Effect of Project Risk Management on Success of Community-Based Projects: A Case of Peer Driven Change Project in Burera District, Rwanda

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ABSTRACT

This study assessed how project risk management influences the success of community-based projects in Burera District, Rwanda, focusing on the Peer-Driven Change Project. It aimed to evaluate the impact of four practices: risk identification, risk analysis, risk control, and contingency planning. Grounded in the theories of Risk, Constraints, and Community Coalition Action, the research utilized descriptive and correlational research designs to examine relationships between variables. Data was collected from a sample of 177 respondents, using universal sampling across 29 NGOs. Primary data was gathered through five-point Likert scale questionnaires, while secondary data was sourced through document reviews and interviews. Statistical analyses, including descriptive statistics, correlation, and regression were conducted using SPSS software. However, the statistical tools employed for inferential statistics were Pearson's Correlation, ANOVA, coefficients test and Multiple Linear Repression. Key metrics such as means, standard deviations, and correlation coefficients helped measure relationships between risk management practices and project success. Findings revealed a strong positive correlation between project success and risk control (0.715), risk identification (0.689), and contingency planning (0.642). Risk analysis showed a weaker positive correlation (0.430). Regression analysis indicated a robust model fit, with a correlation coefficient (R) of 0.815 and a coefficient of determination (R^2) of 66.4%. This suggests that 66.4% of project success variability can be attributed to the four predictors. The model's adjusted R^2 of 0.656 confirms its adequacy, and the ANOVA results (F-statistic: 88.67, p-value: 0.000) validate its statistical significance. Regression coefficients highlighted the individual impact of the predictors. Risk identification contributed 0.421 units to project success per unit increase, risk analysis 0.087 units, risk control 0.281 units, and contingency planning 0.252 units. These results emphasize the critical role of robust risk management practices in achieving project success. The study concluded that organizations effectively identify and analyse risks, performing well in risk control and contingency planning is also perceived positively, but noted scope for improvement in risk prioritization. Recommendations include adopting frameworks like ISO 31000 or PMBOK for standardized risk management, enhancing staff skills through targeted training programs, and employing tools like Microsoft Project for real-time risk monitoring and improved communication.

Key terms: Contingency Planning, Project Risk Management, Project Success, Risk Analysis, Risk Control, Risk Identification
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I. INTRODUCTION

Globally, community based projects operate in volatile and changing atmosphere. Community based organisations have continually sought to engage in community-based projects towards promoting the overall well-being of communities and societies and areas of operation. However, lack of proper project risk management practices that may be taken to address the identified risks experienced in the project's implementation. According to Alger and the Public Benefits Organisation Act (2013), non-governmental organisations (NGOs) are facing increased risk and uncertainties that could compromise their ability to survive and function fully. This especially noticeable in Rwanda and other developing nations.

In Africa context, nnumerous economies in Sub-Saharan Africa suffer significant financial losses amounting to billions of dollars due to delays in the completion of infrastructure projects, which hinder the intended goal of poverty reduction (Homthong & Moungnoi, 2016). Infrastructure project costs are significantly impacted by delays in their completion, and this has a profound impact on the lives of its population, especially in developing nations such as Rwanda. Many projects encounter delays, alterations in their scope, behind the schedule, and some even face the possibility of being dismissed. These issues often stem from ineffective risk management practices within project environments (Roque & de Carvalho, 2013). According to Mbonigaba (2021) NGOs are crucial in developing countries of Africa because they frequently offer vital facilities to their citizens.

In Rwanda, Community based Projects (CBPs) play a crucial role in the development of communities and relevant role in providing social services at the local level. They are employed in a range of diverse fields, such as education, health, the rights of the disabled, gender issues, youth empowerment, and many others domain of intervention. It is an organisation that operates as a non-profit entity and relies predominantly on the contributions of volunteers for its activities. According to the World Bank Group, CBPs have gained increasing recognition as effective tools for community development and poverty reduction (World Bank Group, 2021). These projects have been instrumental in addressing local needs and promoting sustainable development (Rwanda Development Board, 2019). This implies that CBPs rely significantly on voluntary contributions for manpower, resources, and financial backing. Project risk management can be defined as the art and science of identification, analysis and responding to the uncertainties that emerges during the life period of a project in such a way as to achieve the project objectives by satisfying all the stakeholders (Schwalbe, 2016). Normally, every project has a risk and one of the most important roles of a project management is to ensure that these risks are minimized, if not eliminated (Zou et al., 2017).

How project risk management practices are handled become a crucial to the project success. Schneiker (2018) noted in his study that before beginning a project, an NGO must consider all relevant factors, such as the project's size, expected impact on the community, and cost. This is because high risks can result in financial losses and, in the worst-case scenario, an NGO that fails. Risks are impediments that have the potential to prevent any set of plans and result in the project's termination or only partial completion (Franz & Messner, 2019). Despite the importance of project risk management practices, little research exists on how are applied in CB projects when the CBOs executing large-scale development projects in low-income countries like Rwanda.

The adoption of effective project risks management practices is instrumental in facilitating the success of a project as it involves the analysis of the project needs along with the required resources and adopting measures tailored towards addressing the needs (Jawad et al., 2018). However, most times, the projects fail due to the adoption of ineffective project risk management practices. This case study seeks to fill this gap by exploring the project risk management approaches utilised in the implementation of Community based projects specifically from NNGOs with the aim of promoting Socio-Economic development of Rwandan people through the community-based projects operating in Burera district. By examining the selected Community based Organisations (NNGOs)' experiences, we aim to identify best practices and lessons learned that can inform future project planning and execution efforts in similar settings. Furthermore, we hope to shed light on the unique challenges associated with risk management practices in the projects implemented by selected Organisations operating in Rwanda

Effective management of project risks is a crucial factor that significantly influences the success of a project (Imbrizi and Mazieri, 2018) and significantly affects PS (Alkhlaifat et al., 2019). The Rwanda Governance Board (RGB) has the responsibility of supervising the registration and activities of both local and international Non-Governmental Organisations in Rwanda (RGB, 2023). They have been active in with the object of promoting Socio-Economic development of Rwandan people through community-based projects in various project such as the promotion of education, raising the economic empowerment of families, the provision of teaching materials, the facilitation of adult literacy training, and the contribution to the welfare of community citizens, improving sanitation through building houses, youth economic empowerment. Seeing the nature of their projects, and their implementation risks can't miss, and different strategies were taken to minimize them for keeping up the project's completion. Against this context, the present research sough to examine effect of managing risk in project specifically on Community based projects success, a case of Peer driven change project implemented in Burera district, Rwanda.

1.1 Statement of the Problem

Community based projects implemented by NGOs have fallen short in meeting expectations and delivering on the expected outcomes due to inadequate recognition of Project risk management. Many community-based projects implemented by NGOs fail due to organizational overconfidence in project success and insufficient identification, assessment, and provision of mitigation or contingencies for risk factors (Berman & Kang, 2013; Mohd Ali et al., 2019). Good strategies for managing risks can help mitigate these risks and improve overall project outcomes (Mohd Ali et al., 2019). The absence of proper project risk management practices led to delays in the projects and extended their completion time, consequently inflating the project's budget (Chilumo et al., 2020; Pirwani et al., 2020; Masengesho et al., 2020).

Globally, regionally and locally various studies have been carried out on the risk management practices impact the performance and success of projects. For instance, Carvalho and Rabechini (2015), in a study that examined how project risk management practices impact the success of IT projects, the results indicated that IT projects carry out risk management to maximize the performance and to manage risk effectively and efficiently enjoy financial savings and greater productivity. Mutunga and Ondara (2021) conducted a study on the influence of Risk Management Practices on Project Performance at Kenya Airports Authority. The research findings indicated that risk management significantly

impacts project performance. The study conducted by Watema and Tulirinya (2021) in Iganga Municipality revealed that effective project implementation and robust risk management practices significantly contribute to the success of projects implemented by NGOs. In their research, Watema and Tulirinya aimed to explore the relationship between project implementation and risk management practices on project outcomes for NGO-led projects in Iganga Municipality. Their findings underscored the importance of both aspects in ensuring successful project completion. Consequently, the study suggested that NGOs operating in Iganga Municipality should prioritize project risk management practices to enhance project success due to their significant correlation.

Adeleke et al. (2016) conducted a study on the impact of risk management practices on construction projects in Lagos. Their findings indicated a positive relationship between risk management practices and project success. Consistent utilization of risk management practices was shown to enhance the likelihood of project success. Inadequate risk management practices often lead to delays in the success of construction projects. Managing risks effectively is crucial for project staff to minimize or eliminate potential obstacles to project success (Zou et al., 2017). In Rwanda, Gateka, (2023) examined the effect of risk management on Rabbit ltd project success in Rabbit ltd in Rwanda   using the Rabbit Project as an example The research findings suggest a significant correlation (R2= 0.84) between the success of the Rabbit project and effective risk management practices.

Various studies in Rwanda, such as those by Habimana and Kamande (2023) and Gateka (2023), have highlighted the significant impact of risk management on project success, particularly in non-governmental and community-based projects. These studies have found that inadequate risk management often leads to project delays, missed expectations, and a failure to achieve desired outcomes. In fact, Community engagement and ownership are vital for the sustainability of projects, particularly in risk management. However, participation from community members often decreases once the project phases out, leading to a lack of continuity in activities. This drop in involvement is attributed to insufficient empowerment and limited involvement in risk management practices. Rutembesa Gwiza and Mbonimana (2021) emphasize the importance of involving local stakeholders in risk management to improve the sustainability of projects, as demonstrated in their study of the Essential Nutrition & Health Package Project in Rwanda. The above-mentioned studies have proved that risk management practices enhance project success. There is a contextual gap since very few studies have been done on the success of community-based projects in Burera district, is significantly impacted by effective execution of project risk management strategies.

Despite the existing literature on risk management's impact on project success, there remains a notable gap regarding its specific effect on peer-driven change projects within Burera district. To address this gap, this research aims to evaluate the effect of risk management on the success of community-based projects in this region. By understanding the relationship between risk management and project success, this study seeks to inform policymakers to provide insights to reduce project failures, optimize resource allocation, and ensure long-term community benefits. Contribute to existing theories by emphasizing the importance of risk management and project success alongside traditional success metrics.

1.2 Research Objectives
The general objective of this study was to assess the effect of project risk management on success of community-based projects in Burera district, Rwanda. Particularly, the study had the following the specific objectives:
  i. To examine the effect of risk identification on the success of Peer Driven change project in Burera district.
  ii. To examine the effect of risk analysis on the success of Peer Driven change project in Burera district.
  iii. To examine the effect of risk control on the success of Peer Driven change project in Burera district.
  iv. To examine the effect of contingency planning on the success of Peer Driven change project in Burera district.

1.3 Research Hypotheses
H_{01}: There is no significant effect of risk identification on the success of Peer Driven change project in Burera district.
H_{02}: There is no significant effect of risk analysis on the success of Peer Driven change project in Burera district.
H_{03}: There is no significant effect of risk control on the success of Peer Driven change project in Burera district.
H_{O4}: There is no significant effect of contingency planning on the success of Peer Driven change project in Burera district.

II. LITERATURE REVIEW

2.1 Theoretical Review
2.1.1 Risk Theory
The word "risk" is used colloquially in many different senses but has also been defined as a precise technical term in several different contexts. Economists commonly refer to Frank Knight's (1921) clear distinction between "risk"

and "uncertainty." According to Knight, risk exists when an action can result in several different, mutually exclusive outcomes, each with a known probability. If these probabilities are unknown, the situation will in Knight's language contain uncertainty.

In project management, a risk can be defined as an uncertain event or situation that may affect a project's objectives, either positively or negatively (Abd El-Karim et al., 2017; Tahir et al., 2019; Kasap and Kaymak, 2007). Project Risk Management (PRM) refers to a structured process involving the identification, analysis, and response to potential risks within a project (Tahir et al., 2019). Risk is characterized as an event, whether internal or external, that has the possible to impact an organisation's financial performance by either increasing costs or reducing revenue. In this study, this theory can help identify likely risks such as financial constraints, stakeholder conflicts, resource limitations, and external factors like political instability or environmental challenges. By applying risk theory, researchers can create plans for reduce these risks, enhance project resilience, and improve overall project success.

2.1.2 Theory of Constraints (ToC)

The Theory of Constraints (TOC), a management philosophy introduced by Eliyahu (1984) in his book "The Goal," is a key strategy that emphasizes enhancing processes by identifying and resolving constraints within a system. The primary objective of TOC is to increase profitability by optimizing the system's overall throughput. This theory views any chain, whether it be a process or a system, as only being as strong as its weakest link. It aids organizations' in reaching their objectives by providing a framework for better control over their endeavours.

The Theory of Constraints asserts that each process possesses a key limitation and boosting the overall output of the process hinges on improving this limitation. It stresses that optimizing elements that are not constraints will not result in significant advantages; only by tackling and enhancing the constraint can progress towards the main objective be made. The Theory of Constraints is a structured approach used to identify obstacles that hinder the success of a system and make necessary modifications to eliminate them. The theory advocates for project management to identify and address project constraints that hinder success. Constraints refer to any limitations or obstacles that can hinder a project's progress and achievement of its objectives. Common types of constraints include time-related constraints, resource-related constraints, and risk-related constraints such as cost overruns due to poor budgeting practices or corruption. This study used the Theory of Constraints (TOC) to expand on the significance of managing risks in enhancing project sustainability. This theory can help determine critical constraints that may impede project success or desired outcomes. By applying the principles of the theory of constraints, researchers can analyse factors that could affect project success.

2.1.3 The Community Coalition Action Theory (CCAT)

The Community Coalition Action Theory (CCAT) falls under the category of theories aimed at facilitating change within organisations. A community coalition represents a structured setup where all members collaborate towards a shared goal and purpose. In the part of an active partnership, a coalition typically concentrates on preventing or improving a community issue by examining the problem; collecting data and evaluating requirements; creating a plan of action with identified resolutions; executing these resolutions; attaining results; and starting social transformation (Butterfoss & Kegler, 2002).

CCAT authors see community coalitions as a specific type of coalition and subscribe to the definition of community coalition presented by Feighery and Rogers in 1990 as "a group of individuals representing diverse organisations, factions, or constituencies within the community who agree to work together to achieve a common goal." According to Butterfoss and Kegler, (2002), contributors to the CCAT, suggest that the CCAT theoretical framework is applicable to efforts in building coalitions at the state wide level.

The fourteen elements identified by Butterfoss and Kegler (2009) consist of stages in development, community setting, primary agency or organizing body, coalition composition, procedures, leadership and personnel, frameworks, combined membership and external resources, member involvement, cooperative synergy, evaluation and strategic planning, execution of tactics, community transformation results, health and social impacts, and community capability. The CCAT initiative aims to forecast various outcomes, such as enhanced organisational structure, function, and effectiveness; community transformations like the development of environments, policies, and practices that promote healthy living; increased community capabilities; and improved social results. According to Glanz et al. (2008), CCAT represents a leading approach achievable through collaborative efforts among multiple organisations to enhance health behaviours. However, a significant drawback of this model is its intricate nature with numerous steps and structures, which has limited its adoption in health intervention design by researchers.

This theory can support the idea that involving various stakeholders, including community members, local organisations, government agencies, and NGOs, in the process of planning and executing a project can lead to more

sustainable outcomes. Researchers can investigate how strong collaborations and community involvement contribute to the long-term influence and successful project effect by utilising the community coalition action theory.

2.2 Empirical Review
2.2.1 Risk Identification and Project Success

Paul and Samson (2021) conducted a study in Kiambu County, Kenya, to analyse how risk management practices impact the performance of infrastructure projects. The study aimed to assess the influence of risk identification, risk mitigation, risk monitoring, and risk assessment on infrastructure project performance. The research findings indicated that risk identification had the most significant positive effect on infrastructure project performance in Kiambu County. Organisations begin with the unknown which means that risk identification should be the most significant starting points, when implementing a risk management program.

A study conducted by Senga and Gitahi (2023) examined the impact of risk management techniques on the performance of public infrastructure projects in Rwanda. This research was piloted in Kigali, a case of the Rwanda Urban Development Project (RUDP II). The study's sample consisted of 132 individuals, with 70 being employees of the Kigali city involved in the RUDP II project implementation and 62 from private enterprises also participating in the project. The research utilized a combination of primary and secondary data sources. The findings showed a weak correlation existed between risk identification practices and the project performance of the RUDP II project. However, regression model 1 revealed that the variables risk identification practices (measured by interview and historical record) and the execution of infrastructural projects (measured by scope, cost, and time) contribute to 25.9% of performance in RUDP II. Risk identification practices positively and significantly influenced the performance of RUDP II.

Kinyua et al. (2015) conducted a study to investigate the impact of risk management practices on the performance of small and medium-sized enterprises (SMEs) in Nairobi's information and communication technology (ICT) sector. The research adopted a descriptive design and targeted a population of forty-eight ICT SMEs. The investigation utilized arbitrary sampling, and multiple regression analysis was employed to determine how risk management strategies affect the project performance of ICT SMEs. The study's results indicated that the successful identification of risks has a beneficial and significant impact on project implementation, especially concerning small and medium enterprises (SMEs) in Kenya. The research was focused on the SME sector and ICT, with an additional examination of the airport industry within the transportation sector.

2.2.2 Risk Analysis and Project Success

A study on the relationship between Rwandan non-governmental projects success and risk management practices was conducted by Habimana and Kamande (2023) in ADP Kageyo World Vision Project Case Study. The study examined the effects of risk analysis on World Vision's ADP Kageyo project performance. Risk allocation, risk categorization, and risk assessment were employed to study the risk analysis techniques. The study also concluded that risk analysis processes, which included risk allocation, risk categorization, and risk assessment, were the foundation for the success of the ADP Kageyo project carried out by World Vision. The analysis exposed that there was no correlation between risk allocation, project quality effectiveness, and project cost effectiveness. The association between project quality effectiveness and risk classification was found to be statistically significantly negative.

A research was done by Mervat and Hani (2017) on the effect of Risk Management on Project Success. The research was conducted to explore how risk management influences the success of projects at the Jordanian Ministry of Environment. The research focused on projects located in North, Central, and South Jordan, totalling 62 projects. A descriptive analytical approach was utilized to meet the study's objectives. A questionnaire-based study was conducted consisting of 42 paragraphs. Out of the 500 distributed questionnaires, 430 were received with a return rate of 86%. All received questionnaires were deemed valid and reliable for further analysis. The results of this study yielded several important findings. One such finding revealed a significant positive relationship between various risk management components and project success. More specifically, the study identified that effective risk analysis, an appropriate response to potential dangers, thorough evaluation and review of risks played crucial roles in achieving successful project outcomes.

A study conducted by Senga and Gitahi (2023) aimed to analyse how risk management practices impact the performance of public infrastructure projects in Rwanda. The research was carried out in Kigali, focusing on the Rwanda Urban Development Project (RUDP II) as a case study. The study sought to evaluate the influence of risk identification, analysis, and mitigation practices on the success of the RUDP II project. Findings on this variable showed that the correlation was high between risk analysis practices and performance of RUDP II. Regression model 2 revealed that the variables risk analysis practice (measured by Qualitative method and Quantitative method) and the infrastructural projects performance (measured by scope, cost, and timeline). The two variables of risk analysis practices (Qualitative method and Quantitative method) contribute to 46.4% of how RUDP II performs.

2.2.3 Risk Control and Project Success

Roque and de Carvalho (2013) conducted a study on how managing project risks impacts the performance of vendor companies in Brazil, specifically focusing on 415 IT projects. Through regression analysis, they found that effective risk evaluation and planning significantly predicted project success. The research aimed to understand how assessing and managing risks influences project outcomes in Brazilian seller organisations. The study highlighted that controlling risks had a notable effect on project success, highlighting the beneficial correlation between project performance and risk assessment.

Sangwa and Dushimimana (2023) conducted a study on the impact of risk management practices on project performance, focusing on the Twiceceka project carried out by Women for Women International in Huye district, Rwanda. The aim of the research was to analyse how risk management influenced project outcomes in Rwanda, specifically examining the TWICECEKA project in Huye district. A project implemented by Women for Women International with funding from USAID. The study's specific goals include assessing how identifying risks affects the TWICECEKA project's performance in Huye, determining the influence of analysing risks on the project's performance in Huye district, examining how responding to and planning for risks impacts the project's performance in Huye district, and evaluating how effectively monitoring and controlling risks enhances the operational efficiency of the TWICECEKA project in Huye district. The researcher utilized theories related to change, constraints, and goal setting to accomplish these objectives. The researchers used a census survey. The sample size was 200 respondents, covering all target groups. For this study, a questionnaire was employed to gather primary and secondary data.

Peter (2014) study on the influence of risk management on project performance in Nairobi City County, Kenya revealed that effective risk The dependent variable's response to one-unit increases in the risk monitoring and control variable, while holding all other variables constant, is denoted by the risk monitoring and control, variable, its positive value implies a positive correlation between increased risk control and improved project performance. The findings demonstrate that risk management significantly improves project performance control had a significant impact on project outcomes. The research participants highlighted challenges within their organisations in identifying risks associated with projects. Nevertheless, they concurred that their organisations could distinguish between actual risk events and the sources of those risks. Furthermore, they agreed that their organisations' risk managers effectively addressed risks according to the guidelines outlined in the risk management plan. These results indicate that Nairobi City County organization's employ risk control measures to a moderate but significant extent. These measures include identifying risks, separating risks from their sources, responding to identified risks, and implementing a complete risk management plan.

2.2.4 Contingency Planning and Project Success

In their study, Weingarten et al. (2016) examined how risk prevention impacts the performance and success of supply chain integration. They utilized a descriptive research approach and focused on 12 companies in the stationery supply sector. The findings revealed that these firms employed various risk prevention tactics like thorough planning, alternative methods, and contingency plans. The study concluded that implementing risk prevention strategies has a positive effect on the performance of supply chain companies.

Aduma and Kimutai (2018) conducted a research project at the National Hospital Insurance Fund (NHIF) in Kenya to assess how project risk management strategies influence project performance. The study employed a descriptive research design, surveying 241 employees, including 651 managerial staff, through questionnaires to collect primary data. The findings revealed that risk contingency planning had the most significant impact on the success of NHIF projects, while risk transfer showed the least influence.

The study conducted by Kasiita (2022) in Rwanda aimed to explore the effect of risk management strategies on construction project performance. Adopting a descriptive research design, the researchers surveyed 169 project team members from four districts, using simple random sampling. Data was collected through structured questionnaires, documentary reviews, and in-depth interviews. Qualitative analysis techniques were employed for data analysis. The findings revealed that having a detailed work plan and effective contingency planning significantly influenced the performance of construction projects. Moreover, the study decided that research prevention strategy positively affected the performance of construction firms.

III. METHODOLOGY

3.1 Research Design

A research method is a plan that specifies and outlines procedures and methods that are used in collecting and analysing data on a given topic of research and reporting of findings in a manner that is detailed (Lewis, 2015). To attain goal and objectives of the research study, the researcher used the descriptive research design to provide information on

characteristics of a population   and correlational research design to measure and assess the statistical relationship between two variables.

3.2 Study Population

Population can be defined as the total collection of the elements, events, people or records that have the custody of the desired information and can answer the research questions that have been developed by the researcher (Bordens & Abbott, 2018). A pure meaning of the study population provides assurance as to the validity and reliability of the study results (Danaher, et al., 2016).

Therefore, based on the study's timeframe, accessibility and organisations' willingness to participate on this study, the target populations for this research were 177 selected from 29 NNGOs implementing CBPs in Burera district. The selected NNGOs together have 177 staff working on their Peer driven change project. Table below summarizes the population distribution by organisation for the study. The size of the sample relates directly to the size of the population being studied. Universal sampling technique used for this study, where the researcher attempts to include the entire population. This method is used when the population size is relatively small or when it is feasible and practical to include all members of the population in the study.

Table 1

List of Study Population

NGOs	Population
Hope Initiative Rwanda Organisation (HIRO)/Burera	7
Hand in Hand for Development	6
Association Rwandaise des Conseiller en Traumatisme (ARCT-Ruhuka	6
Children Voice To day (CVT)	6
Rwandan Association of Ecologists (ARECO Rwanda nziza)	6
Shenge Children Organisation (SCO)	6
Love Gate Organisation (LGO)	6
Tubibe Amahoro(TA)	6
Peace and Durable Development (PDD)	6
Livelong In Goal (LIGO)/Kigali	6
Réseaux Rwandais des Personnes Vivant avec le VIH (RRP+)	6
Rwanda of Peace and Progress (RPP)	6
Peace and Durable Development (PDD)	6
Rwanda Wildlife Conservation Association (RWCA)	6
Inclusive Rwanda Men's Resource Center (RWAMREC)	6
Action Nord Sud Rwanda (ANS)	6
Inspire Educate Empower Rwanda (IEE)	6
Rwanda Rural Rehabilitation Initiative (RWARRI)	6
Commission Diocésaine Justice et Paix Byumba (CDJP_BYUMBA)	6
Commission Diocésaine Justice et Paix Ruhengeri (CDJP-RUHENGERI)	6
Initiatives Des Jeunes Scolarisés Pour Le Développement Durable (Jeunes Scolarisés)	6
Access to Health(A2H)	6
National Union of Disabilities' organisation in Rwanda (NUDOR)	6
Society for Family Health, Rwanda (SFH),	6
Hope of Family Organisation (HoF)	6
Rwanda Scouts Association (RSA)	8
Sympathy Rwanda	6
Association de Solidarité des Femmes Rwandaises (ASOFERWA)	6
Association Rwandaise pour le Développement Rural (ARDR)	**6**
Total Target population	**177**

3.3 Data Collection Methods

The data collection has been included both qualitative and quantitative data. Data collection can either be primary or secondary data collection (Zozus, 2017). For this rresearch study, the data collection method that used for this study is group focused.

3.3.1 Data Collection Instruments

The data collection instruments for this study include a questionnaire, document review and interview. Both primary data and secondary data was gathered using a questionnaire tool whereby a self-administrated questionnaire

was developed and pretested prior to full survey for achieving the objectives of the current studies. Using Likert scale type of questionnaire, the staff indicated whether they Strong agree, Agree, Neutral, Disagree and Strongly Agree. The documentary review used by researcher to gather secondary data. As part of the documentary analysis, process, the researcher used documents include reports and other documents to evaluate and analyse the text relevance to this study. Interviews were used to complement the data collected from questionnaire. The advantage of using interviews is that allows respondents to raise issues that the researcher may not expected.

3.4 Data Processing

The data that have been collected from complete questionnaires, summarized and processed. This involved data coding, editing and tabulation especially quantitative data. The purpose of all these is to make the information clear and understandable for other people and facilitating data analysis. Editing was done as a process of re-evaluation and correction of errors in fact judgment. It also involved correction of spellings, punctuation and capitalization. Coding was done for grouping facts according to the themes and sub themes of the study. This was necessary for easy interpretation and analysis of results. Tubulars' representation was utilized to display data in terms of frequency and percentages.

3.5 Data Analysis

The researcher used descriptive statistics to analyze the data by way of frequencies, percentages, means, variance, standard deviation and correlation analysis in testing whether there is efficient relationship between project risk management and project success. SPSS has been used as support in the data analysis. The researcher prefers SPSS because of its ability to cover a wide range of the most common statistical and graphical data analysis and is very systematic. SPSS has been utilized to create showcase returns, irregular returns and volumes and factual qualities to test noteworthiness.

Inferential statistics has been examined through the utilization of multiple regression model with the objective of determining the effect of the independent variables on the dependent variable. A multiple regression model has been utilized to evaluate how project risk management strategies impact the success of a project, specifically focusing on community-based projects. The multiple regression equation for the variables is the following.

$$Y = \beta_0 + \beta_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Y is the dependent variables (Project Success)

$\beta_0, \beta_1, \beta_2 X_2, \beta_3, \beta_4$ Are the parameters (Beta coefficient))

ε is the error term (the Greek letter epsilon) is a random variable.

X_1: Risk identification

X_2: Risk analysis

X_3: Risk control

X_4: Contingency planning

ε: Error term

3.6 Data Validity and Reliability Test

Reliability and validity are concepts used to evaluate the quality of research. Reliability is about the consistency of a measure, and validity is about the accuracy of a measure. It's important to consider reliability and validity when you are creating your research design, planning your methods, and writing up your results, especially in quantitative research. Validity and reliability increase transparency and decrease opportunities to insert researcher bias in qualitative research (Singh, 2014). For all secondary data, a detailed assessment of reliability and validity involve an appraisal of methods used to collect data, Saunders et al. (2009).

3.6.1 Validity Test

Validity refers to how accurately a method measures what it is intended to measure. If research has high validity that means it produces results that correspond to real properties, characteristics, and variations in the physical or social world. High reliability is one indicator that a measurement is valid. If a method is not reliable, it probably isn't valid.

In this research the validity was assured by collecting the data from different sources such as project managers and others support staffs working in the organizations. Validity was also ensured by making sure the sampling techniques were free from bias by giving each subject an equal opportunity to score and it is also improved through operationalization of variables. The questionnaires were comprehensive to cover all the variables being measured.

3.6.2 Reliability Test

Reliability refers to how consistently a method measures something. If the same result can be consistently achieved by using the same methods under the same circumstances, the measurement is considered reliable.

To measure the reliability of the data collection instruments an internal consistency technique Cronbach's alpha was computed using SPSS version 25. The pilot study involved questionnaires from 177 respective project staffs (directors, project managers, program coordinators, technical leaders, team leaders and support staffs) who are involved in the in a project work by non-governmental offices (NGOs). According to Zinbarg et al. (2005) Cronbach's alpha is a coefficient of reliability that gives an unbiased estimate of data generalizability. The reliability coefficient of 0.7 and above is recommended. Reliability analysis through SPSS yielded a Cronbach alpha greater than 0.7 for the research objectives as shown on Table 2, implies that the research instrument was reliable.

Table 2
Reliability Test Results

Cronbach's Alpha	Number of Items
0.839	26

The data from above Table 2 represents the results of a reliability test using Cronbach's Alpha, a common metric for assessing internal consistency or reliability of a set of items in a questionnaire or scale. The Aggregate Cronbach's Alpha of 0.839 indicates a high level of internal consistency among the 26 items tested. In general, a Cronbach's Alpha value above 0.7 is considered acceptable, while values above 0.8 suggest good reliability. With a Cronbach's Alpha of 0.839, the reliability of the 26-items scale is considered good, implying that the questionnaire is well-correlated and consistently measure the same underlying construct. This would be a strong indication of the scale's reliability for use in further analysis.

3.7 Ethical Considerations

This study was conducted in ethical manner to ensure to establish relation with the respondents and there was information of consent in conducting research. The researcher used request the permission to the organisation management to allow their member to participate in data collection with required authority letter. All the information obtained from the respondents have been handled with confidentiality and the names of respondents will not release. All sources of information be it textbooks, journals, internet, magazines, dissertations were acknowledged. Similarly, all respondents were acknowledged for the information given.

IV. FINDINGS & DISCUSSION

4.1 Introduction

This chapter outlines the findings from the data collection phase. As noted in the previous chapter, the study employs a descriptive research approach that integrates both quantitative and qualitative methods. The primary aim of this research is to evaluate the effect of project risk management on the success of community-based projects, specifically focusing on the Peer Driven Change project in Burera District, Rwanda.

4.1.1 Demographic Characteristics of Respondents

Table 3
Gender of Respondents

Gender	Frequency	Percent
Female	65	36.72
Male	112	63.28
Total	**177**	**100.00**

Based on the above table 3, it indicates that most respondents are male (63.28%) compared to female respondents (36. 72%). Specifically, there are 47 more male respondents than female respondents (112 - 65). The percentage of male respondents (63.28%) is significantly higher than that of female respondents (36.72%). This indicates a gender imbalance in the sample, with more than half of the respondents being male.

Table 4

Age of Respondents

Age_ category	Frequency	Percent
Below 25 Years	4	2.26
26-30 Years	6	3.39
31-35 Years	50	28.25
36-40 Years	55	31.07
41-45 Years	48	27.12
46-50 Years	13	7.34
Above 50 Years	1	0.56
Total	**177**	**100.00**

In summary, the above table reveals a concentration of respondents in the 31-45 years' age range, with significantly fewer participants in the younger and older age brackets. This age distribution suggests that the sample predominantly consists of middle-aged adults, which could influence the study's findings and applicability to other age groups.

Table 5

Education Background of Respondents

Education level	Frequency	Percent
Secondary certificate	0	0.00
Bachelor	102	57.63
College diploma	1	0.56
Masters	74	41.81
PhD	0	0.00
Total	**177**	**100.00**

Based on the findings on the above table, the combined percentage of respondents with either a bachelor's or master's degree is substantial (99.44%). This suggests that most of the sample has at least some higher education. Overall, the data indicates a well-educated sample with a notable predominance of individuals holding bachelor's and master's degrees.

Table 6

Working Experience in Peer Driven Change Projects of Respondents

Years of experience	Frequency	Percent
0 -2 years	11	6.21
3 - 5 years	123	69.49
6 -10 years	38	21.46
Over 10 years	5	2.84
Total	**177**	**100.00**

The above table 6 provides a distribution of respondents based on their years of professional experience. Most respondents (65.91%) have 3 to 5 years of experience. This indicates that a significant portion of the workforce is relatively young in their careers, potentially indicating a dynamic or rapidly evolving field. Overall, the data indicates a workforce predominantly with moderate experience (3 to 5 years) and fewer individuals with either minimal or extensive experience.

4.1.2 Descriptive Analysis of the Study

Descriptive statistics, including means and standard deviations, were used to summarize these findings across the independent variables, as detailed in the following sections.

Table 7

Risk Identification and Success of Peer Driven Change Project in Burera District

Statements	Mean	Std. Dev.
In our organisation Potential risks are identified at the beginning of a community- based project	4.006	0.25
Our Organization ensure risk registration both internal and external at the beginning and during the implementation of the CB project	4.028	0.19
Effective methods and techniques risks such as interviewing, assumption analysis, Document reviews, Delphi technique and Brainstorming were used to identify project risks	4.034	0.25
Risk management plan has been done at the project inception	4.056	0.27
Aggregate Mean and Standard Deviation	**4.03**	**0.13**

The findings indicate that participants generally agreed with the assertion that risk identification has an effect on peer-driven change projects in Burera district, Rwanda with the overall mean of 4.03 suggests a positive consensus on the effectiveness of risk identification practices in the organization. It reflects that, on average, respondents agree that risk identification processes are in place and effective. The low aggregate standard deviation of 0.13 further supports the conclusion that there is strong agreement among respondents about the consistency and effectiveness of the risk identification practices.

> *Most of the interviewee respondents stated that, they have seen how their team prioritizes risk identification right from the community-based project start. During the initial planning phase, they sit down with project managers and other project staff discuss possible challenges. Everyone, from their project managers to the field team, understands that identifying risks early on helps us avoid major setbacks.*

The findings agree with those of Paul and Samson (2021) who found that the risk identification had the most significant positive effect on infrastructure project performance. Organisations begin with the unknown which means that risk identification should be the most significant starting points, when implementing a risk management program. This also supported by Risk theory as it focuses on the identification, assessment, and prioritization of risks. It directly supports risk identification by helping define and classify risks in community projects. Finally, Community coalition action theory supports risk identification by helping engage diverse stakeholders who may have different perspectives on potential risks in community-based projects.

Table 8

Risk Analysis and Success of Peer Driven Change Project in Burera District

Statement	Mean	Std. Dev.
For all the risks identified, their likelihood and impact are assessed.	4.05	0.34
All risk identified are categorized based on their likelihood	4.12	0.43
Risk register, risk matrix, checklist and SWOT analysis are techniques used for risk analysis in your community-based projects?	4.04	0.33
Once risks analysed they have been prioritized by using these methods: Risk matrix, Quantitative assessment (Probability x impact), Qualitative assessment (low, medium, high).	3.92	0.41
Aggregate Mean and Standard Deviation	**4.037**	**0.232**

The findings indicate that participants generally agreed with the assertion that risk analysis has an effect on peer-driven change projects in Burera district, Rwanda with the overall mean of 4.037 reflects a generally positive perception of the risk analysis practices. The aggregate standard deviation of 0.232 indicates a moderate level of consensus among respondents.

> *Here, is summary of testimonies from various respondents that align with these quantitative findings on risk analysis practices as qualitative data: Some of the interviewees said that their team has a thorough approach to analyzing risks at the start of each project. Their conduct detailed risk assessments, especially for financial risk assessment, environmental, and logistical issues". "Risk analysis has become an essential part of our planning process, we look at all the risks, categorize them, and try to assess their impact. While most of us agree on the effectiveness of this process", I have noticed that different departments sometimes prioritize risks differently.*

These findings collaborate those of Habimana and Kamande (2023) in his study which emphasized that risk analysis processes, which included risk allocation, risk categorization, and risk assessment, were the foundation for the success of the ADP Kageyo project carried out by World Vision. These findings collaborate with Risk theory, as well as when analysing risks, this theory aids in understanding the likelihood and potential impact of those risks, aligning closely with your variable of risk analysis.

Table 9

Risk Control and Success of Peer Driven Change Project in Burera District

Statement	Mean	Std. Dev.
In our organization, a checklist of risks associated with a CB projects are developed	3.96	0.35
In our organization, we have the feedback system used respond to the risks	3.994	0.42
Our organization responds to the risks identified through risk management plan	4.011	0.32
A risk matrix was reviewed and updated throughout project life cycle.	4.034	0.43
Aggregate Mean and Standard Deviation	**4**	**0.19**

The findings indicate that participants generally agreed with the assertion that risk control has an effect on peer-driven change projects in Burera district, Rwanda. The overall high mean scores suggest that the organization's risk control practices are perceived positively. The aggregate mean of 4.0 reflects a general agreement that the risk control measures are effective. The variability in responses (as indicated by standard deviations) suggests that there might be inconsistencies in how different aspects of risk control are perceived.

> *Here are testimonies from various respondents as qualitative data that could support these findings on risk control practices: Some of the respondents indicated that: "They actively monitor risks, and the team is proactive in responding to them. "The risk control practices there are very effective, and they play a big role in our ability to keep projects on track. They have established processes to identify and respond to risks, which has made our team more resilient. The one area they believe needs work is their checklists they are useful but could be expanded to cover more potential risks. This would add another layer of security to our risk control efforts."*

This observation agrees with Peter (2014) who confirmed that effective risk control had a significant impact on project outcomes. The research participants highlighted challenges within their organizations in identifying risks associated with projects. Nevertheless, they concurred that their organizations could distinguish between actual risk events and the sources of those risks. For risk control, theory of constraints helps focus on managing risks that could severely impact the project's critical path or success.

Table 10

Contingency Planning and Success of Peer Driven Change Project in Burera District

Statements	Mean	Std. Dev.
Our organization develops *Contingency planning* for future unexpected risks during the CB project planning phase	4.068	0.347
In our organization *Contingency funds* are regularly established to cover project risks.	3.983	0.291
In our organization we have settled *Budget Reserves* to cover identified risks and are allocated to specific sections of the project	4.011	0.369
In our organization we have settled *Management Reserves* to cover unidentified risks and are allocated to risks associated with the project as a whole	3.989	0.384
Time buffers (Project buffer, feeding buffer and Resource buffer) are established to mitigate against potential project delays (schedule and critical chain)	4.028	0.36
Aggregate Mean and Standard Deviation	**4.016**	**0.156**

The findings indicate that participants generally agreed with the assertion that contingency planning has an effect on peer-driven change projects in Burera district, Rwanda. The aggregate mean of 4.016 with a standard deviation of 0.156 suggests a strong and consistent positive perception of contingency planning practices, with low variability in responses.

> *The findings supported by qualitative data from interviewees, some of the respondents indicated that, they actively monitor risks, and the team is proactive in responding to them. "The risk control practices there are very effective, and they play a big role in our ability to keep projects on track. They have established processes to identify and respond to risks, which has made our team more resilient. The one area they believe needs work is their checklists they are useful but could be expanded to cover more potential risks. This would add another layer of security to our risk control efforts.*

These findings are in agreement of those of Kasiita (2022) who revealed that having a detailed work plan and effective contingency planning significantly influenced the performance of construction projects. Community coalition action theory also plays a key role in contingency planning by promoting collective action and resource sharing, ensuring that the community is prepared to respond to risks effectively through coalition-driven strategies. Finally, in contingency planning, Theory of Constraints supports the need to prepare for and mitigate the effects of these constraints when they arise, ensuring minimal disruption to project progress.

Table 11

Success of Peer Driven Change Project in Burera District

Statements	Mean	Std. Dev.
The effectiveness of the Project is demonstrated by the achievement of its objectives in alignment with the goals set at the beginning of the project.	4.068	0.274
The efficient of the CB Project is evident in the effective management and utilization of resources to achieve its intended outcomes	4.05	0.43
In our Organization CB project had always positive impact on the community	4.034	0.3
The Community Based project implemented by our organization sustained over time	4.017	0.291
Aggregate Mean and Standard Deviation	**4.04**	**0.202**

The findings indicate that participants generally agreed with the assertion that project Success n has an effect on peer-driven change projects in Burera district, Rwanda. The overall mean for the aggregate statements is 4.04, demonstrate that respondents generally perceive the projects as successful in achieving objectives, managing resources efficiently, positively impacting the community, and being sustainable over time. The relatively low standard deviations (especially the aggregate SD of 0.202) highlight a consensus among respondents, with only slight variability in their opinions.

> *These findings are in agreements with some testimonies as qualitative data from various interviewees that could support the findings from quantitative data on contingency planning practices: Most of interviewee stated   that, their organization has developed a solid approach to contingency planning. Their regularly prepare for potential delays by establishing budget reserves and time buffers, which has been invaluable, they set aside both management team and budget reserves, which have allowed them to handle unexpected expenses smoothly. That said, there are occasional debates about how much to allocate for these reserves, as some projects seem to need more buffers than others.*

These findings also in in agreement with Carvalho and Rabechini (2015), whose indicated that Project success involves project efficiency, impact on customers, impact on team/staff, the direct business and success, environmental damage mitigation, and preparation for future.

4.2 Inferential Statistics

The study used regression analysis to establish the relationship between the independent and dependent variables of the study. The findings of Model Summary, ANOVA and Coefficient of Regression were as indicated in the following sections.

4.2.1 Diagnostic Tests

This section focused on the diagnostic tests on risk management practices and project success. Andy (2018) emphasizes the importance of conducting these diagnostic tests to ensure that the assumptions of statistical models are met, which contributes to the reliability and validity of the results. To ensure that the basic regression assumptions were met, the following diagnostic tests were made:

4.2.2 Correlation Analysis

Correlation test was examined by utilizing the Pearson analysis and the outcomes are presented in the below table 11. The Correlation coefficients measure the strength and direction of a linear relationship between two variables or more variables. Values range from -1 to 1. A value of 1 indicates a perfect positive linear relationship. A value of -1 indicates a perfect negative linear relationship. A value of 0 suggests no linear relationship. The double asterisks (**) denote that the correlation is statistically significant at the 0.01 level (2-tailed test). This means there's strong evidence to suggest the relationships between these variables.

Table 12

Pairwise Correlations

	(1)	(2)	(3)	(4)	(5)
(1) Project Success	1	0.689**	0.430**	0.715**	0.642**
(2) Risk Identification	0.689**	1	0.398**	0.605**	0.482**
(3) Risk Analysis	0.430**	0.398**	1	0.321**	0.305**
(4) Risk Control	0.715**	0.605**	0.321**	1	0.642**
(5) Contingency Planning	0.642**	0.482**	0.305**	0.642**	1

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

The above table revealed that the Success of peer Driven change project is strongly correlated with other factors. Risk Control (0.715) ** has   the strong positive correlation. Risk Identification (0.689) and Contingency Planning (0.642) ** also show strong positive correlations with project success. Risk Analysis (0.430) ** shows a weak positive correlation with project success. Risk Identification correlates highly with Risk Control (0.605) ** and Contingency Planning (0.482) **. It also has a moderate correlation with Risk Analysis (.398) **.

Risk Analysis shows the weakest positive correlations overall its strongest positive correlations are with Risk Identification (0.398) and Project Success (0.430) **. Lower correlations with **Risk Control (0.321) and Contingency Planning (0.305) **. Risk Control has strong positive relationships with Project Success (0.715) and Contingency Planning (0.642). Risk Identification (0.605) ** further indicates that controlling risks is more effective when risks are identified early. Contingency Planning is strongly correlated with Project Success (0.642) ** and Risk Control (0.642) **.

4.2.3 Multiple Regression Analysis

To determine the relationship between the independent and dependent variables and assess the statistical significance of the hypothesized relationships, a multiple regression analysis was conducted. This analysis utilized the collected field data and was tested at a 5% level of significance.

Table 13

Model Summary of Coefficients Affecting Success of Peer Driven Change in Burera District

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.815[a]	0.664	0.656	0.09696

a. Predictors: (Constant), Contingency Planning, Risk Analysis, Risk Identification, Risk Control

The above table, of multiple regression analysis aims to examine the relationship between several independent variables (predictors) and a dependent variable (PDC success).

The R (0.815): Indicates the correlation coefficient between the observed values and the predicted values from the model. The R Square (R^2 = 0.664): This value is the coefficient of determination. It represents the proportion of the variance in the dependent variable that is explained by the independent variables (Contingency Planning, Risk Analysis, Risk Identification, and Risk Control). In summary the model has a strong correlation with an R value of 0.815. The R^2 value of 0.664 means that 66.4% of the variance in the dependent variable is explained by the four predictors (Contingency Planning, Risk Analysis, Risk Identification, Risk Control). The Adjusted R^2 of 0.656 is close to the R^2 value, suggesting that the model is not overly complex. The standard error is relatively low, indicating a decent fit of the model to the data.

4.3 ANOVA

The analysis of Variance was used to examine the statistical significance. Thus, ANOVA was conducted at 95% level of significance. The findings of F Calculated and F Critical are as shown in table below:

Table 14

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.193	4	0.798	88.67	.000[b]
	Residual	1.617	172	0.009		
	Total	4.809	176			

a. Dependent Variable: Project Success

b. Predictors: (Constant), Contingency Planning, Risk Analysis, Risk Identification, Risk Control

The data presented in above table of ANOVA (Analysis of Variance) typically used to assess the statistical significance of a regression model. Since it is less than 0.05, the null hypothesis is rejected, which means the independent variables (Contingency Planning, Risk Analysis, Risk Identification, Risk Control) collectively have a statistically significant effect on Project Success.

The regression model is statistically significant (p = 0.000), meaning that the combination of the four predictors (Contingency Planning, Risk Analysis, Risk Identification, and Risk Control) significantly explains the variation in Peer driven change Project Success. The F-statistic (88.67) is very high to the F critical (2.46), indicating a good fit of the regression model and the overall significant for the study. The independent variables explain a significant portion of the variance in the dependent variable (Project Success), as shown by the Regression Sum of Squares (3.193) being larger than the Residual Sum of Squares (1.617). The ANOVA table indicates that the predictors (Contingency Planning, Risk

Analysis, Risk Identification, and Risk Control) significantly contribute to explaining the variability in Peer driven change Project Success. The overall model is significant and fits the data well, as indicated by the F-statistic and the p-value.

4.3.1 Regression Coefficients

The study used a regression coefficient to establish the effect of independent variables of risk management on success of peer driven change project in Burera district, Rwanda. The findings are indicated in Table below:

Table 15

Regression Coefficients

Independent Variables	B	Std. Error	t	P.Value
(Constant)	-0.665	0.248	-2.682	0.008
Risk Identification	0.421	0.074	5.680	0.000
Risk Analysis	0.087	0.035	2.513	0.013
Risk Control	0.281	0.056	5.033	0.000
Contingency Planning	.252	0.062	4.055	0.000

a. Dependent Variable: Project Success

$Y = -0.665 + 0.421X_1 + 0.087X_2 + 0.281X_3 + 0.252X_4 + 0.248$

Project Success = -0.665 + 0.421* Risk identification + 0.087* Risk analysis + 0.281* Risk control + 0.252* Contingency planning + 0.248

The provided table offers data on the relationship between various project risk management factors and project success. The analysis below covers the statistical significance, the strength of each independent variable's effect, and the overall interpretation of the results.

Constant (Intercept) has Value of -0.665. The constant represents the expected value of the dependent variable (Project Success) when all independent variables are set to zero. In this case, it shows that if no risk management practices (Risk Identification, Risk Analysis, Risk Control, or Contingency Planning) are applied, project success is expected to be negative (-0.665), which may suggest a low probability of success in the absence of these factors. The t-value for the constant is negative (t = -2.682), meaning that the intercept is significantly less than zero. The p-value is less than 0.05, so this is statistically significant. This means that when all independent variables are zero, the predicted value of the dependent variable is significantly below zero.

Risk Identification has Coefficient (B): 0.421, t-statistic: 5.680 and p-value: 0.000 (Statistically significant). This means that the Risk Identification has the largest positive impact on project success. For every unit increase in risk identification, project success increases by 0.421 units, assuming other variables remain constant. Since the p-value is below 0.05 (0.000), it is highly significant, meaning we are confident that Risk Identification has a real, measurable effect on project success. The t-value is positive and large (5.680), indicating that "Risk Identification" has a strong, statistically significant positive relationship with the dependent variable. The p-value is extremely small (0.000), confirming that this effect is highly significant.

This results are supported by the study conducted by Paul and Samson (2021) in Kiambu County, Kenya, to analyse how risk management practices impact the performance of infrastructure projects. The research findings indicated that risk identification had the most significant positive effect on infrastructure project performance in Kiambu County. Another study carried out by Kinyua et al. (2015) sought to explore how risk management practices influence the performance of small and medium-sized enterprises (SMEs) in the information and communication technology (ICT) sector in Nairobi. The study's results indicated that the successful identification of risks has a beneficial and significant impact on project success.

Risk Analysis has Coefficient (B) of 0.087, t-statistic of 2.513 and p-value: 0.013 (Statistically significant). This indicates that Risk Analysis also positively influences project success, though its effect size is smaller compared to Risk Identification and Risk Control. For every unit increase in risk analysis, project success increases by 0.087 units, holding other factors constant. The p-value (0.013) is still statistically significant, but the smaller coefficient indicates that risk analysis, while important, is not as strong a driver of success as the other factors in the model. The t-value is lower compared to the others but still positive and significant. A t-value of 2.513 and a p-value of 0.013 suggest that "Risk Analysis" has a statistically significant, though somewhat weaker, positive effect on the dependent variable. This suggests that while evaluating risks is important, its direct impact on project success is less pronounced than identifying and controlling risks. The findings revealed that Risk Analysis with a value of 0.430 ** shows a moderate positive

relationship with project success. Although it is weaker than the other correlations, risk analysis is still an important factor but may not be as influential as identification and control.

Based on the findings, it indicates that Risk Analysis also positively influences project success. Similar findings were made by Habimana and Kamande (2023) on they study on the relationship between Rwandan non-governmental projects success and risk management practices ADP Kageyo World Vision Project Case Study. The study also concluded that risk analysis processes, which included risk allocation, risk categorization, and risk assessment, were the foundation for the success of the ADP Kageyo project carried out by World Vision.

Risk Control with Coefficient (B): 0.281, t-statistic: 5.033 and p-value: 0.000 (Statistically significant). Indicates that Risk Control has a significant positive impact on project success. For every unit increase in risk control, project success increases by 0.281 units, assuming other variables remain constant. The p-value (0.000) signifies a strong statistical significance. This suggests that managing risks actively through control mechanisms plays an important role in driving project success. A high t-value (5.033) and a very small p-value (0.000) indicate that "Risk Control" has a strong and statistically significant effect on the dependent variable. The findings, revealed that Risk Control with a value of 0. 715** has the strongest correlation. This suggests that effective risk control measures are closely linked to project success. The better the risk control, the more likely a project will succeed. Based on the results revealed in the table 4-11 it indicates that Risk Control has a significant positive impact on project success. Similar findings were made by Sangwa and Dushimimana (2023) who conducted a study on the impact of risk management practices on project performance, focusing on the Twiceceka project carried out by Women for Women International in Huye district, Rwanda. They denoted by the risk monitoring and control, variable, its positive value implies a positive correlation between increased risk control and improved project performance. The findings demonstrate that risk management significantly improves project performance.

Contingency Planning with Coefficient (B): 0.252, t-statistic: 4.055 and p-value: 0.000 (Statistically significant). It means that Contingency Planning has a strong, positive relationship with project success. For every unit increase in contingency planning, project success increases by 0.252 units**.** With a p-value of 0.000, this variable is highly statistically significant, indicating that planning for contingencies is an essential factor for improving project outcomes. A t-value of 4.055 and a p-value of 0.000 indicate that "Contingency Planning" has a significant positive effect on the dependent variable, though not as strong as Risk Identification or Risk Control.

The findings revealed that Contingency Planning is strongly correlated with Project Success with a value of 0. 642. Having contingency plans plays a critical role in both successful project outcomes and managing risks. Based on the findings revealed in the Table 15, it means that Contingency Planning has a strong, positive relationship with project success. Similarly, Aduma and Kimutai (2018) conducted a research project at the National Hospital Insurance Fund (NHIF) in Kenya to assess how project risk management strategies influence project performance. The findings revealed that risk contingency planning had the most significant impact on the success of NHIF projects, while risk transfer showed the least influence.

All independent variables have positive, statistically significant effects on the dependent variable (as indicated by the positive t-values and p-values less than 0.05). The strongest predictors (based on t-values) are Risk Identification (t = 5.680) and Risk Control (t = 5.033). The weakest significant predictor is Risk Analysis (t = 2.513), but it is still statistically significant. These t-values suggest that all the independent variables in the model are meaningful predictors of the dependent variable. Among the four predictors, Risk Identification has the strongest impact on project success (B = 0.421). This finding implies that recognizing risks early and systematically is critical for achieving successful project outcomes. Risk Control (B = 0.281) and Contingency Planning (B = 0.252) also play substantial roles. These findings highlight that beyond identifying risks, actively managing them and preparing for contingencies significantly boost the likelihood of project success.

4.3.2 Test of Hypotheses

The study findings reveal that all independent variables significantly contribute to the success of the Peer-Driven Change Project. Risk Identification (β_1 = 0.421, p = 0.000), Risk Analysis (β_2 = 0.087, p = 0.013), Risk Control (β_3 = 0.281, p = 0.000), and Contingency Planning (β_4 = 0.252, p = 0.000) have positive and statistically significant effects on the project outcome. As all p-values are below the 0.05 threshold, the null hypotheses were rejected in favor of the alternative hypotheses, confirming the critical role of these factors.

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

The study sought to establish the effect of risk management on success of community-based project, a case of peer driven change project in Burera district, Rwanda. The study sought to establish the effect of risk identification, risk

analysis, risk control and contingency planning on the success of peer driven change project. The target population was 177 project management staff from 29 selected NGOs where a universal sampling techniques was adopted. The response rate was 100% with 177 questionnaires sufficiently completed and submitted and hence used for analysis. Both descriptive and inferential statistics were used to analyse and present data.

The findings of the study revealed that risk identification, risk analysis, risk control and ccontingency planning have both the largest positive significance effect and relationship on Peer driven change project success in Burera district, Rwanda. The findings suggest that Risk Control, Risk Identification and Contingency Planning are the most influential factors contributing to Project Success. Risk Analysis plays a moderate role but is less influential compared to the other factors. SPSS was used as support in the data analysis by using descriptive statistics and regression. The study targeted project managers and other staff related to Community based project management.

5.2 Recommendations

While the study indicates effective risk identification, the study suggests room for improvement in how risks are prioritized. Consider integrating more structured prioritization methods such as Risk Probability-Impact Matrices. This will help in ranking risks more systematically, leading to better resource allocation and mitigation planning. The research points to potential improvements in checklist development and feedback systems.

For ensuring consistency in the application of risk management practices across all levels, the study recommends a comprehensive risk management framework (such as ISO 31000 or PMBOK standards) can be established to harmonize practices across organizations and departments.

The study recommends training programs for project staff to enhance their understanding and application of risk management techniques. These could focus on risk control measures, contingency planning, and risk prioritization. The study recommends exploring the use of project management tools and software to facilitate real-time risk tracking, such as Microsoft Project, this can improve visibility on risks and enhance communication among project teams.

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