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Research Article

An Analysis of Stakeholder Management in Project Performance: A Case of Lusaka 400 Road Construction Projects

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About Article

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ABSTRACT

Roads are vital to the development agenda of any country. Road infrastructure is a necessary and significant component in the development process. However, numerous studies have reported high failure rates in managing cost overruns and project delays during the implementation of the Lusaka 400. Stakeholder management is widely recognized as crucial for project success. This study provided a detailed examination of stakeholder management practices and their impact on road project performance. The study utilized a mixed research method. Purposive sampling was used to determine the target population. Descriptive analysis was used to calculate measures of association to quantify the strength and direction of relationships between variables. This study used triangulation to interpret themes and patterns from the collected qualitative data. The findings of the study revealed that stakeholder management strategies significantly impact the overall success of construction projects like the Lusaka 400 road project. The findings of the study revealed that stakeholder management strategies significantly impact the overall success of construction projects like the Lusaka 400 road project. Effective strategies, particularly those emphasizing communication and regular engagement were positively correlated with better project outcomes. However, the study also identified areas for improvement, such as the need for more frequent updates and joint supervision visits, which could further enhance the effectiveness of these strategies. The study concluded that effective stakeholder management practices should be consistently applied and adapted to evolving project needs to ensure sustained success.

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1. INTRODUCTION

1.1. Background

Road infrastructure is a key requisite of economic and social development. Roads connect producers to markets, customers to services and investors to land/ other capital resources. Therefore, roads are vital to the development agenda of any country. The World Bank (2017) employed an empirical approach to establish the link between a country's road infrastructure and its GNP. This was a cross-section analysis of 88 countries showed consistent and significant associations between economic development, in terms of per capita gross national product (GNP), and road infrastructure, in terms of per capita length of paved road network. Another cross-section analysis conducted by Federal Highway Administration (2013), showed that the average density of paved roads varies from 170 in low-income economies to 1,660 in middle and 10,110 in high-income economies. The empirical information in this study indicated areas of weaknesses or strengths in a country's road infrastructure stock and how it affects its economic development. Additionally, Owen (2011) highlighted that road infrastructure by itself can't develop a country but it's a necessary and significant component in the development process.

In the year 2017, 15 Europe countries had over 73 percent of road projects worth $1.05 trillion (Wang *et al.*, 2020). Countries such as UK and France in Europe have invested $263 billion and $167 billion respectively on road construction in the last two decades. Another example of the US showed that roads account for 15 per cent of the Gross National Product (GNP) and 84 percent of all spending are on transportation (Federal Highway administration, 2008). The major reason for the huge investment in road construction projects was to improve economic development through an effective transportation link between Eastern and Western Europe.

African countries realise the importance of good road infrastructure and have been investing in road construction projects. Mugata (2018), highlighted that Kenya invested more than $3 billion in road construction in the last 7 years. He also highlighted that Uganda, Tanzania and Rwanda have invested $936m, $3 billion, $10.2 billion respectively in the last 10 years. The Zambian government has also invested over $3 billion dollars on various road projects and other road infrastructure all over the country (Foster & Dominguez, 2010). Additionally, the Government of the Republic of Zambia (GRZ) invested about $380 million in the road construction project dubbed Lusaka 400 in 2016 (National Road Fund Ageny, 2017). This road project involved the engineering, design, rehabilitation, construction, and upgrade of selected urban roads in the city of Lusaka. The complexity of the public road construction process makes it an expensive activity that always involves multiple stakeholders. All public road construction projects in Zambia are implemented through several stakeholders. Road construction costs can vary from less than $50,000 a kilometre for a gravel road to more than $1 million a kilometre for a four-lane access-controlled divided highway (International Road Federation, 2011).

However, The RDA (2015) reported that road construction projects had suffered cost and schedule overrun due to inadequate project execution. The report also showed that between 2011 to 2015 the road construction projects had recorded overrun costs more than K 1.9 billion representing 9% of the total projects value administered in this period. Numerous studies have continuously reported high failure rates in managing cost overruns and project delays during the implementation of the Lusaka 400 and other road construction projects (Sylvia & Mbetwa, 2017). Nyaserema *et al.* (2023) argues that one key determinant for successful completion of road construction projects is the effective coordination of stakeholders involved in the construction process.

Several studies appear to reveal a link between successfully implementation of road construction projects and effective stakeholder management. A study conducted by Chibomba and Sichone (2020) highlighted that stakeholders play a critical role in risk management of road construction projects. The study revealed that construction projects in Lusaka had poor risk management frameworks due to uncoordinated stakeholder involvement. Additionally, poor stakeholder coordination led to lapses in road designs or drawings, poor project projections and cash flows. Another study conducted by Riveria *et al.* (2020), revealed that poor collaboration among stakeholders was linked to unstable project financing which led to project delays and cost overruns. Consequently, there is a research gap on effective stakeholder management and its impact on project costs and completion delays during the life cycle of construction projects. The purpose of this study will be to analyse the impact of effective stakeholder management on road construction projects in Lusaka. This study will analyse the relationship between effective stakeholder management and project costs and, delays involving Lusaka 400 roads project.

1.2. Problem statement

Road infrastructure is integral to economic and social development. Consequently, the USA, Europe, and Asia have invested more than $3 trillion USD in the construction and maintenance of roads in the last decade (Federal Highway administration, 2013). The International Road Federation (2011) stated that this large investment inflow has been coupled with the effective execution of road construction projects which have opened trade and stimulated economic activities in developed countries.

The World Bank (2017) stated that the situation is different in developing countries, road infrastructure is undeveloped with low investment inflows which hinders economic activities and trade between countries. African countries have realized the importance of a developed road infrastructure and have been increasing investments in the sector (Mugata, 2018). Zambia has invested over $3 billion USD in road infrastructure and construction projects in the last decade. This has resulted in the implementation of several road projects under a program called link Zambia 8000.

Despite the considerable investment inflow, some studies show that stakeholders in road construction projects have not coordinated effectively to manage the costs and prevent completion delays. According to the 2016 NRFA annual report, the Link Zambia 400 projects were affected by delayed payments from financing stakeholders which resulted in project completion delays and cost escalations. Additionally,

the 2017 RDA annual report revealed that the Link Zambia 8000 programme was behind schedule by 3 years.

1.3. Objectives

The primary aim of this study is to analyse the influence of stakeholder management on project performance in the Lusaka 400 road construction projects. The specific objectives were as follows:

i. To evaluate the roles of the key stakeholders involved in the Lusaka 400 road construction projects.

ii. To assess the effectiveness of stakeholder management strategies employed in the Luska 400 road construction projects.

iii. To analyse the effects of stakeholder management practices on project performance during the implementation of the Lusaka 400 road construction projects

iv. To investigate challenges encountered in stakeholder management within the context of the Lusaka 400 road construction projects.

1.4. Theoretical framework

1.4.1. Stakeholder theory

The link between stakeholder theory and management is argued to be a close and integral one. Fran (2011), a proponent of the stakeholder theory argues that one of the most important tasks in any management process is the administration of many competing demands of an organization's different stakeholders in relation to its performance and achievement of its goals. A stakeholder is generally defined as any actor or group who impacts or is impacted either positively or negatively by the decisions and actions of an organization. In the context of project management Freeman and Reed (1983) defined a stakeholder as any actor or group who can affect or is affected by the implementation of the change project. Kline (1998), another proponent of the stakeholder theory defined stakeholder as all the people including those formulating the project, people implementing the project, people who finance the project, and people who receive a direct benefit or whose lives or environment are affected it.

According to Freeman and Moutchnik (2013), the stakeholder theory is a management and ethical theory that suggests that organizations should consider the interests and concerns of all relevant stakeholders when making decisions and setting corporate strategy. The purpose of the theory is to address the morals, standards, and values for managing the organization (Dwivedi, 2021). The stakeholder approach has been described as a powerful means of understanding the firm in its environment. Rajeev (2021) argued that the role of the stakeholder theory in project management is addressing the effectiveness and efficiency of project actors through effective relationships and participation throughout the project life cycle. The theory of stakeholders suggests that any group or individual would be considered as the project actors if they can impact the progress, outcome success and conclusion of the project (Freeman, 2010). Descriptive facets can be used for important characteristics and activities of major stakeholders and how they can be accomplished. It has been also proven empirically that there is an association between stakeholders and project success (Donaldson & Preston, 1995). Jones and Wicks (1999) outline the basic premises of stakeholder theory as follows: i) A project constitutes of many relationships with many constituent groups that affect or are affected by its decisions (Freeman, 1984); ii) Stakeholders have critical influence on project performance which must be managed effectively to contribute to the achieve project success (Mitchell & Wood, 1997); iii) The power and interests of stakeholders must be guided towards the achievement of project's objectives and goals if properly managed (Freeman, 1984); iv) The theory focuses on managerial decision making (Donaldson & Preston, 1995).

Overall, a central and original purpose of stakeholder theory is to enable managers to understand stakeholders and strategically manage them (Ackermann, 2011). In road construction, stakeholders include a variety of entities such as government and other organizations that directly or indirectly provide support or resistance to the accomplishment of project objectives (Bagozzi & Yi, 1988). Road construction projects usually have four predominant stakeholders that determine the project performance success. These stakeholders include: A project contractor whose duty is performing the construction according to the contract specifications; The project owner (usually a statutory agency) appointed by the government to facilitate the funding of the project, procurement of contractor and other relevant responsibilities; and The project management consultant (PMC), who utilizes their technical capacity to help assure the success of project in terms of quality, safety, time, and cost.

One of the most puzzling concepts in project management is what defines project success. Conventionally, project success was evaluated and defined using golden triangle of time, cost, and quality. Despite the general acceptance of the golden triangle, a consensus about what project success is has not conclusively been reached. As a result, project success has been discussed profoundly and many authors have continued to discuss and define project success. Apart from using the golden triangle to define project success, it has also been defined and measured through other aspects such as stakeholders' satisfaction, customer benefits, revenue generated, organizational objectives and future potential the project.

2. LITERATURE REVIEW

The general definition of the term stakeholder is any party with an interest or stake in a project or organization. Stakeholders can influence the project or be impacted by its outcomes. Stakeholders have three main characteristics which are interest, influence, and impact (Oyegoke, 2010). Stakeholders have interest or a stake in the project which can be financial, social, environmental, professional, or personal. Stakeholders also have influence that can affect the outcome of a project or activity through their actions, decisions, or advocacy. Stakeholders can impact or be affected by the outcomes of a project either positively or negatively (Aaltonen, 2011). According to Aapaoja and Haapasalo (2014) "a group or individual with expectations for or an interest in the project's success is referred to as a stakeholder". Yang and Shen (2015) adopt a similar definition who define stakeholders as "people or organizations that have an interest in the project or some part of ownership or rights and can influence or be impacted". Project Management Institution

(2010) defines stakeholders as "people or groups who actively contribute to the project or whose interests may be influenced, either favourably or adversely, by its execution or completion". In any road construction project stakeholder identification is usually the first process in stakeholder analysis. Stakeholder theorists argue that a firm is an entity consisting of internal and external actors such as such as shareholders, employees, consumers, and suppliers. These actors are either impacted by or are likely to shape the achievement of the company's objectives (Jones & Bigley, 2007). At same time, Nguyen (2019) contended that the impact of stakeholders is essential for project success. In additional, it is argued that stakeholder culture is a significant component that has an impact on how managers prioritise, address stakeholder issues, as well as how they determine stakeholder participation. Khalilzadeh *et al.* (2021) stated that at each phase of project implementation, the kind of stakeholders may differ, and they may possess distinct interests that must be effectively managed. The presence of different stakeholders might potentially lead to poor project planning, poor execution, and delayed completion hence this aggravates the necessity of formulating effective stakeholder engagement techniques (Mcvea, 2001). Despite the effectiveness of stakeholder management, it remains extremely difficult to ensure that all project stakeholders are extremely satisfied.

Contemporary studies on stakeholder management emphasises that stakeholder management is crucial for the successful implementation of construction projects (Agata & Joanna, 2021). Additionally, they are other aspects in a construction project such as procedures for the project, activities for project supervision, human resources, and the circumstances of the external environment that determine its success Chan *et al.* (2004). Project success is driven by multiple perspectives and contributions from multiple project stakeholders. These stakeholders that may include, the project owners, suppliers, project consultants, government agencies, funding institutions, construction contractors and the public. The stakeholders control all the described aspects in a construction project and its essential for project managers to comprehend the opportunities and risks posed by stakeholders, the contractual obligations that must be met, set shared objectives, and implement suitable tactics to enhance stakeholder satisfaction. A study was conducted. Agata and Joanna (2021) asserts that stakeholder management aids a project manager to comprehend stakeholders and all the aspects of the construction project in order to develop shared objectives and management tools that determine the success of a construction project. The absence of a stakeholder management plan creates unexpected problems and causes uncertainty to the project. Karlsen (2002) further emphasizes that these problems and uncertainty can contribute to project failure. The lack of a stakeholder management plan may include poor communication, changes to the scope of work, inadequate resources, political issues, and language problems.

Freeman (2010) argued that "stakeholder management is necessary for an institution to effectively deal with its relationships with various stakeholder groups". Eskerod and Jepsen (2013) defines stakeholder management as "any intentional action taken to engage stakeholders for increased project success". It has been established that stakeholder management affects the level of success of any road construction project (Siyoni, 2022). necessary to systematically identify, analyse, and plan communication and stakeholder impact initiatives (PMI, 2013). Stakeholder management is essential to methodically identify, plan communication, implement stakeholder activities and analyse stakeholder impact initiatives (Project Management Institute, 2013).

The importance of stakeholder management in attaining project success has also been shown in numerous studies. However, because it does not systematically identify, engage, evaluate, and monitor these parties, the construction sector has a terrible track record when it comes to managing project stakeholders (Lock, 2007). Complex public sector projects (such as stadiums, hospitals, transportation infrastructure, and housing projects) in emerging nations include a number of stakeholders and must take the local environment into account. Engagement, stakeholder management systems, analysis methodologies, and stakeholder interests and influences must all be considered (Yang, 2010). The six activity categories of preconditions are stakeholder identification, assessment, decision-making, action and evaluation, and continuous support (Yang, 2010).

Karlsen (2002) conducted a survey in Norway on the importance of stakeholder management in projects. This survey was made up of contained forced-answer questions with a five-point Likert scale and open questions. The sample include construction projects, product development projects, IT/IS projects, and organizational development projects. The study argued that a project manager should pay particular attention to all stakeholders for a project to succeed. The data analysis pointed out that clients and the end users are the most important to the project. The data analysis also showed that the clients, end users, contractors/suppliers, line organization, and public authorities are equal when it comes to causing problems and uncertainty for the project.

Despite the existence of many studies on stakeholders in road construction projects in Zambia, little is known about their impact on project performance and success. Mambwe *et al.* (2020) argued that road construction projects in Zambia are experiencing poor performance and high failure rates due because of failure by funders to pay contractors on time, authorization of main alterations in the scope of work, poor supervision of project activities, poor feasibility studies and road designs. Additionally, Sylvia and Mbetwa (2017) revealed that poor project performance in road construction projects in Zambia was because of ineffective effective engagement of stakeholders namely, Contractors, Consultants and Client. They also argued that developing effective stakeholder engagement strategies was cardinal because it positively contributes to the development of the construction sector. Mambwe *et al.* (2020) conducted a study to evaluate the impact of stakeholders on performance of roads construction projects in Lusaka District. This employed a descriptive research design that was quantitative in nature and used questionnaire survey in the data collection process. The study results showed that stakeholder engagement had a strong correlation with project costs in roads construction projects. The study results also showed that stakeholder engagement was critical during the project scheduling process. The study revealed that stakeholder

engagement was not consistently applied throughout the cycle of construction projects. Furthermore, it was found that stakeholder engagement during stages of project scheduling was largely applied.

Mkuni (2017) also argues that road construction projects in Zambia have been known to overrun the design schedule and incur costs higher than planned and budgeted. He assessed the project planning cycle in road construction projects undertaken in Zambia. The assessment was conducted using the cross-sectional study design that utilised a triangulated methodological approach to analyse structured interviews, a questionnaire survey, and three case studies. The assessment revealed project planning constraints which included nonadherence to strategic plans, political interference, poor project prioritisation, uncoordinated contract procurement, procuring contracts before confirmation of funds availability, government bureaucracy, inconsideration of vendor past performance during tendering and inappropriate project. The assessment also revealed that the constraints were due to bottlenecks among stakeholders such as implementation problems such as no coordination among stakeholders.

3. METHODOLOGY

3.1. Research design, methods, and approach

This study utilized a mixed research method that allowed the researcher to use both qualitative and quantitative methods to collect and analyse both primary and secondary data.

The research gathered and analysed qualitative data from key informants to understand their expert views on the topic. Additionally, the researcher collected and analysed quantitative data to provide better context of the expressed views. Therefore, a mixed research design allowed the researcher to explore various dimensions of the problem. A mixed research design was appropriate for this study because it allowed the researcher to address the complexity of the research topic by addressing the research questions in a more comprehensive manner using a single research design.

Weeks (2020) defined a target population as a group of clearly identifiable people or objects taken from the general population who have common traits or features. The target population of this research consisted of the government ministry that had oversight on Lusaka 400, Road Development Agency (RDA), Project Contractors, Project Consultants, Suppliers and Regulatory authorities.

A non-random, purposive sample of the professionals or expert respondents from RDA, project consultants, ministry of transport, government agencies and contractors were selected for the study. This sampling technique allowed the researcher to identify and prioritize key respondents who play a significant role in the Lusaka 400 road project. These respondents were selected based on their knowledge, organisational position, skills, and experience in project management in the Lusaka 400 road construction project.

This study had a sample size of 59 participants. The sample of 59 participants consisted of officials from Ministry of Transport, RDA, and project experts from the contracting companies. A total of 10 key in-depth interviews and 60 questionnaires were administered. The sample size is relatively small, but the expertise and vast knowledge of the targeted participants allowed the researcher to acquire in-depth data about the phenomenon.

Secondary data sources were collected from credible sources such as academic journals, government reports, industry publications, and books. The researcher also assessed the quality of the secondary data by considering factors such as accuracy, currency, completeness, and relevance to the research objectives. The primary data collection process was in line with the ethical principles outlined in the research.

This study used descriptive analysis using SPSS to analyse the collected primary data. Descriptive analysis will be used to calculate measures of association to quantify the strength and direction of relationships between variables. These measures provided insights into the degree of linear relationship between variables and help identify patterns or trends in the collected data. Additionally, it was also used to show graphical representations of the distribution and characteristics of collected data through bar charts, line graphs, and pie charts. Graphs provide a visual summary of data patterns and facilitate comparison and interpretation of results.

4. RESULTS AND DISCUSSION

4.1. Results

The results provided a comprehensive presentation of the study's findings, incorporating both graphical representations and detailed analytical explanations.

Results on Background Characteristics of the respondents

Table 1. Demographic Characteristics of the respondents according to gender.

Sex of Respondent	Freq.	Percent	Cum.
Female	21	35.59	35.59
Male	38	64.41	100.00
Total	**59**	**100.00**	

The gender distribution showed that 64.41% of respondents were male, while 35.59% were female. This indicated a higher male participation in the study, which may reflect gender dynamics in the road construction sector. The data suggested that males are more involved in stakeholder roles for the Lusaka 400 project.

Table 2. Type of Stakeholder

Type of Stakeholder	Freq.	Percent	Cum.
Consultant	12	20.34	20.34
Contractor	28	47.46	67.80
Government official	19	32.20	100.00
Total	**59**	**100.00**	

Table 2. The stakeholder distribution shows that 47.46% of respondents were contractors, making them the largest group, followed by 32.20% who were government officials, and 20.34% were consultants. This reflects a strong representation of contractors and government officials in the Lusaka 400 road construction projects as per data set.

Table 3. Demographic characteristics of the respondents according to level of education.

Highest Level of Education	Freq.	Percent	Cum.
Bachelors' Degree	27	45.76	45.76
Diploma	9	15.25	61.02
Masters' Degree	18	30.51	91.53
PhD	1	1.69	93.22
Secondary School Certificate	4	6.78	100
Total	**59**	**100.00**	

As shown on Table 3, data set showed that the majority of respondents had a bachelor's degree (45.76%), followed by master's degree holders (30.51%). A smaller portion has Diplomas (15.25%), while PhD holders (1.69%) and those with a Secondary School Certificate (6.78%) made up the minority. This indicated a highly educated group, with most respondents having at least a bachelor's degree. This suggested that the respondents are likely to be competent, as the majority had at least a bachelor's degree, with a significant portion having advanced qualifications.

Results on the evaluation of the roles of key stakeholders involved in the lusaka 400 road construction projects.

Table 4. Key stakeholder involved and their roles

Please list the key stakeholders involved in the Lusaka 400 project and their specific roles	Freq.	Percent	Cum.
Consultants, ZEMA, RDA, Ministry of Tr..	28	47.46	47.46
LWSC, Consultants, ZEMA, RDA, Ministry..	1	1.69	49.15
Lusaka City Council, RDA, Contractors..	5	8.47	57.63
Ministry of Transport, Contractors, L..	8	13.56	71.19
RDA, Ministry of Transport, ZESCO, LW..	12	20.34	91.53
Road Development Agency, AVIC, Lusaka..	1	1.69	93.22
Road Development Agency, AVIC, Lusaka..	1	1.69	94.92
Road Development Agency, Zesco, Lusak..	1	1.69	96.61
Road development Agency, ministry of ..	1	1.69	98.31
Zesco, Road Development Agency, Lusak..	1	1.69	100
Total	**59**	**100.00**	

Table 4 showed that the key stakeholders involved in the Lusaka 400 road construction projects included various governmental agencies, contractors, and consulting firms, each playing vital roles in the project's development and implementation. The Road Development Agency (RDA) was prominently featured, with a total frequency of 28 (47.46%), indicating its primary responsibility for overseeing the project's execution, ensuring compliance with standards, and coordinating between different stakeholders. Other essential stakeholders such as the Ministry of Transport and ZESCO (Zambia Electricity Supply Corporation) were involved in providing regulatory oversight and managing utility connections, with their combined mention appearing 12 times (20.34%).

Figure 1 showed that perceptions of stakeholder roles and responsibilities in the Lusaka 400 road construction projects were mixed. A significant portion of respondents, 42.37%, indicated that the roles were "Not Clear," highlighting concerns about ambiguity in stakeholder responsibilities. On the positive side, 23.73% rated the roles as "Very Clear," and 32.20% found them "Clear," suggesting that while some stakeholders had well-defined roles, a substantial number experienced confusion or lack of clarity. The 1.69% who felt "Neutral" indicates minimal indecision. Overall,

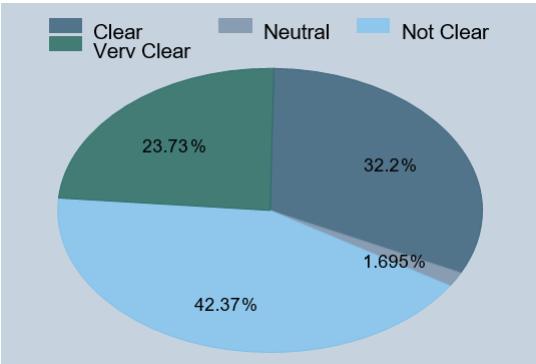

Figure 1. How clear are the roles and responsibilities of each stakehol

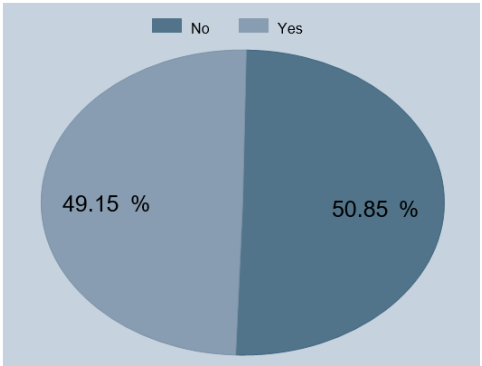

Figure 2. Respondents that experienced any role conflicts or overlaps

the findings suggested a need for improved communication and clarification of roles to enhance project efficiency.

Figure 2 showed that overlaps or conflicts in roles were another recurring issue, with 13.33% mentioning overlaps between local authorities and 13.33% pointing to the Ministry of Transport and contractors. This overlap likely contributed to confusion and inefficiencies. Other concerns included conflicts over safety standards (3.33%) and disagreements on project costs (6.67%), suggesting that the coordination between stakeholders was sometimes inadequate, leading to friction in project execution.

Results on the effectiveness of Stakeholder Management Strategies employed in the Lusaka 400 Road Construction Projects.

Table 5. Stakeholder engagement strategies are used in the lusaka 400 project

Which stakeholder engagement strategies are used in the Lusaka 400 project?	Freq.	Percent	Cum.
Public Consultations, Regular Meetings.	4	6.78	6.78
Regular Meetings, workshops	3	5.08	11.86
Regular Meeting	1	1.69	13.56
Regular Meetings	18	30.51	44.07
Regular Meetings	1	1.69	45.76
Regular Meetings, Public consultations	1	1.69	47.46
Regular Meetings, Public consultatio..	12	20.34	67.80
Regular Meetings,workshops	5	8.47	76.27
Regular Meetings, workshops	3	5.08	81.36
Regular Meetings, workshops, Surveys	9	15.25	96.61
Regular meetings	2	3.39	100.00
Total	**59**	**100.00**	

Table 5 above indicated that Regular Meetings were the most common stakeholder engagement strategy used in the Lusaka 400 road construction projects, appearing in 30.51% of responses. In combination with other strategies, such as Public Consultations and Workshops, stakeholder engagement became more comprehensive. For instance, Public Consultations were included in 20.34% of responses alongside regular meetings, suggesting efforts to involve the public and key stakeholders in decision-making. Workshops also played a significant role, cited in 8.47% of responses, offering a platform for deeper technical discussions and collaborative problem-solving. Overall, the reliance on regular meetings suggested a focus on maintaining consistent communication, though additional strategies like public consultations and workshops help enhance engagement.

As shown above (Figure 3), data set revealed that Site Inspections were the most employed additional strategy, accounting for 60.61% of responses, emphasizing the importance of regular on-site oversight to ensure project adherence to standards. Oversight supervision visits also played a notable role, reported by 21.21%, reinforcing the need for active supervision in maintaining project progress and quality control. Other strategies like Feedback meetings from local authorities (LA) (9.09%) and Feedback sessions with stakeholders (3.03%) reflected efforts to gather input and maintain open communication with key players, ensuring that all parties were aligned throughout the project. Community engagement meetings and safety drills were less frequent (3.03% each), but they highlight efforts to address community concerns and safety compliance.

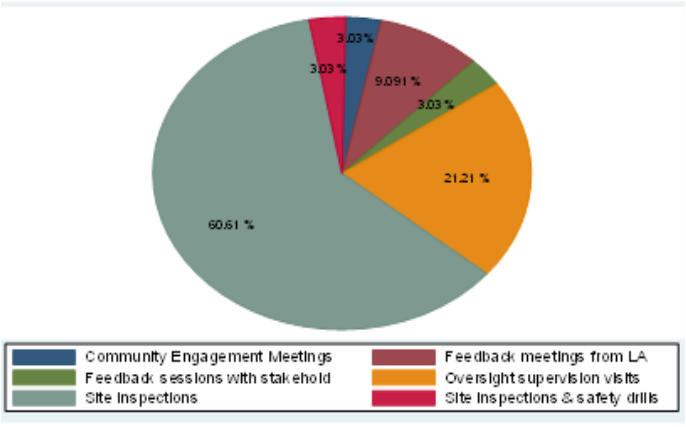

Figure 3. Other stakeholder engagement strategies used in the Lusaka 400 project

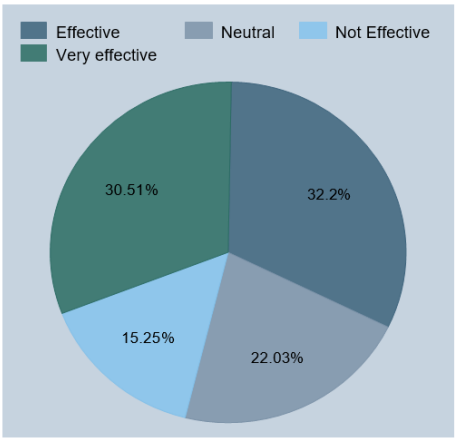

Figure 4. Rate the effectiveness of the stakeholder management strategies employed

The Pie chart showed that a significant portion of respondents viewed the stakeholder management strategies employed in the Lusaka 400 road construction projects as Effective (32.20%) or Very Effective (30.51%), making up over 60% of the responses. This indicated a generally positive perception of the strategies in place. However, 15.25% of respondents found the strategies Not Effective, suggesting room for improvement in some areas of stakeholder engagement. Additionally, 22.03% of respondents were Neutral, possibly indicating uncertainty or mixed experiences with the effectiveness of the strategies.

Results on the effects of Stakeholder Management on Project Performance

The objective of analysed the effects of stakeholder management practices on project performance during the implementation of the Lusaka 400 road construction projects aimed to assess how effectively engaging stakeholders influenced the project's success.

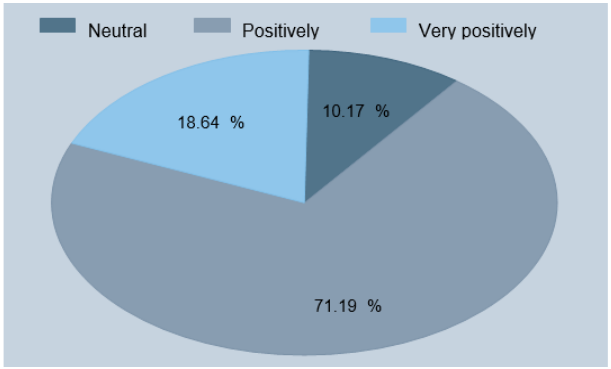

Figure 5. How stakeholder management influenced project performance

The data showed that the majority of respondents believed stakeholder management had a positive impact on project performance in the Lusaka 400 road construction projects. Out of the 59 respondents, 42 (71.19%) rated the influence as "positively," while 11 (18.64%) described it as "very positively." Only 6 respondents (10.17%) remained neutral, indicating that stakeholder engagement was largely seen as beneficial, fostering improved collaboration and overall project success. This suggested that effective stakeholder management strategies contributed significantly to the progress and performance of the project.

Table 6. Did effective stakeholder management led to cost savings in the project

Has effective stakeholder management led to cost savings in the project?	Freq.	Percent	Cum.
No	26	44.07	44.07
Yes	33	55.93	100
Total	**59**	**100.00**	

As shown in Figure 13, the data set revealed that 55.93% of respondents (33 out of 59) believe that effective stakeholder management led to cost savings in the Lusaka 400 road construction project. However, 44.07% (26 respondents) indicated that they did not observe cost savings because of stakeholder management. This split suggests that while more than half of the participants saw financial benefits from effective engagement, a significant portion did not perceive a direct impact on cost reduction.

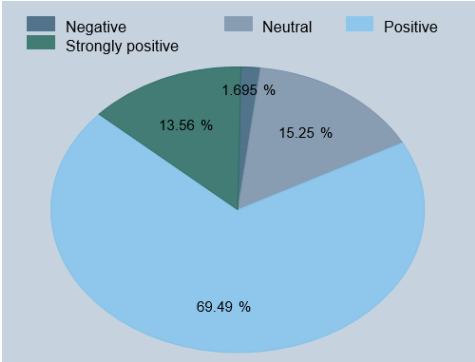

Figure 6. The relationship between stakeholder management and project completion time

As depicted above (Figure 6), the data set on the relationship between stakeholder management and project completion in the Lusaka 400 road construction project indicated a predominantly positive perception among participants. Out of the 59 respondents, a significant 69.49% characterized the relationship as positive, suggesting that effective stakeholder management strategies are seen as beneficial to project completion. In contrast, only 15.25% of respondents viewed the relationship as neutral, and a mere 1.69% described it as negative. This minimal negativity highlighted a consensus that stakeholder management contributed positively to project completion time

Table 7. The main challenges in managing stakeholders in this project

Main Challenges in Managing Stakeholders	Freq.	Percent	Cum.
Conflicting interests	10	16.95	16.95
Lack of stakeholder engagement	3	5.08	22.03
Poor understanding of stakeholder roles	1	1.69	23.73
Communication issues	3	5.08	28.81
Communication issues, conflicting interests	13	22.03	50.85
Communication issues, conflicting interests and lack of supervision	1	1.69	52.54
Communication issues, resource constraints	18	30.51	83.05

Resource constraints	10	16.95	100.00
Total	**59**	**100.00**	

According to Table 7 above, the analysis of challenges in managing stakeholders in the Lusaka 400 road construction project revealed several significant issues. The most prominent challenge was communication issues coupled with resource constraints, which accounted for 30.51% of the responses. This indicated that a lack of effective communication may hinder the efficient allocation and management of resources, affecting overall project performance. Additionally, conflicting interests emerged as a key challenge, with 22.03% of respondents noting that differing stakeholder priorities complicate management efforts. Such conflicts can lead to tensions and hinder collaboration, making it crucial to address these differences proactively.

4.2. Discussions

The demographic characteristics and backgrounds of the respondents provided valuable insights into the stakeholder composition and the roles involved in the Lusaka 400 road construction projects. Gender distribution (Figure 1) revealed that 64.41% of respondents are male, while 35.59% are female, indicating a predominance of male participation. This trend likely reflected broader gender dynamics within the road construction sector, where male involvement tends to be higher. This observation pointed to the ongoing shift toward gender inclusivity in infrastructure projects, but further efforts may be required to balance this participation.

Figure 2 reflected a collaborative approach between public and private entities, with international and local institutions contributing significantly to the project's delivery. The ownership distribution of institutions (Figure 6) revealed that 54.24% are privately owned, while 45.76% are publicly owned. This balanced public-private partnership model was indicative of modern infrastructure projects, where private sector expertise and public sector oversight combine to achieve project goals.

In terms of educational qualifications, the majority of respondents hold a Bachelor's Degree (45.76%), with 30.51% holding a Master's Degree. This indicated that the Lusaka 400 project was staffed by highly educated individuals, most of whom have completed tertiary education. The presence of advanced degree holders underscores the technical and managerial expertise required for such a large-scale infrastructure project. This mix is crucial for ensuring that the project is approached from various professional angles, enhancing overall performance.

The evaluation of the roles of key stakeholders in the Lusaka 400 road construction projects reveals the crucial contributions of various governmental bodies, private contractors, and consulting firms. These entities played integral roles in the planning, design, implementation, and oversight of the project. According to the findings (Figure 5), the Road Development Agency (RDA) emerged as the most prominent stakeholder reflecting its core responsibility in overseeing the execution of the project. This prominent position highlights the critical role of RDA in driving the project forward, especially in maintaining project oversight and facilitating the connection between contractors, consultants, and other involved parties.

Additionally, the Ministry of Transport and ZESCO (Zambia Electricity Supply Corporation), with a combined frequency of 12 (20.34%), were key in providing regulatory oversight and managing utility installations, respectively. These entities were critical in ensuring that the project aligned with national infrastructure goals and that utility services, such as electricity, were seamlessly integrated into the construction. The participation of multiple consulting firms, contributing to a frequency of 5 (8.47%), particularly emphasizes the project's focus on adhering to construction management best practices and compliance with environmental standards. Notably, the involvement of contractors, though smaller in frequency, played a significant role in the construction of all the road infrastructure in the project.

On a more positive note, 23.73% of respondents rated the roles as "Very Clear," and 32.20% found them "Clear," indicating that most stakeholders had well-defined roles and responsibilities that enabled them to perform effectively. However, 42.37% of respondents found the roles of stakeholders to be "Not Clear," highlighting concerns about role ambiguity. This finding suggests that while each stakeholder had designated responsibilities, there was a substantial level of confusion regarding who was accountable for specific tasks.

The findings suggest that while the Lusaka 400 road construction project involved a wide array of stakeholders with diverse expertise and responsibilities, there were significant challenges related to communication, role clarity, and coordination. Role overlaps were reported by 13.33% of respondents, particularly between local authorities and the Ministry of Transport. This overlap likely exacerbated confusion and hindered effective project execution, as it was unclear which entity had ultimate authority over certain aspects of the project. Other significant issues identified include conflicts over safety standards (3.33%) and disagreements on project costs (6.67%), indicating that stakeholder coordination was at times inadequate.

The research findings reveal a variety of stakeholder management strategies employed in the Lusaka 400 road construction projects, with regular meetings standing out as the most used approach. As shown in Figure 10, regular meetings accounted for 30.51% of responses, indicating that they were a central strategy in maintaining communication between the various stakeholders. These meetings served as a consistent platform for discussing project updates, aligning goals, and addressing challenges as they arose. In conjunction with regular meetings, public consultations were also employed, as reflected by 20.34% of responses. This indicated an effort to engage the broader public and key stakeholders in the decision-making process. Public consultations provide a forum for gathering input from those directly or indirectly affected by the project, ensuring that the voices of local communities and other stakeholders are considered. Workshops, cited in 8.47% of responses, also played an important role in the stakeholder engagement process. These workshops offered opportunities for more in-depth technical discussions and collaborative problem-solving.

Regarding the perceived effectiveness of these stakeholder management strategies, the data in Figure 11 paints a generally positive picture. This majority indicates that the strategies employed in the Lusaka 400 road construction projects were generally well-received and considered effective in managing stakeholder relationships and ensuring project success. However, there is still room for improvement, as 15.25% of respondents found the strategies "Not Effective." This group may have experienced challenges related to communication, coordination, or the implementation of stakeholder engagement strategies.

The findings from the analysis of the effects of stakeholder management practices on project performance during the implementation of the Lusaka 400 road construction projects provided critical insights into the relationship between effective stakeholder engagement and project success. As demonstrated in Figure 15, the majority of respondents (71.19%) believe that stakeholder management had a positive impact on the project's overall performance. An additional 18.64% described the influence as "very positive," reinforcing the idea that stakeholder management was not only important but essential to the project's progress. The data revealed that effective engagement with stakeholders fostered collaboration and alignment of goals, which were instrumental in driving the project's success.

The role of stakeholder management in achieving cost savings within the project is another significant aspect of the analysis. As shown in Figure 16, 55.93% of respondents acknowledged that effective stakeholder engagement contributed to cost savings in the Lusaka 400 road construction projects. However, 44.07% did not observe this correlation, suggesting that while financial benefits were apparent to some, others may not have perceived a direct impact of stakeholder management on cost efficiency. The disparity in responses highlighted the need for clearer communication or documentation of how engagement efforts translate into tangible financial outcomes, particularly in terms of cost saving measures.

The investigation into the challenges encountered in stakeholder management within the context of the Lusaka 400 road construction projects reveals a range of significant issues that have a considerable impact on the overall success of the projects. A major challenge identified is communication issues, which, when combined with resource constraints, accounted for 30.51% of responses from stakeholders. This finding suggests that a lack of effective communication strategies not only hampers the dissemination of information but also affects the allocation and management of resources essential for project execution. Poor communication can lead to misunderstandings among stakeholders regarding their roles and responsibilities, ultimately jeopardizing the project's progress and performance. Moreover, conflicting interests emerged as another critical challenge, highlighted by 22.03% of respondents who indicated that differing priorities among stakeholders complicate management efforts. When stakeholders have varying objectives, it can result in tensions and hinder collaborative efforts, making it imperative to address these conflicts proactively to foster a more unified approach to project management.

5. CONCLUSIONS

The study concluded that the roles of key stakeholders in the Lusaka 400 road construction project were critical in determining the project's success. Stakeholders such as government agencies, contractors, consultants, and local community groups all played distinct roles that, when properly understood and executed, contributed positively to the project's performance. The study found that clearly defined roles enhanced coordination and accountability, which led to smoother project implementation. Conversely, where stakeholder roles were ambiguous, there were noticeable inefficiencies, delays, and conflicts. This indicates that for future projects, role clarity among stakeholders is essential to ensure efficient management and successful project outcomes. The importance of clearly defining responsibilities at the project's inception cannot be overstated, as it prevents overlaps and confusion during the project lifecycle.

The study conclusively demonstrated that stakeholder management practices have a direct and measurable impact on project performance. Effective stakeholder engagement, particularly in areas such as safety management, quality assurance, and conflict resolution, resulted in improved cost efficiency and timely completion of project milestones. The majority of respondents indicated that projects with robust stakeholder management strategies experienced fewer delays and lower costs, affirming that strong stakeholder relationships are crucial for achieving project objectives. The results indicated that projects with better stakeholder coordination were more likely to succeed. The study concluded that improving stakeholder management strategies, especially in terms of communication and engagement, can significantly enhance project outcomes in future infrastructure projects.

The study has shown that effective stakeholder management is a critical factor in the success of large-scale infrastructure projects. The Lusaka 400 road construction project benefited from well-structured stakeholder roles and effective management strategies, though challenges such as communication issues and conflicting interests did hinder optimal performance in some areas. The study concluded that improving stakeholder management practices especially through enhanced communication, role clarity, and conflict resolution can lead to better project outcomes in future infrastructure projects. These findings underscore the importance of investing in stakeholder management as a key component of project planning and execution to ensure the successful delivery of public infrastructure projects

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