approach was used to gain insight into current communication practices in the project management industry. A survey in the form of a questionnaire was distributed to a sample population consisting of professionals involved in project management. A response rate of 70, 7% participation was received and analysed using the e-survey creator on-line tool and statistical analysis using SPSS. The purpose of the survey was to test the evidence in the literature in order to answer the research objectives. The results indicated that there was a strong positive relationship between communication and project outcomes. Communication increases success rates and improves the overall performance of projects. The vital role of communication is clearly recognised as indicated by the empirical evidence gathered from the survey. The tools and techniques required to manage communication successfully are identified together with the Information Communication technology (ICT) support tools. Moreover, the results have established that project managers who regard communication as one of the most important factors contributing to the success of projects, have achieved higher success rate in their projects than the other participants. The high success rate seen on their projects is perceived as a direct result of effective communication.

Yakubu, Ogunsanmi and Yakubu (2015) conducted a study on the influence of communication problems on project performance in Nigeria. The aim of the study reported here is to assess communication problems in construction projects from the perspective of construction contractors. A large quantitative approach was adopted. This entailed the use of questionnaires to collect information on the perception of respondent on the study's objectives. The findings of the study suggest that a positive relationship exist between non-effective communication and project performance. Based on the findings, it is suggested that the use of face-to-face communication will ensure that problems are resolved faster.

Lee, & Billy, (2013) conducted a study to assess Team attributes and performance of operational service teams: An empirical taxonomy development. In the study, operational service teams' attribute patterns and their associated performance levels were examined using a configuration approach. Based on the data collected from 201 operational service teams in Hong Kong and Macao (China), an empirical taxonomy was developed, comprising team attributes including team use, organizational support, clear goals, collaborative climate, coercive influence and adaptation difficulty. The taxonomy indicated that there were three attribute patterns among the sample teams. The analyzed results indicated that the sample teams of different attribute patterns achieved markedly different levels of team performance. The study contributed to the literature by providing empirical evidence that team attributes and their combined patterns were determinants of operational service teams' performance. It also contributed to practitioners by reporting the current status of operational service team management and offering guidelines on enhancement of team performance.

Cameran, Ditillo and Pettinicchio (2018) conducted a study on audit Team attributes matter. Using private data from two of the Big 4 audit firms, the researcher sought to fill this gap and

document how attributes of audit teams influences audit quality. By combining the existing work in psychology and sociology with that in auditing, we develop our model by arguing that teams are composed not simply of single auditors but of sub-teams of individuals whose various combinations affect team performance. Starting from this premise, the study assessed how the attributes of audit teams in terms of the different mix of work assigned to staff, seniors, managers, and partners' influences audit quality and how this effect varies depending upon years of tenure. We also show that the proportion of leading auditors characterized by a common educational background and the percentage of female leading auditors affect audit quality. As an additional analysis, we examine how team diversity affects audit efficiency. The same elements found relevant for audit quality also affect audit efficiency.

Fung and Cheng (2015) conducted a study on the Influence of Team Building & Participation on Team Trust, Team Cohesion and Project Performance among Project Managers in Malaysia. Based on the data collected and analysis conducted, this study provides empirical evidence that project managers need to initiate more team building & participation sessions as these can increase the team trust and improve the project performance. Moreover, project managers also need to promote team trust as this can improve team cohesion. However, project managers also need to be mindful about the negative consequence when their project teams are too cohesive. At the same time project managers need to manoeuvre wisely the project team size and project duration so that these two factors are not negatively impacting the team cohesion and the project performance.

Shair (2016) conducted a study on the influence of project management skills of staff on performance of government funded projects in Kenya. The research adopted Descriptive survey research design with a view of collecting information through administering questionnaires and interviews to the sampled respondents. The population of this study was 500 out of which a sample of 217 respondents was selected using Krejcie and Morgan (1970) table for determining sample size, at the confidence interval of 0.05 and confidence level of 95%. The study employed stratified and simple random sampling technique. Data collected was analysed using SPSS to generate both descriptive and inferential statistics. The findings of the study were presented using table, charts and explanation was given in prose form. The study found out those employees at KKV were not recruited based on experience from similar projects, training of employees was not done on a regular basis and that employees did not transfer knowledge gained from the training to the work place. The study also established that there was no internal financial control system at KKV and that each task was not well budgeted. The study revealed that there was no tracking of implementation schedules and activities, there was no regular evaluation of project progress and that there were no periodic monitoring reports generated. Risk identification checklists were in place and were developed based on historical information

Hao and Yan (2020) conducted a study on the influence of team structure on organization performance. Teams are more or less structured in function. Whether team structure is beneficial or harmful for the teams entail debates in current literature. Past studies mainly investigate the effects of team structure through learning or creativity. This study tends to examine the effect of team structure on team performance through team coordination. The study conducted two independent field studies with samples of 56 and 67 work teams to test our hypotheses. In both two sub studies, the study found team structure positively affects team performance by improving team coordination. Moreover, the study found team longevity was able to moderate the relationship between team structure and team performance through team

coordination, such that the positive relationship between team structure and team coordination were more significant when team longevity was high rather than low.

Mwakajo and Kidombo (2017) conducted a study on the factors influencing project performance: a case of county road infrastructural projects in Manyatta constituency, Embu County, Kenya. This research used a descriptive survey design and targets a population 153 which include Active road contractors, contracted staff, directors, Engineers, Technical staff and clerical and support staff. The researcher only sampled Active road contractors using simple random sampling method. The sample size was determined by using Yamane formula. The study used 126 respondents as a total sample size including active road contractors. Data was collected using semi structured questionnaire. Frequency and percentages was used for the descriptive data. The study established that project team structure influence project performance.

Research Gaps

Although various studies have been conducted on the influence of project teams and project performance, these studies were limited to different countries and contexts. For instance; Hartono, Dzulfikar and Damayanti (2020) conducted a study on the impact of project team and conflict on project performance in Indonesian start-ups. In South Africa, Nyandongo and Maralise (2015) conducted a study on the impact of project teams on project performance. Yakubu, Ogunsanmi and Yakubu (2015) conducted a study on the influence of project team problems on project performance in Nigeria. Nevertheless, countries differ in terms of economic development, institutional frameworks and legal frameworks hence the study findings cannot be generalized to the current study.

In Kenya, Shair (2016) conducted a study on the influence of project management skills of staff on performance of government funded projects. Mwakajo and Kidombo (2017) conducted a study on the factors influencing project performance: a case of county road infrastructural projects in Manyatta constituency, Embu County, Kenya. Nevertheless, none of these studies focused on the influence of project teams on performance of Nairobi County Government health centre projects in Kenya. To fill the highlighted gaps, the current study seeks to examine the influence of project teams on performance of Nairobi County Government health centre projects in Kenya.

METHODOLOGY

This study adopted descriptive research design. The study targeted 15 completed healthcare projects by NMS. The target population for the study was therefore 399 project management employees. The sample size was derived from the target population using Yamane's sample size determination formula. 1.9975. The 200 respondents were chosen with the help of stratified random sampling technique. The study used primary data. The study's primary data was obtained using semi-structured questionnaires. The researcher carried out a pilot study to ensure the data collection tool is reliable and valid. Quantitative and qualitative data was generated from the closed-ended and open-ended questions, respectively. Qualitative data was analyzed on thematic basis and the findings provided in a narrative form. Before the data could be analyzed, the researcher ensured the data was checked for completeness, followed by data editing, data coding, data entry and data cleaning. Inferential and descriptive statistics was employed for analysis of quantitative data with the assistance of Statistical Package for Social Sciences (SPSS version 25). Data analysis was done through use of descriptive statistics and inferential statistics. Inferential data analysis was conducted by use of Pearson correlation

coefficient, and multiple regression analysis. The study results were presented through use of tables and figures.

RESULTS

Descriptive Statistics of Variables

This section presents the descriptive statistics on project performance, project team communication, project team attributes, project team structure and project team development

Project Team Communication

On the first independent variable the respondents were asked to indicate the extent in which they agree with the various statements on project team communication on project performance. The following scale was used: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral 4 = Agree and 5 = Strongly Agree.

Table 1: Project Team Communication

Opinion Statements	Mean	Std. Deviation
There is clarity in communication of project implementation information among the team members	4.1026	.94018
The frequency of communication among the project members on project progress is satisfactory	4.0000	.97333
The methods of communication across the teams and among team members is effective	3.9231	1.17842
The external and internal communication by the project team is targeted communication	3.9231	1.22226
Most of communication is formal and documented	3.8718	1.23926
The team holds frequent meetings during project implementation	3.6154	1.28995
Overall	3.9060	1.14056

The respondents strongly agreed that there is clarity in communication of project implementation information among the team members with (M=4.1026; SD=0.94018) and they strongly agreed that the frequency of communication among the project members on project progress is satisfactory with (M=4.0000; SD=0.97333). The respondents agreed that the methods of communication across the teams and among team members is effective with (M=3.9231; SD=1.17842) and they agreed that the external and internal communication by the project team is targeted communication with (M=3.9231; SD=1.22226). The respondents further agreed that the external and internal communication by the project team is targeted communication with (M=3.8718; SD=1.23926) and finally they agreed that most of communication is formal and documented with (M=3.6154; SD=1.28995). The overall mean of 3.9060 and standard deviation of 1.14056, which implied that majority of the respondents agreed that project team communication affects Nairobi County project performance and there was a high variation from the mean, since standard deviation is greater than 1.

Project Team Attributes

On the second independent variable the respondents were asked to indicate the extent in which they agree with the various statements on project team attributes on project performance. The following scale was used: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral 4 = Agree and 5 = Strongly Agree.

Table 2: Project Team Attributes

Opinion Statements	Mean	Std. Deviation
The size of the project team membership is effective	4.3590	1.03840
The team members are constituted based on skills and abilities	4.2821	.88700
Project team members have prior experience for the assignment appointed to serve	4.1538	1.13644
Team members are committed to meetings, project reviews and organisation	4.0769	1.01007
Team attributes and their combined patterns were determinants of operational service teams' performance	4.0256	1.03840
Team attributes is determined by the years of tenure	3.8462	1.06471
Overall	4.12391	1.02917

The respondents strongly agreed that the size of the project team membership is effective with (M=4.3590; SD=1.03840) and they strongly agreed that the team members were constituted based on skills and abilities with (M=4.2821; SD=0.88700). The respondents further strongly agreed that project team members have prior experience for the assignment appointed to serve with (M=4.1538; SD=1.13644) and they strongly agreed that team members are committed to meetings, project reviews and organisation with (M=4.0769; SD=1.01007). The respondents finally strongly agreed that team attributes and their combined patterns were determinants of operational service teams' performance with (M=4.0256; SD=1.03840). Finally, the respondents agreed that team attributes were determined by the years of tenure with (M=3.8462; SD=1.06471). The overall and mean of 4.1239 and standard deviation of 1.02917, implied that majority of the respondents agreed that respondents agreed that project team attributes affects project performance and there was a high variation from the mean since standard deviation was greater than 1.

Project Team Structure

On the third independent variable the respondents were asked to indicate the extent in which they agree with the various statements on project team structure and project performance. The following scale was used: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral 4 = Agree and 5 = Strongly Agree.

Table 3: Project Team Structure

Opinion Statements	Mean	Std. Deviation
There is a clear authority of team members	4.1538	1.06471
Team members have clear role in the implementation of project	4.1282	1.00471
The team members have order and ranks	4.0769	.95655
Formal organization never gets the way on how the job gets done.	4.0769	.92863
Employees of the project can easily get in touch with one another	4.0513	.99865
Employees are involved in the decision-making process	3.6410	1.18070
Overall	4.0213	1.02233

The respondents strongly agreed that there is a clear authority of team members with (M=4.1538; SD=1.06471) and they strongly agreed that team members have clear role in the implementation of project with (M=4.1282; SD=1.00471). The respondents further strongly agreed that the team members have order and ranks with (M=4.0769; SD=0.95655) and they

strongly agreed that formal organization never gets the way on how the job gets done with (M=4.0769; SD=0.92863). The respondents strongly agreed that employees are involved in the decision-making process with (M=4.0513; SD=0.99865). Finally, the respondents agreed that employees of the project can easily get in touch with one another with (M=3.6410; SD=1.18070). The overall mean of 4.0213 and standard deviation of 1.02233, which implied that majority of the respondents agreed that project team structure affects project performance and there was a high variation from the mean since standard deviation was greater than 1.

Project Team Development

On the last independent variable, the respondents were asked to indicate the extent in which they agree with the various statements on the project team development in relation to project performance. The following scale was used: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral 4 = Agree and 5 = Strongly Agree.

Table 4: Project Team Development

Opinion Statements	Mean	Std. Deviation
There is a policy framework that guides the formation of project team in the county	3.3118	1.12268
The project team has a clear vision	3.1828	1.02094
The project team has a clear mission	2.9892	1.13726
The project team has a clear definition of the task to be performed	2.9785	1.34309
Project team development contributes to the productivity of the employees	2.6667	1.16408
Training contributes to the development of project teams	2.5806	1.07666
Overall	2.9516	1.14411

The respondents agreed that there was a policy framework that guides the formation of project team in the county with (M=3.3118; SD=1.12268) and they further agreed that the project team has a clear vision with (M=3.1828; SD=1.02094). The respondents were neutral on the statements that the project team has a clear mission with (M=2.9892; SD= 1.13726) and the project team has a clear definition of the task to be performed with (M=2.9785; SD=1.34309). The respondents were project team development contributes to the productivity of the employees with (M=2.6667; SD=1.16408) and they were finally neutral that training contributes to the development of project teams with (M=2.5806; SD=1.07666). On the overall mean of 2.9516 and standard deviation of 1.14411, implied that majority of the respondents agreed that project team development affects performance Nairobi County projects, and there was a strong variation from the mean since standard deviation was greater than 1.

Performance of Health Projects

On the dependent variable the respondents were asked to indicate the extent in which they agree with the various statements on performance of Nairobi County health projects. The following scale was used: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral 4 = Agree and 5 = Strongly Agree.

Table 5: Performance of Health Projects

Opinion Statements	Mean	Std. Deviation
Health Projects have been effectively completed over the last 5 years	4.3333	.52981
Health Project have effectively adhered to time schedule	4.2564	.84970
Health Project have effectively complied with the budget/cost	4.2051	.76707
There has been timely acknowledgement and respond to project issues	4.1795	.82308
Health Project have effectively adhered to project phases	4.1538	.93298
Performance of health projects remains a key challenge to the county	3.8718	1.00471
Overall	4.1667	.81789

The analysis indicated the respondents strongly agreed health projects have been effectively completed over the last 5 years with (M=4.3333; SD=0.52981) and they also strongly agreed that health project have effectively adhered to time schedule with (M=4.2564; SD= 0.84970). The respondents further strongly agreed that health project have effectively complied with the budget/cost with (M=4.2051; SD=0.76707) and they strongly agreed that there has been timely acknowledgement and respond to project issues with (M=4.1795; SD=0.82308). The respondents finally strongly agreed that health project have effectively adhered to project phases with (M=4.1538; SD=0.93298). Finally, the respondents agreed that performance of health projects remains a key challenge to the county. The overall mean of 4.1667 and standard deviation of 0.81789 indicated that majority of the respondents strongly agreed that performance of the health projects was affected by project team.

Regression Assumptions

Prior to running a multiple regression analysis and correlation analysis, normality, homoscedascity and multi-collinearity tests was done. This was performed to avoid spurious regression results from being obtained.

Normality Test

Normality of the distribution was assessed using statistical method. Shapiro Wilk was used to test normality of the data because it can handle sample sizes as large as 2000. This study adopted Shapiro-Wilk test owing to its higher power compared with Kolmogorov-Smirnov test as recommended by Ghasemi and Zahedisl (2012).

Table 5: Shapiro-Wilk Tests

Variable	Statistics	df	Sig
Project Team Communication	.934	144	.132
Project Team Attributes	.968	144	.881
Project Team Structure	.971	144	.691
Project Team Development	.960	144	.433
Performance of Health Projects	.958	144	.393

According to Ghozali (2015), normality can be detected by looking at the p-value of Shapiro-Wilk test. If the p-value is greater than the 5% significance level, the residuals are considered as normally distributed. If it is below 0.05, the data significantly deviate from a normal distribution. Table 4.15, where Shapiro Wilk test performed showed that the p-values range from 0.132 - 0.881 which were greater than 0.05, hence the data was normally distributed.

Serial Autocorrelation Test

Durbin-Watson statistics was used to test the presence of serial correlation among the residuals, the assumption of independence of errors, which required that the residuals or errors in prediction do not follow a pattern from case to case. The value of the Durbin-Watson statistic used to test independence and variance ranges from 0 to 4 and as a rule of thumb, the residuals are not correlated if the Durbin-Watson statistic is approximately 2 and an acceptable range is 1.50-2.50 (Hair *et al.*, 2016). However, the acceptable values in Durbin and Watson's (1951) original paper as a very conservative rule of thumb, values less than 1 or greater than 3 are definitely cause for concern. The Durbin- Watson statistic was shown in Table 4.16, was 1.845, which was within the acceptable range indicating that the residuals were not correlated.

Multi-Collinearity

This term is used to describe the inter-correlations or inter-associations among the in variables. Thus, Multi-collinearity occurs when more than two independent variables are highly correlated (Cooper & Schindler, 2016). Multi-collinearity can be detected with the help of tolerance and its reciprocal variance inflation factor (VIF). Tolerance should be above 0.20 (Menard, 2005) and this was the cut-off value for this study. It is clear that serious multi-collinearity occurs when the value of tolerance is smaller than 0.10 and the value of VIF is greater than 10 (Ghozali, 2015).

Table 6: Multi-Collinearity for the Study Variables

Variables	Collinearity Statistics	
	Tolerance	VIF
Project Team Communication	.940	1.052
Project Team Attributes	.910	1.086
Project Team Structure	.887	1.125
Project Team Development	.916	1.090

All variables had tolerance values of above 0.2 and VIF of less than 10. This indicated that multi-collinearity among variables was not a problem and the proposed model in chapter three was valid. Admittedly, all the variables used in the multiple regressions' models had the tolerance values of above 0.20 showing multi-collinearity was not a problem in this study as indicated in Table 6.

Pearson Correlation

Pearson correlation analysis was carried out to test the theoretical proposition regarding relationships among the independent variables (project team communication, project team attributes, project team structure and project team development) and dependent variable (health project performance).

Table 7: Pearson Correlation

		X1	X2	X3	X4	Y
X1	Pearson Correlation	1				
	Sig. (2-tailed)					
X2	Pearson Correlation	.630**	1			
	Sig. (2-tailed)	.000				
X3	Pearson Correlation	.376**	.343**	1		
	Sig. (2-tailed)	.000	.001			
X4	Pearson Correlation	.423**	.194	.294**	1	
	Sig. (2-tailed)	.000	.062	.004		
Y	Pearson Correlation	.140	.128	.112	.201	1
	Sig. (2-tailed)	.003	.008	.007	.004	
	N	144	144	144	144	144

where x1= project team communication x2= project team attributes, x3= project team structure X4= project team development, Y= health projects performance.

Table 4.15 showed that on the relationship between project team communication and health projects performance, it was determined that ($r=0.140$; $p=0.003$), which implied there was weak positive significant relationship between project team communication and health projects performance since $p\text{-value} < 0.01$. It was also determined that on the relationship between project team attributes and health projects performance ($r=0.128$; $p=0.008$), which meant that there was a weak positive and significant relationship between project team attributes and health projects performance since $p\text{-value} < 0.01$. Further, on the relationship between project team structure and project team performance, it was determined that ($r=0.112$; $p=0.007$), which implied that there was weak significant positive relationship between project team structure and project team performance. Finally, on the relationship between project team development and health projects performance it was determined that ($r=0.201$; $p=0.004$), which implied that there was a weak positive and significant relationship between project team development and health projects performance, since $p\text{-value} < 0.01$.

Regression Analysis

At this point multiple linear regression analysis was conducted to establish the causal relationship with the study variables.

Coefficient of Determination

To determine variation of performance of health projects that can be explained using the independent variables and the fitness of equation 3.1 in chapter three, R^2 was determined.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std Error of Estimate	Durbin Watson
1	.922 ^a	.851	.844	.387	1.845

The analysis indicated there a strong positive relationship between the project teams and health project performance ($r=0.922$) The analysis further showed an adjusted r^2 of 0.844, which implied that project team constructs (project team communication, project team attributes, project team structure and project team development) can explain only 84.4% of performance of Nairobi County Health Projects.

Analysis of Variance

To determine the significance of the project teams and performance of Nairobi County health projects and significance of equation 3.1, the study used ANOVA analysis.

Table 9: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	218.53	4	72.84	167.01	.000 ^b
	Residual	38.379	139	0.436		
Total		256.909	143			

The ANOVA model showed ($F_{4,88} = 167.01$; $p=0.000$), the analysis indicated that the model was statistically significant since $p\text{-value} < 0.05$ and hence equation 3.1 was significant. Hence the project team constructs (project team communication, project team attributes, project team structure and project team development) significantly determines health projects performance.

Regression Coefficient

A regression coefficient was carried out in order to explain the nature and relationship between each independent variables and dependent variable.

Table 10: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	1.083	0.266			0.000
X1	0.127	0.062	0.114	2.037	0.044
X2	0.218	0.077	0.336	2.741	0.007
X3	0.173	0.057	0.122	3.045	0.003
X4	0.210	0.067	0.316	3.134	0.023

Based on the regression coefficient table, the optimal regression equation 3.1 becomes:

$$Y = 1.083 + 0.127X_1 + 0.218X_2 + 0.173X_3 + 0.210X_4 + 0.387$$

Where

Y= Performance of Health Projects

X₁= Project Team Communication

X₂= Project Team Attributes

X₃= Project Team Structure

X₄ = Project Team Development

Table 10 showed that project team communication and performance of health projects were positively and significantly related ($\beta=0.127$; $t=2.037$; $p=0.044$) which implies that a unit improvement in project team communication will lead to a significant 12.7% improvement in health project performance. Further the analysis showed that there was a positive and significant between project team attributes and performance of health projects ($\beta=0.218$; $t=2.741$; $p=0.007$), which implied that a unit improvement in project team attributes will lead

to significant 21.8% improvement in health projects performance. Further, on the relationship between project team attributes and health projects performance as ($\beta=0.173$; $t=3.045$; $p=0.003$), which implied that a unit improvement of project team attributes will lead significantly contributes to 17.3% improvement of health projects performance. Finally, on the relationship between project team development and health projects performance it was determined that ($\beta=0.210$; $t=3.016$; $p=0.023$), this implied that a unit improvement of project team development would lead to 21% significant improvement to health projects performance.

SUMMARY, CONCLUSION AND RECOMMENDATION

Summary

Based on the study analysis, it was determined that there was a significant relationship between project team communication and performance and Nairobi County health projects. The study found that there was clarity in communication of project implementation information among the team members and the frequency of communication among the project members on project progress is satisfactory. It was also determined that methods of communication across the teams and among team members is effective and external and internal communication by the project team is targeted communication. The study also showed that most of communication is formal and documented and team holds frequent meetings during project implementation.

The study also showed there was a significant relationship between project team attributes and performance of Nairobi County health projects. It was further showed that the size of the project team membership is effective and team members are constituted based on skills and abilities. It was also showed that project team members have prior experience for the assignment appointed to serve and team members are committed to meetings, project reviews and organisation. It was also revealed that team attributes and their combined patterns were determinants of operational service teams' performance and it is determined by the years of tenure.

On the third research question, it was determined that project team structure significantly affects performance of Nairobi County health projects. It was determined that there was a clear authority of team members and team members have clear role in the implementation of project. The study also found that team members have order and ranks and formal organization never gets the way on how the job gets done. The study also found that employees of the project can easily get in touch with one another and they are involved in the decision-making process.

On the final research question, it was determined that project team development significantly affects performance of Nairobi County health projects. It was determined that there is a policy framework that guides the formation of project team in the county and the project team has a clear vision. It was also showed that project team has a clear mission and the project team has a clear definition of the task to be performed. It was also showed that project team development contributes to the productivity of the employees and training contributes to the development of project teams.

Conclusion

Based on the study analysis, it was determined that there was a significant relationship between project team communication and performance and Nairobi County health projects. The study concluded that there was clarity in communication of project implementation information among the team members and the frequency of communication among the project members on project progress is satisfactory. It was also concluded that methods of communication across

the teams and among team members is effective and external and internal communication by the project team is targeted communication. The study also concluded that most of communication is formal and documented and team holds frequent meetings during project implementation.

The study also concluded there was a significant relationship between project team attributes and performance of Nairobi County health projects. It was further concluded that the size of the project team membership is effective and team members are constituted based on skills and abilities. It was also concluded that project team members have prior experience for the assignment appointed to serve and team members are committed to meetings, project reviews and organisation. It was also concluded that team attributes and their combined patterns were determinants of operational service teams' performance and it is determined by the years of tenure.

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Recommendations

Create a structured communication plan that outlines the channels, tools, and protocols to be used for project-related discussions. This plan should include regular team meetings, email updates, project management software, and other collaborative platforms to ensure consistent and timely information exchange. Encourage team members to express their thoughts, concerns, and ideas openly. Develop an environment where everyone feels comfortable sharing their perspectives and contributing to the project. Establish regular feedback sessions to address any communication gaps and improve collaboration. Clearly define the roles and responsibilities of each team member to avoid confusion and overlap. Clearly communicate expectations, deadlines, and deliverables for each role. This will help in streamlining communication and ensuring that everyone understands their responsibilities.

One of the crucial factors for the success of any project is a clear understanding of individual roles and responsibilities within the project team. It is recommended to establish a well-defined project structure with clearly defined roles, ensuring that each team member understands their responsibilities and how they contribute to the overall project goals. Regular communication and updates on roles and responsibilities should be maintained throughout the project lifecycle. Effective communication is vital for project success. Establish a communication plan that outlines the channels, frequency, and methods of communication within the project team. Encourage open and transparent communication, where team members can freely share ideas,

concerns, and progress updates. Regular team meetings, progress reports, and feedback sessions should be conducted to ensure everyone is on the same page and aligned towards the project objectives

The study recommended that identification of different project team structures commonly used in Nairobi County health projects. Analysis of the performance indicators of Nairobi County health projects, such as cost, quality, timeliness, and stakeholder satisfaction. Determination of the relationship between project team structure and project performance. Identification of critical factors influencing the effectiveness of project team structures in Nairobi County health projects. Recommendations for optimizing project team structure to enhance the performance of Nairobi County health project.

To ensure project success, it is crucial to establish clear and measurable goals and objectives from the outset. Clearly define the project scope, deliverables, and expected outcomes. This will provide a sense of direction to the project team and enable them to align their efforts towards a common vision. Forming a project team with the right mix of skills, expertise, and diversity is essential. Consider the specific requirements of each project and ensure that team members possess the necessary technical knowledge and experience. Additionally, strive for diversity in terms of backgrounds, perspectives, and roles within the team to foster creativity, collaboration, and innovation.

Suggestions for Further Studies

Comparative analysis of project team performance: A comparative analysis of the performance of project teams in different health centres within the Nairobi County Government could be conducted. This study could compare the performance of project teams in successful projects versus unsuccessful projects and identify the factors that contribute to the success or failure of the projects. **Impact of leadership styles on project team performance:** Another area of further study could be the impact of leadership styles on project team performance. This study could examine the different leadership styles used in managing project teams and their impact on team motivation, performance, and project outcomes.

Analysis of project team composition and diversity: The composition and diversity of project teams could also be an area of further study. This study could examine how project team diversity affects team performance and project outcomes. It could also explore the impact of team composition (such as the size of the team, the roles of team members, and the level of experience) on project performance. **Exploration of project management methodologies:** Further studies could be conducted to explore the impact of different project management methodologies on project team performance. This study could examine how the use of agile project management methodologies versus traditional project management methodologies affects team performance, communication, and project outcomes. **Study of project team motivation and job satisfaction:** Lastly, a study could be conducted on the impact of project team motivation and job satisfaction on project performance. This study could explore the factors that motivate project team members, their level of job satisfaction, and how these factors impact team performance and project outcomes.

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