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Influence of Planning Tools on the Performance of Disaster Management Project in Rwanda. A Case of Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System Project in Musanze District

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Abstract

The objective of the study was to find out the influence of planning tools on performance of disaster management project. The specific objectives are to find out the influence of Gantt Chart and Work Break Structure (WBS), LogFrame, Problem, Critical Path method and objective tree analysis on performance of Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System project in Musanze District. The population of the study was 160 including 5 employees (staff) at headquarter, 5 staff at field at district and sector and 150 direct beneficiaries and in same time implementers/workers of the project. No sampling inquired, rather the census inquiry method used as the population of the study found to be small, and the researcher decided gathered data from every single individual or unit within the target population, without using any sampling techniques Data collected through structured questionnaires and interviews. Collected data analyzed using qualitative and quantitative techniques. The collected research data checked for any errors and omissions that coded, defined and then entered into Statistical Package for Social Science (SPSS Version 24) for analyse. The R Square value is 0.664 means that 66.4% of the variability in project performance accounted for by the variations in the combined effects of Critical Path Method, Problem and Objective Tree, Log Frame, and Gantt Chart and WBS. The results on LogFrame shows unstandardized coefficient β=0.317, p-value of 0.000 indicates that this effect is statistically significant. Gantt Chart and WBS shows unstandardized coefficient β=0.545, p-value of 0.000 indicates that this effect is statistically significant. Problem and Objective Tree shows unstandardized coefficient β=0.393, p-value of 0.020 indicates that this effect is statistically significant. Critical Path Method shows unstandardized coefficient β=0.393, p-value of 0.000 indicates that this effect is statistically significant. Project teams should adopt the Critical Path Method (CPM) during project

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scheduling. This technique helps in identifying critical tasks and their dependencies, resulting in streamlined workflows and timely project completion.

Key words: *Planning tools, Gantt chart and Work Break Structure, LogFrame, Problem, Critical Path method, Performance of disaster management project*.

1. Introduction

Most projects aim for high levels of Performance since that means they can continue working without delays. However, Heller *et al.* (2016) found that the general public's understanding of the project planning process varies considerably from one region of the world to another. The favorable financial situation in which the project is being carried out (Kerzner, 2014) is the primary factor in the project scope change's generally beneficial impact on the success or Performance of the project. Dalcher (2012) revealed that only 18% of evaluated projects were successful, with delays occurring in 43% and budget increases in 59%. Project planning that spins out of control as a result of the poor state of the economy is often blamed for these failures. Although the lives of Rwanda's beneficiaries have improved over the past decade, UNDP terminal evaluation reports (2012) indicate that access to modest sources of income has not been provided as per the project objective. This is because the planning process has resulted in increased costs, poor time management, and the failure to meet project targets within the allotted time, all of which have contributed to an increase in the inefficient use of project performance (UNDP Report, 2012).

The project records describe the following difficulties that prompted the Musanze district to make reference to the project. There are not enough specialists at the national, state, or regional levels to adequately control threats, organize responses to emergencies, or recover from disasters. There is a dearth of essential building blocks for efficient and speedy disaster and emergency response, such as comprehensive and up-to-date vulnerability, risk, and emergency assessments and a profound awareness of risks. (MINEMA, 2018).

The undertaking Reference to the UNDP (2022) evaluation report the project has so far recorded several accomplishments, yet there are still gaps that have been detected, including: some activities that were not completed; Delays in completing some activities; Staff with less required capacity and expertise. Beneficiaries' ownership of the project, budget reduction, and a shift in scope. Risk assessment and early warning increasingly rely on proxy, regional, and international data due to a lack of disaggregated and complete data gathering infrastructure. There have been insufficient community-based resilience-building initiatives to increase people's ability to prevent, prepare for, and recover from disasters. The project's four outcomes are as follows: One outcome is that institutions at the national, district, and community levels have improved technical capacities to reduce risks, manage and respond to natural disasters, and limit gender-differentiated impacts. Results 2: Evidence-based catastrophe risk assessments have improved the risk literacy of the general public, municipal governments, and federal agencies. Thirdly, improved early warning systems for several hazards will aid in preparation, reaction, and recovery. Outcome 4: Communities in prioritized high-risk areas have increased capability to prepare for, respond to, and recover from disasters.

However, there is no study conducted showing the influence of planning tools on the performance and on the challenges that project faced. If this study is conducted, the influence of planning tools to project performance highlighted and informed other projects that will be designed in the same context and sector. If the study is not conducted, the factors of project performance and failure continued to be assumed and not inform exactly the appropriate decisions to be taken toward project performance.

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1.2 Objectives of the study

This research focused on two categories of objectives which are general objective and specific objectives.

General objective

The general objective of this study analyzed the influence of planning tools to performance of disaster management project.

The study guided by specific research objectives to guide the implementation as following:

i. To find out the influence of the project log frame on the performance of the Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System project in Musanze District.
ii. To assess the influence of the problem tree and objective tree analysis on the performance of the Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System project in Musanze District.
iii. To find out the influence of the GANTT chart and WBS on the performance of the Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System project in Musanze District.
iv. To find out the influence of the project Critical Path Method (CPM) on the performance of the Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System project in Musanze District.

1.3 Research hypotheses

The study guided by the following research hypotheses:

i. **H_oa:** There is no significant influence of the project log frame on the performance of the Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System project in Musanze District.
ii. **H_ob:** There is no significant influence of the problem tree and objective tree analysis on the performance of the Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System project in Musanze District.
iii. **H_oc:** There is no significant influence of the GANTT chart and WBS on the performance of the Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System project in Musanze District.
iv. **H_od:** There is no significant influence of the project Critical Path Method (CPM) on the performance of the Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System project in Musanze District.

2. Literature review

2.1 Theoretical review

Theoretical review of this study focused on Goal Setting Theory and theory of change.

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2.1.1 Goal Setting Theory

Goal setting theory was first proposed by Edwin Locke, a psychologist, and Gary Latham, a management researcher, in the late 1960s and early 1970s. They argued that setting specific and challenging goals can lead to improved performance and motivation for individuals and teams. Locke and Latham proposed that goals should be specific, measurable, attainable, relevant, and time-bound (SMART). They also suggested that feedback and support from managers and colleagues can help individuals achieve their goals and improve their performance (Locke & Latham, 2019).

Goal setting theory is a management theory that proposes that setting specific and challenging goals can lead to increased motivation, performance, and achievement. According to the theory, individuals and teams perform better when they have clear goals to work towards and a sense of purpose and direction. Critics of goal setting theory argue that it can lead to unintended consequences, such as unethical behavior or a focus on short-term goals at the expense of long-term goals. However, advocates of the theory argue that these risks can be mitigated by careful goal setting and management. Goal setting theory has had a significant impact on management practice and continues to be an important area of research and development in the field of organizational behavior (Jacklyne & Joshua, 2020).

This theory should guide planners or managers while designing logical framework to ensure that all activities are organized toward outputs set. This theory reinforces the compliance to the purpose of log frame and its influence to the project performance.

2.1.2. Theory of change

The Theory of Change (ToC) is a framework for planning, implementing, and evaluating programs and initiatives that emerged in the field of international development in the 1990s. The approach is based on the idea that social change is a complex and non-linear process that requires a deep understanding of the underlying drivers of change, as well as the context in which change is occurring. ToC approach can help project managers to develop a more comprehensive understanding of the context in which their projects are operating, and to develop strategies that are better aligned with project outcomes and goals. The ToC approach can also help to build stakeholder engagement and participation, and to support ongoing learning and adaptation throughout the project lifecycle (Connell *et al.*, 2020).

2.2. Empirical review

2.2.1 LogFrame and project performance

Research has moved from evaluation to planning. This shift shows a rising awareness of the necessity of proactive and strategic decision-making in achieving goals. Evaluation has been the main method for analyzing treatments, programs, and policies. Data is collected and analyzed to establish the extent. The LogFrame's initial goal was to create a basis for future project evaluations. Project monitoring and reporting increased in the early 1970s. Clear objectives, especially at the purpose and Goal levels, were essential for effective monitoring. Project documentation, which mostly focused on input-to-output conversion, often omitted these projected implications due to a lack of organization (Isaac, 2018).

Rondinelli (1983) and Cracknell (1987) have significantly contributed to the field. These studies illuminate several issues. In addition, including a Narrative Statement outlining intentions, Indicators for measuring progress, and a succinct summary of the primary Assumptions would allow evaluators to determine, in cases of unmet anticipated outcomes,

whether such discrepancies can be attributed to inadequate planning (unrealistic targets or timeframes) or the failure of external factors upon which significant Assumptions were predicated. Internal and external influences affect outcomes. It was quickly recognized that while capturing these factors in preparation for Evaluation was important, specifically articulating them greatly improved the planning process. Including specified Goals, purposes, and Outputs in project design and formulation is a proven method for methodical project planning. The logframe became a planning tool once its initial goals changed (MacArthur, 1993).

2.2.2 Problem and objective tree and project performance

The problem tree illustrates the current problems when completed. Project planning relies on problem analysis to guide priority analysis and decision-making. All parties must be included in this essential step. Identifying challenges as objectives and confirming their hierarchical structure requires discussions and feedback. This technique helps project participants reach a consensus. Reformulating issues may be necessary. The goal tree often has several unattainable goals. Thus, circumstances dictate decisions. Several aims appear impossible, overambitious, or impracticable within the framework of a potential intervention, requiring the discovery of alternate options. Choices are still being considered at this level of preparation. All methods for achieving the desired future condition are considered (Carvalho & Rabechini, 2017).

2.2.3. WBS and project performance

Project planning and management start with the work breakdown structure (WBS). It organizes deliverables, activities, and tasks hierarchically for scheduling and budgeting. The sentence above indicates that the perspective provides a complete overview of the project, particularly in terms of its planned outcomes. The Work Breakdown Structure (WBS) deliverables include the final product, service, or process and any intermediate project methodology outputs needed for project management. The Work Breakdown Structure (WBS) organizes and displays the project's deliverables (PMBOK Guide, 2008).

Project stakeholders use the Work Breakdown Structure (WBS) to create schedules, network diagrams, and budgets to estimate costs and allocate resources. Without a Work Breakdown Structure (WBS), the project team may create inaccurate and unsupported schedules and budgets. This method also lacks important project requirements data. Execution allows tracking of work breakdown structure sections. This tracking process identifies project cost performance and organizational concerns (Yu *et al*., 2018).

2.2.4. Gantt chart and project performance

The Gantt progress chart helps managers track and manage their commitments. The chart shows project schedules and milestones, helping managers keep track of their commitments. They can focus on overcoming challenges and preventing delays. In cases where a commitment cannot be met, the Gantt progress chart allows management to notify customers in a timely manner. Scientific management's focus on efficiency was appropriate for wartime conditions. The scope was defined and well known, with less attention paid to quality and client happiness. Scientific Management optimizes human effort by eliminating waste and maximizing efficiency. Its main goal is to maximize work output in a given timeframe. Efficiency, as observed and represented over time, trumped all other criteria, including quality, employee well-being, organizational learning and growth, diversification, and so on. Scientific Management is therefore unidimensional (Bambarger, 2018).

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Work progress is efficiently shown using the Gantt Chart. Project management was revolutionized by the Gantt Chart's capacity to track and control efficiency over time. The Gantt Chart's popularity and widespread usage stemmed from the insight that time and timing regulate efficiency. As mentioned in the previous section, output increased significantly, pushing management to prioritize accelerated delivery. The complexity of operations increased, requiring coordination across a nationwide network of production facilities. Wartime cooperation was heavily influenced by time and deadlines (Marisol, 2015).

2.2. Conceptual Framework

Conceptual framework is referred as analytical tool with different variations, ideas and context to structure a meaningful presentation, with the purpose to make conceptual distinctions and ideas organization. In this study the conceptual framework used as presented below.

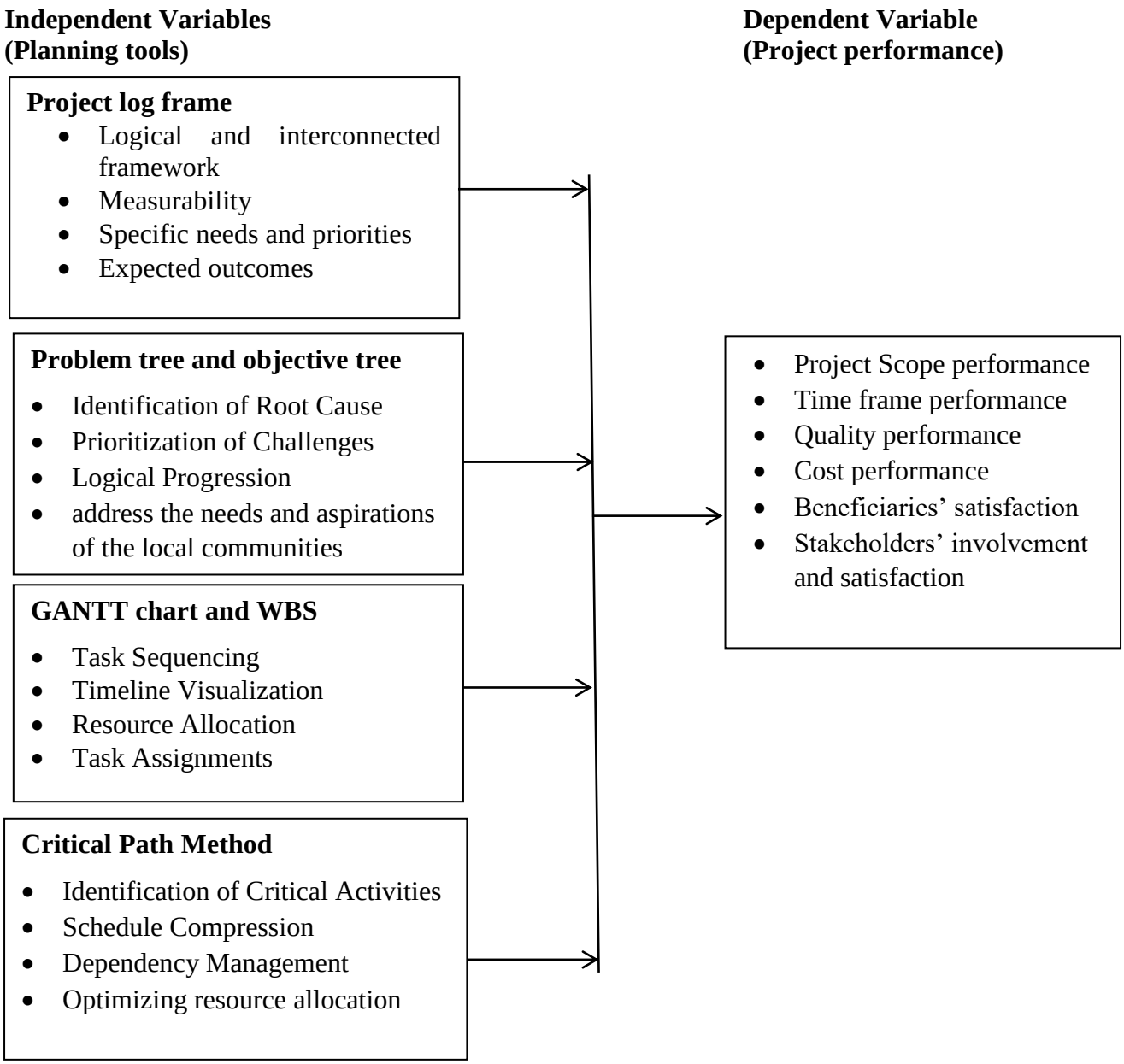

Figure 1: Conceptual framework of the study

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3. Research methodology

The research used Descriptive and correlation design. Descriptive provided researcher with summaries and other critical information regarding study samples and measures. The two main types include measures of mean and standard deviation while correlational study design investigates relationships between variables without the researcher controlling or manipulating any of them.

The population of the study was 160 including 5 employees (staff) at headquarter, 5 staff at field at district and sector and 150 direct beneficiaries and in same time implementers/workers of the project.

No sampling inquired, rather the census inquiry method used as the population of the study found to be small, and the researcher decided gathered data from every single individual or unit within the target population, without using any sampling techniques.

The collected research data checked for any errors and omissions that coded, defined and then entered into Statistical Package for Social Science (SPSS Version 24).

The below equation used to show the strength of the relationship between strategy compliance and multivariate regression analysis to show the nature of the relationship between Influences of planning tools on project performance.

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon$$

Where:

Y = Project performance

$\beta 0$ = Constant Term.

$\beta 1$, $\beta 2$, $\beta 3$ and $\beta 4$ = Beta coefficients.

X1= LogFrame

X2= Problem and objective tree

X3= Gantt Chart and WBS

X4= Critical path method

ε = Error term.

4. Research findings

In this chapter, Researcher presents the research outcomes and analyzes the results of our investigation into influence of planning tools on the performance of a disaster management project.

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Table 1: Correlations

		Log Frame	Gantt Chart and WBS	Problem and objective tree	Critical path method	Project performance
Log Frame	Pearson Correlation	1	.696**	.706**	.680**	.710**
	Sig. (2-tailed)		.000	.000	.000	.000
	N		160	160	160	160
Problem and objective tree	Pearson Correlation			1	.899**	.701**
	Sig. (2-tailed)				.000	.000
	N				160	160
Gantt Chart and WBS	Pearson Correlation		1	.847**	.838**	.781**
	Sig. (2-tailed)			.000	.000	.000
	N			160	160	160
Critical path method	Pearson Correlation				1	.691**
	Sig. (2-tailed)					.000
	N					160
Project performance	Pearson Correlation					1
	Sig. (2-tailed)					
	N					160

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

Table 1 presents correlation coefficients between various variables. The Pearson correlation coefficient between Log Frame and Project Performance is 0.710 ($p<0.05$). This indicates a strong positive correlation. This finding aligns with the literature review by Bahadorestani (2020), who emphasized that using structured project monitoring tools like LogFrame can significantly improve project performance. The positive correlation indicates that projects with well-defined objectives, indicators, and targets tend to perform better due to enhanced planning and monitoring. The Pearson correlation coefficient between Problem and Objective Tree and Project Performance is 0.701 ($p<0.05$), indicating a significant positive correlation. This observation aligns with Bambarger (2018), who emphasized the importance of systematic analysis like Problem and Objective Trees in project planning. The positive correlation indicate that projects that strategically identify and address potential issues and objectives tend to achieve better performance outcomes. The Pearson correlation coefficient between Gantt Chart and WBS and Project Performance is 0.781 ($p<0.05$), signifying a strong positive correlation. This result corresponds with the views provided by Isaac (2018), who highlighted the effectiveness of visualization tools like Gantt Charts and Work Breakdown Structures (WBS) in project planning and execution. The strong correlation indicate that projects with clear task dependencies and timelines tend to achieve better performance outcomes. The Pearson correlation coefficient between Critical Path Method and Project Performance is 0.691 ($p<0.05$), representing a strong positive correlation. This finding resonates with the views provided by Mansuri (2016), who discussed the significance of the Critical Path Method in project planning and management. The strong correlation indicates that projects that prioritize critical tasks and optimize project timelines tend to achieve better performance outcomes.

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Table 4.10's correlations reinforce the importance of structured project management methodologies, such as LogFrame, Gantt Chart and WBS, Problem and Objective Trees, and the Critical Path Method, in achieving better project performance. The strong positive correlations demonstrate that these methodologies contribute significantly to project planning, execution, and monitoring, resulting in improved outcomes. These findings underscore the need for project managers to adopt a systematic approach to enhance project success.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.815[a]	.664	.655	.39421

a. Predictors: (Constant), Critical path method, LogFrame, Gantt Chart and WBS, Problem and objective tree

Table 2 provides the model summary for a regression analysis that includes multiple predictors: Critical Path Method, Problem and Objective Tree, Log Frame, and Gantt Chart and WBS. The R value in the model summary is 0.815. This value represents the multiple correlation coefficient, which indicates the strength and direction of the linear relationship between the combination of predictor variables (Critical Path Method, Problem and Objective Tree, Log Frame, Gantt Chart and WBS) and the dependent variable (project performance). This value is relatively high, indicating a strong overall influence of the predictors on project performance. The R Square value is 0.664. This value represents the proportion of variance in the dependent variable (project performance) that is explained by the combination of predictor variables. In this case, approximately 66.4% of the variability in project performance can be accounted for by the variations in the combined effects of Critical Path Method, Problem and Objective Tree, Log Frame, and Gantt Chart and WBS. This indicate that the selected predictors collectively have a substantial impact on project performance. the findings in Table 4.11 resonate with the concepts discussed by Bahadorestani (2020) and Mansuri (2016). The high R and R Square values indicate a strong and collective influence of the Critical Path Method, Problem and Objective Tree, Log Frame, and Gantt Chart and WBS on project performance. These systematic methodologies appear to play a pivotal role in promoting effective project planning, execution, and successful outcomes, aligning with the principles advocated by the mentioned authors.

Table 3: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	47.497	4	11.874	76.411	.000[b]
	Residual	24.087	155	.155		
	Total	71.584	159			

a. Dependent Variable: Project performance
b. Predictors: (Constant), Critical path method, Log Frame, Gantt Chart and WBS, Problem and objective tree

The ANOVA results presented in Table 3 provide valuable observations into the relationship between a combination of predictor variables (Critical Path Method, Problem and Objective Tree, Log Frame, and Gantt Chart and WBS) and project performance. The high F-statistic of 76.411, associated with a p-value (Sig. = .000), indicate that the overall regression model is statistically significant. In other words, the combination of the selected predictors significantly contributes to explaining the variability in project performance. The ANOVA results support the idea that the combination of the Critical Path Method, Problem and Objective Tree,

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LogFrame, and Gantt Chart and WBS has a substantial influence on project performance. This aligns with the principles advocated by Bahadorestani (2020) and Mansuri (2016) regarding systematic planning, accurate estimation, and effective resource allocation in achieving successful project outcomes.

Table 4: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.555	.178		3.113	.002
	Log Frame	.317	.067	.320	4.691	.000
	Problem and objective tree	.309	.131	.300	2.352	.020
	Gantt Chart and WBS	.545	.095	.544	5.706	.000
	Critical path method	.393	.084	.388	4.691	.000

a. Dependent Variable: Project performance

Project performance = 0.555 + 0.317 LogFrame + 0.309 Problem and objective tree + 0.545 Gantt Chart and WBS + 0.393 Critical path method + 0.178

The coefficients presented in Table 4 provide observations into the individual contributions of each predictor variable (LogFrame, Gantt chart and WBS, Problem and Objective Tree, Critical Path Method) to project performance. For the predictor variable LogFrame, the unstandardized coefficient is 0.317. This coefficient indicates that, holding all other variables constant, a one-unit increase in LogFrame is associated with an increase of 0.317 units in project performance. The p-value of 0.000 indicates that this relationship is statistically significant. This aligns with the findings discussed by Bambarger (2018), where systematic analysis and planning, as represented by LogFrame, can positively influence project performance. The unstandardized coefficient for Problem and Objective Tree is 0.309, indicating that an increase of one unit in this predictor variable leads to a 0.309 unit increase in project performance. The p-value of 0.020 indicates a statistically significant relationship. The predictor variable Gantt Chart and WBS has an unstandardized coefficient of 0.545, indicating that a one-unit increase in Gantt Chart and WBS is associated with an increase of 0.545 units in project performance. This relationship is statistically significant with a p-value of 0.000. This aligns with the principles discussed by Mansuri (2016), emphasizing the utility of Gantt Charts and WBS in effective project planning and visualization. The predictor variable Critical Path Method has an unstandardized coefficient of 0.393, indicating that a one-unit increase in this variable is associated with a 0.393unit increase in project performance. The relationship is statistically significant with a p-value of 0.000. This supports the findings discussed by Bahadorestani (2020) regarding the significance of Critical Path Method in accurate project completion time estimation. Overall, the coefficients provide evidence that each predictor variable has a distinct influence on project performance. Collectively, these predictors contribute to project success by enabling systematic planning, effective resource allocation, and accurate estimation of project timelines.

The research hypotheses were tested using a multiple linear regression analysis on the provided dataset. The results indicated that the project log frame, problem tree and objective tree analysis, Gantt chart and WBS, and project Critical Path Method (CPM) all demonstrated significant influences on the performance of the Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System project in Musanze District. The coefficients for these techniques were statistically

significant ($p<0.05$), indicating that their utilization has a substantial effect on project performance. the null hypotheses (Hoa, Hob, Hoc, and Hod) were rejected.

5. Conclusion

The study assessed the influence of planning tools to performance of disaster management project with a case of Strengthening National and Local Disaster Risk Management Capacity, Resilience, and Enhancing Preparedness and Early Warning System project in Musanze District goes. After a thorough examination, this study has revealed valuable observations into the effectiveness of various project management tools. The project log frame stood out as a crucial tool, showcasing its significant impact on project performance. The structured approach of the log frame in defining objectives, activities, and progress tracking seemed to foster better coordination, resource allocation, and informed decision-making, all contributing to project success. Similarly, the assessment of problem tree and objective tree analysis highlighted their essential role in project improvement. By systematically addressing challenges and goals, these tools empower project managers to make informed choices and optimize resource use, enhancing project alignment and performance. The incorporation of GANTT charts and Work Breakdown Structure (WBS) showcased their importance in project planning and execution. These visual aids streamlined task sequencing, proactive monitoring, and collaboration, leading to improved project outcomes. Implementing the Critical Path Method (CPM) further emphasized its significance in project management. Its ability to identify critical tasks and dependencies played a pivotal role in optimizing workflows, reducing delays, and enhancing project timelines, ultimately resulting in better project performance.

6. Recommendations

Project staff should enhance their utilization of the project log frame by consistently updating it with well-defined objectives and progress tracking. This ensures better coordination and informed decision-making throughout the project lifecycle.

Disaster management projects are recommended to integrate problem and objective tree analysis early in project planning. This structured approach enables systematic resolution of challenges and alignment of project goals, optimizing resource allocation and project outcomes.

Project should consider integrating Gantt charts and Work Breakdown Structure (WBS) to reorganize task sequences, enable proactive monitoring, and foster collaborative efforts. This approach contributes to improved project outcomes and overall efficiency.

Project teams should adopt the Critical Path Method (CPM) during project scheduling. This technique helps in identifying critical tasks and their dependencies, resulting in streamlined workflows and timely project completion.

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References

Abdoulaye, S. (2021) *Respect for Planning Tools and Disparities in the Access of Populations to Basic Social Services*. Circle of Koutiala

Bizimana, E. (2021). *Strategic management process and project performance of NGOs in Rwanda.* Kigali

European Union (2015). *Project Management Tools & Techniques*. Europe

Fowler, F. J. (2013). *Survey Research Methods*. New York, NY: SAGE Publications.

Hellen, O. (2013). Project Risk Identification and Management, AACE International Transactions

Hillman, D., (2009). *Projects planning and process: A practical, systematic projects approach forcommunity*. Sudbury, MA: Jones and Bartlett Publishers.

Isaac, K. (2018) A Global Study on ICT Project Performance. Delft University of Technology Delft, Netherlands 2018

Kapur, B., (2016). *Project Performance and International institutions, project planning Reports*. Bamako, Mali

Kara, H. (2015). *Creative research methods in the social sciences*: A practical guide. Bristol: Policy Press.

Kerzner, H. (2014). *Project recovery: Case studies and techniques for overcoming project failure*. John Wiley & Sons

Kim, B. C., (2006) Project Scope and Project Performance: The Effect of Parts Strategy and Supplier Involvement on Product Development. *JSTOR*, Vol. 35, No. 10 pp. 1247-1263.

Kiza W., (2022), *Influence of Project Planning Process on Performance of Food Sustainable Initiative Project in Rwanda*

Kothari, C. R. (2004). *Research Methodology: Methods and Techniques*. New York, NY: New Age International.

Martinot, J., (2014). *Urban project planning and the Contracts of Project development*. Journal ofthe American Project Planning. New Jersey.

Marvin, D., (2020). *Critical-Path for project Planning and Scheduling. Proceedings of the EasternJoint Conference*: New Jersey.

MINEMA (2020). *National Strategy for Disaster Risk Reduction* 2020-2025

MINEMA, **(**2018). Strengthening National and Local Disaster Risk Management Capacity, Resilience and Enhancing Preparedness and Early Warning System in Rwanda, *Project document*

Mwangi, N. N., & Moronge, M. (2020) *Role of Logical Framework on monitoring and evaluation of Public Private Partnerships Projects in Nairobi County*, Kenya

Niyongira F. (2021) *Influence of monitoring &Evaluation on performance of agricultural projects in Rwanda.* a case of capacity building project in horticulture center at excellence.

Satishprakash S. (2020). *Qualitative Research Methods*: A Theoretical Perspective for Young Researchers

Sharif, E., & Yeoh, L., (2014). *Communicating project planning for the Green Economy. Project development*. New York: M.E. Sharpe

Thompson, A. A., Strickland, A. J. & Gamble, J. E. (2007). Crafting and Executing Strategy-Concepts and Cases, (15th Edition), USA: McGraw Hill/Irwin.

UNDP. (2012). Terminal evaluation of the Samar Island Biodiversity Project (SIBP), UNDP

Wren, D. (1987). Management history: issues and ideas for teaching and research. *Journal of Management*, 13(2), 339.