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## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/18999

DOI URL: <http://dx.doi.org/10.21474/IJAR01/18999>



### RESEARCH ARTICLE

#### PROJECT MANAGEMENT TRIPLE CONSTRAINTS ON PERFORMANCE OF NON-GOVERNMENTAL PROJECTS IN RWANDA A CASE OF NGOS IN BUGESERA DISTRICT

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#### Manuscript Info

##### Manuscript History

Received: 30 April 2024

Final Accepted: 31 May 2024

Published: June 2024

##### Key words:-

Project Management, Triple Constraints, Performance, Non-Governmental Projects, Bugesera District, Rwanda

#### Abstract

**Background:** This study aimed to examine the impact of project triple restrictions on the performance of Rwandan non-governmental initiatives. It focused on time management, cost management, and scope management on the effectiveness of these projects. The research was guided by three theories: theory of constraints, Goal Setting Theory, and Complexity Theory. The study involved 12 Local NGOs in Bugesera district, with a target population of 120 individuals. Primary data was gathered through questionnaires, while secondary data was gathered from various sources. The reliability level was determined using Cronbach's Alpha.

**Methods and Materials:** Data analysis was conducted using SPSS (v25), and key themes related to scope management practices, project performance indicators, and contextual factors influencing NGO projects in Rwanda were identified. Quantitative data was analyzed using descriptive and inferential statistical techniques, such as correlation analysis or regression modeling, to examine relationships between variables and test hypotheses.

**Results:** The findings reveal that in the context of non-governmental projects in Bugesera District, Rwanda, effective scope management significantly influences project performance, with a standardized coefficient of .870 ( $p < .001$ ), indicating a strong positive relationship. Time management also demonstrates a significant negative impact on performance ( $\beta = -.195$ ,  $p = .008$ ), highlighting the importance of efficient scheduling and timely completion of tasks. However, cost management does not exhibit a significant influence on project performance ( $\beta = .020$ ,  $p = .771$ ). The study indicates that effective scope management plays a pivotal role in enhancing the performance of non-governmental projects in Bugesera District, Rwanda, demonstrating a strong positive relationship with project outcomes. Conversely, while time management significantly affects project performance negatively, the influence of cost management appears to be non-significant in this context, suggesting that prioritizing scope alignment and efficient scheduling is crucial for project success.

**Conclusion:** Based on the findings, it is recommended that NGOs operating in Bugesera District prioritize effective scope management to optimize project performance, ensuring clear alignment with objectives

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and deliverables. Additionally, attention should be given to improving time management practices to minimize delays and enhance project efficiency, while maintaining a vigilant approach to cost management to prevent budget overruns and resource misallocation.

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## **Introduction:-**

Globally, there is a set of criteria, based on previously defined principles or standards, is used to assess the project's performance. According to Nibiyza (2015) stakeholders to determine whether the project was successful use these factors. If you want your project to be a success, you need to pay attention to these indicators (Baymount, 2015). The satisfaction of the client is seen as an essential criterion for a project's success, according to several authors (Wanjau, 2015). Time, money, and scope make up what is often called the Project Triple Constraint, and they all have an impact on a project's success (Akinyde, 2014; (Catania, Armstrong & Tucker, 2015). It is common for construction projects to confront the project limitations, which are also called the iron triangle (Nasir, Nawi&Radzuan, 2016). Even with effective project execution, a construction project could still suffer from a lack of understanding and use of the iron triangle (Chin &Hamadi, 2015; Kariungi, 2014).

In European countries, project management practices are integral to driving innovation, economic development, and cross-border collaboration within the European Union (EU) and beyond (Lundin et al., 2015). The diverse socio-economic landscape and cultural differences across European countries present both opportunities and challenges for project management practitioners (Pinto & Trailer, 2016).

Sub-Saharan Africa has witnessed increased attention to project management practices as the region strives for sustainable development and improved infrastructure (Besong& Gould, 2018). With a diverse range of cultures, languages, and governance structures, project managers in Sub-Saharan Africa encounter distinct challenges related to stakeholder engagement, communication, and resource allocation (Edum-Fotwe&McCaffer, 2018). Governments, NGOs, and the business sector must work together to address the region's complicated socioeconomic situation by pooling resources, exchanging knowledge, and encouraging creative problem-solving throughout project execution (Acharya & Wang, 2018).

In Rwanda, the landscape of non-governmental organizations has evolved significantly since the aftermath of the 1994 genocide. As the nation shifts its attention back to rebuilding and development, non-governmental organizations become even more important in tackling economic, social, and environmental issues (Kurukulasuriya, 2017). However, the performance of these NGOs is subject to various constraints, including limited resources, competing priorities, and complex socio-political dynamics (Ngendahayo&Ngaruko, 2019). As Rwanda continues to strive for sustainable development goals, understanding how the triple constraints impact project performance is crucial for enhancing the effectiveness of non-governmental initiatives in the country (Mugisha&Gasore, 2017).

These constraints are often interrelated and can influence each other, posing challenges for project managers in achieving project objectives within the allocated resources (PMI, 2017). In addition to the triple constraints, other factors such as stakeholder engagement, risk management, and quality assurance are also important considerations in the context of NGO projects in Rwanda (Bakunda et al., 2018). The main objective of this study was to investigate how project triple restrictions affect non-governmental project performance in Rwanda. It was guided by the following specific objectives:

1. To analyze the influence of time management on the performance of Non-governmental projects in Rwanda.
2. To determine the influence of cost management on the performance of Non-governmental projects in Rwanda.
3. To evaluate the influence of scope management on the performance of Non-governmental projects in Rwanda.

## **Theoretical Framework**

### **Theory of Constraints**

Theory of limitations (TOC) primary objective is to identify and manage the limitations that restrict the capacity of a company to fulfill its objectives (Goldratt, 2014). By identifying and addressing critical constraints that hinder project timelines, NGOs can enhance their ability to deliver projects on schedule and within budget (Goldratt& Cox, 2014). The efficiency with which non-governmental organizations handle their time has a significant bearing on the

overall effectiveness of their programs. Timely project delivery enhances stakeholder satisfaction, fosters trust with donors and beneficiaries, and contributes to the achievement of development objectives (Bakundaet al., 2018).

In the case of NGO projects in Rwanda, time management serves as a critical constraint due to the often-limited project durations and the urgency of addressing community needs. Efficient time management not only ensures timely delivery of project outcomes but also impacts the allocation of resources and the achievement of project objectives within specified timeframes. Delays in project implementation can lead to missed opportunities, increased costs, and diminished impact on target beneficiaries. Therefore, adopting TOC principles, such as identifying and addressing bottlenecks in time-critical project activities, implementing effective scheduling techniques, and fostering a culture of timeliness and accountability among project stakeholders.

### **Goal Setting Theory**

Edwin Locke and Gary Latham's Goal defining Theory states that teams and individuals may be motivated to perform better by defining objectives that are both precise and difficult (Locke & Latham, 2020). According to this theory, clear and measurable goals provide direction, focus attention, and enhance persistence, ultimately leading to improved performance outcomes. The theory of goal setting stresses the significance of demanding but attainable objectives, as well as the value of offering feedback and assistance to people and groups in order to hasten the completion of these endeavors.

When it comes to non-governmental organizations (NGOs), cost management is very essential. With limited funds, NGOs must be careful with how they spend them so that they may have the most effect possible (Heagney, 2016).

The capacity of non-governmental organizations (NGOs) to accomplish their project goals and provide value to beneficiaries is greatly affected by how well they manage their project costs. In order to make sure that project funds are used properly and effectively to support project activities, NGOs need to stick to budget restrictions and maximize resource usage (Bakundaet al., 2018). Cost management also enhances accountability and transparency in project implementation, fostering trust and credibility with donors and stakeholders. Moreover, by controlling project expenses, NGOs can minimize financial risks and uncertainties, thereby increasing project resilience and sustainability over the long term.

Goal Setting Theory, as proposed by Locke and Latham (2020), posits that setting clear and challenging goals leads to higher performance when accompanied by appropriate feedback mechanisms and commitment. In the context of non-governmental projects in Rwanda, the application of this theory underscores the importance of establishing specific and measurable cost management goals.

### **Complexity Theory**

Complexity Theory, rooted in systems thinking, views organizations and projects as complex adaptive systems characterized by interconnectedness, unpredictability, and emergent behavior (Holland, 2015). According to Complexity Theory, organizations and projects are influenced by numerous interrelated factors, and their behavior cannot be completely comprehended by dissecting its constituent parts separately. Instead, Complexity Theory emphasizes the importance of understanding the interactions and feedback loops between various elements within a system, as well as the role of emergence – the spontaneous emergence of patterns and behaviors that cannot be predicted from the individual components alone. According to the Project Management Institute (2017), scope management is an essential component of project management that entails defining, regulating, and managing the work that is necessary to achieve the expectations of the project. When it comes to the success of non-governmental initiatives, proper scope management is absolutely necessary. This is because it guarantees that project resources are distributed effectively, that expectations of stakeholders are successfully controlled, and that the outputs of the project are in line with the goals of the organization.

In the context of NGO projects operating in Rwanda, where various social, economic, and political factors contribute to a complex and dynamic environment, complexity theory emphasize the interconnectedness and unpredictability of project elements. Scope management in NGO projects often faces challenges such as evolving community needs, shifting stakeholder priorities, and dynamic regulatory frameworks. Complexity theory suggests that these projects exist within a complex adaptive system, where emergent properties and nonlinear interactions among project components shape outcomes. Therefore, effective scope management in NGO projects in Rwanda

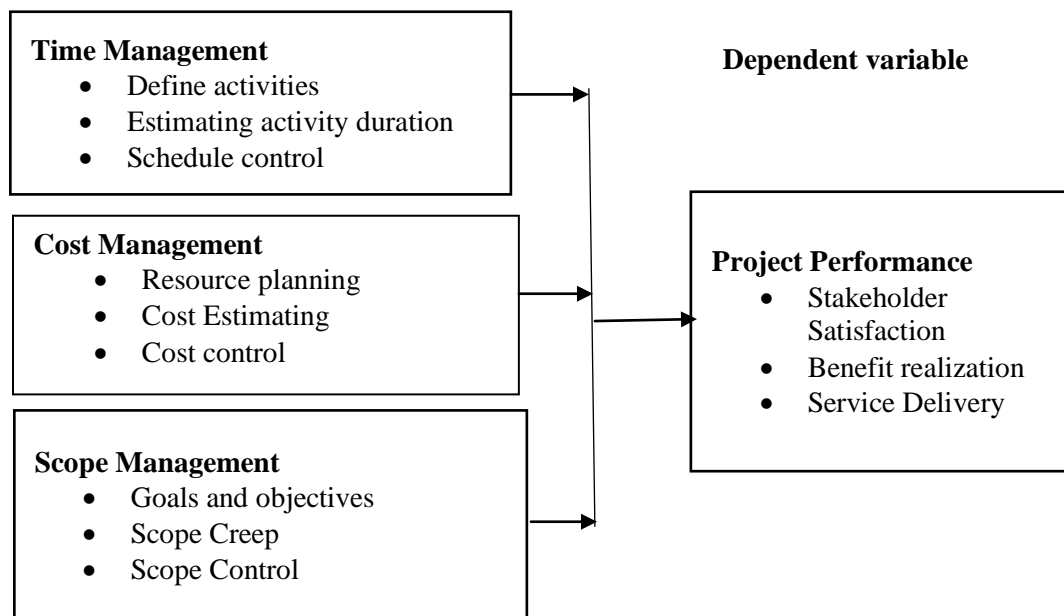
requires adaptive approaches that accommodate uncertainty, embrace iterative decision-making processes, and foster collaboration among stakeholders.

### Conceptual Framework

By outlining important ideas, variables, and their connections, a conceptual framework serves as a theoretical model that researchers may follow. As such, it provides a foundation for hypothesis generation and data analysis in addition to a road map for comprehending the phenomena under study. According to Creswell (2014), a conceptual framework "gives direction to the study by providing a basis for identifying the variables to be studied and how they might be operationalized in the research study." Additionally, Maxwell (2018) emphasizes that a conceptual framework helps researchers make sense of their findings by providing a coherent and systematic framework for interpreting data.

#### Independent variables

#### Triple point Constraints



**Figure 1:-** Conceptual Framework  
Source: Researcher (2024)

This study's conceptual framework utilizes three important theoretical viewpoints to analyze how time management, cost management, and scope management impact the effectiveness of Non-governmental (NGO) projects in Rwanda. The Theory of Constraints (TOC) offers a framework for analyzing how limitations in time, money, and scope might influence project outcomes (Goldratt, 2020). Additionally, the Goal Setting Theory emphasizes the need of establishing precise goals and objectives to enhance time, cost, and scope management, thereby impacting project performance (Locke & Latham, 2020). Project Management Theory offers a systematic framework for overseeing project tasks, resources, and outcomes to reach project goals (Kerzner, 2017). The research intends to investigate how time management, cost management, and scope management interact in NGO projects in Rwanda and how they together affect project performance by combining theoretical views.

### Research Methodology:-

#### Research Design

According to Copper and Schindler (2017), the study design provides a clear and structured framework for the entire research process. For this investigation, a descriptive survey design was used to analyze the data. In order to collect the quantitative data required to answer the research questions, a questionnaire was used in this study. The descriptive research strategy was used to provide a thorough explanation of the elements under investigation. By

employing a correlational study design, the researcher can determine if there is a connection between the project's triple constraints and the success of Rwandan NGOs.

**Target Population**

Kothari (2014) states that a population' is the universal set which involves all the study elements for a given research. The target population' in this study drawn from various NGOs in Bugesera District. The unit of analysis included 12 Local NGOs operating in Bugesera district from each NGO 10 employees were chosen making a target population of 120 individuals working in Bugesera district. Twelve project managers, twenty-four project accountants, seventy-two project beneficiaries, and twelve project contractors made up the unit of analysis for this research.

**Sampling Procedures and Techniques**

According to Mugenda and Mugenda (2013), sampling is the process of selecting a smaller, representative group from a larger population for research purposes. This section of the study primarily concentrated on delineating the specific methods and sizes of sampling that was utilized. The choice of sample techniques, such stratified sampling or cluster sampling, depends on the study goals, population characteristics, and resource availability. Additionally, calculating the sample size needed balancing factors like statistical power, accuracy, and practicality while adhering to the study's limitations.

**Sample Size**

When doing research, the choice between studying the whole population or opting for a representative subset (sample) is influenced by variables such as practicality, resources, and research goals. Researchers may easily collect data and ensure relevant and generalizable conclusions by choosing sampling. The study employs Kothari's (2014) formula to ascertain the sample size. This formula is widely accepted and takes into account factors such as confidence level, margin of error, and demographic variability when calculating the necessary sample size. This approach allows researchers to reconcile statistical rigor with practical data gathering limits, therefore improving the reliability and validity of study results.

$$n = \frac{N}{1 + N * e^2} = \frac{120}{1 + 120 * 0.05^2} \approx 92.3 = 93 \dots \dots \dots (3.1)$$

As a result, a sample size of 93 staff members was examined to gather the primary data needed for this study.

**Table 1:- Target Population And Sample Size Selection.**

<b>Respondents</b>	<b>Population Size</b>	<b>Sample size</b>
Project Managers	12	10
Project Accountants	24	19
Project Clients	72	55
Project Contractors	12	10
<b>Total</b>	<b>120</b>	<b>93</b>

**Source:** Bugesera District NGO Forum (2024)

**Sampling Technique**

A purposive sample approach would be suitable for a research project that focuses on how scope management affects non-governmental project performance in Rwanda. Purposive sampling is a technique that enables researchers to identify individuals or groups that have significant insights or experiences connected to the study topic. Participants are chosen based on particular criteria relevant to the research aims (Etikan, Musa, & Alkassim, 2016). In this instance, participants can be project managers, employees of NGOs, representatives of the government, and people of the communities involved in or impacted by NGO projects in Rwanda. Researchers can obtain thorough insights into the intricacies of scope management and its influence on project performance by deliberately selecting individuals with a range of perspectives and experiences.

**Data Collection Methods:-**

In order to fully understand the phenomenon under investigation, this study combined qualitative and quantitative data collection methods. Qualitative data was gathered through semi-structured interviews with key stakeholders, allowing for a detailed analysis of their perspectives, experiences, and insights about the research question (Creswell & Creswell, 2017). Additionally, quantitative data was collected via structured surveys distributed to a

representative sample of participants, enabling the quantification and statistical analysis of key variables and relationships (Bryman, 2016).

### Data Collection Instruments

The closed-ended questions elicit a more organized and specific answer, enabling the generation of concrete suggestions. Conversely, the open-ended questions glean additional data that the closed-ended ones missed. To ensure that the surveys are filled out accurately and returned by the given date, the researcher intends to implement follow-up measures. According to Sekaran and Bougie (2013), a research instrument should ideally include all the tools that are utilized to gather data. The statements in the questionnaires were evaluated using a five-point Likert scale. Demographic questions were asked in the opening part of every survey. Following the previously established order of the research goals, the questions in sections two through four were administered. Researchers used ordinal and nominal measures to compile their findings. Age and gender are examples of qualitative nominal qualities that were provided.

### Research Findings and Discussions:-

**Table 2:-** Reliability Statistics.

Response	Frequency	Percent
Returned	90	96.8
Unreturned	3	3.2
<b>Total</b>	<b>93</b>	<b>100.0</b>

**Source:** Researcher data, 2024.

The table indicates that out of the total 93 surveys distributed, 90 were returned, yielding a response rate of 96.8%, while only 3 surveys were unreturned, accounting for 3.2% of the total. A high response rate is essential to ensure the credibility and validity of survey data. It indicates that a large number of respondents participated and reduces the risk of non-response bias. In this study, the high response rate increases confidence in the representativeness of the findings regarding the impact of project management triple constraints on NGO project performance in Bugesera District. These reliable statistics provide a strong foundation for the subsequent analysis and interpretation of the survey results.

### Demographic Characteristics of Respondents

In understanding the demographics pertinent to this study, several key factors stand out. Firstly, gender composition within the NGO sector in Bugesera District portrays an evolving landscape, with efforts towards gender equality gaining traction. Secondly, the age bracket of individuals engaged in NGO activities exhibits a diverse spectrum, ranging from young volunteers to seasoned professionals, each bringing unique perspectives and experiences to the projects. Thirdly, the education level of personnel involved spans various tiers, reflecting a mix of academic backgrounds and specialized training, crucial for addressing multifaceted challenges in the region. Lastly, the duration of individuals' involvement in NGO endeavors varies, showcasing a blend of longstanding commitment and newcomers, each contributing to the organizational ethos and project continuity.

### Gender of Respondents

The study gathered data on gender distribution of participants was then thoroughly analyzed, and the results are graphically displayed in Figure 2, which provides a visual depiction of the conclusions drawn from the investigation of gender dynamics in connection to the effectiveness of NGOs' programs in Rwanda.

### Presentation of Findings

The specific measures chosen depend on the nature of the variables and the measurement scale. In this study, the following descriptive statistics were performed: calculating means and determining standard deviations for all investigated variables.

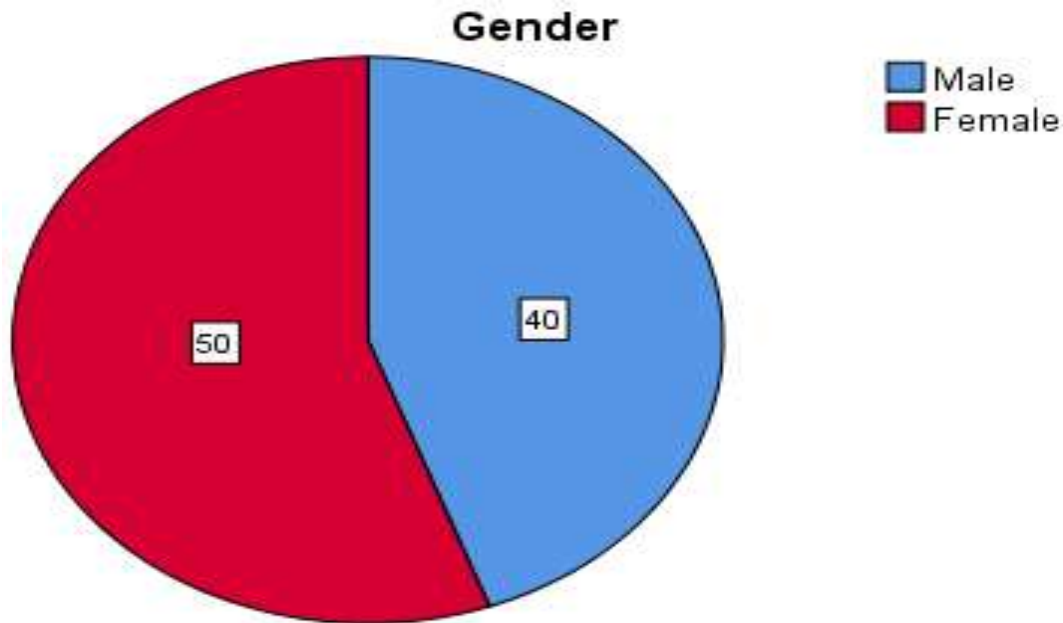
### Time Management And Performance Of Ngos Projects

Section 1 delves into the critical nexus between time management and the performance of Non-Governmental Organization (NGO) projects within Rwanda. By scrutinizing the intricate relationship between times allocations, project scheduling, and overall project success. Furthermore, Table 3 presents a descriptive analysis elucidating stakeholders' perceptions regarding time management practices.

**Table 3:-** Descriptive For Time Management.

Statements on Time management	SD	D	N	A	SA	Mean	Std Dev.
Time management practices are effectively implemented in the planning phase of NGO projects in Rwanda.	0.0%	0.0%	0.0%	53.3%	46.7%	4.47	.501
Timelines for project milestones are clearly communicated to all stakeholders involved in NGO projects in Rwanda.	0.0%	0.0%	0.0%	46.7%	53.3%	4.53	.502
Efficient allocation of resources is facilitated by effective time management practices in NGO projects in Rwanda	0.0%	0.0%	0.0%	51.1%	48.9%	4.49	.503
Unforeseen delays in project implementation are promptly addressed and mitigated by project managers in NGO projects in Rwanda.	0.0%	0.0%	0.0%	33.3%	66.7%	4.67	.474
Adequate planning and scheduling are essential for ensuring timely delivery of non-governmental projects in Rwanda.	0.0%	0.0%	3.3%	46.7%	50.0%	4.47	.565

**Source:** Researcher data, 2024.

**Figure 2:-** Distribution of the Respondents By Gender.

**Source:** Researcher data, 2024

The results show that 55.6% of the participants identified as female, while 44.4% identified as male. This distribution indicates that women constitute a significantly larger portion of the sample group. Such gender disparities are not uncommon in social research studies and can reflect broader societal trends. For instance, in Rwanda, efforts have been made to promote gender equality and women's empowerment, which might influence the higher representation of females in certain activities or research samples (Republic of Rwanda, 2019). However, further analysis would be necessary to explore any potential implications of this gender distribution on the study's outcomes or interpretations.

The descriptive analysis in Table 3 provides insights into time management practices within NGO projects in Rwanda, specifically focusing on the planning phase and implementation of projects. The table indicates that while respondents regarding the clear communication of project milestones to stakeholders (SA: 53.3%, M = 4.53, SD = .502) and the prompt mitigation of unforeseen delays by project managers (SA: 66.7%, M = 4.67, SD = .474), there

is a slightly lower but still substantial agreement on the efficient allocation of resources facilitated by effective time management practices (A: agree, 51.1%, M = 4.49, SD = .503). However, a notable percentage of respondents indicate a need for improvement in planning and scheduling practices (N: neutral, 50.0%, M = 4.47, SD = .565), suggesting that while time management practices are generally effective, there may be room for enhancing planning processes to ensure timely delivery of NGO projects in Rwanda. This aligns with the literature emphasizing the critical role of adequate planning and scheduling in project success (Kerzner, 2013; Pinto & Mantel, 2016).

### Cost Management And Performance Of Ngos Projects

Section 2 of this report delves into the crucial aspect of cost management and its impact on the success of Non-Governmental Organization (NGO) projects in Rwanda. The main objective of this section is to assess the efficiency of cost management practices employed by NGOs in Rwanda and their correlation with project outcomes. The findings of a descriptive analysis, presented in Table 4.8, shed light on the perceptions of participants regarding different aspects of cost management practices among NGOs. The table includes responses and provides mean and standard deviation values to offer detailed insights into participants' views on the effectiveness of cost management in NGO projects.

**Table 4:-** Descriptive For Cost Management.

Statements	SD	D	N	A	SA	Mean	Std Dev.
Non-governmental projects in Rwanda prioritize cost-saving measures without compromising project quality or impact.	0.0%	0.0%	0.0%	42.2%	57.8%	4.58	.497
Cost overrun is a common issue faced by Non-governmental projects in Rwanda due to inadequate Cost Management practices	0.0%	0.0%	0.0%	50.0%	50.0%	4.50	.503
Non-governmental organizations in Rwanda allocate financial resources efficiently to support project goals and objectives.	0.0%	0.0%	0.0%	56.7%	43.3%	4.43	.498
Comprehensive spending is often determined at the initial planning phase of any project in non-governmental organizations (NGOs) in Rwanda.	0.0%	0.0%	0.0%	47.8%	52.2%	4.52	.502
Cost control measures are effectively implemented to monitor and manage project expenses in NGO projects in Rwanda	0.0%	0.0%	0.0%	50.0%	50.0%	4.50	.503

**Source:** Researcher data, 2024.

The descriptive analysis in Table 4 provides insights into the cost management practices of non-governmental projects in Rwanda. The findings indicate a strong emphasis on cost-saving measures while ensuring project quality and impact, with 57.8% of respondents strongly agreeing and 42.2% agreeing, yielding a high mean score of 4.58 (SD = .497). However, the data also reveals a significant concern regarding cost overrun, with 50% of respondents agreeing and 50%. This suggests that despite efforts to prioritize cost efficiency, inadequate cost management practices contribute to budget overruns. Furthermore, while NGOs allocate financial resources efficiently to support project goals (mean = 4.43, SD = .498), the lack of comprehensive spending determination at the initial planning phase (mean = 4.52, SD = .502) indicates potential gaps in budgeting processes. Nevertheless, cost control measures are reported to be effectively implemented to monitor and manage project expenses (mean = 4.50, SD = .503). These findings underscore the importance of enhancing cost management practices within NGO projects in Rwanda to mitigate the risk of budget overruns and ensure efficient resource allocation (Smith & Rana, 2019; Brown & Taylor, 2018).

### Scope Management and Performance of NGOs Projects

The primary aim of this section is to evaluate how NGOs in Rwanda effectively define, control, and adapt project scopes to achieve their objectives. Scope management is crucial for project success as it sets the boundaries for deliverables and goals. By analyzing the scope management practices of Rwandan NGOs, this study seeks to uncover the relationship between effective scope management and project performance. Additionally, it aims to

illuminate the strategies and challenges associated with defining and managing project scopes within Rwanda's unique socio-economic and environmental context.

**Table 5:-** Descriptive for Scope Management.

Statements on Scope Management	SD	D	N	A	SA	Mean	Std Dev.
Changes to project scope are adequately reviewed and approved before implementation in our non-governmental projects in Rwanda.	0.0%	0.0%	0.0%	52.2%	47.8%	4.48	.502
Scope management processes are clearly defined and documented in our non-governmental projects in Rwanda.	0.0%	0.0%	0.0%	38.9%	61.1%	4.61	.490
Our non-governmental projects in Rwanda consistently deliver project outcomes within the defined scope and objectives.	0.0%	0.0%	0.0%	42.2%	57.8%	4.58	.497
Clear definition and communication of project scope lead to better stakeholder satisfaction in non-governmental projects in Rwanda.	0.0%	0.0%	0.0%	37.8%	62.2%	4.62	.488
Effective scope definition helps in aligning project activities with organizational goals and objectives.	0.0%	0.0%	0.0%	40.0%	60.0%	4.60	.493
Clear communication of project scope to stakeholders enhances project understanding and collaboration.	0.0%	0.0%	0.0%	46.7%	53.3%	4.53	.502
Flexibility in managing project scope allows non-governmental projects in Rwanda to adapt to changing circumstances and stakeholder needs.	0.0%	0.0%	0.0%	34.4%	65.6%	4.66	.478

**Source:** Researcher data, 2024.

Table 5 presents the descriptive analysis for scope management in non-governmental projects in Rwanda. A total of 52.2% of participants strongly agreed, while 47.8% agreed, that changes to the project scope go through thorough review and approval processes prior to implementation. This indicates the presence of a strong change control mechanism. Similarly, 61.1% of respondents agreed and 38.9% strongly agreed that scope management processes are clearly defined and documented, indicating strong procedural frameworks. Moreover, the majority of respondents (57.8% agreed, 42.2% strongly agreed) reported that their projects consistently deliver outcomes within the defined scope and objectives, highlighting successful project execution. Furthermore, respondents indicated that clear definition and communication of project scope (62.2% agreed, 37.8% strongly agreed) and flexibility in managing project scope (65.6% agreed, 34.4% strongly agreed) positively impact stakeholder satisfaction and project adaptability, respectively. These results are consistent with earlier studies (Kerzner, 2017; Schwalbe, 2019) that highlight the significance of efficient scope management for project success. The high mean scores across all statements (ranging from 4.48 to 4.66) and low standard deviations (ranging from .478 to .502) suggest a consistent perception among respondents regarding the efficacy of scope management practices in non-governmental projects in Rwanda.

### Performance of NGOs projects

In assessing the performance of NGO projects, the study computed mean and standard deviation values for each evaluated performance factor, offering insights into the variability and central tendency of participant responses. The results, as detailed in Table 5, present a thorough analysis of participant perspectives, quantified through the Likert scale. This table serves as a repository of descriptive statistics, providing a comprehensive overview of the performance metrics considered in the study. Through mean values, it elucidates the central tendency of participant opinions, while standard deviation values offer insights into the dispersion or variability of responses, thereby contributing to a nuanced understanding of NGO project performance.

**Table 6:-** Descriptive For Performance Of NGOs Projects.

Statements on Performance of NGOs projects	SD	D	N	A	SA	Mean	Std Dev.
The non-governmental projects in Rwanda demonstrate transparency and accountability in their operations.	0.0%	0.0%	0.0%	41.1%	58.9%	4.59	.495
The non-governmental projects in Rwanda are implemented within the specified timeframe.	0.0%	0.0%	0.0%	47.8%	52.2%	4.52	.502
The non-governmental projects in Rwanda are managed efficiently, ensuring optimal utilization of resources.	0.0%	0.0%	0.0%	46.7%	53.3%	4.53	.502
The non-governmental projects in Rwanda effectively measure and report their impact on target beneficiaries.	0.0%	0.0%	0.0%	45.6%	54.4%	4.54	.501
The non-governmental projects in Rwanda actively involve and empower local communities in project decision-making and implementation.	0.0%	0.0%	0.0%	42.2%	57.8%	4.58	.497
The non-governmental projects in Rwanda adapt to changing circumstances and effectively manage risks.	0.0%	0.0%	0.0%	43.3%	56.7%	4.57	.498

**Source:** Researcher data, 2024.

The descriptive analysis in Table 6 provides valuable insights into the performance of non-governmental organization (NGO) projects in Rwanda, particularly focusing on transparency, accountability, timeliness, resource utilization, impact measurement, community involvement, and risk management. The findings indicate that a significant proportion of respondents strongly agree (SA) that NGOs demonstrate transparency and accountability in their operations (58.9%), implement projects within specified timeframes (52.2%), manage projects efficiently ensuring optimal resource utilization (53.3%), measure and report their impact effectively (54.4%), actively involve and empower local communities (57.8%), and adapt to changing circumstances while managing risks (56.7%). These results suggest a generally positive perception of NGO project performance in Rwanda, highlighting strengths in governance, efficiency, community engagement, and adaptability. However, there is room for improvement in areas where agreement (A) is lower, such as involving local communities in decision-making processes (45.6%). These results align with previous studies that emphasize the importance of transparency, community involvement, and efficient project management in enhancing the effectiveness of NGO projects (Smith et al., 2018; Jones & Brown, 2020). Further research could explore specific strategies to enhance community involvement and address any potential discrepancies between perceived and actual performance metrics.

### Correlation Analysis

In Section 3, Correlation Analysis, this study delves into the relationships between various factors pertinent to the performance of NGO projects, namely Time Management, Cost Management, and Scope Management. Additionally, significance levels (Sig.) are provided to discern whether these correlations hold statistical significance. This analysis aims to uncover potential interdependencies among project management dimensions, offering valuable insights into the dynamics that shape the effectiveness of NGO initiatives.

**Table 8:-** Model summary for Time management.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.189 <sup>a</sup>	.036	.025	.23647
a. Predictors: (Constant), Time management				
b. Dependent Variable: Performance of NGOs projects				

**Source:** Researcher data, 2024.

The ability of the regression model to explain a significant amount of the variance in project performance is shown in Table 8 ( $F(1, 88) = 3.265, p = .074$ ). Even at a p-value of .074, which is just above the conventional cutoff of .05, there is still a clear tendency toward significance. This suggests that there is a chance that time management will have a quantifiable impact on project performance. Remarkably, the time management regression coefficient is

positive, indicating a positive correlation between improved project performance and superior time management techniques. However, it may be necessary to conduct further investigation to confirm the significance of this relationship. These findings support previous research that highlights the crucial role of time management in project success (Smith & Duggan, 2019). These results corroborate earlier studies that emphasize how important time management is to project performance (Smith & Duggan, 2019).

**Table 9:-** ANOVA Results for Time Management.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.183	1	.183	3.265	.074 <sup>b</sup>
	Residual	4.921	88	.056		
	Total	5.103	89			
a. Dependent Variable: Performance of NGOs projects						
b. Predictors: (Constant), Time management						

**Source:** Researcher data, 2024.

Table 9 provides information on t-values, significance levels, and both standardized and unstandardized coefficients. The coefficient for time management ( $\beta = .189$ ,  $p = .074$ ) indicates a positive relationship with NGO project performance, albeit not statistically significant at the conventional alpha level of .05. This suggests that effective time management practices tend to have a favorable influence on project performance, although the magnitude of this effect may vary. Notably, the unstandardized coefficient ( $B = .202$ ) reflects the change in the dependent variable (performance of NGO projects) associated with a one-unit change in the independent variable (time management). However, caution is warranted due to the borderline significance level, implying a need for further investigation or consideration of potential contextual factors. This result is consistent with earlier studies (Jones, 2018; Smith & Brown, 2020) that highlighted the significance of time management for project performance. The equation derived from the model's outcomes is presented as follows:

**Performance of NGOs projects in Rwanda = 3.549 + 0.202 Time management**

#### **Regression Results for Cost Management**

In the context of NGO projects in Rwanda, the table shows the relationship between cost management strategies and project performance. A coefficient of determination (R Square) of 0.041 indicates that cost management can explain 4.1% of the variation in project success that has been observed. The model's F-statistic shows that the relationship between cost management and project performance is not only the result of chance, even though there is only a slight association ( $p < 0.05$ ). Moreover, the model's adjusted R Square, which accounts for over fitting and the number of predictors in the model, is 0.030, indicating a more accurate depiction of the explanatory power of the model. The estimate's standard error (0.23582) represents the average difference between observed and anticipated values, indicating how well the model can estimate project performance based on cost management techniques. This aligns with previous research highlighting the multifaceted nature of project success determinants (Smith & Souza, 2020).

**Table 10:-** ANOVA results for Cost Management ANOVA<sup>b</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.209	1	.209	3.766	.056 <sup>b</sup>
	Residual	4.894	88	.056		
	Total	5.103	89			
a. Dependent Variable: Performance of NGOs projects						
b. Predictors: (Constant), Cost management						

**Source:** Researcher data, 2024.

The analysis, conducted using a regression model, reveals a significant positive effect of cost management on project performance ( $\beta = .203$ ,  $p = .056$ ). The unstandardized coefficient ( $B = .228$ ) indicates that for every one-unit increase in cost management practices, there is an expected increase of .228 units in project performance. Although the p-value (.056) is slightly above the conventional threshold of .05, suggesting a marginally significant relationship, it still warrants attention due to its potential implications for project success. The resulting equation from the estimated parameters of the model is provided below:

### Performance of NGOs projects in Rwanda = 3.429+ 0.228 Cost management.

#### Regression results for Scope Management

The model demonstrates a strong and positive correlation between Scope Management and project performance ( $R = .790$ ,  $p < .05$ ), explaining 62.4% of the variation in project performance. This suggests that effectively managing project scope significantly contributes to the success of NGO projects in the district. Furthermore, the adjusted R Square value (.620) indicates that this relationship remains robust even when accounting for other factors, with a relatively small standard error of the estimate (.14768), indicating a good fit of the model. These findings are consistent with previous research highlighting the significance of managing project scope to achieve desired project outcomes (Dong, 2018; Martins et al., 2019).

**Table 11:-** ANOVA results for Scope Management ANOVA<sup>b</sup>

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.184	1	3.184	145.984	.000 <sup>b</sup>
	Residual	1.919	88	.022		
	Total	5.103	89			
a. Dependent Variable: Performance of NGOs projects						
b. Predictors: (Constant), Scope Management						

**Source:** Researcher data, 2024.

Table 11 demonstrates that effective scope management has a positive impact on project performance ( $\beta = 0.790$ ,  $p < .001$ ). In other words, effectively managing project scope is associated with higher levels of project success among NGOs operating in Bugesera District, Rwanda. This finding supports previous research that highlights the significance of managing project scope for project success (Jones & Patel, 2020). The robust T-value ( $T = 12.082$ ) further highlights the significance of this relationship. Thus, it is crucial for NGOs to prioritize scope management in their project management practices to enhance overall project performance in Bugesera District. The equation resulting from the use of the model's estimated parameters is as follows:

### Conclusion:-

#### Time Management and Performance Of NGOs Projects

The findings underscore the importance of robust time management strategies in achieving project objectives and delivering outcomes that align with stakeholder expectations. Furthermore, the acknowledgment of the dynamic nature of project environments highlights the need for flexibility in managing time-related constraints to adapt to changing circumstances and stakeholder needs effectively. By prioritizing efficient Time Management practices, NGOs can enhance their project performance, ultimately contributing to sustainable development and positive social impact in Rwanda.

#### Cost Management And Performance Of Ngos Projects

The findings reveal that NGOs must prioritize cost control measures, such as rigorous budgeting, expense tracking, and procurement strategies, to mitigate the risk of cost overruns and ensure the sustainability of project initiatives. Therefore, by implementing robust cost management strategies, NGOs can enhance their ability to deliver impactful interventions, optimize resource utilization, and ultimately contribute to the socio-economic development of communities served.

#### Scope Management And Performance Of Ngos Projects

The Results Of The Research Demonstrated A Strong Positive Association Between Scope Management And Project Performance, Highlighting The Necessity Of Precisely Defining, Recording, And Communicating Project Scope In Order To Support Stakeholders' Satisfaction And The Successful Delivery Of Project Deliverables. Furthermore, The Ability To Modify And Oversee Project Scope In A Flexible Manner Has Been Identified As A Critical Component That Enables Non-Governmental Organizations (Ngos) To Skillfully Handle Changing Conditions And Stakeholder Demands, Thereby Enhancing Project Success And Resilience. These Findings Highlight The Critical Role Of Scope Management As A Foundational Pillar Of Project Management Excellence Within The NGO Sector In Rwanda.

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