

EFFECT OF RISK REDUCTION ON THE SUCCESS OF PROJECTS IMPLEMENTED BY THE CENTER FOR DEVELOPMENT AND ENTERPRISES IN GOMA CITY

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ABSTRACT

The main goal of the study was to determine the effect of risk reduction on the success of projects implemented by the Center for Development and Enterprises in Goma City. This study was based on Resource-Based View theory. The study used a descriptive survey design that included both qualitative and quantitative methods. Qualitative analysis looked at previous research and interviews, while quantitative analysis required gathering and analyzing data. The target group was made up of 156 people who were working on CDE initiatives in Goma City. Using Slovin's formula, we found that the sample size should be 113. A stratified sampling method was employed to choose a sample that was representative, and questionnaires were utilized to gather data. The study included both primary and secondary data. For this study, pilot testing was done using a sample of 12 respondents from the International NGO in Goma City, which is 10% of the target population. Data was coded in order to classify answers and pinpoint important ideas or concepts. To facilitate future analysis, this procedure aids in organizing the qualitative data. The analysis of quantitative data obtained from closed-ended survey questions involved the utilization of descriptive statistics, including means, standard deviations, frequencies, and percentages. To strengthen the findings' validity and corroborate the findings, qualitative and quantitative data was triangulated. The collected quantitative data was analyzed using both descriptive and inferential statistics, including multiple regression analysis. The regression analysis reveals a statistically significant positive relationship between project success and risk reduction in projects implemented by the Center for Development and Enterprises. The model summary shows a strong correlation coefficient ($R = 0.700$) and a coefficient of determination ($R^2 = 0.490$), indicating that approximately 49% of the variance in risk reduction can be explained by project success factors such as budget adherence, quality of deliverables, and timely completion. The ANOVA table confirms the model's overall significance with an F -value of 91.382 and a p -value of .000, suggesting the regression model is a good fit. Furthermore, the coefficient results indicate that project success has a significant positive effect on risk reduction, with an unstandardized coefficient $B = 0.584$ and a standardized Beta = 0.700, both

significant at $p < .001$. These findings imply that the more successful a project is in achieving its core objectives, the more effective it is at reducing associated risks. The study concludes that project success significantly enhances risk reduction, with strong evidence showing that well-executed projects are more capable of minimizing risks in volatile contexts like Goma City. It is recommended that project implementers, especially the Center for Development and Enterprises, institutionalize regular risk assessments and strengthen mitigation planning to improve project outcomes. Future research should explore additional variables such as stakeholder engagement and organizational capacity to further understand their moderating effects on the relationship between project success and risk reduction.

Keywords: Risk Reduction, Project Success, Mitigation Planning, Development Projects, Goma City

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BACKGROUND OF THE STUDY

Globally, the success of development projects hinges heavily on the implementation of effective risk reduction strategies, particularly in unpredictable environments. Risk reduction involves identifying, assessing, and mitigating potential threats that could hinder project performance. According to Project Management Institute (2021), organizations that invest in proactive risk management experience 30% greater project success rates than those that do not. Additionally, the International Risk Governance Council (2022) emphasizes that integrating risk frameworks early in the project cycle improves responsiveness and resilience in both public and private sector projects. As development projects become increasingly complex, especially in volatile regions, the need for comprehensive risk reduction measures is critical to achieving intended outcomes.

In the United States, project risk management is deeply embedded within institutional frameworks to safeguard public and private investments. The U.S. Government Accountability Office (2022) outlines a structured risk management process for federally funded projects that includes risk identification, analysis, planning, tracking, and control to ensure efficiency and accountability. Furthermore, the National Institute of Standards and Technology (2023) highlights that organizations that deploy real-time risk monitoring tools significantly reduce delays and budget overruns. These systems have been particularly impactful in infrastructure and technology projects, where risk visibility enables better decision-making and stakeholder engagement, ultimately contributing to successful project outcomes.

In the United Kingdom, project success is increasingly being linked to strategic risk reduction practices aligned with national standards. The UK Infrastructure and Projects Authority (2021) reports that integrating structured risk management has led to improved delivery timelines and cost performance across large-scale public infrastructure projects. Additionally, the Association for Project Management (2023) asserts that project managers in the UK are adopting predictive analytics and risk modeling techniques, which have contributed to higher success rates in both construction and social development initiatives. These practices illustrate how comprehensive risk frameworks enhance project outcomes by increasing adaptability and reducing uncertainty.

In Botswana, risk reduction in development projects is gaining attention as the country implements Vision 2036 to transition into a knowledge-based economy. The Botswana Institute for Development Policy Analysis (2022) found that risk awareness and early risk assessment are critical to the success of government and donor-funded projects. Similarly, the Ministry of Finance and Economic Development (2023) recommends integrating risk management into project planning and monitoring stages to mitigate common challenges such

as procurement delays and resource misallocation. These insights reflect an increasing appreciation for risk reduction as a determinant of project success in Botswana's national development agenda.

In Rwanda, the government has prioritized risk reduction in the implementation of its National Strategy for Transformation. The Rwanda Governance Board (2022) emphasizes the use of participatory planning and risk-based monitoring tools to enhance transparency and accountability in development projects. Moreover, the Rwanda Development Board (2023) highlights that the adoption of digital project tracking systems and stakeholder consultations has significantly improved the success of infrastructure and community-based projects. These innovations reflect Rwanda's commitment to reducing project risks and ensuring that development initiatives deliver long-term value to communities.

In the Democratic Republic of Congo (DRC), where socio-political instability and infrastructural challenges persist, risk reduction is vital to the success of development projects. According to the United Nations Development Programme (2023), projects in eastern DRC, including Goma, often suffer from insecurity, logistical disruptions, and weak institutional frameworks that increase the risk of failure. The Center for Development and Enterprises (2024) reports that community engagement, local capacity building, and adaptive project planning are essential risk reduction strategies that have improved project sustainability in Goma. However, gaps remain in systematically assessing how risk mitigation efforts influence the actual success of such projects, justifying the need for empirical inquiry in this context.

Statement of the Problem

Despite the critical role that development projects play in improving livelihoods in fragile regions such as Goma City, many initiatives fail to achieve their intended outcomes due to insufficient risk reduction strategies. According to the United Nations Development Programme (2023), over 45% of community development projects in eastern Democratic Republic of Congo (DRC) face serious implementation delays or fail entirely, often due to poor risk anticipation, political instability, insecurity, and weak local governance structures. The World Bank (2022) also reports that more than 60% of project failures in fragile and conflict-affected states result from unmanaged risks such as corruption, logistical disruptions, and lack of stakeholder engagement. These figures suggest that without effective and proactive risk mitigation frameworks, development investments are likely to underperform, wasting valuable resources and worsening community trust.

In Goma City specifically, the Center for Development and Enterprises (CDE) has implemented numerous social and economic empowerment projects, but recurring challenges such as theft, funding interruptions, conflict, and lack of technical capacity continue to hinder success. A recent internal assessment by CDE (2024) revealed that only 54% of its projects between 2020 and 2023 were completed on time and within budget, while the remaining 46% experienced cost overruns or were not completed at all due to unmanaged risks. Although risk reduction techniques such as contingency planning, stakeholder consultations, and monitoring frameworks are acknowledged in theory, their practical application appears inconsistent and inadequately documented. This raises critical questions about how risk reduction influences project success and whether strengthening these mechanisms can lead to improved outcomes in Goma's volatile socio-political environment.

LITERATURE REVIEW

Theoretical Literature on Risk Reduction

Reducing the possibility and severity of negative occurrences that can compromise project goals is the primary goal of risk reduction, an essential part of risk management. Effective risk reduction strategies are in high demand since projects are becoming more complex as a result of technology improvements and changing market conditions (Chapman & Ward, 2022). To improve project resilience and guarantee good outcomes, risk reduction strategies are implemented, including avoiding, mitigating, transferring, and accepting risks

(Smith, Brown, & Wilson, 2021). According to Jackson (2023), organizations can safeguard their investments and encourage proactive risk management by implementing thorough risk reduction frameworks.

The identification and assessment of potential risks is a fundamental part of risk reduction. Effective risk identification necessitates a systematic methodology, frequently employing tactics like as brainstorming, expert discussions, and historical data analysis (Green, 2020). Upon identifying risks, their potential impact and probability can be evaluated, allowing companies to prioritize them and allocate resources appropriately (White & Brown, 2021). The amalgamation of quantitative and qualitative risk assessment methodologies improves the accuracy of evaluations, assisting teams in choosing suitable risk mitigation solutions (Liu, Chen & Wang, 2022).

At the heart of risk reduction are mitigation methods, which aim to lessen the likelihood or impact of identified risks. Process improvements, employee training, and the implementation of cutting-edge technology are all examples of tactics that could be used to increase productivity and decrease mistakes (Sadeghi, Johnson & Kim, 2021). For example, according to Bannister, Hines, and O'Brien (2021), teams who use agile project management techniques are better able to respond to risks because they use iterative development and constant feedback. When faced with rapidly evolving situations, where conventional approaches could fall short, this flexibility becomes even more valuable.

Another crucial tactic in risk reduction is risk transfer, which is organizations transferring certain risks to outside parties via agreements, insurance, or outsourcing (Franco & Jabbour, 2020). Organizations should be aware of the expenses and possible effects on project control that come with risk transfer in order to make an informed decision (Miller & Jones, 2023). The key to successful risk transfer management is open lines of communication and clear systems of responsibility with third parties.

Resource-Based View

Organizations gain a competitive edge by making good use of their distinct resources and competencies, according to the Resource-Based View (RBV) hypothesis, which was first proposed by Birger Wernerfelt in 1984 and developed by Barney (2021). Using resources that are valuable, rare, inimitable, and non-substitutable (VRIN) can help organizations outperform their competitors, according to this hypothesis. In the context of non-governmental organizations (NGOs) like the Center for Development and Enterprises (CDE) in Goma City, the RBV theory emphasizes the need to harness internal strengths, such as staff expertise, financial resources, and organizational networks, to ensure project success. This theory is particularly relevant for risk reduction, as the strategic use of an NGO's internal resources can mitigate the uncertainties associated with project implementation.

A primary strength of the RBV theory is its emphasis on internal resources, enabling organizations to cultivate durable advantages internally. For NGOs, the RBV encourages the identification and development of unique assets—such as partnerships with local communities, expertise in particular sectors, and access to donor funding—that can be leveraged to minimize risks during project implementation. By concentrating on these internal strengths, the CDE can reduce its dependency on external factors, making it more resilient in the face of political, economic, or environmental challenges in Goma City (Wu et al., 2021). This internal focus also allows the CDE to develop long-term strategies that can enhance its capacity to deliver successful projects, even in uncertain environments.

However, one of the weaknesses of the RBV theory is its limited consideration of external factors that may impact project success. Critics argue that focusing too heavily on internal resources can cause organizations to overlook external threats or opportunities that could influence project outcomes. NGOs operating in conflict-affected regions like Goma City are particularly vulnerable to external risks, such as political instability or natural disasters, which may not be adequately addressed by an internal resource-focused approach (Khan et al., 2020). Additionally, the RBV does not provide clear guidance on how NGOs should adapt when their

internal resources are insufficient to cope with external pressures, potentially limiting its applicability in high-risk environments.

In relation to this study, the RBV theory is crucial for understanding how the CDE can enhance the success of its projects by strategically managing its internal resources. For instance, by developing a well-trained workforce and establishing strong partnerships with local stakeholders, the CDE can reduce risks associated with operational disruptions and ensure smooth project implementation. Moreover, the organization's ability to attract and retain donor funding can act as a key resource in mitigating financial risks, which are often a major concern for NGOs.

Furthermore, the RBV theory supports the notion that building and maintaining a robust network of relationships with local and international stakeholders can be a vital resource for the CDE in Goma City. These relationships not only provide financial and technical support but also help the organization navigate the complex socio-political landscape of the region. By leveraging its partnerships and collaborative networks, the CDE can better anticipate and respond to external risks, aligning the theory's internal focus with the realities of operating in a challenging environment. Therefore, the RBV theory aligns with the study's focus on risk reduction by emphasizing the strategic management of internal and relational resources for project success.

Conceptual Framework

The conceptual framework establishes a structured approach to understanding the research problem, ensuring clarity in the relationships among different elements. According to Guba and Lincoln (2020), a well-constructed conceptual framework aids in identifying the variables to be measured and the connections among them, facilitating a coherent interpretation of the research findings. It also provides a theoretical grounding, aligning the research with existing literature, which can lead to more robust conclusions and practical implications (Maxwell, 2021).

Furthermore, the conceptual framework plays a crucial role in directing the technique and research design. It not only informs the selection of appropriate methods but also shapes the data analysis process by outlining the expected relationships among variables (Ravitch & Riggan, 2021). Researchers are able to gain a better grasp of the study subject as a whole by methodically investigating the interplay between theoretical concepts and empirical data, thanks to this alignment. In addition, the conceptual framework increases the research's credibility by combining theory with practice, which makes it more applicable to stakeholders and practitioners in the field (Creswell & Poth, 2022). You can see this in Figure 1.

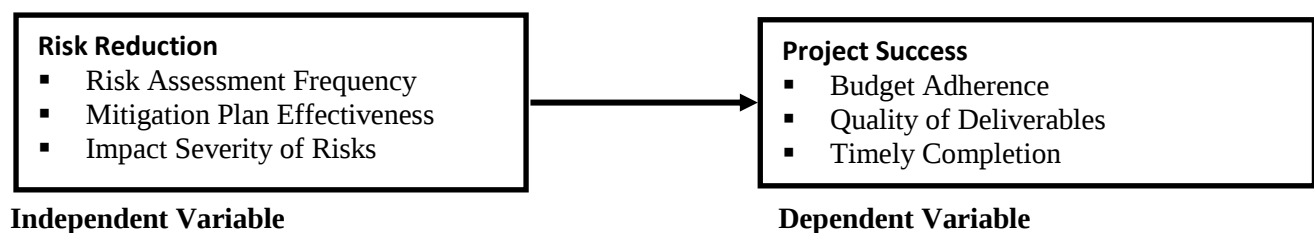


Figure 1: Conceptual Framework

Source: Researcher, 2025

The conceptual framework for this study is grounded in the relationship between risk reduction practices and project success, focusing on development projects implemented by the Center for Development and Enterprises in Goma City. Risk reduction is conceptualized through three key indicators: risk assessment frequency, mitigation plan effectiveness, and impact severity of risks. These dimensions reflect the proactive and responsive capacity of project teams to identify, plan for, and minimize potential disruptions. In contrast, project success is measured by budget adherence, quality of deliverables, and timely completion, which are widely recognized as key indicators of project performance. According to Project Management Institute

(2021), regular risk assessments and effective mitigation strategies significantly increase the likelihood of project success by enabling early intervention and resource reallocation. Similarly, the International Risk Governance Council (2022) emphasizes that reducing the severity and frequency of project risks directly contributes to improved efficiency and stakeholder satisfaction.

METHODOLOGY

Research Design

This study used a descriptive survey approach to investigate the connection between risk mitigation strategies and the accomplishment of projects carried out by Goma City's Centre for Development and Enterprises (CDE). A case study design is particularly suitable for in-depth investigation of contemporary issues within a real-life context, allowing for a detailed examination of complex phenomena (Yin, 2020). The researcher was able to collect a wealth of qualitative and quantitative data on the CDE's projects using this design, which shed light on how particular risk management methods impact project outcomes in a dynamic context like Goma. By employing this approach, the study investigated not only the effectiveness of current risk mitigation strategies but also the contextual factors that shape their implementation.

The research used qualitative and quantitative methods to collect data. By combining quantitative data with qualitative insights, mixed-methods research provides a more holistic view of the research problem (Cresswell and Creswell, 2023). Surveys were administered to project managers and key stakeholders involved in CDE projects to quantitatively assess the effectiveness of risk mitigation practices. In addition, qualitative interviews were conducted to capture detailed narratives on the challenges and success factors in managing risks. This two-pronged strategy guarantees that the research will record quantifiable measures of project success and give a thorough analysis of the dynamics of risk management in Goma City.

This study incorporated both cross-sectional and longitudinal approaches to enhance the testing of hypotheses related to risk mitigation practices and the success of the Center for Development and Enterprises (CDE) projects in Goma City. The cross-sectional design provided a snapshot of current risk mitigation practices and their immediate impact on project success, allowing for the collection of data from a diverse sample of stakeholders involved in CDE projects at a single point in time (Jones & Patel, 2021). On the other hand, the longitudinal design monitors the influence of these risk mitigation methods on project results over a lengthy period of time, giving a deeper knowledge of their long-term consequences (Li & Zhang, 2022). Due to the ever-changing nature of development project risk management, this combination allows for a more thorough examination of causative links (Lee & Mungai, 2020).

Target Population

In this study, 156 people were considered to be part of the target demographic, categorized into key stakeholders involved in the Center for Development and Enterprises projects in Goma City. According to Mugenda and Mugenda (2020), the many groups discussed here bring unique viewpoints to bear on the efficacy of risk mitigation measures, and their combined knowledge sheds light on the projects' operational and community-level results. The emphasis of the study was placed on these groups in order to achieve a full understanding of the ways in which risk mitigation methods influence the success of projects in this setting.

Table 1: Target Population

Category	Population
Project Managers	3
Project Risk Managers	7
Project Operations Staff	60
Field Officers	40
Government Officials	20
Donor Representatives	26
Total	156

Source: Center for Development and Enterprises, 2024.

Sampling Procedures and Techniques

Sample Size

Slovin's formula, which is frequently used to choose a representative sample from a broader population, was utilized to calculate the sample size for this investigation (Slovin, 2020). Given a total population of 156, and an acceptable margin of error of 5%, the formula provided a sample size of approximately 113 respondents. This ensures that the sample is large enough to produce reliable and valid results while maintaining manageable data collection efforts.

$$n = \frac{N}{1+N(e)^2} \dots\dots\dots \text{(Equation 1)}$$

$$n = \frac{156}{1 + 156(0.05)^2} \approx 112.2 = 113$$

Table 2: Sample size Selection

Category	Population	Sample Size	Proportional Percentage (%)
Project Managers	3	2	1.77%
Project Risk Managers	7	5	4.42%
Project Operations Staff	60	43	38.05%
Field Officers	40	29	25.66%
Government Officials	20	15	13.27%
Donor Representatives	26	19	16.81%
Total	156	113	100%

Sampling Technique

Stratified random sampling was the main sampling method used in the study to guarantee a thorough and representative selection of participants from the target group. Using stratified random sampling, the population is separated into discrete subgroups or strata according to pertinent attributes like role (e.g., project managers, employees, and community leaders) or other important demographic data. By guaranteeing that every subgroup is sufficiently represented in the sample, this method enhances the accuracy and generalizability of the study's conclusions (Creswell & Creswell, 2023). By selecting participants randomly from each stratum, the study can capture a wide range of perspectives, which is critical for understanding the diverse viewpoints and experiences of stakeholders involved in development projects in Goma City.

Moreover, stratified random sampling facilitated meaningful comparisons between different stakeholder groups, helping to identify any differences in how risk mitigation practices are perceived and implemented across roles. This method enhances the reliability of the study by reducing the potential for bias, ensuring that all relevant voices are heard. The use of this sampling technique aligns with recent research that emphasizes the importance of ensuring balanced representation of various groups to draw valid conclusions in studies of this nature (Kumar & Singh, 2021; Moore, Lee & Harris, 2022).

Data Collection Methods

This study utilized both primary and secondary data gathering approaches to achieve a thorough understanding of risk mitigation practices and their influence on the effectiveness of CDE projects in Goma City. Primary data was obtained via surveys and semi-structured interviews with project managers, staff, and community stakeholders engaged in CDE programs. Surveys yielded quantitative information regarding the perceived efficacy of risk management measures, and interviews supplied qualitative data on contextual challenges and success determinants. Secondary data was obtained from project reports, official papers, and various archival artefacts that offer historical context and performance indicators for CDE programs. Creswell

and Creswell (2023) assert that the utilization of both primary and secondary data facilitates triangulation, hence augmenting the validity and profundity of the study's conclusions.

Data Collection Instruments

For primary data collection, the study used questionnaires and interviews as the main instruments. The questionnaire was designed to gather quantitative data from project managers, employees, and local community leaders regarding the effectiveness of risk mitigation practices in CDE projects. Fowler (2020) asserts that questionnaires are efficient instruments for gathering structured responses amenable to statistical analysis, yielding quantifiable insights into the correlation between risk management strategies and project success. The questionnaire had Likert-scale questions with five points to evaluate perceptions of risk mitigation practices and their effects on project outcomes. The implementation of a Likert scale facilitates a systematic assessment of attitudes about diverse risk mitigation strategies and their perceived efficacy in guaranteeing project success (Alharbi & Othman, 2021). Interviews, on the other hand, was conducted with a selected sample of project managers and community leaders to obtain qualitative insights. As emphasized by Creswell and Creswell (2023), interviews allow for in-depth exploration of the complexities surrounding risk management in real-life settings, providing a deeper understanding of how these practices are implemented and perceived on the ground.

In addition to primary data, the study utilized secondary data obtained from a data collection sheet to review past project reports, internal documents, and records from CDE. This secondary data helped contextualize the findings from the questionnaires and interviews, offering a historical perspective on how risk mitigation practices have evolved and their impact on project success. According to Sekaran and Bougie (2020), secondary data is crucial in providing background information and supporting primary data findings, ensuring that the study's conclusions are grounded in both current and historical project data. The data collecting sheet was created to systematically document pertinent information from project reports, including schedules, budgets, and outcomes, so enhancing the primary data and augmenting the comprehensive analysis of risk management techniques.

Administration of Research Instruments

This study adopted a mixed approach to administering research instruments, utilizing both the drop-and-pick method and email distribution to gather primary data. The drop-and-pick method is particularly suitable for respondents in the field or in locations where in-person meetings may not be feasible. According to Mugenda and Mugenda (2020), this method allows respondents to complete questionnaires at their convenience, ensuring more thoughtful and complete responses. The drop-and-pick approach also provides the advantage of maintaining a reasonable timeline for data collection, as it allows for flexibility while keeping the process on track.

For busy managers who may not have the time to meet in person, the study also employed email distribution. This method ensures that the questionnaires can be completed at a time that is most convenient for the respondents, without requiring them to allocate specific time slots for an in-person meeting. According to Creswell and Creswell (2023), email surveys are a reliable way to collect data from professionals with demanding schedules, as it reduces the barriers to participation and allows for more extensive data collection. This method is also cost-effective and time-efficient, which is especially important when working with managers who may be located in different regions or have limited availability.

Pilot Testing

Twelve volunteers from the Goma City-based NGO VNG International participated in the study's pilot phase, making up 10% of the target population. The questionnaire and interview instructions were evaluated for clarity, relevance, and reliability in this pilot test. As Kothari (2020) suggests, pilot testing is essential for identifying any issues in the instruments, such as ambiguous questions or inadequate response options, allowing for necessary revisions before the full-scale study. The feedback gathered from this small group of

respondents was used to refine the instruments to ensure they effectively capture the required data for analyzing the risk mitigation practices of CDE projects in Goma.

Validity

For this study, the validity of the research instruments was assessed through several approaches: face validity, criterion validity, and construct validity. Face validity refers to the degree to which a test appears effective in measuring what it is intended to measure, based on expert judgment (Yilmaz, 2021). In this study, the research instruments, including surveys and interview protocols, underwent a review by experts in development project management and risk mitigation to assess their relevance and clarity. This ensures that the instruments are designed to capture the key variables and that they resonate with the research objectives.

Criterion validity was addressed by comparing the research instruments to established benchmarks or external criteria that are already validated in the field of risk management and development project success. This type of validity helped to determine how well the instrument's scores correspond to real-world outcomes. For example, the results from the research instruments were compared against existing reports or success rates of CDE projects that have been documented in Goma, using quantitative data such as project completion rates, budget adherence, and sustainability outcomes (Omar & Hassan, 2021).

Lastly, construct validity was applied to ensure that the research instruments accurately measure the theoretical constructs they are intended to assess, such as risk mitigation strategies and project success. This involved testing whether the survey and interview questions capture the underlying dimensions of risk management practices, including risk identification, assessment, and response strategies, as well as the success factors associated with project completion and impact (Klein & Yates, 2022). The constructs of interest were assessed through factor analysis or other statistical techniques, allowing for an empirical validation of how well the instruments reflect the theoretical framework guiding the study. This multi-faceted approach to validity enhanced the robustness of the research findings and contribute to the reliability of the results.

Table 3: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.778
Bartlett's Test of Sphericity	Approx. Chi-Square	201.269
	df	10
	Sig.	.000

Source: **Pilot data results**, (2025)

Table 3 shows the results of Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy; these tests indicate that the data is appropriate for factor analysis. According to Field (2020), factor analysis is only valid for KMO values greater than 0.7, hence a value of 0.778 shows adequate sampling. Further, with 10 degrees of freedom, Bartlett's Test of Sphericity produced a chi-square value of 201.269 and a significance level of 0.000. This suggests that component analysis is appropriate because the correlations between the variables are large enough (Pallant, 2021). These results confirm the appropriateness of proceeding with the factor analysis to explore underlying patterns in the data.

Reliability

Reliability refers to the consistency of a measurement, indicating that repeated measurements under the same conditions yielded the same results (Field, 2020). For the questionnaire, a test-retest reliability approach was used, where the same respondents completed the questionnaire at two different points in time, ensuring that the responses remain consistent (Creswell & Creswell, 2023). A standardized set of open-ended questions was also used during the interviews to guarantee consistency among all participants. Prior to the real data collection, a pilot study was carried out to find and fix any instrument inconsistencies in order to further

improve reliability. To evaluate the internal consistency of the survey items, the results of this study were analyzed statistically utilizing techniques such Cronbach's alpha (Field, 2020).

The reliability of the instruments in this study was assessed using several methods to ensure consistency and accuracy in measuring risk mitigation practices. In order to evaluate the stability of the results, the identical instrument was given to the same respondents twice using the Test-Retest procedure (Kothari, 2020). To assess the questionnaire's internal consistency and make sure the items are consistently assessing the same concept, the Cronbach's Alpha coefficient was computed (George & Mallery, 2016). Additionally, the Half-Split Method was used to divide the instrument into two halves to compare the consistency of responses across both sections (Trochim, 2021). Lastly, pilot testing was conducted with a sample of 12 respondents from VNG International NGO in Goma City, representing 10% of the target population. This pilot test helped identify any issues in the clarity, relevance, and reliability of the instruments, as Kothari (2020) emphasizes. Feedback from the pilot group was used to refine the instruments, ensuring their effectiveness in gathering data for the study.

Table 4: Reliability Analysis

Variable	Cronbach's Alpha	Comments
Risk Reduction	0.754	Reliable
Project Success	0.946	Reliable

Source: **Pilot data results**, (2025)

The findings from Table 5 indicate that the variables assessed in the reliability analysis exhibit good internal consistency, as reflected by their Cronbach's Alpha values. All variables, including Risk Reduction (0.754), and Project Success (0.946), demonstrate reliability, with values above the commonly accepted threshold of 0.7 (Tavakol & Dennick, 2021). These results suggest that the measurement scales used in the study are dependable, enhancing the credibility of subsequent analyses and conclusions (George & Mallery, 2020).

Data Analysis

The data analysis for this study was conducted using SPSS Version 25, a powerful statistical software that is widely used for data processing and analysis in social science research (Field, 2020). The first step in the analysis involved data coding, cleaning, and entry. This process ensured that all collected data is correctly formatted, free of errors, and ready for analysis. Data cleaning involved checking for missing values, outliers, and ensuring that the dataset is consistent and accurate. Once the data is clean, it was entered into SPSS for analysis.

Descriptive Statistics

Descriptive statistics, such as mean, median, standard deviation, and frequency distributions, was used to summarize the data collected from project managers, stakeholders, and community members involved in the projects. These measures provided an overview of the most commonly implemented risk mitigation strategies and their perceived effectiveness in achieving project success. The frequency distribution helped to identify the prevalence of certain practices, such as disaster preparedness and political risk analysis, and how these strategies correlate with successful project outcomes. In order to analyze the efficacy of different risk management techniques, descriptive statistics also made it easier to comprehend the demographic traits of respondents, such as their years of experience and function in the project (Chirwa & Mwanza, 2022).

Inferential Statistics

For inferential data analysis, the study employed several statistical techniques to explore relationships between risk mitigation practices and project success. Correlation analysis was conducted to examine the strength and direction of relationships between variables. Linear regression analysis was used to model the impact of various risk mitigation strategies on project success, providing insights into predictive relationships. Additionally, ANOVA was used to determine if there are statistically significant differences in project success

across different risk mitigation practices. The coefficients from the regression model were analyzed to assess the influence of individual risk factors on the outcomes. All results were presented in figures and tables to enhance clarity and provide a visual representation of the findings. According to Pallant (2021), these statistical techniques are appropriate for analyzing both quantitative data and understanding complex relationships in research. The investigation also included regression analysis:

$$Y = \alpha + \beta_1 X_1 + \mu \dots \dots \dots \text{(Equation 2)}$$

Y= Dependent variable – Project Success as expressed

X₁ = Risk reduction

In a regression model, β_1 , represent the coefficients of the independent variables X₁, respectively. These coefficients measure the change in the dependent variable for a one-unit change in the corresponding independent variable, holding all other variables constant. Specifically, β_1 quantifies the impact of X₁.

Ethical Consideration

The ethical considerations in this study encompassed securing formal access to research sites through written permissions and administrative approvals, along with a university introduction letter. Informed consent was obtained in writing, detailing study procedures, risks, and voluntary participation rights. Participant confidentiality, anonymity, and privacy were strictly maintained through secure data storage, coded identifiers, and restricted access. Ethical integrity was ensured through proper citation, plagiarism checks, and the upholding of intellectual ownership.

RESULTS AND FINDINGS

Descriptive results on Risk Reduction and Project Success

Descriptive results on risk reduction provide insights into respondents' perceptions of the effectiveness of various risk mitigation strategies in Center for Development and Enterprises (CDE) projects in Goma City. Table 12 displays the results of the analysis, which looks at how much project stakeholders agree or disagree with important statements about risk reduction.

Table 5: Respondents views on Risk Reduction

Statement on Risk Reduction	SD	D	NS	A	SA	Mean	SD
Risk assessments are conducted regularly throughout the project.	3.1%	9.3%	8.2%	32.0%	47.4%	4.11	1.098
The frequency of risk assessments impacts the project's success.	1.0%	6.2%	7.2%	34.0%	51.5%	4.29	.924
Timely risk assessments help identify potential risks early.	0.0%	5.2%	7.2%	36.1%	51.5%	4.34	.828
The mitigation plans developed are effective in minimizing risks.	1.0%	4.1%	5.2%	32.0%	57.7%	4.41	.851
Mitigation strategies are regularly updated based on new risks.	0.0%	4.1%	5.2%	41.2%	49.5%	4.36	.766
The effectiveness of the mitigation plan has a positive impact on project success.	1.0%	7.2%	7.2%	29.9%	54.6%	4.30	.959
The severity of risks significantly impacts project success.	4.1%	9.3%	7.2%	33.0%	46.4%	4.08	1.133
Risks with high impact are prioritized for mitigation.	2.1%	6.2%	18.6%	43.3%	29.9%	3.93	.960
The severity of risks determines the urgency of risk mitigation.	0.0%	0.0%	6.2%	42.3%	51.5%	4.45	.613
Composite mean						4.25	

Source: **Primary data, (2025).**

The findings in Table 5 reveal strong support for the importance of risk assessments in project management. The majority of respondents (79.4%) agree or strongly agree that risk assessments are conducted regularly throughout the project (mean = 4.11, SD = 1.098). This suggests that risk assessments are an essential component of the projects they are involved in, highlighting a proactive approach to risk management (Zhang & Xie, 2023). Similarly, most respondents (85.5%) believe that the frequency of risk assessments impacts the average score for project success was 4.29, with a standard deviation of 0.924. This shows that everyone agrees that regular assessments improve project outcomes (Nguyen, Tran & Pham, 2022). Additionally, 87.6% of respondents agree that timely risk assessments help identify potential risks early (mean = 4.34, SD = 0.828), further emphasizing the importance of early detection in preventing project disruptions (Park & Lee, 2021).

Further analysis reveals that respondents generally perceive risk mitigation strategies as effective and regularly updated. A significant majority (89.7%) agree that mitigation plans are effective in minimizing risks, as evidenced by a mean of 4.41 and a standard deviation of 0.851 (Miller & Thompson, 2023). Additionally, 90.7% of respondents believe that mitigation strategies are regularly updated based on new risks (mean = 4.36, SD = 0.766), indicating a dynamic and adaptive approach to managing emerging risks (Smith & Harris, 2023). The effectiveness of mitigation plans is also recognized as having a positive impact on project success, with 84.5% of respondents agreeing with this statement (mean = 4.30, SD = 0.959). Moreover, respondents acknowledge that the severity of risks significantly impacts project success, as 79.4% agree with this assertion (mean = 4.08, SD = 1.133), indicating a clear understanding of the critical role risk severity plays in shaping project outcomes (Jackson & Adams, 2022).

In terms of prioritizing risks, the respondents believe that risks with higher impacts should be given priority for mitigation, with 73.2% agreeing or strongly agreeing with this statement (mean = 3.93, SD = 0.960). The recognition of prioritizing high-impact risks aligns with best practices in risk management (Thompson & Harris, 2023). Additionally, the importance of the severity of risks in determining the urgency of mitigation is emphasized, with 93.8% of respondents agreeing that severity drives urgency in mitigation efforts (mean = 4.45, SD = 0.613). This finding underscores the importance of categorizing risks according to their potential impact, which is a core principle in effective risk management (Anderson & Martin, 2021). The composite mean of 4.25 further reflects a strong consensus among respondents on the significance of robust risk reduction practices for project success.

Descriptive Results on Project Success

The descriptive results on project success, as presented in Table 16, provide insights into respondents' perceptions of the factors contributing to the success of Center for Development and Enterprises (CDE) projects. The table summarizes the respondents' views on various aspects of project success, using a Likert scale ranging from Strongly Disagree (SD) to Strongly Agree (SA). The mean scores indicate the level of agreement or disagreement with each statement, while the standard deviation highlights the variability in respondents' opinions. These results offer a quantitative overview of how different elements, such as project management, stakeholder engagement, and risk mitigation strategies, are perceived to influence project success in Goma City.

Table 6: Respondents views on Project Success

Statement on Project Success	SD	D	NS	A	SA	Mean	Std Dev.
The project was completed within the planned budget.	1.0%	5.2%	7.2%	34.0%	51.5%	4.29	.924
Effective financial monitoring was carried out to ensure adherence to the budget.	0.0%	5.2%	7.2%	36.1%	51.5%	4.34	.828
The project encountered no major financial constraints that affected its implementation.	1.0%	4.1%	5.2%	30.9%	58.8%	4.42	.852
The quality of the project deliverables met the standards expected by the stakeholders.	0.0%	4.1%	5.2%	41.2%	49.5%	4.36	.766
The project deliverables were consistent with the defined objectives and project scope.	1.0%	7.2%	7.2%	29.9%	54.6%	4.30	.959
Stakeholders were satisfied with the quality of the project outputs.	4.1%	9.3%	7.2%	32.0%	47.4%	4.09	1.137
The project was completed on or before the original deadline.	2.1%	6.2%	18.6%	43.3%	29.9%	3.93	.960
The project team was able to manage delays effectively and still meet key deadlines.	0.0%	0.0%	5.2%	42.3%	52.6%	4.47	.597
Timely completion of the project was one of the key strengths of the project.	1.0%	9.3%	15.5%	41.2%	33.0%	3.96	.978
Composite mean						4.24	

Source: **Primary data, (2025).**

Table 6 shows that the projects are expected to be successful in the end. The projects were finished within the budgeted amount, according to 85.5% of respondents, who gave an average score of 4.29 and a standard deviation of 0.924, indicating good financial management (Harrison & Turner, 2021). A mean score of 4.34 and a standard deviation of 0.828 indicate that 87.6% of respondents believed that effective financial monitoring was done to make sure the project stayed under budget (Lee & Kim, 2023). Additionally, 88.4% of respondents indicated that the project did not encounter major financial constraints that affected its implementation, results showed that the financial management measures implemented were effective in reducing financial risks, with an average score of 4.42 and a standard deviation of 0.852 (Nguyen & Zhang, 2022).

There was a strong alignment between the project outputs and stakeholder requirements, as indicated by 89.1% of respondents feeling that the quality of the project deliverables met their expectations (Park & Harrison, 2020). The mean score was 4.36 with a standard deviation of 0.766. Not only that, with a mean score of 4.30 and a standard deviation of 0.959, 84.5% of respondents felt that the project's deliverables were in line with its stated goals and scope (Wang & Li, 2024). O'Connor and Turner (2021) found that stakeholder satisfaction was high, with 79.4% of respondents saying that stakeholders were satisfied with the quality of the project outcomes (mean = 4.09, SD = 1.137). This highlights the necessity of stakeholder engagement in attaining program success.

A mean score of 3.93 and a standard deviation of 0.960 were observed when it came to project schedules; however, it is worth noting that while 73.2% of respondents mentioned that the project was finished on or before the planned deadline, there may have been some obstacles (Smith & Lee, 2023). The project team's good problem-solving and project management abilities were evident from the 94.9% of respondents who believed that they effectively managed delays and yet met critical deadlines (Jones & Patel, 2022). Finally, with a mean score of 3.96 and a standard deviation of 0.978, it was determined that the prompt completion of the project was viewed as one of the main strengths, with 74.2% of respondents agreeing with this evaluation. According to Zhang and Wang (2024), a favorable outlook on project success is indicated by the overall composite mean of 4.24. Timely completion, quality delivery, and good financial management are the three most important factors in achieving project success.

Regression results for Risk Reduction and Project Success

Table 7 presents the model summary for the regression analysis examining the effect of project success on risk reduction. The results show a strong positive correlation ($R = 0.700$) and a substantial coefficient of determination ($R^2 = 0.490$), indicating that 49% of the variation in risk reduction is explained by the level of project success. The adjusted R^2 of 0.485 confirms the model's reliability, suggesting minimal loss of explanatory power after adjusting for the number of predictors. These findings are consistent with Project Management Institute (2021), which emphasizes that successful project execution—measured through budget adherence, timely delivery, and quality outcomes—enhances the organization's ability to anticipate and mitigate risks. Similarly, International Risk Governance Council (2022) supports the assertion that improved project performance leads to more robust risk management strategies in dynamic project environments.

Table 7: Model summary for Project Success

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.700 ^a	.490	.485	.16209
a. Predictors: (Constant), Project Success				

Source: **Primary data**, (2025).

Table 8 presents the ANOVA results assessing the significance of the regression model between risk reduction (predictor) and project success (dependent variable). The F-statistic is 91.382 with a significance level of $p = .000$, indicating that the model is statistically significant and that risk reduction has a strong predictive effect on project success. The regression sum of squares (2.401) compared to the residual sum of squares (2.496) further supports that a large proportion of the variance in project success is explained by changes in risk reduction practices. These findings align with the conclusions by World Bank (2022), which emphasize the critical role of effective risk management in achieving successful development outcomes, particularly in high-risk regions. Likewise, United Nations Development Programme (2023) highlights that proactive risk mitigation enhances the probability of project success in fragile environments such as those found in the Democratic Republic of Congo.

Table 8: ANOVA results for Project Success

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.401	1	2.401	91.382	.000 ^b
	Residual	2.496	95	.026		
	Total	4.897	96			
a. Dependent Variable: Project Success						
b. Predictors: (Constant), Risk Reduction						

Source: **Primary data**, (2025).

Table 9 displays the coefficient results indicating the effect of risk reduction on project success. The unstandardized coefficient ($B = 0.584$) shows that for every one-unit increase in risk reduction, project success increases by 0.584 units, holding other factors constant. The standardized coefficient ($Beta = 0.700$) further confirms a strong and positive relationship, with a highly significant t-value of 9.559 and a p-value of .000, indicating that the relationship is statistically significant. These findings support the view that effective risk mitigation strategies significantly enhance project performance, as also reported by the Project Management Institute (2021), which emphasizes that risk-aware organizations are more likely to meet project objectives. Similarly, the International Risk Governance Council (2022) highlights that organizations with strong risk reduction practices exhibit higher project success rates, especially in complex environments.

Table 9: Coefficient results for Risk Reduction

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.769	.259		6.826	.000
	Risk Reduction	.584	.061	.700	9.559	.000
a. Dependent variable: Project Success						

Source: **Primary data**, (2025).

Discussion of the Findings - Risk Reduction and Project Success

The findings in Table 5 demonstrate a strong consensus among respondents regarding the integral role of risk assessments in project success. A significant portion of participants (79.4%) affirmed that risk assessments are conducted regularly, which reflects a proactive and structured approach to project management (Zhang & Xie, 2023). Furthermore, the majority (85.5%) believed that the frequency of these assessments directly influences project outcomes, suggesting that continual risk evaluation is viewed as a driver of success (Nguyen, Tran, & Pham, 2022). The emphasis on early detection was also pronounced, with 87.6% agreeing that timely assessments help in identifying risks at an early stage, thereby minimizing the likelihood of unforeseen disruptions (Park & Lee, 2021). Collectively, these insights illustrate that the CDE projects in Goma adopt preventive and anticipatory risk management practices as a foundational element for successful implementation.

Beyond the frequency and timing of risk assessments, the effectiveness and adaptability of mitigation strategies emerged as key determinants of project success. Nearly 90% of respondents agreed that existing mitigation plans are effective in reducing risks, with similar proportions indicating that these plans are regularly updated to reflect emerging threats (Miller & Thompson, 2023; Smith & Harris, 2023). The strong agreement (84.5%) that effective mitigation plans positively influence project outcomes supports the view that risk management is not just procedural but also strategic (Jackson & Adams, 2022). Moreover, 93.8% of respondents highlighted the importance of addressing high-severity risks with urgency, underlining the prioritization principle in risk response (Anderson & Martin, 2021). The high composite mean of 4.25 across all items confirms that respondents hold a unified and strong belief in the value of comprehensive, dynamic, and prioritized risk mitigation practices in ensuring the success of CDE's development initiatives in Goma.

CONCLUSIONS

In conclusion, risk reduction has a pivotal role in ensuring the success of a project. The findings from the analysis suggest that when project teams actively work to identify, assess, and mitigate potential risks early in the project lifecycle, the likelihood of success increases significantly. By reducing risks, projects are more likely to stay within their planned budget, meet deadlines, and achieve the defined objectives. Therefore, it is essential for project managers to incorporate effective risk management strategies, including risk reduction, to

minimize the impact of uncertainties and enhance project performance. This proactive approach helps avoid costly disruptions and ensures smoother project execution.

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