ISSN: 2958-2326

AJoCsOpen
Sharing Knowledge in Business

African Journal of Commercial Studies

Publisher's Home Page: https://ijcsacademia.com/

AFRICAN JOURNAL OF COMMERCIAL STUDIES

Research Paper | Peer Reviewed | Open Access

Integrating Risk Management into Management Control Systems: Lessons for CDF Project Managers in Choma District

Lyness Luo[1*], Michael Kalumbu Nsefu[1]

[1] *University of Lusaka, Zambia*
* Corresponding Author

African Journal of Commercial Studies, 2026, 7(1), 27–40
DOI Link: https://doi.org/10.59413/ajocs/v7.i1.3

Article Info

Volume 7, Issue 1

Publication history:
Accepted on 21 December 2025;
Published: 2 January 2026

Article DOI:
10.59413/ajocs/v7.i1.3

Abstract

The primary objective of this research is to examine the integration of risk management within Management Control Systems (MCS) and establish practical lessons for Constituency Development Fund (CDF) project managers in Choma district. Despite the critical importance of risk management, many organizations struggle to systematically embed these practices into their control systems. This study addresses this gap by analyzing the current state of risk integration and its impact on project performance. Further, this study adopts a concurrent mixed-methods approach for data collection which entails that qualitative and quantitative data was collected simultaneously. Quantitative data were gathered through structured questionnaires whereas qualitative data were collected through in-depth semi-structured interviews. The study found that CDF projects encounter various risks which include project misalignment, contractor issues, financial and technical risks, political interference, and operational and cultural challenges. The study also found a high probability of occurrence of these risks with 47.6% as high, 14.6% as very high and 39.0% as neutral. The impact of the risks was also found to be significantly high with 31.7% as high and 18.3% as very high. The study further found that the challenges faced in the management of these projects were non-identification of risks as well as logistical challenges. The study concludes that critical success factors for effective risk management integration include strong leadership commitment, continuous training and development, adequate resource allocation, and a culture that encourages proactive risk identification and mitigation. Based on these findings, the study proposes and recommends a framework for enhancing risk management integration within MCS of CDF projects, emphasizing the alignment of risk management with organizational strategy, continuous monitoring, adaptive learning and policy improvement. This research contributes to the body of knowledge by providing empirical evidence on the importance of integrated risk management within MCS and offering practical recommendations for project managers and organizational leaders in the context of CDF projects.

Keywords: Risk management integration, Management Control Systems, organizational performance, risk management framework, Zambian enterprises, critical success factors

1. Background of the study

The complexities inherent in project management within the community development landscape necessitate a nuanced understanding of the interplay between risk management and management control systems. As evidenced by various studies, the efficacy of risk management practices profoundly influences the success and sustainability of projects across diverse industries.

In the global context, the significance of risk management in ensuring project success has been underscored by various studies. Particularly in developed countries like Sweden, organizations such as the World Health Organization (WHO), United Nations International Children's Emergency Fund (UNICEF), and United Nations Educational, Scientific and Cultural Organization (UNESCO) have adopted robust risk management practices to navigate complex projects successfully in uncertain environments (Godfrey, 2022). Wabomba (2015) emphasizes the positive impact of implementing risk management practices on project outcomes, further noting the enhanced effectiveness with the presence of dedicated risk managers.

In the regional perspective, several studies have delved into the factors influencing the effectiveness of risk management in diverse project contexts. For instance, in Kenya, studies by Wachuru and Amuhaya (2013) in JUJA constituency highlighted the significant impact of risk factors on the budget, schedule, and quality of Community Development Fund (CDF) projects, potentially leading to objective failures. Similarly, Musyoka (2020) focused on National Government Constituency Development Funded (NG-CDF) construction projects in Nairobi County, emphasizing the critical role of risk management in project performance and success. The author found a positive correlation between scope management, stakeholder engagement, monitoring and evaluation, and risk management, and the successful completion of NG-CDF projects.

Now, shifting focus to the Constituency Development Fund (CDF), a key player in community development projects, its role is pivotal in fostering positive change within communities (Chomba, 2013). Community development projects, by nature, introduce multifaceted uncertainties stemming from socio-economic variables, stakeholder dynamics, and unpredictable external influences (Akinyemi, 2020). The CDF's initiatives extend beyond typical project objectives, necessitating a comprehensive examination of risk management strategies tailored to the intricacies of community development. The significance of integrating risk management into the CDF's management control systems lies in its potential to fortify project resilience and enhance the likelihood of success (Abhas, et al., 2013). While traditional management control systems are foundational in project oversight (Brand, 2007), the unique challenges posed by community development projects highlight the need for a proactive and adaptive approach to project control.

On a more local context, shedding light on the Constituency Development Fund (CDF), in Zambia, whose ability in promoting remarkable transformations in local communities cannot be overemphasized, and has been a game changer for community development. Community development projects remain a major component for the CDF in Zambia and as such, integrating risk management into its management control systems depends on strengthening capacity of its managers thereby increasing the rate of project success.

The CDF allocation significantly increased in the 2022 budget, and then further rose in 2023, providing more financial resources for development projects in constituencies. In the 2023 budget, the Constituency Development Fund (CDF) was allocated K4.42 billion, representing an increase of K4.17 billion compared to the 2021 annual budget (Zambia national budget report, 2023). Further, the individual constituency allocation represented a total of K28,313,902.01 in 2023. The total allocation of the CDF per Constituency was distributed among three major Components out of which 5% is Administrative Cost as provided by the CDF Act. According to the Ministry of Local Government and Rural Development (2022), the remaining 95% is allocated as tabulated in Table 1:

Table 1: CDF Allocation Percentages

S/N	Components	Percentage
1	Community Projects 5% disaster contingency	60%
2	Youth and Empowerment Grant 40% Grants 0% Soft Loans	20%
3	Secondary School (Boarding) & Skills Development Bursaries	20%
TOTAL		100%

Source: CDF Guidelines,2022

Since the increment of the CDF in 2022, Choma district has implemented over 120 community development projects ranging from classroom blocks in rural schools, health posts, Maternity wings, police posts, Dip-tanks, and many others that have lifted the faces of communities. However, it is of paramount importance to denote the legality of the CDF. The legal framework surrounding risk management within the context of community development projects, particularly those funded by the Constituency Development Fund (CDF), plays a crucial role in shaping policies, procedures, and accountability mechanisms in Zambia. At the core of this framework is the Constituency Development Fund Act No. 11 of 2018, which outlines the establishment, functions, and management of the CDF, providing the statutory basis for the allocation of funds to constituencies for development projects. Specific regulations and guidelines further govern the implementation of CDF projects, ensuring transparency, accountability, and adherence to procurement best practices throughout the project lifecycle.

While the Act and regulations may not explicitly address risk management practices, they often incorporate principles of good governance, financial accountability, and risk mitigation. For instance, procurement regulations may require risk assessments as part of project planning and evaluation to identify potential risks and mitigate them effectively. Legal mechanisms also exist to address issues related to project failures, mismanagement, or malpractice within the CDF

framework, including provisions for investigations, audits, and sanctions against individuals or entities found to have contravened the law or misused public funds allocated through the CDF. In addition, according to the Ministry of Local Government and Rural Development (2022) CDF guidelines, there are pieces of legislation that are related and supportive to the management, disbursement, utilization and accountability of CDF which include among others: The Local Government Act No. 2 of 2019, The Public Finance Management Act No. 1 of 2018, The Public Procurement Act No. 8 of 2020, The Urban and Regional Planning Act No. 3 of 2015, The National Planning and Budgeting Act No. 1 of 2020 and Anti-Gender Based Violence Act No.1 of 2011.

Furthermore, the specific context of community development projects funded by the Constituency Development Fund (CDF) introduces a unique set of challenges and opportunities that demands tailored strategies for risk mitigation and project control. Community development initiatives, by their nature, are subject to multifaceted uncertainties, ranging from socio-economic variables to stakeholder dynamics and unpredictable external influences (Turner & Zolin, 2012). Recognizing the critical role of risk management in navigating these uncertainties becomes imperative, especially when considering projects directly impacting communities. The CDF, as a central actor in community development endeavours, undertakes initiatives that carry far-reaching implications for the well-being and livelihoods of the communities involved (Zwikael & Smyrk, 2012). While conventional management control systems are foundational in project oversight, there is a growing recognition that they may not be fully equipped to address the evolving nature of risks—both internal and external (Chapman & Ward, 2003). This research is motivated by the need for a proactive and adaptive approach to project control within the CDF, inspired by lessons learned from analogous integrations of risk management in various industries.

The paramount significance of this research lies in its potential to bridge the gap between theoretical risk management frameworks and the pragmatic needs of those entrusted with overseeing community development initiatives. The CDF's role in spearheading projects with profound implications for communities emphasizes the necessity of seamlessly integrating risk management into management control systems (Lechler & Cohen, 2006). This exploration aims to empower CDF Project Managers with actionable insights, aligning with the distinctive challenges and aspirations inherent in the realm of community development projects. The ultimate goal is to enhance the resilience and success of community development projects and initiatives in Zambia, acknowledging the profound implications they hold on improving the well-being and livelihoods of the Zambian communities involved.

2. Methodology

The research approach for this study on the integration of risk management in management control systems encompasses a mixed methods approach, combining qualitative and quantitative methodologies to comprehensively investigate the phenomenon. By combining these approaches, the research aims to provide a comprehensive understanding of the integration process, its challenges, and its outcomes. Therefore, quantitative data for this study was collected through surveys with closed-ended questions, whereas as qualitative data was obtained through semi-structured interviews with open-ended questions.

2.1 Target Population

For this study, the population consisted of project team members, project managers, and officials involved in the construction of Community Development Fund (CDF) projects, including council officials and other stakeholders. The total number of the population was 475 and their distribution is as shown in the table.

Table 2: Population Distribution

Participants	Population
CDF Committee Members	19
Ward Development Committee members	230
Choma District Contractors	110
Choma Project Managers	6
Social Economic Planners	20
Finance Managers	10
Procurement Officers	10
Civil Engineers	70
Total	475

2.2 Sample Size Calculation

The sample size for this study was calculated using the Raosoft calculator. The formula for the calculator is given as follows:

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

Where n is the calculated sample size, N is the total population, and e is the study's desired margin of error. The study settled for a margin of error of 0.1 due to time and resource constraints. Therefore, the calculation of the sample size was as follows:

$$n = \frac{475}{1 + 475(0.1 * 0.1)}$$

The resulting calculated sample size was 83 participants. This means that a population of 83 would be sufficient to make generalizations for the population of 475 at a margin of error of 0.1.

2.3 Data Collection Methods

The secondary data source included published books, articles, reports, journals and other literature relating to the topic under study. On the other hand, primary data was collected using self-administered closed ended questionnaires for quantitative data and open-ended questionnaires for qualitative data, which included a structured questionnaire 5-point Likert scale questionnaire and an interview guide.

2.4 Data Analysis

To analyze the relationships between variables, Pearson correlation and regression analysis were conducted using SPSS 27. Pearson correlation analysis was used to examine the strength and direction of the relationships between pairs of variables. Regression analysis, on the other hand, was used to predict the dependent variable based on the independent variables. The results of these analyses provided insights into the relationships between different variables related to risk management in Constituency Development Fund (CDF) projects.

For the qualitative data collected through interviews and open-ended survey questions, thematic analysis was employed. Thematic analysis is a method for identifying, analyzing, and reporting patterns (themes) within qualitative data. Microsoft Excel was used for organizing and coding the qualitative data, as it provided a structured platform for identifying and interpreting key themes and patterns related to risk management in CDF projects. This approach allowed for a comprehensive understanding of the qualitative information gathered, complementing the findings from the quantitative analysis.

2.5 Ethical Considerations

In this study, several ethical considerations were addressed to uphold the integrity and validity of the research process. To begin with, informed consent was obtained from all participants involved in the study. They were provided with detailed information about the purpose of the study, their rights as participants, and how their data would be collected, used, and stored. Participants were assured of their anonymity and confidentiality throughout the study.

Furthermore, the study adhered to ethical guidelines regarding the treatment of human subjects. Participants were not coerced or pressured to participate, and they were free to withdraw from the study at any time without consequence. The study also aimed to minimize harm to participants, both physically and psychologically. Measures were implemented to reduce any potential risks associated with participation, and participants were provided with support services if they experienced any distress. The research veraciously adhered to the University of Lusaka's ethical code recommended for application in research.

3 Findings

3.1 Quantitative Respondent's General Information

Gender Distribution

Out of the 82 respondents, 62 were male, and 20 were female. This indicates that 75.6% of the participants were male, while 24.4% were female. This gender distribution shows a higher representation of males compared to females in the study.

Table 3: Gender Distribution

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	62	75.6	75.6	75.6
	Female	20	24.4	24.4	100.0
	Total	82	100.0	100.0	

Source (Author, 2024).

Respondent's Highest Level of Education

The data on the highest level of education attained by the respondents indicates a diverse range of educational

backgrounds among the 82 participants. The majority of respondents hold an undergraduate degree, accounting for 45.1% of the sample. This substantial representation of individuals with undergraduate degrees highlights a significant level of formal education among the participants, which could influence their understanding and perspectives on the subject matter of the study.

Following this, 20.7% of respondents have attained a secondary education, making it the second-largest group in terms of educational attainment. This suggests that a notable portion of the participants may have practical experience and local knowledge, despite having lower formal education levels compared to others. The data also shows that 18.3% of respondents have achieved a diploma or certificate.

Table 4: Respondent's Highest Level of Education

Highest level of education attained.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Secondary	17	20.7	20.7	20.7
	Diploma/Certificate	15	18.3	18.3	39.0
	Undergraduate Degree	37	45.1	45.1	84.1
	Postgraduate Degree	13	15.9	15.9	100.0
	Total	82	100.0	100.0	

Source (Author, 2024).

3.2 Role in CDF Projects

The most represented role is that of Civil Engineers, comprising 26.8% of the sample. This significant presence of civil engineers underscores the technical and infrastructural focus within CDF projects, highlighting the importance of engineering expertise in project planning and implementation.

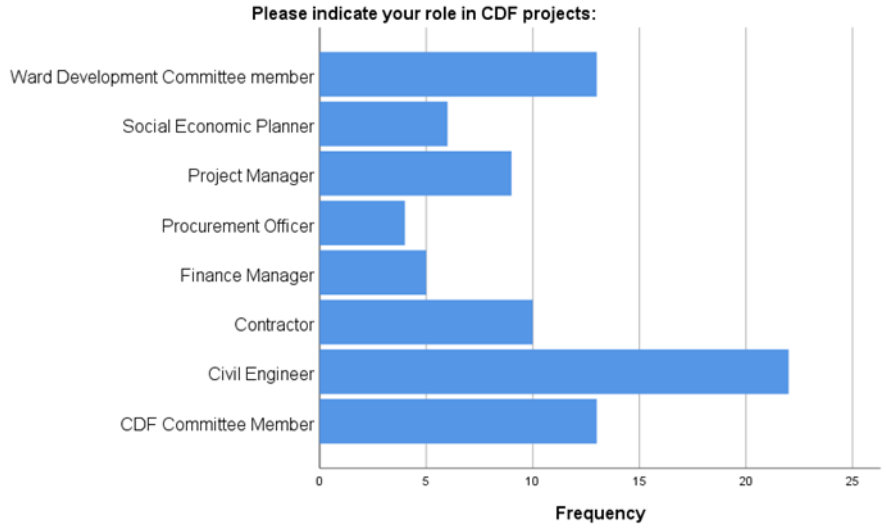

Figure 1: Respondent's Role in CDF Projects for Quantitative Sample
Source (Author, 2024).

CDF Committee Members and Ward Development Committee Members each make up 15.9% of the respondents. Their participation ensures that local needs and priorities are addressed, and that projects align with community development goals and integrated development plans. Contractors represent 12.2% of the respondents, reflecting the hands-on, practical aspect of project execution Project Managers, accounting for 11.0% of the respondents, play a pivotal role in overseeing project timelines, budgets, and quality, making their perspectives essential for comprehensive risk management. Other roles include Social Economic Planners (7.3%), Finance Managers (6.1%), and Procurement Officers (4.9%). Social Economic Planners contribute to the socio-economic impact assessments and sustainability planning of CDF projects. Finance Managers are key to budget oversight and financial risk management, ensuring that projects are financially viable. Procurement Officers handle the acquisition of necessary resources, and their role is critical in mitigating procurement-related risks.

3.3 Descriptive Statistics for Probability of Risks Occurring

The findings on the probability of risks occurring in CDF projects reveal that a significant portion of respondents perceive a high likelihood of risk occurrence. Specifically, 47.6% of respondents rated the probability as "high," while an additional 14.6% rated it as "very high." This combined 62.2% indicates a strong consensus among participants that risks are a

prevalent concern in CDF projects in Choma district.

Table 5: Respondent's Perception of Probability of Risks Occurring

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very low	2	2.4	2.4	2.4
	Low	4	4.9	4.9	7.3
	Neutral	25	30.5	30.5	37.8
	High	39	47.6	47.6	85.4
	Very high	12	14.6	14.6	100.0
	Total	82	100.0	100.0	

Source (Author, 2024).

On the other hand, a notable proportion of respondents remain neutral, with 30.5% indicating a neutral stance on the probability of risks occurring. A smaller percentage of respondents perceive the probability of risks occurring as low or very low. Only 4.9% rated the probability as "low," and a mere 2.4% rated it as "very low." This minority viewpoint underscores that while there are instances where risks may be perceived as less likely, they are relatively rare compared to the higher and neutral assessments.

3.4 Descriptive Statistics for Perceived Impact of Risks on CDF Projects

The findings on the perceived impact of identified risks on CDF projects, if they were to occur, highlight diverse viewpoints among the respondents. A significant portion, 31.7%, rated the impact as "high," indicating that many stakeholders believe that risks could substantially affect CDF projects. Additionally, 18.3% rated the impact as "very high," reinforcing the view that the consequences of risks could be severe.

Table 6: Respondent's Perception of the Impact of Risks on CDF Projects

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very low	2	2.4	2.4	2.4
	Low	7	8.5	8.5	11.0
	Neutral	32	39.0	39.0	50.0
	High	26	31.7	31.7	81.7
	Very high	15	18.3	18.3	100.0
	Total	82	100.0	100.0	

Source (Author, 2024).

Interestingly, a considerable percentage of respondents, 39.0%, remained neutral regarding the impact of risks. This neutrality suggests that while there is awareness of potential risks, there is uncertainty or variability in perceptions about how these risks would translate into actual consequences for CDF projects. This could indicate differing experiences or knowledge levels about risk impacts among stakeholders. A smaller segment of respondents rated the impact as "low" or "very low." Specifically, 8.5% considered the impact to be "low," and only 2.4% rated it as "very low." This minority viewpoint suggests that while there are some who perceive the risks as having minimal impact, they are relatively few compared to those who foresee more significant consequences.

3.5 Quantitative Respondent's General Information

3.5 Descriptive Statistics for Research Variables

Mean scores were calculated for the independent variables from the Likert scale statements that were presented for each of the variables to generate the variables to be used for the study. The table below presents the descriptive statistics, including the mean and standard deviation, for the key variables assessed in the research.

Table 7: Descriptive Statistics for Research Variables

	Mean	Std. Deviation	N
Project Management Systems	3.3963	.75966	82
Gender	1.24	.432	82
Age group.	2.38	.964	82
Education Level	2.56	.995	82
Organizational Culture	3.0427	.68472	82
Leadership	3.0122	.78950	82
Institutional Capacity	3.0884	.73742	82
Stakeholder Engagement	2.4543	.75065	82

Source (Author, 2024).

The mean score for Project Management Systems is 3.3963 with a standard deviation of 0.75966, based on 82 respondents. The mean score for the gender variable is 1.24 with a standard deviation of 0.432, based on 82 respondents. The mean score for the age group is 2.38 with a standard deviation of 0.964. The mean score for the highest level of education attained is 2.56 with a standard deviation of 0.995. The mean score for Organizational Culture is 3.0427 with a standard deviation of 0. 68472.The mean score for Leadership is 3.0122 with a standard deviation of 0.78950. The mean score for Institutional Capacity is 3.0884 with a standard deviation of 0.73742. The mean score for Stakeholder Engagement is 2.4543 with a standard deviation of 0.75065.

The mean scores for key variables such as Project Management Systems, Organizational Culture, Leadership, and Institutional Capacity suggest that respondents generally view these aspects moderately positively. However, the slightly lower mean score for Stakeholder Engagement highlights a potential area for improvement. The demographic variables indicate a diverse sample in terms of age and education, with a predominance of male respondents. These insights can guide further analysis and the development of strategies to enhance the effectiveness of risk management and project management systems in CDF projects.

3.6 Inferential Statistics to Examine Relationships between Variables

Correlation Analysis

Table 8: Correlation Analysis Matrix

#	Variables	1	2	3	4	5	6	7	8
1	Project_Management_Systems	1							
2	What is your gender?	-0.072	1						
3	Indicate your age group.	0.050	-0.343**	1					
4	Highest level of education attained.	-0.085	0.109	-0.533**	1				
5	Organizational_Culture	0.675**	-0.171	0.116	-0.126	1			
6	Leadership	0.663**	-0.027	0.087	-0.174	0.750**	1		
7	Institutional_Capacity	0.729**	-0.088	0.165	-0.275*	0.628**	0.659**	1	
8	Stakeholder_Engagement	0.408**	0.063	-0.142	0.022	0.268*	0.401**	0.467**	1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Source (Author, 2024).

Regarding demographic characteristics, the study found no significant correlations with Project Management Systems. Gender ($r = -0.072$, $p = 0.518$), age group ($r = 0.050$, $p = 0.656$), and highest level of education attained ($r = -0.085$, $p = 0.445$) showed no statistically significant relationship with Project Management Systems. Organizational Culture, specifically in relation to risk, showed a strong positive correlation with Project Management Systems ($r = 0.675$, $p < 0.01$). Leadership in the context of risk management, also demonstrated a significant positive correlation with Project Management Systems ($r = 0.663$, $p < 0.01$). Institutional Capacity particularly regarding risk management capabilities, showed a significant positive correlation with Project Management Systems ($r = 0.729$, $p < 0.01$). Stakeholder Engagement, in the context of risk management, was also positively correlated with Project Management Systems ($r = 0.408$, $p < 0.01$).

Regression Analysis

Hierarchical regression analysis was employed to investigate the causal relationship between various independent variables related to risk management and Project Management Systems. The analysis resulted in 5 models being estimated, and they revealed several key findings that are summarized in table 4.8 below.

Table 9: Regression Analysis

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		
Control Variables	**Beta**	**SE1**	**Beta**	**SE2**	**Beta**	**SE3**	**Beta**	**SE4**	**Beta**	**SE5**	**VIF**
Gender	-0.123	0.212	0.066	0.160	-0.003	0.154	0.001	0.135	0.000	0.136	1.197
Age	-0.017	0.111	-0.020	0.083	-0.015	0.079	-0.018	0.069	-0.010	0.071	1.621
Education Level	-0.068	0.102	-0.013	0.076	0.015	0.073	0.075	0.066	0.071	0.066	1.505
Independent Variable											
Organizational_Culture			0.757***	0.095	0.451**	0.138	0.287*	0.126	0.298*	0.127	2.652
Leadership					0.350**	0.119	0.162	0.111	0.147	0.114	2.816
Institutional_Capacity							0.501***	0.103	0.474***	0.110	2.314
Stakeholder_Engagement									0.056	0.085	1.427

*Significant at 5% **Significant at 1% ***Significant at 0.1%

Source (Author, 2024).

Model 1, which includes only demographic variables (gender, age group, highest level of education attained), shows a very weak relationship with Project Management Systems, as indicated by the low R-squared value of 0.012. This model is not statistically significant ($F = 0.306$, $p = 0.821$), suggesting that these demographic variables do not effectively explain the variability in Project Management Systems.

Model 2 introduces Organizational Culture as an independent variable, resulting in a significant improvement in the

model's explanatory power. The R-squared value increases to 0.457, indicating that about 45.7% of the variability in Project Management Systems can be explained by gender, age group, highest level of education attained, and Organizational Culture. The F-statistic is highly significant ($F = 16.234$, $p < 0.001$), indicating that the model as a whole is a good fit for the data. The beta coefficient for Organizational Culture ($\beta = 0.682$, $p < 0.001$) suggests that a positive organizational culture, particularly in terms of risk management, is associated with an overall improvement in Project Management Systems.

In Model 3, Leadership is added as an independent variable, further enhancing the model's explanatory power. The R-squared value increases to 0.513, indicating that 51.3% of the variability in Project Management Systems is explained by gender, age group, highest level of education attained, Organizational Culture and Leadership. The F-statistic remains significant ($F = 16.007$, $p < 0.001$), suggesting that Leadership contributes significantly to the model. The beta coefficient for Leadership ($\beta = 0.364$, $p = 0.004$) indicates that strong leadership in risk management contributes to an enhancement in Project Management Systems.

Model 4 includes Institutional Capacity as an additional independent variable, leading to a further improvement in the model's explanatory power. The R-squared value increases to 0.631, indicating that 63.1% of the variability in Project Management Systems is explained by gender, age group, highest level of education attained, Organizational Culture, Leadership, and Institutional Capacity. The F-statistic is highly significant ($F = 21.332$, $p < 0.001$), indicating that Institutional Capacity is a significant predictor of Project Management Systems. The beta coefficient for Institutional Capacity ($\beta = 0.486$, $p < 0.001$) suggests that organizations with higher institutional capacity in terms of risk management resources, processes, and expertise tend to have more effective Project Management Systems.

Model 5 adds Stakeholder Engagement as the final independent variable, resulting in a negligible increase in the R-squared value to 0.633. This indicates that the inclusion of Stakeholder Engagement does not significantly improve the model's explanatory power beyond that of the previous model. The F-statistic remains significant ($F = 18.211$, $p < 0.001$), suggesting that Stakeholder Engagement, while not contributing significantly to the overall model, still has some impact on Project Management Systems. The beta coefficient for Stakeholder Engagement is not significant ($\beta = 0.056$, $p = 0.510$), indicating that it does not have a meaningful impact on Project Management Systems in this model or that its impact may not be direct.

In concluding, attention is drawn to the final model, Model 5, which includes all independent variables (Organizational Culture, Leadership, Institutional Capacity, and Stakeholder Engagement) along with demographic variables. In the model, it is seen that the model explains 63.3% of the variability in Project Management Systems and that it is statistically significant ($F = 18.211$, $p < 0.001$), indicating that it is a good fit for the data.

The beta coefficients for Organizational Culture and Institutional Capacity are all statistically significant, suggesting that these factors have a meaningful impact on Project Management Systems. While Leadership and Stakeholder Engagement do not significantly contribute to the model, suggesting that their effect might be through an indirect path.

3.7 Qualitative Data Presentation

Main Risks Associated with CDF Projects

Table 10: Identification of Risks Associated with CDF Projects

Theme	Code	Representative quote
Project Misalignment	CDF 01	This misalignment often results in projects that are non-functional or do not provide significant benefits to the community. Respondent CDF 01 remarked, *"The selection of projects does not follow approved development plans or priorities of communities."*
Contractor Issues	CDF 02	*"Contractor disappearing after being given advance payment,"* underscoring the risk of financial loss and project delays. *"Inexperienced contractors, delayed projects, long procurement processes, and underestimation,"* pointing to the systemic challenges within the procurement and implementation processes.
Financial and Technical Risks	CDF 07	*"Poor workmanship due to low project allocations by the CDF committee,"* indicating that insufficient funding compromises the quality of work.
Political Interference	CDF 07	*"Influence by the area MP on the CDF committee to choose projects which impress his/her electorates instead of choosing based on the need in the community."*

Table 11: Instances Where Risks Have Impacted CDF Projects

Theme	Code	Representative quote
Underfunding	CDF 01	*"Yes, we have health posts and maternity annexes done under Mbabala constituency which are not functional because they were not fully funded."*
Political	CDF 09	*"Politicians micromanage the project estimates for projects, which leads to compromise on*

Interference		*quality." Additionally, political motives often delayed project implementation.*
Construction Risks	CDF 12	*"Construction risks are always recurring. These show up in the poor quality due to lack of supervision and inspection at critical stages." These construction flaws not only pose safety risks but also undermine the long-term durability of the infrastructure.*
Operational Challenges	CDF 13	*, "Cultural risks have led to projects being terminated. A situation where 2 chiefs had a cold dispute over traditional land that was given to construct a police station in the chiefdom."*

Table 12: Challenges in Managing Risks Associated with CDF Projects

Theme	Code	Representative quote
Non-Identification of Risks	CDF 05	*"There is no risk register and mitigation to most risks."*
Lack of Support	CDF 02	*"Lack of support from other supporting departments," indicating a critical gap in the collective effort needed for successful project management.*
Political Interference	CDF 07	*"The area MPs, especially from the ruling party, have more influence and therefore, they recommend for a transfer for whoever disobeys their instructions."*
Logistical Challenges	CDF 12	*, "Supervisors don't inspect because they don't have fuel even though vehicles are there."* This lack of logistical support can lead to inadequate oversight and increased risk of project delays and quality issues.
Financial Constraints	CDF 09	*"Requesting for funds to enable mitigation is a challenge,"* underscoring the financial bottlenecks that impede proactive risk management efforts.
Monitoring Difficulties	CDF 08	*"It's challenging to trace the progress, for instance, in goat rearing projects; some groups may provide false evidence of progress."*
Misaligned Priorities	CDF 14	*, "Misplaced priorities in that risks will not be prioritized but funders will only want to do new projects and run away from fixing the risks."*

Table 13: Components of an Effective Risk Management System for CDF Projects

Theme	Code	Representative quote
Regular Communication and Team Meetings	CDF 01	*"Frequently meeting by the project teams to address identified risks as they occur."*
Departmental Unity and Collaboration	CDF 02	*"Unity among supporting departments," emphasizing that synchronized actions are crucial for managing risks effectively.*
Accountability and Quality Control	CDF 02	*"Restricting payment only to certified measured works,"* as a way to enforce accountability.
Resource Allocation for Monitoring	CDF 03	*"Introduce special fuel account to ensure projects are constantly monitored!"* This recommendation underscores the importance of allocating sufficient resources for continuous oversight.
Capacity Building for Contractors	CDF 04	*"Introduction of capacity building courses for upcoming contractors on contract management,"* to improve contractors' skills.
Systematic Risk Identification and Management	CDF 05	*"Identification of the risks and how they will be managed,"* underscoring the need for a clear and systematic approach
Involvement of Local Authorities	CDF 06	*"Consulting local authorities,"* Local authorities can provide valuable insights into local conditions, potential risks, and community priorities, helping project teams to develop more effective risk management strategies.
Revision of CDF Committee Selection Process	CDF 07	*"The whole system of choosing the CDF in the committee must be changed,"* to enhance transparency and efficiency in project management.
Improved Resource Availability	CDF 09	*"Improved availability of resources and adequate strategies for managing risks such as risk registers."*
Training for Staff in Risk Management	CDF 10	*"Introducing risk management training to the staff in charge of project implementation especially the engineers,"*
Strong Leadership and Communication Strategies	CDF 13	*"Accountability in managing risks and risk management strategies and techniques,"* as crucial elements, along with good leadership.

4 Discussion of Findings

4.1 Exploring risks associated with CDF projects in Choma district

Key risks identified include; project misalignment, contractor issues, financial and technical risks, political interference, and operational and cultural challenges. This comprehensive understanding of the obstacles encountered during the execution of CDF projects provides valuable insights for improving project outcomes.

Firstly, the descriptive statistics reveal that a substantial number of respondents perceive a high probability of risks occurring in CDF initiatives. Specifically, 47.6% of respondents rated the likelihood of risks as "high," while an additional 14.6% rated it as "very high." This combined 62.2% consensus underscores a pervasive concern regarding the prevalence of risks in these initiatives. Interestingly, a significant portion of respondents (30.5%) maintained a neutral stance on the likelihood of risks. This neutrality may indicate a lack of awareness about specific risks associated with CDF projects or variability in their experiences. Respondents also reported that the selection of projects often did not align with approved development plans or community priorities, leading to non-functional or unbeneficial projects. Furthermore, contractor issues including the disappearance of contractors after receiving advance payments and the delivery of substandard work were cited to be due to inadequate monitoring which also perceive a relationship with project delays and failures. Finally, political interference, operational and cultural risks were identified as substantial risk factors which highlighted MPs frequently influencing project selection and procurement processes to prioritize projects that appeal to their electorates and not according to the specific needs of larger communities.

The factors discussed above align with existing literature, which frequently emphasizes the high susceptibility of development projects to various risks, particularly in developing regions (World Bank, 2017; OECD, 2019). Contrast, studies by Zhang and Fan (2014) and Mugwagwa et al. (2015) highlight the importance of stakeholder engagement and awareness in understanding and mitigating project risks and is consistent with the findings on the need to engage stakeholders on matters to deal with project risks. Project misalignment is consistent with findings from Mwangi et al. (2019) and Hope (2009), who underscore the importance of aligning development initiatives with local needs to ensure their relevance and impact.

Furthermore, this author therefore extrapolates that the high risk factors among stakeholders underscore the need for robust risk management frameworks and strategies to mitigate potential project risks. Stakeholders must have a voice in the handling of risks as they recognize their existence in respective projects or those they may come across. Further, the substantial neutral stance observed in this study suggests a gap in risk communication and assessment practices, emphasizing the need for more consistent and transparent risk management strategies across all CDF initiatives. Moreover, the systemic problem of resource distribution and project planning, exacerbated by inadequate fund allocation, further highlights the necessity of strategic alignment in development projects. Whereas delayed projects, protracted procurement processes, and lack of experience and expertise among contractors underscore the need for rigorous contractor evaluation, enhanced monitoring, and capacity-building initiatives to improve contractor performance and project outcomes. It is also the researcher's observation that the impact of political interference not only distorts project priorities but also promotes corruption and favoritism and further diminishes the efficacy of the CDF initiative.

4.2 Probability of occurrence and the impact of the identified risks on CDF projects in Choma district

The second objective of the study was to evaluate the likelihood of occurrence and the impact of identified risks on CDF initiatives in Choma district. The quantitative results indicate that a substantial number of respondents consider the impact of risks on CDF initiatives to be either high or very high. Specifically, 31.7% of respondents rated the impact as "high" and 18.3% as "very high." while 39.0% of respondents gave a neutral view. The risks identified under qualitative results included financial risks, political interference, underfunding, contractor challenges and operational risks.

The percentage of respondents that indicated the probability of occurrence of risks as high and very high suggests that stakeholders are acutely aware of the potential severe repercussions that risks could have on these initiatives. The neutrality suggests that there is variability in knowledge levels or experiences. Whereas the qualitative examples presented by respondents emphasise the specific instances in which these risks have materialized. Underfunding was evidenced by the non-functionality of health facilities and maternity annexes as a result of inadequate financial allocations. The critical need for improved contractor management and oversight is underscored by the issue of contractor problems, including disappearing contractors and substandard work. While Political interference was reported that political figures frequently micromanaged project estimates and postponed implementation for personal or electoral purposes.

Subsequently, the high percentages recorded from the responses are consistent with the results of studies conducted by Wang and Yuan (2020), who observed that perceived high-impact risks frequently correspond with significant concerns regarding the sustainability and success of projects. Salawu et al. (2018) found that stakeholder engagement and awareness can substantially influence risk perception and assessment. Additionally, Zunguze and Wambua (2016) also noted that political interference is a pervasive issue in community development projects, frequently resulting in misallocation of resources and compromised project quality. While Olawale and Sun (2015) strongly emphasised the detrimental effects of poor project management practices on construction quality and project outcomes, which were also echoed in the

construction risks due to inadequate supervision and inspection for this study.

Generally, this researcher infers that the data demonstrates that a significant number of respondents are preoccupied with the high impact of risks, which underscores the necessity of effective risk management strategies to mitigate these potential consequences. The significant number of neutral responses implies that there is a necessity for improved communication and comprehension of the risks that may affect all project participants and subsequently project outcomes. This will guarantee that all stakeholders are well-informed and prepared to confront potential risks. The findings consistently underscore the importance of stakeholder engagement, comprehensive risk management strategies, and robust project management practices in improving the sustainability and success of community development initiatives.

4.3 Components to be integrated into Risk Management Control Systems

The qualitative responses of the study identified numerous critical components that should be incorporated into risk management control systems for Constituency Development Fund (CDF) initiatives. The highlighted components included frequent team meetings, a culture of continuous risk management, departmental unity and collaboration, maintaining accountability and quality control, allocating resources for monitoring, development of contractor capacity, methodical approach to risk identification and management as well as providing risk management training to personnel, particularly those responsible for project implementation.

Firstly, the necessity of frequent team meetings was recognised as a critical element of effective risk management. The early detection of potential issues and the timely implementation of interventions are facilitated by the regular communication and collaboration among team members. A culture of continuous risk management is fostered by the regularity of team meetings, which provide a forum for discussing challenges, sharing insights, and developing collective solutions.

Subsequently, effective risk management necessitates departmental unity and collaboration. All parties involved in the undertaking must make concerted efforts, as emphasised by the respondents. To ensure effective risk management, it is imperative to maintain accountability and quality control. Payments should restricted to only certified and measured works, which guarantees that only completed and satisfactory work is compensated, thereby preventing financial losses resulting from substandard work. Additionally, it is imperative to allocate resources for monitoring. The significance of allocating adequate resources for continuous supervision is underscored by the introduction of special fuel accounts to facilitate constant project monitoring.

Another essential element is the development of contractor capacity. The competencies of contractors can be improved by offering training and courses on contract administration, which will allow them to fulfil their obligations more efficiently. Additionally, it is crucial to implement a methodical approach to risk identification and management. A structured approach to identifying and managing risks is provided by the implementation of risk registers and risk assessment forms prior to the commencement of a project. Furthermore, the participation of local authorities in the project planning and execution phases can capitalise on their local expertise and authority to enhance risk management. Their participation can facilitate the smoother implementation of projects and guarantee that they are in accordance with the requirements of the community. The highlighted components have been suggested by respondents to make the management of risks in CDF projects efficient and effective.

The components suggested by respondents are supported by Drennan et al. (2015), who argued the significance of consistent communication in the development of proactive risk management strategies. While Kutsch et al. (2020) corroborates the need for departmental unity, asserting that the effective management of risks necessitates synchronised actions across departments. Similarly, constant project monitoring as a recommendation is consistent with the findings of Lehtonen et al. (2019), who accentuated the importance of consistent monitoring in the preservation of project quality and progress. The findings of Thwala and Phaladi (2021), also underlined the significance of training in the development of internal competencies to facilitate effective risk management and align with the findings of this study. The recommendations provided for by the respondents highly aligns with the literature by these vast authors.

This author therefore underpins that the successful implementation of CDF initiatives can be guaranteed by incorporating these components into risk management control systems, which can help mitigate risks. The highlighted components are essential to the success of various CDF projects in Choma District. These can be improved on and included in the risk management control system that will guide project managers efficiently manage these projects and related risks

4.4 Rationale for Developing the Risk Management Control System Framework

The motivation for developing the current study's proposed Risk Management Control System (RMCS) framework originates from the realization of the significant challenge of effectively assessing, identifying and mitigating risks with projects. This is especially evident when balancing the achievement of strategic objectives, optimising resource utilisation, and maintaining alignment with overall corporate goals, whilst ensuring robust risk management. Furthermore, the heart of the framework development focuses on tackling the complexity of integrating diverse risk control mechanisms in order to improve decision-making processes, increase accountability, and support institutional sustainability.

Furthermore, the incentive for this framework is the need to adapt to changing business contexts and the growing importance of strategic risk management control systems. As institutions deal with economic swings and competitive pressures, there is a growing need for strong RMCS that can deliver fast and accurate information to assist strategic decisions. The suggested framework intends to close the gap between old risk control systems and new strategic risk

management practices, improving overall institutional performance and sustainability.

However, given Zambia's economic situation, where institutions including Local Authorities are undergoing structural adjustments and reforms to improve efficiency and competitiveness, the establishment of a complete RMCS framework is even more vital. The framework aims to address institutions' ability to implement effective risk control mechanism in order to improve on the overall institutional performance. This study acknowledges the difficulties created by economic limits and the necessity for new risk control systems that can adapt to changing market conditions.

The study used literature review findings, theoretical and conceptual analysis, as well as quantitative and qualitative data, to create a comprehensive RMCS framework. This framework was created to address the third study objective, which looked into the important success elements for the adoption and sustainability of RMCS in Zambian institutions especially Local Authorities. Thus, building this framework based on the analysis' findings is a significant tool for policymakers and decision-makers in a variety of industries looking to improve institutional performance and sustainability.

The framework is based on the Contingency Theory, which evolved in the mid-20th century and emphasises that the efficacy of management control systems is determined by a variety of internal and external factors (Donaldson, 2001). This idea contends that there is no one-size-fits-all approach to management control; rather, in this case it suggests that risk management control systems must be adapted to each organization's unique circumstances and environment.

According to Lawrence and Lorsch (1967), one of the key assumptions of Contingency Theory is that organisational efficiency is achieved by adjusting characteristics such as structure, control systems, and processes to the contingencies that represent the organization's circumstances. These contingencies may include the organization's size, technology, and operating environment.

As a result, the framework focuses on understanding the interdependence of different risk control mechanisms, institutional structures, and environmental elements. It also looks at crucial success characteristics and how they help institutions achieve long-term performance. This approach ensures that the framework is adaptive and relevant to the unique demands and issues that Zambian bodies confront.

5 Conclusions and Recommendation

5.1 Conclusion of the Research Findings

The comprehensive analysis of Constituency Development Fund (CDF) projects in Choma district has unveiled critical insights into the risks and challenges that jeopardize the successful execution and sustainability of these initiatives. The study's objectives encompassed identifying the primary risks, evaluating their probability and impact, and developing a suitable risk management control system for CDF project managers. Through an extensive combination of quantitative and qualitative methodologies, the findings provide a framework for understanding and addressing the many risks associated with CDF projects.

In conclusion, the study highlights the urgent need for strategic and comprehensive project planning, selection, and implementation strategies to enhance the efficacy and impact of CDF projects in Choma district. Mitigating the identified risks requires the integration of robust financial and technical practices, reduction of political interference, improved contractor supervision, and the development of a comprehensive risk management control system. By adopting these strategies, CDF projects can achieve their intended outcomes and contribute to sustainable community development.

5.2 Recommendations

Strengthen Contractor Evaluation and Monitoring

Local authorities and project managers should implement a more rigorous contractor evaluation and monitoring process to address issues related to contractor performance. This should include pre-qualification assessments to ensure that only contractors with proven expertise and reliability are selected. Additionally, continuous monitoring through regular site inspections and progress reports should be mandated.

Enhance Stakeholder Engagement and Mitigation of Political Interference through Policy Reforms

Local authorities and project managers should improve stakeholder engagement and risk communication. Organizing regular community meetings and workshops to raise awareness about the specific risks associated with CDF projects will help bridge the gap identified in risk awareness and encourage a more proactive approach to risk management, thereby reducing the likelihood of misalignment and enhancing overall project success. Policymakers should introduce and enforce reforms that limit the influence of political figures in the project selection and procurement processes to mitigate political interference.

Implement Structured Risk Identification, Reporting and Training Systems

CDF project managers and oversight bodies should establish and utilize risk registers and risk assessment forms as standard practice before the commencement of any project. These tools will provide a systematic method for identifying potential risks early and devising appropriate mitigation strategies. Regular updates and reviews of these risk registers should be conducted to ensure ongoing risk management throughout the project lifecycle. Government agencies should collaborate with training institutions to develop and deliver comprehensive risk management training programs. These programs should be targeted at CDF project managers, committee members, and other key stakeholders involved in project implementation. Training should cover best practices in risk identification, assessment, and mitigation strategies, as well

as financial management and project planning. Enhanced training will equip stakeholders with the necessary skills and knowledge to manage risks more effectively and improve project outcomes.

Adoption of the Proposed Sustainability Framework

The study recommended the adoption of a proposed sustainability framework that integrates critical success criteria for effective risk management. The adoption of this framework is envisaged to influence organizational policies and implementation strategies, enhancing the overall effectiveness of risk management practices.

These recommendations aim to address the key challenges identified in the study and provide practical steps for the relevant stakeholders to improve the management and execution of CDF projects in Choma District. By focusing on contractor evaluation, stakeholder engagement, training, structured risk management, and policy reforms, the effectiveness and sustainability of these initiatives can be significantly enhanced.

5.3 Future Areas of Research

Comparative Studies Across Districts: Future research should conduct comparative studies across multiple districts to identify common challenges and best practices in CDF project implementation. This will enhance the generalizability of the findings and provide a more comprehensive understanding of the factors influencing CDF success.

Longitudinal Impact Analysis: Longitudinal studies should be conducted to assess the long-term impacts of CDF projects. These studies will provide insights into the sustainability of project outcomes and the effectiveness of risk mitigation strategies over time.

Declaration of Competing Interests

The authors declare that they are not aware of any competing financial interests or personal relationships that may have influenced the work described in this document.

Funding

This research did not receive specific grants from any public, commercial, or non-profit sector funding bodies.

Acknowledgements

I would like to offer my heartfelt gratitude to everyone who made a contribution to this research

Ethical considerations

The article followed all ethical standards appropriate for this kind of research.

References

Chapman, C. & Ward, S., 2003. Project risk management: Processes, techniques and insights.

Chomba, D. N., 2013. The Constituency Development Fund as a tool for Community Development: A case study of Katuba Constituency in Zambia..

Duong, T. et al., 2023. Risk in sustainable construction supply chains: construct development and measurement validation.. Construction Management and Economics.

Godfrey, K., 2022. Influence of Risk Management on Project Implementation, a Case Study of Indoor Residual Spraying Project in Rwanda. International Journal of Scientific Research and Management.

Lechler, T. & Cohen, M., 2006. What does project success mean to project managers?.

Lewicka, B. & Lewicka, D., 2019. Environmental risk management in the context of environmental management systems for agriculture based on the ISO 14001: 2015 Standard. Acta Innovations..

International Development: The Journal of the Development Studies Association, 15(5), pp.541-557.

Ministry of Local Government and Rural Development, 2022. CONSTITUENCY DEVELOPMENT FUND GUIDELINES. s.l.:s.n.

Office of the Auditor General of Zambia, 2023. Report of the Auditor General on the Accounts of the Republic for the financial year ended December 31, 2022. s.l.:s.n.

Rana, T., Wickramasinghe, D. & Bracci, E., 2019. New development: Integrating risk management in management control systems—lessons for public sector managers.

RDA, R. D. A., 2015. ANNUAL REPORT 2015. s.l.:s.n.

Thamhain, H., 2013. Managing Risks in Complex Projects.

Turner, R. & Zolin, R., 2012. Forecasting success on large projects: Developing reliable scales to predict multiple

perspectives by multiple stakeholders over multiple time frames..

Wabomba, S., 2015. INFLUENCE OF RISK MANAGEMENT STRATEGIES ON PROJECT PERFOMANCE: A SURVEY OF SELECTED INTERNATIONAL DEVELOPMENT ORGANIZATIONS BASED IN NAIROBI CITY, KENYA.

Wachuru, K. & Amuhaya, I., 2013. The Role of Risk Management Practices in the Success Performance of Constituency Development Fund Projects: A Survey of JUJA Constituency Kiambu- Kenya. International Journal of Academic Research in Business and Social Sciences.

Zwikael, O. & Smyrk, J., 2012. A general framework for gauging the performance of initiatives to enhance organizational value.