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DATA ANALYTICS AND PROJECT MANAGEMENT PERFORMANCE IN NON-GOVERNMENT ORGANIZATIONS IN NAIROBI COUNTY, KENYA

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ABSTRACT

The main focus of this study was to establish the influence of data analytics on project performance in non-government organizations in Nairobi County, Kenya. Specifically, the study sought to determine the influence of quality data on project performance in non-government organizations in Nairobi County, Kenya and to analyze the influence of risk management on project performance in non-government organizations in Nairobi County, Kenya. This study used descriptive research design. This study targeted 325 registered NGOs in Nairobi County. The NGOs were the unit of analysis while senior managers formed the unit of analysis. The senior project managers were selected because they handle the organization decisions and are therefore well conversant with the influence of monitoring and evaluation data on project performance. The target population was 325 senior project managers in NGOs in Nairobi County. The study's sample size was reached at using Krejcie and Morgan sample size determination formula. The study used simple random sampling to select 176 respondents. This study also used questionnaire to collect data relevant to this study. Quantitative data collected was analyzed using descriptive statistical techniques which are frequencies, mean, standard deviation. Inferential statistics which include Pearson correlation and the Regression Analysis Model were used to test the relationship between study variables. The significance of the model will be tested at 5% level of significance. Data was analysed using Statistical Package for Social Sciences (SPSS) software. The study results were presented through use of tables and figures. The study findings unveiled significant relationship between key variables and project performance in non-government organizations (NGOs) in Nairobi County, Kenya. Regression analysis demonstrated that quality data ($\beta = 0.371$, $p < 0.05$), and risk management ($\beta = 0.238$, $p < 0.05$) all significantly influence project performance. These findings underscore the importance of robust management practices, including strategic risk mitigation, data-driven decision-making, and alignment with organizational objectives, in optimizing project outcomes within the NGO sector in Nairobi County, Kenya. Therefore, the study concludes that a holistic approach that integrates these factors is essential for enhancing project performance and achieving desired outcomes within NGOs in Nairobi County, Kenya.

Key Words: Data Analytics, Project Performance, Non-Government Organizations, Quality Data, Risk Management

Background of the Study

Data analytics is a process of examining, cleaning, transforming, and modeling data to discover valuable insights, support decision-making, and identify trends and patterns (Mugo & Oleche, 2019). It involves the use of various techniques, tools, and technologies to extract meaningful information from data, whether structured (e.g., databases) or unstructured (e.g., text or social media posts) (Devex, 2019). It has been a common belief that non-governmental organisations contribute immensely to community development through projects and programs over the years. However, despite their place in society they face myriad of challenges including lack of funds, lack of transparency, inability to account for resources and demand to demonstrate results (Kotze, 2017). Faced with financial constraints and demand to demonstrate impacts, monitoring and evaluation (M&E) practices have in the recent past been extensively embraced in various fields by non-governmental organizations to ensure achievement of highly sustainable projects outcomes and goals (Mugo & Oleche, 2019).

The World Bank Group demanded inclusion of data analytics in all projects it funds (FAO, 2019). There has been widespread use of M&E practices because they are critical components in project management to assist all the stakeholders involved to be able to assess whether an on-going project is on track to achieve the expected benefits (Mugo & Oleche, 2017). As noted by FAO (2019), M&E is an important element in cycle of the projects among development agencies. Patton (2017) sums it up that project M&E practices form a fundamental part of all successful projects.

The non-governmental sector in the world continues to be a major contributor to national socio-economic development. It continues to offer the saving hand to many people with no basic health services, food, education and clothing in times of emergency (Roy, Raquib & Sarker, 2017). In Kenya, NGOs are depicted as indispensable shareholders providing services and common basic necessities (Oyugi, 2018). Devex, an employment bureau, notes that as of 2019, NGOs employed more than 290,000 full-time employees and volunteers. It further alludes to that the NGO sector brings to Kenya more than KSh100 billion and provides about 45% of all health services (Devex, 2019). Despite the important role of NGOs in Kenya, majority of them still fail. Recent studies point to M&E as a critical factor that if not well-tackled, leads to project failure. This study will therefore seek to establish the influence of data analytics on project performance in NGO's in Nairobi County.

Statement of the Problem

Project performance is the most important confirmation that project funds have been utilized appropriately to deliver the project goals and targets. However, many projects still fail to achieve and realize expected benefits (Baily et al 2018). Across the world, project failures have often been reported more than project success. Standish Group (2019) published that in the USA, only 32% projects succeed, 44% were challenged and 24% of projects failed. Stewart (2017) further claimed that only 25% of projects remain successful. Moreover, in developing countries, project failure is more alarming (Haughey, 2019). It has also been established that critical project success factors influence project completion and performance; project leadership (80%), funding (80.73%), stakeholder involvement (90%) and effective planning (92.4%).

In Kenya, NGOs in Kenya play a critical role in the provision of health services, the promotion of good governance, economic growth, and development, providing roughly Ksh. 80 billion to the Kenyan economy each year (NGO Coordination Board, 2017). However, about 30% of non-governmental organizations experience failure in their projects (Kaguta, 2018; Mathew, 2019). Also, more than 50% of projects have been declared non-performing or non-satisfactory (Falin, 2019). Many general reasons have been advanced in response to the question of how NGOs resolve colossal failure in projects, but there seems to be no much improvement.

Several studies have been undertaken on data analytics on project performance. For instance, Rogito (2019) carried out a research on the influence of monitoring and evaluation on YEDF projects and found out that projects are poorly implemented because few implementers have trainings in M&E, poorly done baseline survey study leading to the failure of the project. Gathoni and Ngugi (2016) study investigated drivers of effective project performance in national government constituency development funded projects in Kiambu County, Kenya and observed that the stakeholders are barely updated on various CDF project progress. Wachaiyu (2019) on monitoring and evaluation factors influencing development projects in Starehe Sub-county Nairobi. Barasa (2018) on the influence of M&E tools on project completion in Kenya. Mwangu and Iravo (2017) on how monitoring and evaluation affect the outcome of the constituency development fund (CDF) projects in Kenya.

Most of the studies have been carried out in sub-factors that make it almost impossible to generalize their findings as they do not portray complete picture of Data Analytics and its influence on project success. Therefore, this study suggested to bridge the identified empirical gap in the literature by establishing the influence of data analytics on project success among NGOs. The study focused on Nairobi County. It adds to body of knowledge in project management in regards to role of data analytics in project success especially for NGOs.

Objectives of the Study

The study was guided by the following specific objectives;

i. To determine the influence of quality data on project performance in non-government organizations in Nairobi County, Kenya
ii. To analyze the influence of risk management on project performance in non-government organizations in Nairobi County, Kenya

LITERATURE REVIEW

Theoretical Review

Resource Dependence Theory

Resource Dependence Theory (RDT) was advanced by Pfeffer (1981) and provides that the survival strategy of an organization depends upon its capacity to acquire and maintain fundamental resources within the organization. However, the theory further states that the chances of organization's survival and progress can be enhanced by the managers through proper decision making process involving joining or forming an alliance with appropriate partners enriched with resources that the organization will benefit economically or maintain its autonomy nature. However, strategies that satisfy acquisition of both the external and internal resources must be established and implemented. Organizations normally venture into alliances due to the mutual befit of resources leading to interdependence among firms. Consequently, resources empower organizations, which changes the status of relationships by prioritizing the interests of shareholders, working towards escalating their significance and revising compensation activities to enhance performance and dividend shared (Pfeffer & Salancik, 2013). The theory emphasizes on measures that an organization adopts in order to stabilize transaction costs and enhance ways in which resources can be acquired efficiently from all spheres of influence.

However, the RDT dominantly perceive that organizations are influenced and restricted by their environments and that firms manage effectively the external sources of organizational resources (Pfeffer & Salancik, 2013). The theory maintains that organizations are resource-inadequate; therefore, they struggle to obtain and maintain high pool of resources from their external environment. The resources are managed by external players who exert pressure on the firm and that they look at a particular benefit from their relationship with the other firm and employ power

through management of resources. Daily, Dalton and Canella (2014) established that access to resources facilitate organizational survival, performance and functioning.

Contingency Theory

Contingency Theory developed in the 1960s by Austrian psychologist, Professor Fred Fiedler. Contingency theory has sought to formulate broad generalizations about the formal structures that are typically associated with or best fit the use of different technologies. Some important categories of business that can benefit from contingency theory include: Technology, Suppliers and distributors, Consumer interest groups, Customers and competitors, Government, Unions, Contingency theories put forth the idea that the success of a leader hinges on the specific situation at hand. Certain factors come into play that defines whether a particular leader or leadership style will be effective for the given situation. Those factors include the task, the personality of the leader and the composition of the group that is meant to be led. Its basic assumption is that leadership – success or failure – is situational. There are a number of different sub-theories that fall under the general contingency umbrella. They include: Fiedler's Contingency Theory, the Situational Leadership Theory, the Path-Goal Theory and the Decision-Making Theory. While all similar on the surface, they each offer their own distinct views on leadership

Fred Fiedler is a theorist whose Contingency Trait Theory was the precursor to his Contingency Management Theory. Fiedler believed there was a direct correlation to the traits of a leader and the effectiveness of a leader. According to Fiedler, certain leadership traits helped in a certain crisis and so the leadership would need to change given the new set of circumstances. Fiedler's Contingency.

Conceptual Framework

Conceptual framework refers to a diagrammatic set of interrelated ideas on a particular phenomenon and it's characterized by cause and effect relationships which helps interpret more and hence making it easily understandable. This makes it more straightforward and also easily predictable (Svinicki, 2019). It is a diagram that explains the relationship between dependent and independent variables. In this study, the independent variables are quality data, and risk management while the dependent variable was project performance in non-government organizations in Nairobi County, Kenya

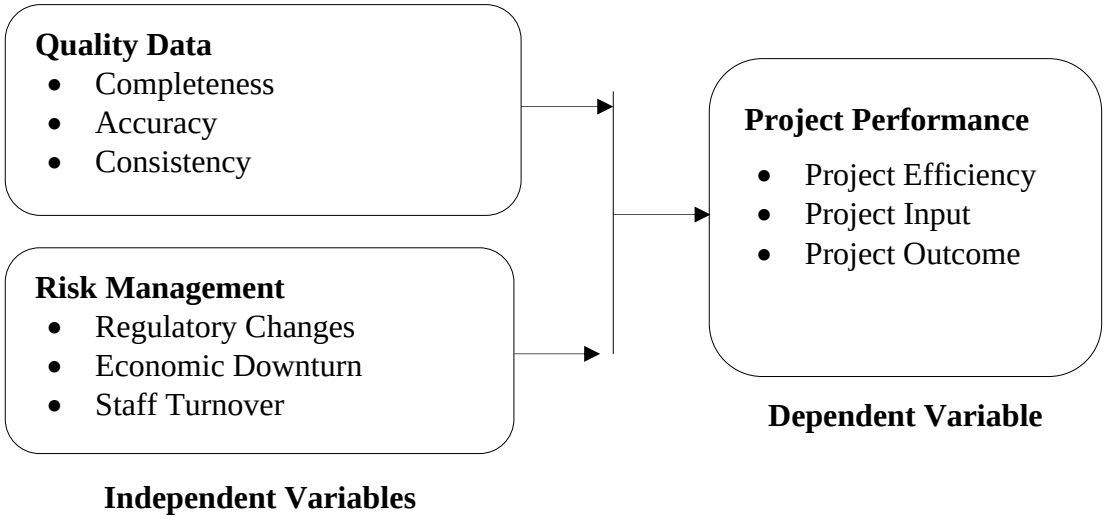

Figure 2.1: Conceptual Framework

Quality Data

Quality data is essential for any organization, as it forms the foundation for informed decision-making, effective operations, and maintaining trust with stakeholders. Three critical dimensions of data quality are completeness, accuracy, and consistency. Completeness refers to the degree to which data contains all the necessary information. Incomplete data can lead to misunderstandings, poor decision-making, and inefficiencies within an organization. For instance, in a customer database, missing contact information or purchase history can hinder marketing efforts and the ability to provide personalized services. Ensuring data completeness often involves implementing data validation checks and procedures to fill in gaps, leading to a more comprehensive and reliable dataset (Chaplowe, 2018).

Accuracy is another vital aspect of data quality. Accurate data means that the information is correct and free from errors. Inaccurate data can lead to misguided decisions, erode trust with customers, and result in financial losses. For example, inaccurate financial data could lead to incorrect budgeting and financial forecasting. Implementing data validation and verification processes, as well as regular audits and reviews, can help ensure data accuracy. Consistency in data quality relates to the uniformity and coherence of information across various data sources, systems, and time periods. Inconsistent data can lead to confusion, hinder data analysis, and create inefficiencies. For example, in a multi-departmental organization, inconsistent naming conventions for products or services can lead to errors in reporting and analytics. Data governance policies, standardization procedures, and the use of a centralized data repository can contribute to data consistency (Muchelule *et al* 2017).

Risk Management

Risk management is a critical aspect as it involves identifying, assessing, and mitigating potential threats to an organization's objectives. Three significant risks that businesses commonly face are regulatory changes, economic downturn, and staff turnover. Businesses are subject to various laws and regulations that can impact their operations. Regulatory changes, such as new legislation or amendments to existing rules, can have a substantial impact on a company's compliance requirements, operating procedures, and costs. Effective risk management involves closely monitoring regulatory developments and assessing their potential effects. This includes understanding the implications of new laws, ensuring compliance, and adapting strategies to navigate changing regulatory landscapes (Okafor, 2021).

Economic downturns, such as recessions or market contractions, pose significant risks to businesses. They can lead to reduced consumer spending, decreased demand for products or services, and financial challenges. Risk management in the context of economic downturn involves preparing for the possibility of reduced revenues and increased financial stress. This can include building cash reserves, diversifying product lines or markets, and optimizing cost structures to withstand economic pressures. Staff turnover can be a substantial risk to organizations, as it can lead to knowledge loss, decreased productivity, and increased recruitment and training costs. Effective risk management in this area entails strategies for talent retention and succession planning. This may involve offering competitive compensation and benefits, providing opportunities for career growth and development, and creating a positive work environment (Hailey & Sorgenfrei, 2019)

Empirical Review

Quality Data and Project Performance

Muchelule *et al* (2017) conducted a study on the influence of quality data on project performance in Kenyan State Corporations. Simple random sampling was used to select 65 state corporations that constituted the sample size. Data were collected from the sample size using questionnaires

with both open and closed questions and they were administered by the researcher through a drop and pick technique. The collected data was analyzed using descriptive and inferential statistics as well as qualitative methods. The relationships between variables were determined using Pearson correlation and t-test. The study revealed that monitoring tools had no significant effect on project performance in Kenyan State Corporations ($\beta 2 = 0.073$, $p > 0.05$). there is also a possibility that the monitoring tools were unable to map out the needed steps to attain the desired project results.

Krzysztof *et al* (2017) argues that without a baseline, it is not impossible to assess the impact of a project. A baseline study informs decision makers on the project's impact has had on the target beneficiaries. These writers further argue that the M&E tools used during a baseline study are the same tools used during evaluation in order to ensure that you compare "apples to apples".Krzysztof *et al* (2018) argues that conducting a baseline minimizes time and other resources for designing evaluation tools. Donors also require that a baseline survey be conducted to form part of the implementation process (Abeyrama, Tilakasena, Weber, and Karl, 2018). This enables the donor in future, to monitor the outcomes of the project as it continues. For some organizations however, this requirement is the only motivation for M&E and therefore they miss on its importance (Nyonje *et al*, 2018)

Risk Management and Project Performance

Okafor (2021) conducted a study on the influence of data evaluation system on the performance of projects. The study was guided by the theory of change and the realistic evaluation theory. The study adopted a descriptive survey research design and targeted all the 32 employees working on the RANA Project because of the limited number of employees. Data was collected through questionnaires and interview guides, which were pilot-tested before use and utilized the Cronbach alpha test on SPSS to measure both reliability of the research tool and the internal consistency. The data was analyzed using descriptive statistics which includes correlation analysis aided by Statistical Package for Social Science for quantitative while the qualitative data was analyzed using narrative and thematic methods. Results showed that data evaluation indeed has an influence on project performance as a management function.

Data evaluation system contributes greatly to influencing project performance as it serves as a tool that is used to organize the project data. Beynon-Davis (2018) opined that it provides the needed data and information to effectively and efficiently manage a project. Usually, the management information systems are made up of people, technology, data and processes and it captures data in a user-friendly database for easy storage, retrieval and analysis. "This system is important because it is a readily available source of data at each level of project implementation on which the project performance can be assessed" (Hailey & Sorgenfrei, 2019) as well as helps to highlight important factors for the successful implementation of projects (Cheng, *et. al.* 2017). This system also takes on as a tool for planning and communication as well as aid to facilitate the organization, storage, retrieval and dissemination of project information.

RESEARCH METHODOLOGY

This study used descriptive research design. This study was conducted in Nairobi County, Kenya. According to the Nairobi County 2022 report, there are 325 registered NGOs in Nairobi County. The NGOs were the unit of analysis while senior managers formed the unit of analysis. The senior project managers were selected because they handle the organization decisions and are therefore well conversant with the influence data analytics on project performance. Therefore, the target population was 325 senior project managers in NGOs in Nairobi County. The study's sample size was reached at using Krejcie and Morgan sample size determination formula (Russell, 2013). Therefore, using the formula, the sample size for the study was 176 respondents. The respondents were chosen with the help of stratified random sampling technique.

This research used a questionnaire to collect primary data. This study gathered both quantitative and qualitative data. Qualitative data analyzed by use of content analysis. Quantitative data was coded then analyzed using Statistical Package for Social Sciences (SPSS) computer software version 28. Descriptive statistics were used to analyze the data in frequency distributions and percentages which were presented in tables and figures. In the study, a statistical model was developed from the conceptual framework.The multiple regression model was used.

RESEARCH FINDINGS AND DISCUSSION

The response rate for the study was 86.4% which is considered excellent according to Sekaran and Bougie's (2016) criteria. They suggest that a response rate of 50% or above is adequate, 60% or above is good, and 70% or above is excellent for analysis. Therefore, the response rate of 89% is excellent and provides a solid foundation for further analysis and reporting.

Descriptive Analysis of Study Variables

In this section, the study presents summary of findings on questions asked to the respondents on various statements relating to each objective of the study. This is Likert scale questions which were analysed using means and standard deviation. They used a 5-point Likert scale where 1-strongly disagree, 2-disagree, 3-moderate, 4-agree, 5-strongly agree. The means and standard deviations were used to interpret the findings where a mean value of 1-1.4 was strongly disagree, 1.5-2.4 disagree, 2.5-3.4 neutral, 3.5-4.4 agree and 4.5-5 strongly agree. Standard deviation greater than 2 was considered large meaning responses were widely spread out and not tightly clustered around the mean.

Quality Data

The first objective of the study was to determine the influence of quality data on project performance in non-government organizations in Nairobi County, Kenya. Respondents were therefore asked to indicate the extent to which respondents agreed or disagreed with statement regarding quality data and project performance in non-government organizations in Nairobi County, Kenya.

Table 1: Descriptive Statistics on Quality Data

Statements	Mean	Std. Dev.
The organization has established clear guidelines for collecting accurate and reliable data.	3.990	0.822
The organization regularly conducts training programs to ensure data collectors are proficient in data collection techniques.	3.900	1.191
The organization has mechanisms for validating and verifying the accuracy of collected data.	3.830	1.300
Data is systematically stored and organized to facilitate easy retrieval and analysis.	3.738	0.782
There are standardized tools and protocols in place for data collection and analysis.	3.703	0.59
Data collection methods used by the organization are consistent across projects.	3.662	0.902
The organization employs data quality checks and validation procedures to ensure data integrity.	3.595	0.621
Aggregate Score	**3.774**	**0.887**

The findings show that the respondents agreed on average that the organization has established clear guidelines for collecting accurate and reliable data (M= 3.990, SD= 0.822); that the organization regularly conducts training programs to ensure data collectors are proficient in data collection techniques (M= 3.900, SD= 1.191); and that the organization has mechanisms for validating and verifying the accuracy of collected data (M= 3.830, SD= 1.300). They further agreed that data is systematically stored and organized to facilitate easy retrieval and analysis (M= 3.738, SD= 0.782); that there are standardized tools and protocols in place for data collection and analysis (M= 3.703, SD= 0.59); that data collection methods used by the organization are consistent across projects (M= 3.662, SD= 0.902); and that the organization employs data quality checks and validation procedures to ensure data integrity (M= 3.595, SD= 0.621).

The findings show that the respondents agreed that quality data affects project performance in non-government organizations in Nairobi County, Kenya as shown by an aggregate mean of 3.774 (SD= 0.887). The findings resonate with the empirical evidence provided by Muchelule et al. (2017) highlighting the importance of monitoring tools and baseline studies in assessing project impact and ensuring effective decision-making, emphasizing the role of quality data management. Similarly, Krzysztof et al. (2017) stress the significance of baseline studies in informing project evaluation and facilitating data-driven decision-making processes. Together, these findings suggest that the effective management of quality data is critical for driving project performance within NGOs, underscoring the need for robust data collection, analysis, and utilization strategies to optimize project outcomes in Nairobi County, Kenya.

Risk Management

The second objective of the study was to analyze the influence of risk management on project performance in non-government organizations in Nairobi County, Kenya. Respondents were therefore asked to indicate the level to which they agree with statement regarding risk management and project performance in non-government organizations in Nairobi County, Kenya. Table 2 presents summary of the findings obtained.

Table 2: Descriptive Statistics on Risk Management

Statements	Mean	Std. Dev.
Risk mitigation strategies are developed and implemented promptly when new risks are identified.	3.944	0.517
There is a clear communication plan for sharing information about identified risks with relevant stakeholders.	3.944	0.756
Risk assessments are conducted regularly throughout the project lifecycle.	3.934	0.930
The organization maintains a risk register to systematically document and track identified risks.	3.785	1.106
The organization actively seeks input from project team members and stakeholders in identifying risks.	3.771	1.195
The organization has a well-defined process for identifying potential risks at the beginning of a project.	3.720	0.674
There is a designated team or individual responsible for overseeing the risk management process in our projects.	3.628	0.768
The organization uses a variety of tools and techniques to analyze and prioritize project risks.	3.590	1.155
Aggregate Score	**3.790**	**0.888**

The findings show that the respondents agreed with the statements on risk management as shown by mean values of 3.5 and above. They specifically agreed that risk mitigation strategies are developed and implemented promptly when new risks are identified (M= 3.944, SD= 0.517); that there is a clear communication plan for sharing information about identified risks with relevant stakeholders (M= 3.944, SD= 0.756); and that risk assessments are conducted regularly throughout the project lifecycle (M= 3.934, SD= 0.930). They also agreed that the organization maintains a risk register to systematically document and track identified risks (M= 3.785, SD= 1.106); and that the organization actively seeks input from project team members and stakeholders in identifying risks (M= 3.771, SD= 1.195). They further agreed that the organization has a well-defined process for identifying potential risks at the beginning of a project (M= 3.720, SD= 0.674); that there is a designated team or individual responsible for overseeing the risk management process in their projects (M= 3.628, SD= 0.768); and that the organization uses a variety of tools and techniques to analyze and prioritize project risks (M= 3.590, SD= 1.155).

The findings show that the respondents agree that risk management influence project performance in non-government organizations in Nairobi County, Kenya as shown by an aggregate mean of 3.790 (SD= 0.888). The findings resonate with the empirical evidence provided by Okafor (2021) who investigates the influence of data evaluation systems on project performance, highlighting the critical role of risk management in ensuring successful project outcomes. Additionally, Hailey and Sorgenfrei (2019) emphasize the importance of management information systems in organizing project data and facilitating effective risk management practices. Together, these findings suggest that effective risk management is essential for mitigating potential threats and optimizing project performance within NGOs, underscoring the need for robust risk assessment and mitigation strategies to enhance project outcomes in Nairobi County, Kenya.

Project Performance in Non-Government Organizations

The main focus of this study was to establish the influence of data analytics on project performance in non-government organizations in Nairobi County, Kenya. Respondents were therefore asked to give the extent to which they agree or disagree with statements regarding project performance in non-government organizations in Nairobi County, Kenya. Table 3 presents summary of the findings obtained.

Table 3: Descriptive Statistics on Project Performance in NGOs

Statements	Mean	Std. Dev.
Projects are delivered within the specified timeframes and deadlines.	3.905	0.870
The organization effectively measures and communicates the impact of its projects.	3.723	0.881
Projects contribute positively to the organization's mission and objectives.	3.887	1.344
Project timelines and milestones are clearly communicated to all relevant stakeholders.	3.852	1.027
Resources, including budget, personnel, and materials, are allocated effectively to support project goals.	3.556	1.374
The organization ensures that project teams have access to the necessary tools and technologies to carry out their tasks.	3.514	0.934
The organization fosters a culture that encourages teamwork and mutual support among project team members.	3.511	1.027
The organization's projects have well-defined objectives and deliverables.	3.500	0.916
Aggregate Score	**3.681**	**1.047**

The findings show that the respondents agree on average that projects are delivered within the specified timeframes and deadlines (M= 3.905, SD= 0.87); that the organization effectively

measures and communicates the impact of its projects (M= 3.723, SD= 0.881); and that projects contribute positively to the organization's mission and objectives (M= 3.887, SD= 1.344). Also, project timelines and milestones are clearly communicated to all relevant stakeholders (M= 3.852, SD= 1.027); that resources, including budget, personnel, and materials, are allocated effectively to support project goals (M= 3.556, SD= 1.374); and that the organization ensures that project teams have access to the necessary tools and technologies to carry out their tasks (M= 3.514, SD= 0.934). Respondents further agreed that the organization fosters a culture that encourages teamwork and mutual support among project team members (M= 3.511, SD= 1.027); and that the organization's projects have well-defined objectives and deliverables (M= 3.5, SD= 0.916).

Firstly, the emphasis on project delivery within specified timeframes and deadlines aligns with the findings of Murei, Kidombo, and Gakuu (2017), who underscored the importance of monitoring and evaluation budget allocation in enhancing project performance, emphasizing the need for timely project completion. Secondly, the effective measurement and communication of project impact echo the findings of Muchelule et al. (2017) regarding the significance of quality data management in driving project outcomes and decision-making processes. Finally, the allocation of resources and provision of necessary tools and technologies for project teams align with the research of Krzysztof et al. (2017), emphasizing the role of baseline studies and adequate resource allocation in project success. Collectively, these findings underscore the multifaceted nature of project management effectiveness within NGOs, highlighting the importance of strategic planning, resource allocation, and effective communication in optimizing project outcomes and supporting organizational objectives in Nairobi County, Kenya.

Correlation Analysis

The study computed Correlation analysis to determine the strength and the direction of the relationship between the variables being studied. If the correlation values are $r = \pm 0.1$ to ± 0.29 then the relationship between the two variables is small, if it is $r = \pm 0.3$ to ± 0.49 the relationship is medium, and when $r = \pm 0.5$ and above there is a strong relationship between the two variables under consideration. Table 4 presents the findings obtained.

Table 4: Correlations

		Project performance	Quality data	Risk management
Project performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	152		
Quality data	Pearson Correlation	.946**	1	
	Sig. (2-tailed)	.000		
	N	152	152	
Risk management	Pearson Correlation	.893**	.077	1
	Sig. (2-tailed)	.000	.271	
	N	152	152	152

Quality data demonstrates a highly significant positive correlation with project performance ($r = 0.946$, $p < 0.05$), suggesting a strong association between the two variables within NGOs in Nairobi County, Kenya. This finding supports existing literature, such as the research conducted by Muchelule et al. (2017), which underscores the importance of quality data management in driving project outcomes and decision-making processes. The significant correlation underscores the critical role of robust data management practices in enhancing project performance and achieving organizational objectives.

Risk management demonstrates a strong positive correlation with project performance ($r = 0.893$, $p < 0.05$), indicating a significant relationship between these variables within NGOs in Nairobi

County, Kenya. This finding aligns with the study by Okafor (2021), which investigates the influence of data evaluation systems on project performance, highlighting the critical role of risk management in ensuring successful project outcomes. The findings show the crucial role of risk management in mitigating potential threats and optimizing project outcomes within the NGO sector.

Multiple Regression Analysis

Model summary was used to show the amount of variation in dependent variable that can be explained by changes in the independent variables. In this study, the model summary provides valuable insights into the amount of variation in project performance within non-governmental organizations (NGOs) in Nairobi County, Kenya as a result of quality data, and risk management. Table 5 presents the summary of findings obtained.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.909[a]	.826	.822	1.17155

a. Predictors: (Constant), Risk management, Quality data

The R square value of 0.826 indicates that approximately 82.6% of the variability in project performance can be explained by the independent variables included in the model, namely risk management, and quality data. This suggests a strong relationship between these factors and project performance within the context of NGOs in Nairobi County. The adjusted R square value of 0.822 further corroborates this, indicating that the model is robust and provides a good fit for the data. Overall, these findings suggest that risk management, and quality data are significant predictors of project performance within NGOs in Nairobi County, Kenya. By understanding and addressing these factors, NGOs can enhance their project management practices and improve the overall success of their projects in the region.

Analysis of Variance

In the context of an Analysis of Variance (ANOVA) study, it is used to determine the fitness of the model to predict the dependent variable (project performance in non-government organizations in Nairobi County, Kenya), the study conducted an F-test at 95% confidence level. The significance of the study variables was determined based on the P-value of the variable coefficients at 0.05 significance level.

Table 6: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	960.362	4	240.091	174.926	.000[b]
	Residual	201.762	147	1.373		
	Total	1162.124	151			

a. Dependent Variable: Project performance

b. Predictors: (Constant), Risk management, Quality data

The ANOVA table presents significant findings regarding the regression model's ability to predict project performance within non-governmental organizations (NGOs) in Nairobi County, Kenya. The regression model accounts for a substantial amount of variability in project performance, as indicated by the large F-value of 174.926 ($p < 0.05$), suggesting that the independent variables

collectively have a significant effect on project performance. This suggests that risk management, and quality data are meaningful predictors of project performance within NGOs in Nairobi County. Overall, these findings provide empirical support for the relationship between these variables and project performance, underscoring the importance of strategic management practices and data quality in driving successful project outcomes within the NGO sector.

Beta Coefficients of the Study Variables

The findings in Table 7, were used to fit the regression model;

Table 7: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.128	.038		3.357	.001
	Quality data	.371	.021	.382	17.705	.000
	Risk management	.238	.017	.271	14.401	.000

a. Dependent Variable: Project performance

From the coefficients in Table 7, the following regression model was fitted;

$$Y = 0.128 + 0.371\ X_1 + 0.238\ X_2$$

For quality data, the coefficient (B = .371, $p < .05$) indicates a statistically significant positive effect on project performance. This finding aligns with literature's emphasis on the critical role of quality data management in driving project success. Muchelule et al. (2017) emphasized the importance of monitoring tools and baseline studies in ensuring effective decision-making, which are closely tied to the concept of quality data.

Lastly, the coefficient for risk management (B = .238, $p < .05$) suggests a statistically significant positive effect on project performance. This finding aligns with the literature's emphasis on the critical role of effective risk management practices in ensuring successful project outcomes. Okafor (2021) investigated the influence of data evaluation systems on project performance, highlighting the importance of risk management in mitigating potential threats.

Conclusions

The findings of the study demonstrate that quality data management has a statistically significant influence on project performance within non-government organizations (NGOs) in Nairobi County, Kenya. This suggests that implementing robust data management practices positively impacts project performance. Hence, the study concludes that effective management of quality data, including clear guidelines for data collection, regular training programs, and systematic data storage, is crucial for optimizing project outcomes within the NGO sector in Nairobi County, Kenya.

The study's findings underscore the significant influence of risk management practices on project performance within non-government organizations (NGOs) in Nairobi County, Kenya. This indicates that implementing effective risk mitigation strategies positively impacts project outcomes. Consequently, the study concludes that adopting a proactive approach to risk management, including timely identification of risks, clear communication plans, and regular

assessments, is paramount for optimizing project performance within the NGO sector in Nairobi County, Kenya.

Recommendations

Enhancing project performance in NGOs hinges on effective data management practices. Establishing clear guidelines for collecting accurate and reliable data is foundational. NGOs should define data collection methods, standardize protocols, and implement rigorous data quality checks throughout the process. Furthermore, regular training programs are essential to enhance data collectors' proficiency in data collection techniques. These programs should cover topics such as data validation and management best practices. Systematically storing and organizing data to facilitate easy retrieval and analysis is also critical. Implementing robust data storage systems and adopting data management tools can streamline data organization and enhance accessibility.

Optimizing project outcomes within NGOs necessitates robust risk management practices. Proactive risk mitigation is paramount, requiring the development of strategies to address potential risks promptly. This involves conducting regular risk assessments, maintaining comprehensive risk registers, and implementing tailored risk mitigation plans. Collaborative risk identification is equally vital, as it ensures that potential risks are identified from diverse perspectives. NGOs should leverage the expertise of project team members and stakeholders to develop holistic risk management strategies. Additionally, utilizing a variety of tools and techniques to analyze and prioritize project risks enhances the accuracy and reliability of risk management practices. By adopting these recommendations, NGOs can effectively mitigate risks and safeguard project success.

Suggestions for Further Studies

Future studies in the field of project management should consider expanding the scope to examine additional variables beyond those explored in this research, such as stakeholder engagement, leadership styles, and external environmental factors. This broader investigation could offer a more comprehensive understanding of the complexities influencing project outcomes. Moreover, extending the study beyond NGOs in Nairobi County and conducting comparative analyses across different regions or sectors would provide valuable insights into region-specific or sector-specific challenges and best practices. Exploring the intricacies of specific project types or phases and adopting a mixed-methods approach that combines quantitative and qualitative analyses are recommended to capture a more nuanced understanding of project management dynamics. These enhancements in research methodology and scope can contribute to more robust and insightful findings, informing practical interventions and advancing the field of project management.

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