

**INVESTIGATING FACTORS AFFECTING CONTRACTORS' RESPONSE
TO LOCAL GOVERNMENT CONSTRUCTION BIDS IN UGANDA**

BY

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DECLARATION

I, Bafaki Gilvazio, hereby declare that this dissertation, *"Investigating Factors Affecting Contractors' Response to Local Government Construction Bids in Uganda,"* is entirely my own work and that, to the best of my knowledge and belief, it doesn't contain any previously published or written work that has been approved for the award of any other degree from the university or another higher education institution, with the exception of places where appropriate acknowledgement has been made in the text and refers to those sources.

Sign.....

Date.....

\

APPROVAL

The following individuals affirm that they have read the dissertation titled *"Investigating factors affecting contractors' response to Local Government construction bids in Uganda"* and recommend that it be submitted to Kyambogo University's Directorate of Research and Graduate Training in order to satisfy the requirements for the Master of Science in Construction Management and Technology degree.

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Signed..... Date.....

DEDICATION

I dedicate this dissertation to my family members Mrs. Atuzarirwe Annah Bafaki, Babra Binomugisha Bafaki, Clare Tayebwa Ndunde, my children Neria Nsiimenta, Desire Kemigisha, Colleta Owomugisha, Princess Buriana Nyamigisha, Drake Beinemigisha, Linnet Agiremisha, Austin Bafaki, Bethany Agiramatsiko Bafaki, for their tireless support towards achieving this academic award. I also dedicate this dissertation to my parents Paul Ndunde and Mrs Scholastic Kantarire Ndunde.

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LIST OF ACRONYMS

CHOGM	Commonwealth Heads of Government
CVI	Control Validity Index
FY	Financial Year
GDP	Gross Domestic Product
LG	Local Government
NCI	National Construction Industry
NBCB	National Building Control Bill
NNSF	National Social Security Fund
NTMP	National Transport Master Plan
OECD	Organisation for Economic Cooperation and Development
PPDA	Public Procurement and disposal Authority
SPSS	Statistical Package for Social Scientists
UNDP	United Nations Development Program

ABSTRACT

Bidding is critical in identifying the best bidder for construction projects. More than 55% of Uganda's national budget is spent through public procurement processes although the execution of the construction projects is not appealing. This study aimed to investigate factors affecting contractors' response to Local Government bids in selected districts in south western Uganda. It added new insights to the existing body of knowledge about contractors' response to LG bids in Uganda which was scanty in literature. Descriptive study design was used and data was collected using questionnaire survey and interview method from a sample of 126 respondents who were randomly and purposively selected from a population of 188 comprised of contractors and community members in the selected districts. To analyse data, SPSS version 20 was used. The study revealed that there is a positive strong relationship between characteristics of construction bids and contractor's response to LG bids (Pearson = 0.784; P-value = 0.00 < 0.05). The study also found out that there is a positive strong relationship between Factors (capacity, time and contract type) and contractor's response to LG bids (Pearson value of 0.879; P-value 0.000 < 0.05). A proposed decision model for proficient bidding revealed that if the mark up is $\geq 62\%$ then bidding process must be undertaken. The proposed framework developed showed a coordination gap among actors that can be included in the bid evaluation process. Standard construction bids in Uganda are mainly characterised by high bid security thus local governments should from time to time review the impact of bid security measures on contractor participation in local government construction bids.

Keywords: Local government, construction bids, bid participation, bid decision model, bid process framework.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The concept of bidding remains an important factor in shaping construction projects (Douh, 2015). Literally, construction work is awarded through bidding (Yensu et al., 2016) and contracts are awarded to those contractors who meet the demands needed to run the project well. It was recognised that poor bidding practice accounts majorly for an inefficient construction industry (Akalp and Ozbek, 2016). Thus, strengthening bidding helps the construction sector function better, leads to improved decision-making, and helps organizations engaged in contracting achieve their strategic goals (Oyeyipo *et al.*, 2016).

Empirical data indicate that, among UK contractors; the scope of the project, flow of cash of the project, past gains from work of similar nature, current work need, method used to bid, competition, and project experience affect contractors bid decisions (Akalp and Ozbek, 2016). In Northern Cyprus, documents used to bid, inflation, exchange rate of the country, licences and legislation policies, policies related to taxes, risk and competition posed by new players in the market and economic and fiscal policies of government affect response to contractors' bids (Kumar and Raj, 2020). Similarly, Egypt's practice reveals that, source of funds, critical aim of the contractor, extent of hardship, the glory of the project, the availability of special highly skilled labour affect response of contractors to bids (Marzouk et al., 2017). In East Africa, economic considerations such as inflation

rates, exchange rate stability, and overall economic growth are some of the factors that contractors consider before bidding for projects (Wekesa, 2019). Other factors include financial viability of projects (World Bank, 2018), procurement laws and regulations (Bovens, 2020), contract enforcement (Nkonge, 2017). Government policies and support (Mwema, 2018), project complexity (Kimani, 2016), infrastructure development (Kiplagat, 2019), local relationships and networks (Kamau, 2017) and cultural norms (Okoth, 2021).

The industry is viewed narrowly with activities such as those done on sites and broadly with activities such as making building materials, their sale and professional services which include bid preparation (Kakitahi et al., 2015).

In Uganda, the construction industry has been a major driver of economic growth, contributes significantly to Uganda's GDP (Zaribwende, 2023) with a real value growth averaging around 12% in recent decades (Naturinda et al., 2015). This sector experienced notable expansion during the 2007/08 financial year, largely due to infrastructure projects related to the Commonwealth Heads of Government Meeting (CHOGM), particularly in Kampala and Wakiso. The construction industry includes a broad range of activities from planning and design to actual on-site construction and material manufacturing (Kakitahi et al., 2015). Despite this growth, the industry faces challenges such as inadequate resources and ineffective contractor responses to Local Government (LG) bids. Government initiatives, including the National Construction Industry (NCI) policy,

Building Control Bill 2009 (BCB), and the National Transport Master Plan (NTMP), aim to improve coordination, regulation, and development within the sector.

Construction projects in Uganda are primarily executed by contractors who bid for projects initiated by the local governments (Zaribwende, 2023). The success of these projects heavily relies on the contractors' responses to bidding opportunities (Byaruhanga & Basheka, 2017). Inadequate procurement and contracting practices frequently cause payments to be delayed without providing contractors with proper remuneration (GreyOak, 2013). This is likely to be one of the reasons why most government building projects do not meet completion deadlines and consequently lower the contractors' participation in bidding process.

The district contracts committees in South Western Uganda award a wide range of construction projects including health centres, primary schools, and hospital upgrades, as well as administration blocks. Recent inspections revealed significant issues in districts such as Sheema, Mbarara, Bushenyi, and Isingiro. In Sheema, projects like the construction of the outpatient department (OPD) at Kabwohe HC IV, and Bugongi HC III, Isingiro-Kyarwera road faced considerable delays due to contractor non-compliance and mismanagement (Sheema LG, 2022). Similarly, Mbarara District experienced delays with Rubindi Health Centre III and Akalungu Primary School, highlighting challenges in contractor performance and adherence to engineering standards (Mbarara LG, 2022) and (Mbarara LG, 2023).

Bushenyi saw some successful outcomes in hospital construction, such as the upgrades. Upgrade of Rutooma health centre II to HC III in Rwentuuha T.C and Buyanja HC III maternity ward in Kyeizoba Sub-County, but simpler projects like Kanyamulera Seed School Kyamuhunga sub county, experienced challenges like delays due to contractor overload (Bushenyi LG, 2022) and (Bushenyi LG, 2023). Isingiro District struggled with a high percentage of unimplemented procurements and issues such as low bidder participation and expired performance guarantees, affecting projects like Kagarama Seed School and Isingiro TC Central market which faced delays due to contractor inconsistencies and multiple commitments (Isingiro LG, 2022) and (Isingiro LG, 2023). These examples underscore the need for improved procurement practices and contractor management.

Understanding the factors that influence contractors' decisions to bid on local government construction projects in Uganda is crucial for promoting effective and efficient project implementation. This study aimed to investigate the various factors that affect contractors' response to local government construction bids in Uganda.

1.2 Problem statement

Although bidding is said to be the fairest way to obtain minimum viable cost, value for money is achieved when a sizeable number of contractors bid for work. It is reported that bidding estimates are reduced by 25% of the actual estimate when a maximum number of contractors compete for an offer of work (World Bank, 2018). However, in other cases,

this estimate is reduced by 15% if a few contractors bid for work (World Bank, 2018). This puts a strain on the financial budget of the local governments. Local governments spend a lot of money in public procurement process. Nationally, it is estimated that more than 55% of Uganda's national budget is spent through public procurement processes (World Bank, 2018). It has also been noted that Uganda spends 300 million dollars every year because of poorly executed projects (World Bank, 2018). The cause is mainly due to under-pricing to win contracts and contractors unable to finish projects within stipulated costs and schedule. The underlying cause among other factors is attributed to the low response of contractors to LG bids. Some LGs in Uganda are experiencing poor response by potential contractors and this has thus limited competitiveness on contract awards. Procurement laws and regulations (Bovens, 2020), contract enforcement (Nkongwe, 2017) among others are likely to be major factors influencing contractor's low response. If nothing is done about such a situation, local governments are more likely to not only continue spending a lot of money in the bidding process, but also increase their expenditure on overpriced bids due to low contractor response to bids, achieve less value for money, experience more delays in completion of her projects and hence delayed economic growth which is likely to negatively affect the attainment of the Vision 2040 aspirations of Uganda. It was thus urgent to assess the factors affecting contractors' response to LG bids in Uganda in order to curb on such challenges listed above.

1.3 Objectives of the study

1.3.1 Main objective

The main objective was to investigate the factors affecting contractors' response to Local Government bids in Uganda.

1.3.2 Specific objectives

- i. To characterise local government construction bids in Uganda with south western Uganda as a case study.
- ii. To determine the factors influencing contractor's response to LG bids in Uganda.
- iii. To develop a decision model and framework for proficient bidding to attract contractors in construction projects in Uganda.

1.4 Research Questions

- i. What are the characteristics of local government construction bids?
- ii. Which factors influence contractor's response to LG bids in Uganda?
- iii. How can a decision model and framework for proficient bidding and enable high contractors' response rate to construction project bids in Uganda look like?

1.5 Justification of the study

The districts of Buhweju, Bushenyi, Ibanda, Isingiro, Kabale, Kanungu, Kiruhura, Kisoro, Mbarara, Mitooma, Ntungamo, Rubirizi, Rukungiri, and Sheema make up the South

Western area. Due to their high population density and abundance of rural areas in the western region, the districts of Mbarara, Isingiro, Bushenyi, and Sheema were chosen as the locations for this study.

Uganda comprises of 146 districts (UBOS, 2023). South Western Uganda is part of the Western region of Uganda (UBOS, 2014). Western region has 26% of districts among the four regions in Uganda with the highest number of villages 27% of total villages in the country, 20% of cities. It has the second highest population density of 23.5% among the regions in the country (UBOS, 2014). This shows that it has great potential of construction in the area in order to serve this high population in terms of accommodation and other infrastructural requirements.

Most local government projects are not completed on time. This could be attributed to poor bidding processes. From a baseline survey carried out in the region, the low response by contractors to construction bids was noted. In the financial year 2021/2022, Mbarara District expected 185 responses for construction bid calls but only received 148 actual responses (Mbarara LG, 2023). For the following financial year 2021/2022, the expected responses decreased to 95, and the actual responses further declined to 90 as reflected in the Compliance audit report for Mbarara district Local government for the financial year 2021/2022 & District quarterly performance reports, 2022. The expected responses were those who picked the bids while the actual responses are those which returned the bids.

Further, Sheema District anticipated 104 responses for construction bids in the financial year 2021/2022, but only received 90 actual responses (Sheema LG, 2022). For the next financial year, 2022/2023, the expected responses were 72, and the actual responses increased to 88 (Isingiro LG, 2023). More to this, Isingiro District expected 80 responses for construction bids in the financial year 2021/2022, but received only 79 actual responses. For the subsequent financial year, the expected responses decreased to 45, and the actual responses further declined to 35 as reflected in the Compliance audit report for Isingiro district Local Government for financial year 2021/2022 (Isingiro LG, 2022).

Additionally, contractor response rates in the financial year 2021/2022, Bushenyi District anticipated 130 responses for construction bids but received 115 actual responses. For the following financial year, the expected responses decreased to 96, and the actual responses decreased further to 86 (Bushenyi LG, 2022). Thus, across all districts, there was a consistent pattern of low bidder participation, with very few bidders responding to bid invitations. This lack of interest from potential contractors in engaging in the bidding process raises concerns about the competitiveness of the procurement processes. This could be that Contractors may not be adequately informed about upcoming construction bids or may have difficulty accessing bid information, leading to limited participation. Additionally, Contractors might perceive the procurement processes as unfair or biased, leading them to be hesitant in participating in bids thus the need to assess factors affecting contractors' response to Local Government bids in Uganda.

1.6 Significance of the study

This study helped assess contractors' response to LG bids so that the key stakeholders like the Government of Uganda, donors and NGOs could find better ways of improving the bidding process in order to have more contractors respond to bids and quality output. It also added new insights to the existing body of knowledge about contractors' response to LG bids in Uganda which was scanty in literature.

1.7 Scope of the study

1.7.1 Geographical scope

Uganda is comprised of 146 districts (UBOS, 2023). This study focused on South Western Uganda because it has the second highest population density of 23.5% among the regions in the country (UBOS, 2014). This demonstrates the area's excellent building potential. The districts of Buhweju, Bushenyi, Ibanda, Isingiro, Kabale, Kanungu, Kiruhura, Kisoro, Mbarara, Mitooma, Ntungamo, Rubirizi, Rukungiri, and Sheema make up the South Western area. This research was carried out in Mbarara, Isingiro, Bushenyi, and Sheema districts because they comprised of the highest population density and villages in western region. The geographical area under investigation is shown in Figure 1. 1.

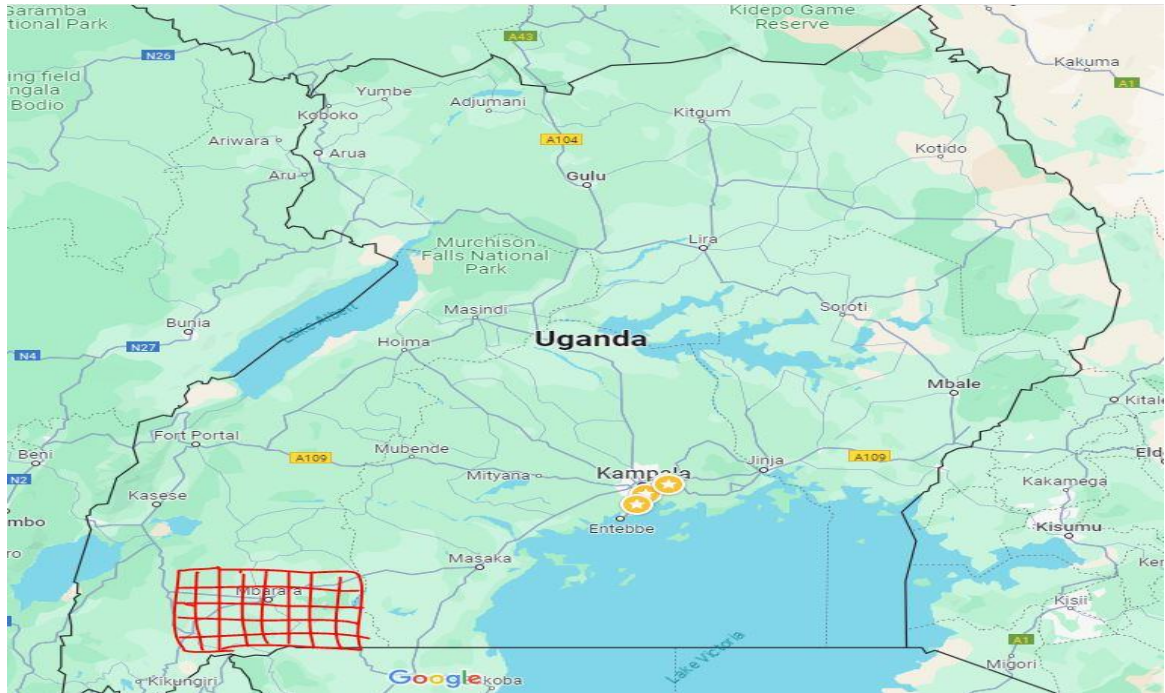


Figure 1. 1 Geographical area under study
Source: (Google Maps, 2024)

1.7.2 Content scope

This study was limited to data collected from Mbarara, Isingiro, Bushenyi, and Sheema districts on contractors' response to construction bids for a period of five years (February 2019 to December 2023). It was also limited to the following specific objectives: to characterise the LG construction bids; to determine and assess factors influencing contractor's response to LG bids in Uganda and to develop a decision model for proficient bidding to attract contractors in construction projects in Uganda.

1.7.3 Time scope

This research was carried out from August 2022 to August 2023.

1.8 Conceptual framework

This study examined factors affecting contractors' response to LG bids. Factors affecting contractors' response were the independent variables and contractors' response was the dependent variable. Intervening variables were also provided.

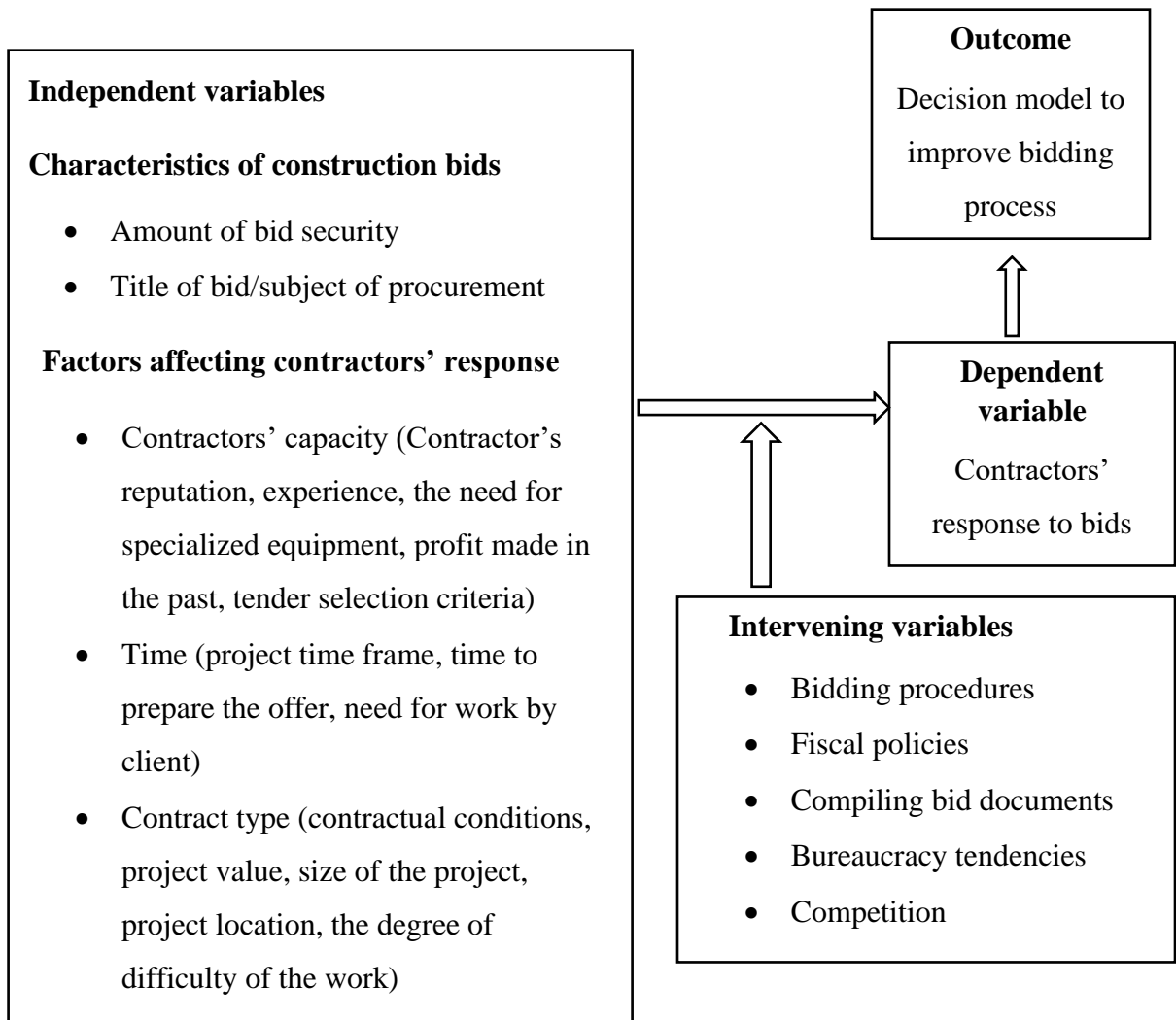


Figure 1.2 Conceptual Framework

Characteristics of construction bids and factors affecting contractors' response were independent variables and were treated as multidimensional variables as shown in

Figure 1.2. Characteristics of construction bids constituted two components namely; Amount of bid security and Title of bid/subject of procurement. Factors affecting contractors' response consisted of contractors' capacity, time and contract type. It was assumed that the independent variables affect the dependent variable through interplay of its different dimensions. However, the intervening variables such as Bidding procedures, Fiscal policies, Compiling bid documents Bureaucracy tendencies and Competition could interfere with the relationship.

1.9 Chapter one summary

In this chapter, it was noted that South western Uganda is facing a decline in contractors bidding for LG projects. The major aim of this study was to investigate factors why the decline was being experienced. The finding of the study would aid inform government and other organisations like NGOs on how bidding process could be improved and have more contractors bid for work. The next chapter of this study covers the relevant literature as well as any holes that the researcher planned to fill in it.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature that was keenly done on the factors affecting contractors' response to LG bids with the intention of establishing gaps is presented here in the proceeding sections.

2.2 Theoretical review

In Uganda, local government construction bids are crucial for project implementation, and the participation of contractors plays a pivotal role in project success (Byaruhanga and Basheka, 2017). In line with this research, contractors are the ones who execute work and therefore anything which affects them affects the government directly if it is not addressed. This theoretical review aims to explore the factors that influence contractors' response to local government construction bids in Uganda. By examining relevant theoretical frameworks and concepts, this review seeks to provide a deeper understanding of the underlying dynamics that shape contractors' bidding decisions.

a) Contingency theory

The contingency theory of management developed by Hage and Finsterbusch in 1987 served as the study's foundation (Kitchen, 1989). According to the notion, organizational structures and management procedures must be tailored to the specific tasks carried out

by the Organization. Although this is true, the author observed that there were several limitations with the bidding evaluation process in Uganda in that the evaluation styles were fixed/rigid which was not consistent with the contingency theory of management. To be consistent with this theory, an evaluator of a bid is most effective when his or her qualities and style of evaluation is matched with the situation, contract and environment around them.

A bid is an expression of interest to provide work and services. A bidder is a person willing to participate in the bidding process. “A contract is an agreement between the contractor and client to provide goods and services after meeting proper rules and procedures (PPDA Act 2023, 2023). The Public Procurement and Disposal of Public Assets Act of 2003 establishes the legal framework for acquiring and releasing public assets (MWE, 2010).

b) Transaction cost economics (TCE)

TCE posits that contractors' response to construction bids is influenced by transaction costs associated with participating in the bidding process. Transaction costs include the costs of searching for bid opportunities, information asymmetry, monitoring, and enforcing contractual obligations. Contractors consider these transaction costs when deciding whether to bid on local government construction projects in Uganda (Williamson, 1985).

c) Resource-based view (RBV)

RBV suggests that contractor's resource endowments, capabilities, and strategic assets influence their response to construction bids. Contractors evaluate the alignment between the project's requirements and their available resources, including financial capital, human capital, and specialized equipment. The presence of unique resources and capabilities can provide a competitive advantage, affecting bidding decisions (Barney, 1991).

d) Relationship management theory

Relationship Management Theory highlights the role of relationships between contractors and local government officials in influencing bidding decisions. Contractors consider the quality of their past interactions, trust, and mutual cooperation with government officials when deciding whether to bid. Positive relationships can enhance contractors' willingness to participate, while negative experiences or perceptions of corruption may discourage bidding (Snehota, 1995).

e) Risk management theory

Risk Management Theory suggests that contractors' response to construction bids is influenced by their assessment of project-related risks. Contractors evaluate factors such as payment delays, scope changes, political instability, and legal disputes. The ability to identify, assess, and mitigate these risks affects bidding decisions, with risk-averse contractors being more cautious in their participation (Hillson, 2002).

2.3 Conceptual review

2.3.1 Influence of time on contractors' response to bids

Length of contract and season not only do they have a positive influence on tender price but are also the most critical as far as tendering in construction projects is concerned (Chen, et al., 2017). On the other hand, the factors which affect response to bids include; presence of materials for the project, financial resources of the client and time of the project (Hosseini *et.al*, 2016). Most times construction projects are said to frequently run into issues that result in project failure since contractors don't have enough time to properly assess the job hence wind up submitting an erroneous tender. This implies that if contractors are given enough time to prepare well researched bid in a good season and time, most projects would not experience failure.

2.3.2 Influence of contract type on response to bids

There are a number of contract types which include: measurement contracts which comprises of lumpsum or fixed price contract, unit price contract and schedule of rates contracts; cost reimbursement contracts which comprises cost plus percentage, cost plus fixed fee and cost-plus variable fee; guaranteed maximum price contract and time and materials contract. It has been shown that the contract and the amount to be retained by the client for variations affects the contractor's response to bids (El-Kholy, 2015). Contract type promotes openness and knowledge of contract details beforehand (Akcaay and Manisali, 2018).

2.3.3 Influence of contractor's capacity on response to LG bids

Small sized contractors are viewed differently from their foreign counterparts (Mafimidiwo and Iyagba, 2016). Their lack of access to funds keeps them to be less developed. This sometimes leads to delays to vie for bids (Bagaya and Song, 2016). A contractor's choice to submit a bid is significantly influenced by the financial costs of performing the contract job, which are typically not recovered right away (Shash, 1993). These financial costs are also incurred during the tendering process implying that the contractor incurs greater upfront cost before they are even selected to do the job (Haris and McCaffer, 2001). Small contractors therefore are very likely to be hindered to not only to bid for work but also to execute works that require huge financial capacity.

2.4 Bid security

Public works are constructed via open competitive bidding in order to get the best deal for high-quality services and to avoid favouritism and corruption (Bezer, 2010). However, the lowest tender price basis for selecting contractors is very risky and unsafe (Fu *et al.*, 2002). For example, in some cases contractors may offer the lowest bid price and typically gain much profit by raising claims (Walraven and De Vries 2009). To reduce on the risk of loss to the client, contractors must include security with their bids (Bezer, 2010). A high bid security required may cause some contractors not to bid for works.

2.5 Factors affecting contractors' response to local government construction bids

2.5.1 Bidder prequalification and eligibility

Bidder prequalification processes and eligibility criteria set by local government bodies significantly impact contractors' response to construction bids. Factors such as financial capacity, technical qualifications, experience, and adherence to regulatory requirements influence contractors' eligibility and subsequent decision to participate in bidding processes (Turman, 2019).

2.5.2 Bid documents and contractual terms

The clarity, completeness, and quality of bid documents, including project specifications, drawings, and contract terms, greatly influence contractors' decisions to bid. Ambiguities, inconsistencies, and onerous contractual terms may deter contractors from participating due to increased risks and uncertainties associated with project execution (Bagaya and Song, 2016).

2.5.3 Project characteristics and scope

Contractors evaluate project characteristics, including size, complexity, location, and duration when deciding to bid. Large-scale projects with longer durations may require greater financial and organizational resources, potentially limiting participation. Additionally, the project's alignment with a contractor's expertise and available resources influences their bidding decision (Patanakul *et al.*, 2015).

2.5.4 Payment and financial considerations

Contractors consider the payment terms and financial viability of a project when determining their bidding response. Delays in payment, inadequate compensation, or unreasonable financial requirements may discourage contractors from bidding, particularly those with limited financial capabilities (Turman, 2019).

2.5.5 Past performance and reputation

Contractors' previous experiences with local government projects and their reputation play a crucial role in bidding decisions. Positive experiences, timely payments, and successful project completion enhance a contractor's willingness to bid, while negative experiences or a poor reputation may deter participation (Patanakul *et al.*, 2015).

2.5.6 Competition and market conditions

The level of competition within the construction industry and market conditions significantly influences contractors' responses to local government bids. Higher competition may lead to more cautious bidding strategies, while favourable market conditions, such as increased demand or availability of resources, may encourage greater participation (Bagaya and Song, 2016).

2.5.7 Relationship with local government officials

The nature of the relationship between contractors and local government officials can affect bidding decisions. Favourable relationships, built on trust, transparency, and mutual

cooperation, may increase contractors' willingness to bid on local government projects and the reverse is true (Li, et al., 2020).

2.6 Characteristics of local government construction bids

Local government construction bidding process refers to the procurement process through which local government entities, such as municipalities or district administrations, seek contractors to undertake construction projects within their jurisdiction. These bids typically involve the solicitation of proposals or bids from interested contractors who have the qualifications and capacity to execute the construction projects (Turman, 2019). These include;

2.6.1 Project Scope

Bids can range from small-scale infrastructure projects, such as road repairs or school renovations, to larger-scale projects like the construction of public buildings or water supply systems (Bagaya and Song, 2016).

2.6.2 Public Procurement Regulations

The bidding process is governed by public procurement regulations, which outline the procedures, eligibility criteria, and evaluation criteria for selecting contractors (Turman, 2019).

2.6.3 Competitive nature

Bids usually attract multiple contractors who compete to secure the contract. Contractors submit their bids, which include technical and financial proposals, to demonstrate their suitability for the project (Patanakul *et al.*, 2015).

2.6.4 Formal documentation

Local government construction bids require the submission of various documents, such as bid forms, project specifications, and supporting documentation related to the contractor's qualifications, experience, and financial capacity (Li, et al., 2020).

2.6.5 Evaluation criteria

Various factors are taken into consideration while evaluating bids, including technical proficiency, prior performance, financial stability, and compliance with procurement requirements. The local government assesses the bids to choose the project's best contractor (Patanakul *et al.*, 2015).

2.6.6 Contractual agreements

Once a contractor is selected, a contractual agreement is established between the local government and the contractor, outlining the terms and conditions of the project, including timelines, payment terms, and project deliverables (Turman, 2019).

2.6.7 Monitoring and oversight

Local government entities typically monitor the construction project's progress, ensuring that contractors adhere to the agreed-upon terms and specifications. Regular reporting and site visits may be conducted to ensure quality and timely completion (Li, et al., 2020).

Overall, it is important that local government construction bidding process in Uganda should aim to facilitate a fair and transparent process of selecting qualified contractors to execute construction projects by considering the characteristics of local construction bids above. This is because if such processes are handled well, it will promote infrastructure development and improve public services at the local government level.

2.7 Decision models and frameworks in construction projects

Building a framework to assist contractors in making bid or no bid decision is of great importance. A structured framework for a no bid decision has been built previously by combining criteria such as country risk vulnerability, ability to perform, project risk vulnerability, profitability and the probability of winning (Li, et al., 2020).

There are number of un-predictabilities involved in construction projects. Thus, it can be quite difficult to decide whether to submit a bid or not. A multiattribute bid or no-bid decision model has been proposed previously that is based on the evidential reasoning (ER) method which involves determining weights of criteria (Li *et al.*, 2021).

A bid reasoning model was developed to delve extensively into the bid determination process-based variables like competition, risk, company's position in bidding, and demand

for labour. The Analytic Hierarchy Process methodology was used. A list of the top critical factors and their respective relevance weights were determined from which it was proposed that a bid decision assistance system may be further developed and the bid reasoning model as the framework (Chua & Li, 2000).

Although literature is composed of various decisions models employed by contractors in bidding, Uganda lacks a decision model which contractors may employ before bidding. This research aimed to fill that gap.

2.8 Gaps identified in literature

Previous literature highlighted factors due to the low response to bids by contractors and bid or no bid decisions in the UK, Northern Cyprus and Egypt. However, for Uganda's case, scanty literature existed on the factors leading to low response to bids. There were also several limitations with the bidding evaluation process in Uganda in that the evaluation styles were fixed, and that they could not be adapted or modified which was not consistent with the contingency theory of management. An evaluator of a bid is most effective when his or her qualities and style of evaluation is matched with the situation, contract and environment around them. This study sought therefore to close those gaps.

2.9 Summary of literature

Table 2. 1 Summary of literature review

S/N	Topic/Area	Source	Key Findings
1.	Contingency theory of management by (Hage and Finsterbusch, 1987)	(Kitchen, 1989)	The theory stated that management processes and organizational structures must be developed to fit the particular activities executed within the organization.
2.	Bidding	(PPDA Act, 2003)	A bid is an expression of interest to provide work and services
3.	Procurement	(MWE, 2010)	The legal basis to acquire and release public assets is guided by the Public Procurement and Disposal of Public Assets Act (2003) There are eight types of bidding in Uganda.
4.	Influence of time on contractors' response to bids	(Chen, 2017).	Length of contract and season were considered the most critical areas as far as tendering in construction projects was concerned
5.	Influence of time on contractors' response to bids	(Hosseini et. al., 2016).	Factors which affected response to bids included materials present, financial resources of the client, and time of the project for smaller Australian construction contractors

Table 2. 1 Summary of literature review cont'd

S/N	Topic/Area	Source	Key findings
6.	Influence of contract type on response to bids	(El-Kholy, 2015).	Contract types and the amount to be retained by the client for variations affected the contractor's response to bids
		(Akçay and Manisali, 2018).	Contract type promoted openness and knowledge of contract details beforehand
7.	Influence of contractor's capacity on response to LG bids	(Mafimidiwo and Iyagba, 2016).	Small sized contractors were viewed differently from their foreign counterparts in Nigeria. Their lack of access to funds keeps them to be less developed.
8.	Influence of contractor's capacity on response to LG bids	(Barbera et. al., 2015).	Some delay factors to bidding are financial (Bagaya & Song, 2016)
9.	Bid security	(Bezer, 2010).	Risk of loss to clients is reduced by requiring bid security from contractors.

The theoretical and conceptual review was presented in chapter Two. Literature related to the factors affecting the contractors' response to local government bids in Uganda was limited. A summary of literature review is stated in Table 2. 1. The research methodology is presented in the following chapter.

CHAPTER THREE: METHODOLOGY

3.1. Introduction

The methods utilized to gather and analyse the data are presented in this chapter of the dissertation. It explains a systematic approach taken towards the collection of data and steps taken to analyse the data. In addition, it gives the structure and methods of research and a framework against which the procedures and findings of the study were assessed regarding their relevance, validity and reliability.

3.2 Research design and approach

A research design is a comprehensive strategy that outlines the techniques and steps to be taken for gathering and analysing the necessary data. It is a master plan that outlines the procedures and methods for gathering, processing, and interpreting data in order to obtain the desired information.

3.2.1 Descriptive research design

The primary goal of descriptive research design was used in order to describe the current situation as it stood by precisely and methodically characterising a population or phenomena. This data was used to measure and reveal the strength of a target group's opinion, attitude, or behaviour in relation to the study topic. In this study, respondents' characteristics were described using a descriptive approach, and questionnaires were

employed to gather quantitative data. Following variable regression, the quantitative data assisted in reaching conclusions (Amin, 2005).

3.2.2 Research approaches used

3.2.2.1 Quantitative

In this approach, it involved producing numerical data (numbers). To quantify the impact of an independent variable on a dependent variable, formal experiments were performed. The phenomena that resulted had units of measurement (Amin, 2005).

3.2.2.2 Qualitative

This method of study involved producing categorised data, as well as impressions or descriptions. The process was of concern, not just results. Though less organized, modest sample sizes were typically used and detailed information about attitudes and behaviour was obtained. Method used was in-depth interviews in order to learn about the underlying motivations and desires (Amin, 2005).

3.3 Population and sample

3.3.1 Study population

The population was 188 and sample was 126 respondents which included the District Planners, Procurement Officers, District Engineers and Engineering Assistants, Chief Administration Officers, Community Members, Town clerks and Contractors. Contractors were selected from construction companies that had ever placed bids for public

construction works in Mbarara, Isingiro, Bushenyi and Sheema districts for the studied period from August 2022 to August 2023.

3.3.2 Sample and sampling strategies

3.3.2.1 Sample size

The sample size consisted of 126 respondents, out a population of 188 as shown in Table 3.1. This is 67% of the population. As stated in Appendix 5, the sample size was calculated using the Krejcie and Morgan (1970) Table.

Table 3. 1 Study population and sample size

Category of Respondents	Target Population	Sample Size	Sample size in percentage	Sampling technique
District planners	4	4	100%	Simple random sampling
District engineers	4	4	100%	Simple random sampling
Procurement officers	4	4	100%	Simple random sampling
Engineering Assistants	8	8	100%	Simple random sampling
Town Clerks	4	4	100%	Simple random sampling
Contractors	40	36	90%	Purposive sampling
Community members	120	62	51.7%	Simple random sampling
Chief Administration Officers	4	4	100%	Simple random sampling
Total	188	126	67%	

3.3.2.2 Sampling techniques and procedures

Simple random sampling

Simple random sampling was used to select key respondents Denscombe, (2014). These included District Planners, Procurement officers, District Engineers and Engineering assistants, Chief Administration Officers, Town Clerks and community members.

Purposive sampling

Purposive sampling was thus used to select some contractors.

3.4 Description of study area

As stated in the justification and geographical scope, the area under study is in South-western Uganda. South Western region is comprised of the following districts; Buhweju, Bushenyi, Ibanda, Isingiro, Kabale, Kanungu, Kiruhura, Kisoro, Mbarara, Mitooma, Ntungamo, Rubirizi, Rukungiri, and Sheema. This research was carried out in Mbarara, Isingiro, Bushenyi, and Sheema districts.

3.5 Data collection tool

Questionnaires tool

These were administered to the Directors, Structural Engineers, Site Engineers, Clerk of Works, Inspector of Works, Consultants.

3.6 Data sources

3.6.1 Primary data

The first-hand information was obtained with the help of questionnaires.

3.6.2 Secondary data

This was extracted from monthly financial reports, Districts' Strategic Plans, annual reports, audit reports, manuals, annual budget proposals, budget frame work papers and background to the budgets. Secondary data were used because it could not be obtained from primary sources of data.

3.7 Data quality control

To ensure quality control, all instruments used to gather information were pretested to a few respondents before actual fieldwork was done to ensure that they were of proper quality and up to standard.

3.7.1 Validity

Validity expresses the extent to which the data best represents the phenomenon under study (Mugenda, 2008). To ensure this, questionnaires were discussed with my course mates, professors, doctors, engineers and specialists in the field to assess the flow if it was related to research aims using a five Likert Scale of 1= Strongly disagree 2 = Disagree 3 = Neutral, 4 = Agree and 5 = Strongly Agree. To determine the validity of the instrument, Content Validity Index (CVI) was calculated using Equation 3.1 and shown in **Table 3. 2**.

$$CVI = \frac{\text{No. of Items rated relevant}}{\text{Total Number of items}} \dots\dots\dots \text{Equation 3.1}$$

Table 3. 2 Content Validity Index

Raters	No of Items	Relevant	CVI %
Rater 1	23	20	87
Rater 2	23	22	95.7
Rater 3	23	21	91.3
Average % (CVI)			91%

At least 91% CVI was obtained. This shows that our questionnaire tool was valid (Amin, 2005).

3.7.2 Reliability

According to Amin (2005), a measurement is said to be reliable if it consistently yields findings with the same values. The coefficient of reliability ranges from 0 to 1, where 1 corresponds to complete dependability and 0 to no reliability. Test-retest reliability was utilized to gauge the questionnaire items' reliability outcomes. A high reliability value, such as $r = 0.98$ for test-retest reliability, indicates that measurement mistakes are often rare in research instruments. Coefficients yielding over 0.7 are regarded as satisfactory, and those yielding above 0.8 as very good. The average reliability test result for this study was 0.827, which is suggested as very acceptable and is shown in Table 3. 3. The closer alpha comes to 1.0, the better. An informed sample of respondents was chosen to provide trustworthy data. To ensure reliability, the researcher ensured that the instruments used reduced random error. It was measured by correlating a score from one item with scores

from other items on the test. Cronbach alpha values were calculated in accordance with Equation 3.2 in order to verify the internal consistency of the questionnaire questions used to measure the variables.

$$\alpha = \frac{k}{k-1} \left[1 - \frac{\sum \sigma_k^2}{\sigma_{\text{Total}}^2} \right] \dots \dots \dots \text{Equation 3.2}$$

Where;

k = number of items

σ_{Total}^2 = variance of the total scores

Thus, a value obtained of 0.827 as shown in Table 3. 3 was good to obtain reliable data and therefore this could lead to reliable findings.

Table 3. 3 Reliability test results of research questionnaire (SPSS V20)

Questionnaire section	Cronbach's Alpha
Section A: Respondent's Bio-Data	0.735
Section B: Knowledge of local government bids	0.969
Section C: Characteristics of local government construction bids	0.875
Section D: Factors influencing contractor's response to LG bids	0.775
Average Cronbach Alpha coefficient	0.827

3.8 Data analysis

Information from the field was analysed both qualitatively and quantitatively as indicated below:

3.8.1 Quantitative data analysis

For quantitative data, SPSS software version 20 was used to enter, edit, clean and sort the data. The data analysis was based on frequencies, percentages and mean which are presented in frequency tables, bar graphs and pie charts. Pearson's correlation analysis was conducted to establish the significance and association of the factors affecting contractors' response to LG bids. Furthermore, regression analysis was used to assess factors affecting contractors' response to LG bids.

3.8.2 Qualitative data analysis

For qualitative data, answers from interviews were recorded and common themes which were identified, categorised, and conclusions made.

3.9 Achievement of specific objectives

3.9.1 Characteristics of local government construction bids

As stated in the literature review, there are eight types of bids in Uganda. This research characterized bids in Uganda with specific focus on Isingiro, Bushenyi, Mbarara and Sheema districts according to the PPDA Act 2003. Information concerning items like type of bids, title of bids, bid security was collected using survey questionnaires, documents review and interview guides. The analysis was done using SPSS V20.

3.9.2 Factors influencing contractor's response to LG bids in Uganda

In order to assess the factors influencing contractor's response to LG bids for the period of five years (2018-2023), the following procedure was used: collection of data from the

selected LGs regarding; number of contractors bidding for work, period, types of contracts advertised, number of prominent or repetitive bidders over a five-year period. This data were obtained from the procurement officers and district planners. Data were collected using documents review, survey questionnaires, interview guides. Data were analyzed using SPSS v20 to obtain the frequency in percentage of responses, and regression analysis was done also in SPSS v20. The mean and standard deviation were obtained using MS Excel 2019. These were ranked in their order with the highest rank having the highest mean and the lowest ranked having the lowest mean.

3.9.3 Decision model for proficient bidding to attract contractors in construction projects in Uganda

From Analysis of the questionnaires and interviews guides, critical factors affecting contractors bidding decision were identified. The possibilities of them winning or not bidding were determined. A proficient model for bidding was developed based on survey results using fuzzy maps by the researcher. The Bernoulli distribution of developing model was used because it is a calculation that allows you to create a model for the set of possible outcomes of a study. The distribution was used in this study to combine success and failures that were suitable for the variables of the research study.

The Bernoulli probability is denoted by P; it provides only two types of conclusions, success or failure. It is computed using the following equation 3.3.

$$P(X = x) = p^x(1 - p)^{1-x}$$

$$P(X) = \begin{cases} 1 - p, & \text{for } x = 0 \\ p, & \text{for } x = 1 \end{cases} \dots\dots\dots \text{Equation 3.3}$$

Here, 'x' is the outcome, which can either be a success (x =1), or failure, (x = 0).

- 'p' is the probability of getting success.
- $P(X) = 1 - p$ and it denoted the probability of failure.
- The value of p is $0 < p < 1$.

3.9.4 A framework for improving bidding in local government

The data revealed that there were pitfalls in management processes and organizational structures of Local governments. Suggestions made by the respondents were collected and incorporated in the Framework out of this study to close the gaps in construction bidding process in Local Government. This was based on contingency theory of management by Hage and Finsterbusch (1987); (Kitchen, 1989) which states that management processes and organizational structures must be developed to fit the particular activities executed within the Organization.

3.10 Procedure for data collection and analysis

The procedure to collect data is summarised in Figure 3. 1.



Figure 3. 1 Methodology flow chart

The researcher worked with the two Supervisors assigned to him to design and execute a proposal within the time constraints of the program. The Kyambogo University research committee was then asked for approval before the data gathering process could begin. After receiving permission to go ahead with data collection, a pilot test of the study tools was done. More data were collected after a successful pilot test. Through skilled research assistants, the researcher gave physical copies of the questionnaires to the respondents. A trained research assistant conducted in-person interviews while the researcher physically examined all sampling documents.

In order to provide accurate conclusions, quantitative data was thoroughly examined. This was accomplished by using the data collected to identify patterns, trends, and linkages (Mugenda & Mugenda, 2003). Data that was acquired quantitatively was thoroughly edited to make sure it was correct, consistent, and well-organized to make entering it into the computer as easy as possible. The data was then analysed using the Statistical Package for Social Scientists (SPSS) version 20 computer application to determine the frequency, percentage, mean, and standard deviation following descriptive analysis. To determine the strength and direction of correlations between variables, a correlation analysis was performed. Based on the acquired data, inferential analysis was performed to create

interfaces about the population. Techniques including correlation analysis, regression analysis, and analysis of variance (ANOVA) were used to do this. The following paragraphs provide descriptions of each approach.

At significance levels of 5%, the Pearson Correlation Coefficient (r) method was employed to assess the strength of correlations between two variables (Mugenda & Mugenda, 2003). A complete negative correlation and a perfect positive correlation, respectively, are represented by the extreme values of the correlation coefficient, which range from -1 to +1. The correlation coefficient is important because it (1) indicates the size of relationships between two variables and (2) illustrates the direction of those relationships. A positive correlation (+) denotes a positive relationship, while a negative correlation (-) denotes a negative relationship. A positive correlation occurs when one variable rises and the other rises as well. When noted by Mugenda & Mugenda (2003), however, in a negative correlation, when one variable rises, the other falls. Additionally, a correlation coefficient of more than 0.7 denotes a significant correlation; a probability value of less than 0.05 denotes the rejection of the null hypothesis; and a probability value of more than 0.05 denotes the rejection of the alternate hypothesis.

In order to ascertain the linear relationship between variables, SPSS version 20 did the Regression coefficient (R) calculation. The adjusted squared value was used to calculate the contribution of the independent variables to the variance and changes in the dependent variables. Which of the independent variables (contractors' reaction to LG bids, evaluate factors affecting contractor's response to LG bids) substantially impacts the dependent

variable (characterize the local government construction bids) was determined using the regression coefficients. Probability values below 0.05 at 5% significance levels were used to establish the link between the independent variable and the dependent variable. According to Mugenda and Mugenda (2003), the F-statistics inform the researcher if one or more independent variables substantially predict the dependent variable at the chosen probability level.

3.11 Ethical considerations

The researcher obtained a letter of introduction from Kyambogo University outlining the nature of the research and properly identifying the researcher. Data from respondents was got after obtaining their consent. Privacy and confidentiality of participants was observed and no names were used; only pseudo names were used (Rogers, 1987).

CHAPTER FOUR: ANALYSIS AND DISCUSSION OF RESULTS

4.1 Introduction

The study's findings are presented and explained in this chapter. This chapter covers the presentation, analysis, and interpretation of the study's findings in light of the goals and rationale for the investigation that were outlined in chapter one. The chapter provides the response rate, results of the respondents' demographic features, and conclusions based on the study's goals. The findings have been described and analysed using the data presentation, numbers, and percentages. Evidence is supplied and discussed from both field data and literature to synchronize the results' meaning for simple understanding.

4.2 Response rate

Response rate is the ratio of the actual number of respondents, vis-à-vis the targeted. Out of 98 questionnaires administered, 96 were returned fully completed constituting a response rate of 98% while out of 28 respondents expected to participate in the interviews only 23 participated constituting 82.1% response rate. The score therefore suggests a total response rate of 94.4%. Table 4. 1 shows the anticipated number and actual response rate.

Table 4. 1 Response rate

Population Classification	Expected Respondents	Actual respondents	Percentages
District planners	4	3	75
District engineers	4	4	100
Procurement officers	4	3	75
Engineering Assistants	8	7	88
Town Clerks	4	3	75
Contractors	36	36	100
Community members	62	60	97
Chief Administration Officers	4	3	75
Total	126	119	94.4

The 94.4% is scientifically acceptable participation rate according to Amin (2005). He recommends that a minimum of 70% response rate is adequate for valid research. The high response rate could be attributed to the fact that response to construction bidding is of great concern at the districts of; Mbarara, Isingiro, Bushenyi and Sheema. With this response rate, the findings of the study are representative of the actual population and can be generalized to the other respondents who did not participate in the study.

4.3 Demographic characteristics of respondents

This section presents the demographic characteristics of the respondents who participated in the study.

4.3.1 Gender

The gender of respondents was registered to complement the narratives and statistical data. The Table 4. 2 below shows the response rate by gender.

Table 4. 2 Gender of respondents

Gender	Frequency	Percent
Male	33	34.4
Female	63	65.6
Total	96	100.0

From the analysis above, 63 (65.6%) were females while 33(34.4%) were males. Females due to their nature are more inclined to avoid risk and hence not participate in construction bidding hence low response to bidding.

4.3.2 Age bracket

Figure 4. 1 below thus shows the age brackets of respondents

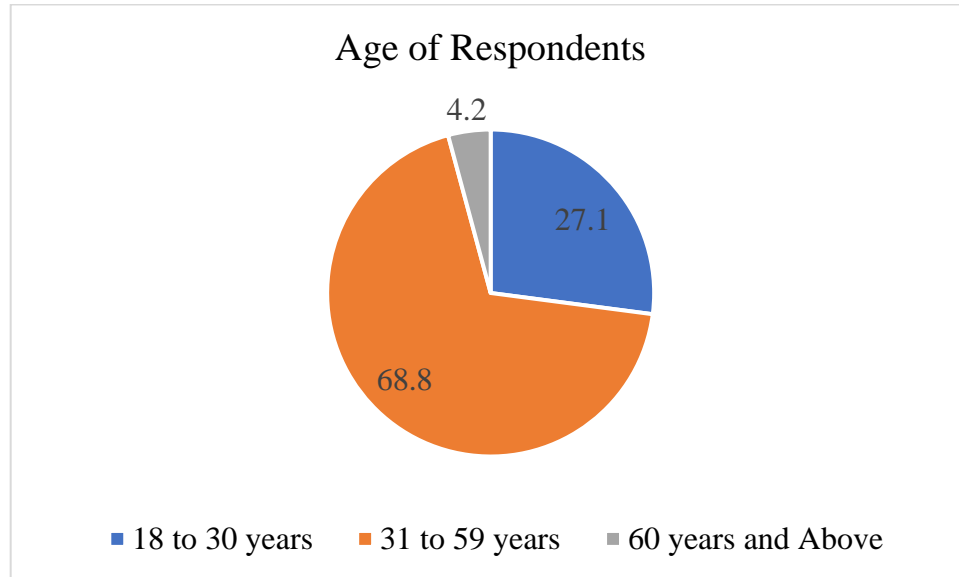


Figure 4. 1 Age of respondents

According to the field data, the participants of the study were mature staff since most of them were aged between 31 to 59 years. This shows that most respondents were in the productive years whose information can be relied on.

4.3.3 Profession of respondents

Field findings revealed that, the distribution of professional categories was diverse. It is shown that engineers accounted for 11.5% (11 respondents), indicating a significant presence of engineering professionals in the sample. Technicians represented 20.8% (20 respondents) of the respondents, highlighting the importance of technical expertise in the surveyed population as indicated in Figure 4. 2. The "others" category accounted for the respondents who did not fall into the engineer and technician professions but were crucial in the bidding process.

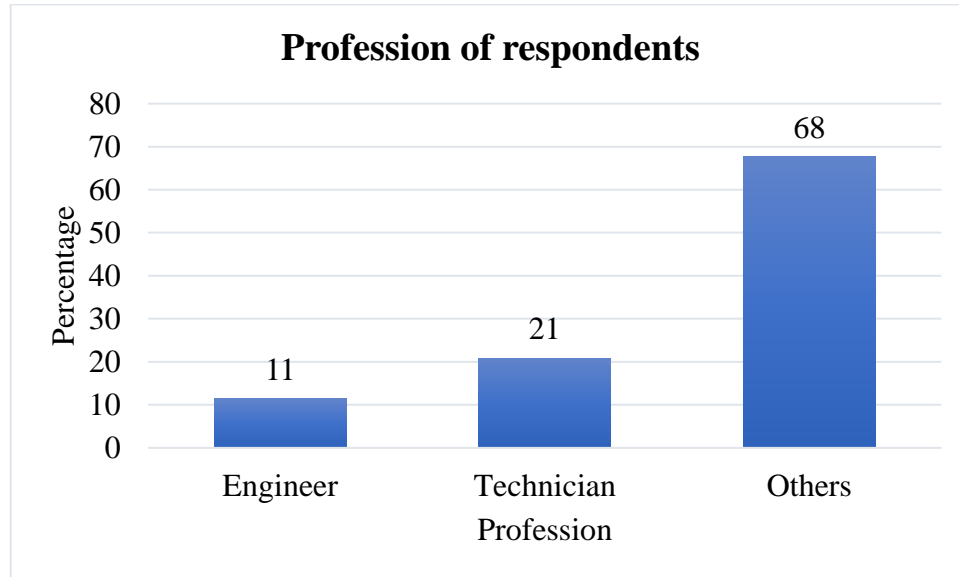


Figure 4. 2 Profession of Respondents

This shows that engineers are hard to reach because of their busy schedules while technicians and other professions holding positions in the firms interviewed were easier to reach to give necessary information.

4.3.4 Education level of respondents

Drawing from survey and interviews, the majority, 43.8% (42 respondents), had a bachelor's degree as their highest qualification, suggesting a significant number of respondents with undergraduate education as seen in Figure 4. 3.

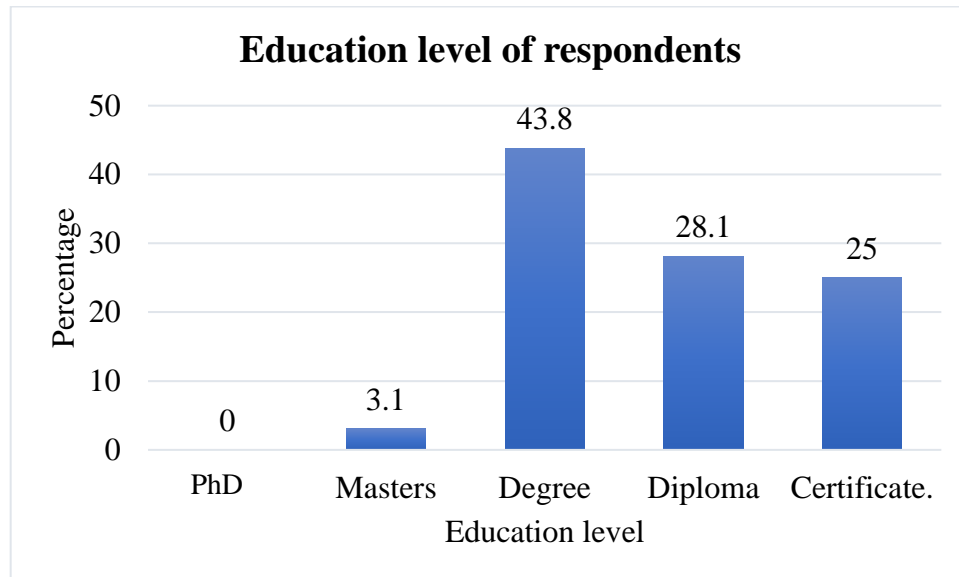


Figure 4. 3 Education level of respondents

A small proportion, 3.1% (3 respondents), held a master's degree, indicating a minority of highly educated respondents within the surveyed sample. Twenty eight percent (27 respondents) of the respondents had a diploma as their highest qualification, indicating a substantial presence of respondents with vocational or specialized training. Additionally, 25% (24 respondents) held a certificate as their highest qualification, further highlighting the diversity of educational backgrounds within the surveyed population. This means that majority of the respondents had a bachelor's degree as their highest qualification, suggesting a significant number of respondents with undergraduate education. Educated respondents are able to study trends in prevailing economy hence may not respond to construction bids when situation is not favourable.

4.3.5 Company type

According to the field dataset, 18.8% (18 respondents) were associated with contractors, indicating a notable presence of respondents engaged in contractual work within the surveyed sample as portrayed by Table 4. 3.

Table 4. 3 Company Type

Company Type	Frequency	Percent
Contractor	18	18.8
Consultancy	28	29.2
Freelance	29	30.2
Government funded organisations	11	11.5
Others	10	10.4
Total	96	100

The "others" category had 10 respondents (10.4%), representing respondents who did not fall into the predefined contractor, consultancy, freelance, or government categories. This group may include respondents associated with other organizations or those with unique employment arrangements. This analysis implies that majority respondents were freelancers, highlighting a considerable proportion of independent professionals who offer their services on a project-by-project basis. Consultants are less likely to respond to local government construction bids if the state of the economy is not favourable.

4.3.6 Position held in company/district

According to Table 4. 4, the "others" category had 18.8% of the respondents, representing respondents who held positions or roles not explicitly captured by the predefined classes.

This analysis implies that majority respondents were consultants who are involved in the bidding process and thus are able to give first-hand information. The more consultants and professionals are involved in bidding, the higher the chances of high bid response since they are able to get timely information through newspapers, radios and internet.

Table 4. 4 Position held in company/district

Position	Frequency	Percent
Director	4	4.2
Structural Engineer	7	7.3
Site Engineer	6	6.3
Clerk of Works	11	11.5
Inspector of Works	7	7.3
Consultant	43	44.8
Others	18	18.8
Total	96	100

4.3.7 Personal experience in the construction industry (years)

The study findings revealed that personal experience of both district staff and contractors have an inference on construction bids and the consequential works outcomes. From the findings above, the distribution of experience levels within the construction industry varied among different categories as demonstrated in Table 4. 5. These percentages reflect the distribution of experience levels among the surveyed sample and provide insights into the diverse range of experience within the construction industry. It's important to note that these findings may not represent the entire population and should be interpreted within the

context of the surveyed sample. Thus, this means that majority of respondents, comprising had 3-5 years of experience, suggesting a significant number of professionals in the early stages of their careers and at this stage, they are very willing to learn gain more skills. Professionals who have experience of 3-5 years are more daring and usually find it easy to bid for local government projects in order to gain more experience.

Table 4. 5 Personal Experience in the construction industry

Experience	Frequency	Percent
Less than 3 Years	7	7.3
3-5 years	67	69.8
6-10 years	14	14.6
11-20 years	7	7.3
21 and above	1	1
Total	96	100

4.3.8 Bid types

From the findings in Table 4. 6, there is a diverse range of knowledge and experience among the respondents regarding different bidding processes beyond the commonly known open and selective bids. These percentages provide valuable insights into the respondents' familiarity with different bid types, reflecting the varying levels of exposure and understanding within the surveyed sample. It's important to note that these findings may not represent the entire population and should be considered within the context of the surveyed model. Therefore, the analysis implies that majority respondents were familiar with selective bids, which involve a pre-screening process to invite a specific group of

bidders. Results from interviews agree with the results from this questionnaire. Prequalification Procedures: The respondents noted that prequalification procedures, are intended to shortlist qualified bidders. However, they can be time-consuming and involve extensive paperwork and evaluation criteria, contributing to the perception of bureaucracy.

Table 4. 6 Bids Known

Bid Types	Frequency	Percent
Open	71	74
Selective	8	8.3
Others	17	17.7
Total	96	100

4.3.9 Knowledge about bid security

From the findings in Table 4. 7, it is evident that bid security is a well-known concept among the majority. Specifically, 88.5% (85 respondents) of the respondents have heard about bid security. This figure suggests a high level of reliability and dependability of study findings. It also suggests that bid security, which refers to measures to ensure bidders' financial commitment and credibility, is familiar to most respondents. Conversely, a smaller proportion of respondents, comprising 11.5% (11 respondents), have not heard about bid security. This minority group may lack exposure or awareness of the specific practices and procedures related to bid security in the context of bidding processes. It is worth noting that bid security plays a crucial role in ensuring fair and transparent competition within the construction industry.

Table 4. 7 Bid Security Knowledge

Bid security Knowledge	Frequency	Percent
Yes	85	88.5
No	11	11.5
Total	96	100

These findings emphasize the importance of bid security awareness among most respondents, indicating a foundational knowledge and understanding of its significance in the bidding process. This knowledge contributes to understanding industry practices and requirements, fostering a competitive and transparent bidding environment.

4.4 Characteristics of local government construction bids

The study found out that construction bids were characterised by National Security Fund (NSSF) certificate, Income Tax clearance, Powers of Attorney, Certificate of incorporation, bills of quantities, bank guarantee obtained from the bank, and high security bids in form of cash. Additionally, in-depth interviews revealed that bid security in form bank guarantee hinders many contractors from participating in bidding. Whereas formulation of bills of quantities is based on the title of the bid, most prospective contractors usually misinterpret the document resulting into wrong quotations. Ninety five percent of key informants revealed that the bid security options available in the market are too insufficient to enable a bidder explore a favourable option. This information agrees with what was discovered from interviews.

4.4.1 Legal status

The respondents emphasized the requirement for bidders to possess legal status as a registered company or business entity in Uganda. This entails being duly registered with the Uganda Registration Services Bureau (URSB) and providing proof of registration, such as a certificate of incorporation. Fake contractors are eliminated in the process.

4.4.2 Tax compliance

The respondents highlighted the significance of tax compliance with the Uganda Revenue Authority (URA). Bidders need to have a valid Tax Identification Number (TIN) and provide clearance certificates for taxes like VAT and PAYE. The provision of copies of these certificates serves as proof of compliance. Financial Capacity: The respondents stressed the need for bidders to demonstrate their financial capacity to undertake the project. This involves submitting audited financial statements, bank statements, or evidence of access to adequate financial resources. The specific financial requirements may vary based on project size and complexity. This helps LG to get contractors which are tax compliant and contribute to the development of the nation.

4.4.3 Bid security

The respondents highlighted the necessity of providing bid security or bid bonds as a guarantee of commitment to entering into a contract if selected. The bid security, usually a specified percentage of the bid amount, may need to be in the form of a bank guarantee or other acceptable forms. This helps the LG not to lose money in case the contractor is unable to meet her obligations

4.4.4 Experience and technical qualifications

The respondents revealed the importance of showcasing relevant experience and technical qualifications related to the specific project. This includes providing information on previous similar projects completed, demonstrating expertise in the required field, and presenting resumes or profiles of key personnel involved. This enables the LGs to get competent expertise to execute works.

4.4.5 Conflict of interest

The respondents emphasized the requirement for bidders to declare any potential conflicts of interest that may arise during the bidding process or project execution. This includes disclosing relationships with other bidders, subcontractors, or individuals involved in the evaluation process to ensure fairness and impartiality. This helps to promote fairness during the bidding process.

4.5 Achievement of specific objectives

4.5.1 Characteristics of the local government construction bids

4.5.1.1 Survey and interview analysis results

Both survey and in-depth interview data revealed that the factors affecting response to Local government construction bids include knowledge, information, time, cost, season of the year, statutory requirements and cultural norms of the host communities. Which are the detailed in proceeding sections of this chapter.

Table 4. 8 Weighted mean and weight of Likert scale Opinions

Weighted mean	Opinion	Weight
4.2-5	Strongly agree	5
3.4-4.19	Agree	4
2.6-3.39	Uncertain	3
1.8-2.59	Disagree	2
1-1.79	Strongly disagree	1

Table 4. 9 Summary to findings to Objective One

Statement	SA	A	NS	D	SD	Mean	Std deviation	Opinion	Ranking
The process of obtaining bid security from the collaborating partners is usually easy.	51	28.1	20.8			4.3	3.85	Strongly Agree	1
Are some contractors not able to bid because of high bid security?	44.8	21.9	21.9	9	2	3.98	3.62	Agree	2
The bid title always communicates the work to be done	1	62.5	19.8	14.6	5.2	3.46	3.02	Agree	3
Most contractors usually misinterpret the title of the bids hence submitting the wrong bid documents	7.3	35.4	43.8	6.3	7.3	3.29	2.9	Uncertain	4
Bid security in the form of cash allows many contractors to participate in bidding	6.3	38.5	22.9	5.2	27.1	2.92	2.71	Uncertain	5
Some processes usually attract the bid security	5.2	19.8	29.2	45.8		2.84	2.47	Uncertain	6
Bid security is usually asked in the form of a Bank Guarantee	2.1	14.6	37.5	43.8	2.1	2.71	2.3	Uncertain	7

Among the total of 96 respondents, it is evident that there are varying perspectives regarding characteristics of local government bids. The characteristics of local government bids were ranked in this order bid security, amount of bid security and specifics on contract details like bid title. The characteristics where the respondents were uncertain were neglected in this discussion because they neither agreed nor disagreed.

It is therefore true that that the process of obtaining bid security from the collaborating partners is usually easy, some contractors are not able to bid because of high bid security. Furthermore, although the bid title always communicates the work to be done and therefore cannot be used as an excuse by contractors while bidding for work.

The findings agree with that of (Bagaya & Song, 2016) who performed a research on an Empirical study of factors influencing schedule delays of public construction projects in Burkina Faso. They found out that from 140 respondents (clients, contractors and consultants) revealed that financial capability of the contractor was the most significant factor that caused delays in Burkina Faso's construction industry but also in Asian and other African countries.

The findings also agree with that of (Akalp and Ozbek, 2016) who carried out a research on the differences in construction companies' preferences in making bid/no bid decisions from 41 valid respondents (out of a population of 900 construction professionals who received the comparison tool they sent out). They found out that some of the factors that significantly affect the bid or no bid decision were financial inability, project type, contractors' conditions and the type of contract.

b) Documents review analysis for Contractor Response Rates and Factors Affecting Bids in selected Districts

The review was done on different relevant documents from Sheema, Mbarara, Isingiro and Bushenyi districts to analyse data and trends of contractor response rates to construction bids done in those districts. The results are presented in Table 4.10.

It is evident from the results of documentary review that except for Sheema district which had increase in submitted bids 22%, Mbarara, Isingiro and Bushenyi and Sheema experienced not only a decline in expected contractors to bid for work, even those that submitted bids reduced ranging from 1-20%. The level of competition is generally decreasing since 2021-2023.

Possible reasons for the decrease in bidder participation

- **Lack of Information:** Contractors may not be adequately informed about upcoming construction bids or may have difficulty accessing bid information, leading to limited participation.
- **Perceived Unfairness:** Contractors might perceive the procurement processes as unfair or biased, leading them to be hesitant in participating in bids.
- **Limited Trust:** The low bidder response rates may indicate a lack of trust in the transparency and effectiveness of the procurement processes, dissuading contractors from participating.

Table 4. 10 Documents review analysis for contractor response rates in selected districts

District	Bid status	2021/ 2022	2022/ 2023	Percentage decline	Source
Mbarara	(Expected)	185	148	-20	Compliance audit reports for Mbarara district Local government for the financial year 2021/2022 and 2022/2023 (Mbarara LG, 2022) and (Mbarara LG, 2023).
	(Submitted)	95	90	-5	
Isingiro	(Expected)	80	79	-1	Compliance audit reports for Isingiro district Local government for the financial year 2021/2022 and 2022/2023 (Isingiro LG, 2022) and (Isingiro LG, 2023).
	(Submitted)	45	35	-22	
Bushenyi	(Expected)	130	115	-12	Compliance audit reports for Bushenyi district Local government for the financial year 2021/2022 and 2022/2023 (Bushenyi LG, 2022) and (Bushenyi LG, 2023).
	(Submitted)	96	86	-10	
Sheema	(Expected)	104	90	-13	Compliance audit report for Sheema district Local government for the financial year 2021/2022 and 2022/2023 (Sheema LG, 2022) and (Sheema LG, 2023).
	(Submitted)	72	88	22	

(Source: Compliance audit reports for Districts Mbarara, Sheema, Isingiro and Bushenyi, 2021/2022 and 2022/2023)

4.5.2 Factors influencing contractor's response to LG bids in Uganda

In order to assess factors influencing contractor's response to LG bids in Uganda, respondents were requested to give their opinions in regard to statements such as: The bid security options available are sufficient enough for the bidder to explore a favourable option, Bid documents are always submitted on time, Submission time is always adequate for contractors, The steps followed to prepare a bid document are complex, Bidders knowledge to organize bid documents according to the terms of the reference, The contract type negatively influences the response to bids and the bidding process usually involves a lot of costs which affect the bidder's capacity to submit the bid. The results are given in Table 4.11.

Table 4. 11 Summary to findings to objective two

Statement	SA	A	NS	D	SD	Mean	Std deviation	Opinion	Ranking
Bid documents are always submitted on time	22.9	69.8	7.3			4.33	3.74	Strongly Agree	1
Bidders always have knowledge to organize bid documents according to the terms of the reference	24	50	16.7	8.3	1	3.875	3.46	Agree	2
Contractors are sensitive to the cultural norms of values of project host communities in the bidding process	13.5	58.3	27.1	1		3.85	3.37	Agree	3
The steps followed to prepare a bid document are complex	8.3	21.9	65.6	4.2		3.34	2.88	Uncertain	5
The season of the year is a major hindering factor in bidders' response to the bidding	19.8	51	24	5.2		3.26	2.97	Uncertain	6
The bid security options available are sufficient enough for the bidder to explore a favourable option	8.3	35.4	19.8	33.3	3.1	3.25	2.84	Uncertain	7
The contract type negatively influences the response to bids	1	35.4	20.8	37.5	5.2	3.01	2.59	Disagree	8
The bidding process usually involves a lot of costs which affect the bidder's capacity to submit the bid	22.9	17.7	22.9	35.4	1	2.9	2.54	Uncertain	9
Submission time is always adequate for contractors	12.5	13.5	34.4	5.2	34.4	2.65	2.51	Uncertain	10

The general opinion for the statements in regard to Factors affecting contractor's response to local government bids was agree based on the weighted mean shown Table 4. 8. It can therefore be concluded that bid documents are submitted on time, bidders have knowledge to organise bid documents according to terms of reference and contractors are sensitive to cultural norms. It was shown that contract type does not negatively influence response to bids. This implies that the contractors abide by bid contract requirements like time of submission, are competent in organising bid documents and are very sensitive to cultural norms. It also shows that the contract type(s) used in the different districts is favourable for bidding.

4.5.2.1 The relationship between the Independent and Dependent variables

The study sought to establish the correlation results among the variables. The Pearson correlation coefficient which explains the association between key study variables was generated and results are presented in the Table 4.12. The correlation coefficient ranges between -1 and + 1, the two extreme values signify perfect negative correlation and perfect positive correlation respectively. Pearson correlation coefficient between 0.1-0.5 shows weak correlations, range of 0.51 -0.69 show moderate correlation and values between 0.7-0.99 shows very strong correlation. Furthermore, the Probability value (P-value) of less than 0.05 implies significance and greater than 0.05 implies insignificance. Therefore, results of Pearson correlation coefficient are shown in Table 4.12.

Table 4. 12 Pearson correlation matrix

Variables		Contractors' response to LG bids	To assess factors influencing contractor's response to LG bids	To characterize the local government construction bids
Contractors' response to LG bids	Pearson Correlation	1		
To assess factors influencing contractor's response to LG bids.	Pearson Correlation	0.879**	1	
	P-value	0.000		
To characterize the local government construction bids.	Pearson Correlation	0.784**	0.676**	1
	P-value	0.000	0.000	
**. Correlation is significant at the 0.01 level (2-tailed).				

The results in Table 4.13 furthermore indicated that there is a positive strong relationship between Factors (capacity, time and contract type) and contractor's response to LG bids as evidenced by Pearson value of $0.879 > 0.7$. It is also revealed that there is a statistically significant relationship between Factors and contractor's response to LG bids since the probability value obtained 0.001 was less than 0.05. The null hypothesis was rejected which states that there is no significant relationship between factors (capacity, time and

contract type) and contractors' response to LG bids. This implies that factors such as (capacity, time and contract type) significantly influence contractor's response to LG bids.

From the above analysis it is revealed that there is a positive strong relationship between Characteristics of construction bids and contractor's response to LG bids in Uganda as evidenced by Pearson correlation coefficient of $0.784 > 0.07$. Furthermore, the significance value 0.00 is less than 0.05 which shows that there is a statistically significant relationship between Characteristics of construction bids and contractor's response to LG bids in Uganda.

More to this, during Key informant interviews done by the researcher, the following was noted about capacity constraint. **Capacity Constraints:** The respondents noted capacity constraints faced by bidders, particularly small and medium-sized enterprises (SMEs) and local businesses. These constraints relate to financial resources, technical expertise, and human resources required to prepare competitive bids. **Contractor Capacity and Resources:** The respondent highlighted that contractors assess their capacity and available resources based on the perceived level of competition. Contractors with limited capacity may choose not to participate if they anticipate overwhelming competition. **Capacity Building and Support:** Respondents highlighted the need for capacity-building programs to support bidders, especially SMEs and local businesses. Training, workshops, and mentoring programs were seen as valuable in enhancing bidder knowledge and skills for preparing competitive bids.

Prediction analysis

Table 4. 13 Regression Model Summary on Characteristics of construction bids and contractor's response

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.784 ^a	0.614	0.610	0.34051
a. Predictors: (Constant), To characterise the local government construction bids.				

The findings above revealed that Characteristics of construction bids predict or affect contractor's response to LG bids in Uganda up to 61% and the remaining percentage being explained by other factors. This therefore means that Characteristics of construction bids influence contractor's response to LG bids in Uganda.

Table 4. 14 Regression model summary on factors and contractor's response to LG bids

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.879 ^a	0.773	0.770	0.26138
a. Predictors: (Constant), To assess factors influencing contractor's response to LG bids.				

Factors (capacity, time and contract type) and contractor's response to LG bids

The R square value of 0.773 indicates that 77.3 % variance in bid response is explained by the factors which affect contractors bidding decision like (capacity, time and contract type).

a) Output on multiple regression analysis on Characteristics of construction bids, Factors and contractor's response to LG bids

Table 4. 15 Multiple Regression Model Summary on Characteristics of construction bids, Factors and contractor's response to LG bids

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.916 ^a	0.839	0.835	0.22138
a. Predictors: (Constant), To characterize the local government construction bids. To assess factors influencing contractor's response to LG bids.				

The findings above revealed that Characteristics of construction bids and Factors (capacity, time and contract type) predict or affect contractor's response to LG bids in Uganda up to 83.9% and the remaining percentage being explained by other factors. This therefore means that Characteristics of construction bids and Factors (capacity, time and contract type) affect contractor's response to LG bids in Uganda.

Significance analysis

Table 4. 16 Multiple regression analysis on characteristics of construction bids, factors and contractor's response to LG bids.

Model		Unstandardized Coefficients		Standardized Coefficients	P-value
		B	Std. Error	Beta	
1	(Constant)	4.531	1.534		0.000
	Factors influencing contractor's response to LG bids	0.154	0.339	0.322	0.001
	Characterize the local government construction bids	0.545	0.045	0.243	0.004

Findings portrayed in Table 4.16 show that $\beta = 0.154$ implying that a unit increase in factors influencing contractor's response to LG bids will lead to 15.5% increase in Local Government construction bids. It was found out that this is significant since the probability value (0.001) is less than confidence level of 0.05. This analysis implies that Characteristics of construction bids and Factors affecting contractors' response like capacity, time and contract type have a significant influence on contractor's response to LG bids in Mbarara, Isingiro, Bushenyi, and Sheema districts.

The results in Table 4.16 also shows that $\beta = 0.545$ implying that a unit increase in favourable Characteristics of the local government construction bids will lead to 54.5% increases Local Government construction bids. The results also show that this is

significant since the probability value (0.004) is less than confidence level of 0.05. This implies that contractor's response to LG bids in Mbarara, Isingiro, Bushenyi, and Sheema districts is mostly influenced by Characteristics of construction bids like amount of bid security and title of bid/subject of procurement.

4.5.3 Proposed Decision Model

Drawing from the information obtained from field data, the researcher was able to come up with a model that when adopted is anticipated to improve the local governments bidding process and the quality of construction projects thereof. Bidding decision model was designed for proficient bidding to attract many contractors to bid for construction projects in Uganda. The following parameters are put into consideration:

- Deciding on whether to bid or not.
- Identifying and assessing the key factors influencing the bid decision as mentioned below;

4.5.3.1 Contractors' Capacity X_{1i}

X_{11} = Contractor's reputation

X_{12} = experience

X_{13} = the need for specialized equipment

X_{14} = profit made in the past

X_{15} = tender selection criteria

4.5.3.2 Time X_{2i}

X_{21} = project time frame

X_{22} = time to prepare the offer

X_{23} = need for work by client

4.5.3.3 Contract Type X_{3i}

X_{31} = contractual conditions

X_{32} = project value

X_{33} = size of the project

X_{34} = project location

X_{35} = the degree of difficult the work.

Assumptions

Based on the one-on-one interactions and survey results, the success and failure of winning can be seen in Table 4.17. Factors are listed and assigned with number 1 or 0. 1 represents or is equal to W (favourable factor for a win and gain), and 0 represents or is equal to L (non-favourable leading to a loss). W is for factors where by the experience of the contractor, he is expected to win the bid and L is expected to lose.

Table 4. 17 Success/failure for the variable s

Factors / variables	Success	Failure
Capacity X_{1i}		
X ₁₁ = Contractor's reputation	1	
X ₁₂ = experience	1	
X ₁₃ = the need for specialized equipment		0
X ₁₄ = profit made in the past	1	
X ₁₅ = tender selection criteria		0
Time X_{2i}		
X ₂₁ = project time frame	1	
X ₂₂ = time to prepare the offer		0
X ₂₃ = need for work by client	1	
Type of contract X_{3i}		
X ₃₁ = contractual conditions	1	
X ₃₂ = project value	1	
X ₃₃ = size of the project	1	
X ₃₄ = project location		0
X ₃₅ = the degree of difficult the work.		0
Total scores	8	5

Probability to win (w)

$$P(W) = \frac{n(w)}{n(s)} = \frac{n(\text{scores in } w)}{n(\text{sample space})} \dots \dots \dots \text{Equation 4. 1}$$

$$P(w) = \frac{8}{13}$$

$$\underline{= 0.62} \dots\dots\dots\text{Answer 1}$$

Substitute Answer 1 in Equation 4. 2

$$P(L) = 1 - P(w) \dots\dots\dots\text{Equation 4. 2}$$

$$= 1 - 0.62$$

$$\underline{= 0.38} \dots\dots\dots\text{Answer 2}$$

Then compute the probability of a gain in a contract

$$\text{From } f(x, p) = \begin{cases} p^x q^{1-x}, & x = 0, 1 \\ 0 & \text{otherwise} \end{cases} \dots\dots\dots\text{Equation 4. 3}$$

Substitute Answer 1 and Answer 2 in Equation 4. 3

$$P(X=1) = 0.62^1 * 0.38^{1-1}$$

$$= 0.62 * 0.38^0$$

$$\underline{= 0.62} \dots\dots\dots\text{Answer 2}$$

$$E(X) = 1(0.62^1 * 0.38^{1-1}) + 0(0.62^0 * 0.38^{1-0})$$

$$= 0.62 + 0$$

$$\underline{= 0.62} \dots\dots\dots\text{Answer 3}$$

Decision to bid or not to bid.

$$\text{If } P(W=1) = P(X=1) \geq 0.62 \text{ or } 62\%$$

Then the contractor should be bid to win the contract since he or she is likely to have a better gain margin. On the other hand,

$$\text{If the } P(w=1) = P(X=1) < 0.62 \text{ or } 62\%$$

Then the contractor is at a better stand or chance if he or she does not bid to win a contract. A logical or flow chart of the proposed developed decision model is presented in Figure 4.4.

Proposed Logic Model or Flow chart

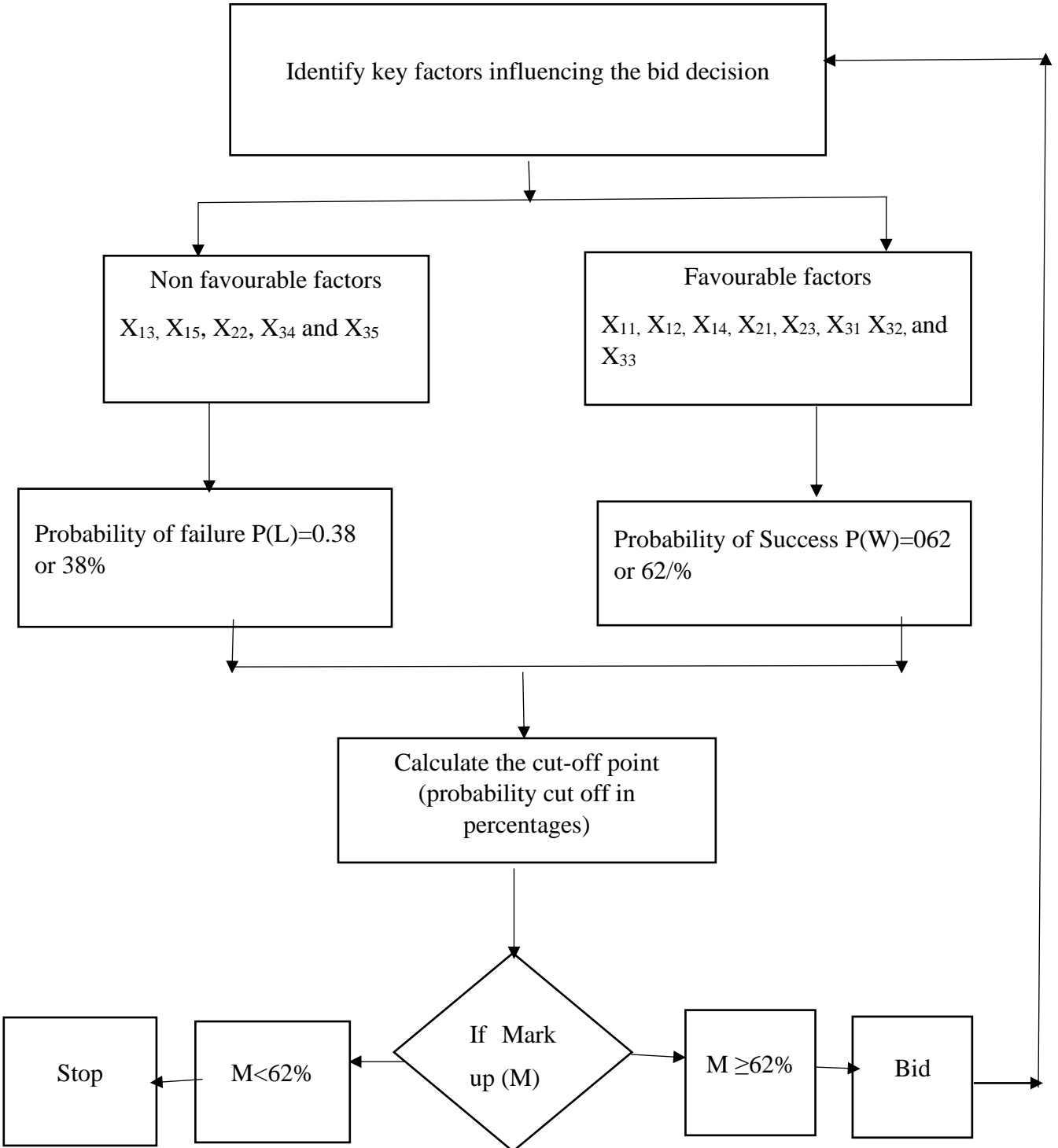


Figure 4. 4 Proposed Logical model or flow chart

4.5.4 A framework that can be adopted by the district in improving bidding in local government

Whereas the main factor that affects local government construction bids is a high bid security, other factors like contract type and time have a positive correction between them and response to local construction bids. There is a decreasing response rate of contractors responding to local government construction bid. This can be resolved. Current framework in the PPDA provides that politicians should stop at the level of making laws and acts regarding the process. However, their input is quite necessary even during the bidding process. Bidding process should therefore involve them as necessary stakeholders. Their input in the bidding process will be so helpful hence attracting confidence of bidders. Once this is done, there is a great likelihood that there will higher response of contractors to bid for works as shown in Figure 4.5.

Proposed Bid Process Framework

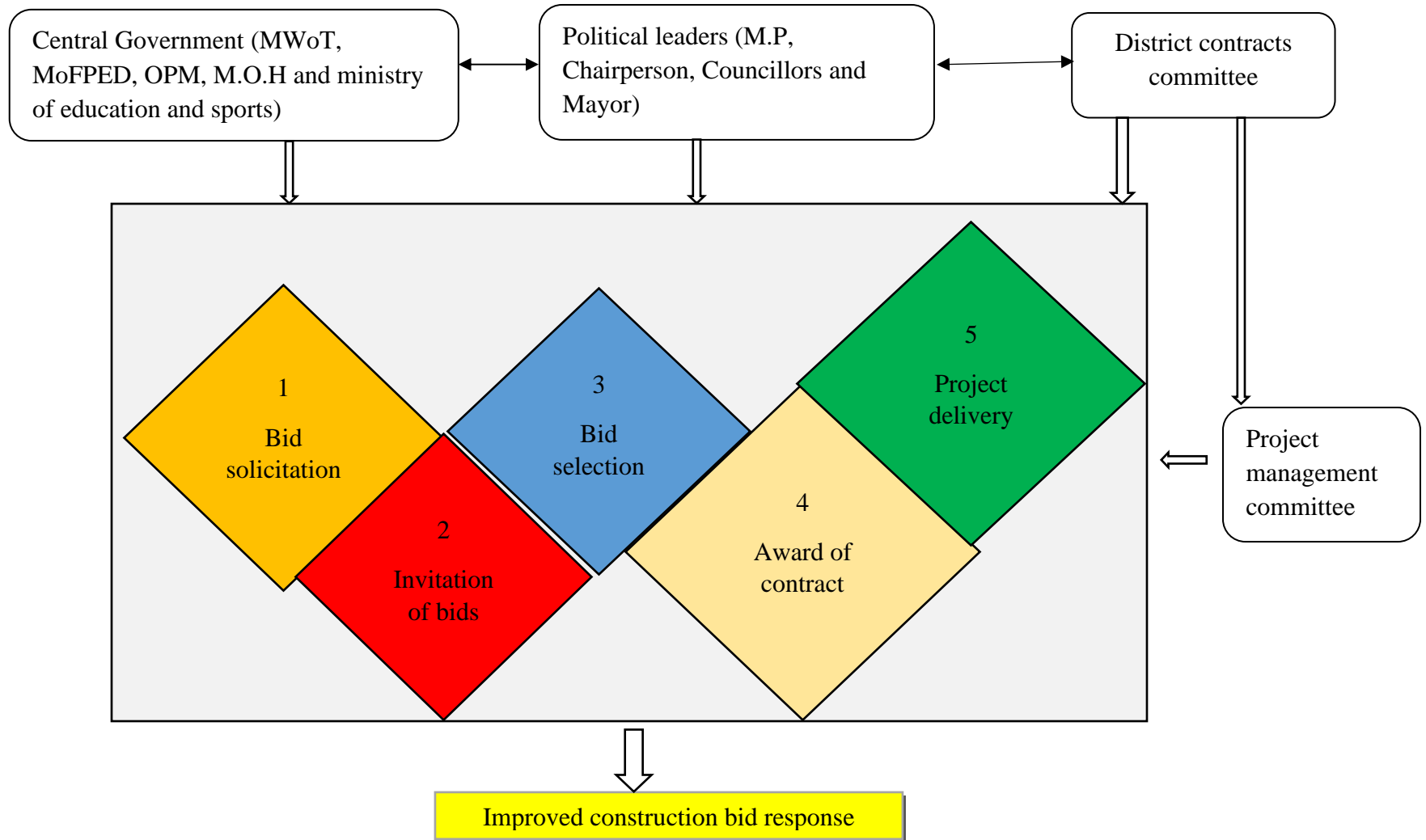


Figure 4.5 Developed framework for improving construction bids in local government

4.5.4.1 Bid Solicitation

The bid solicitation usually takes the form of either a Request for Information (RFI), a Request for Quotation (RFQ) or a Request for Proposal (RFP). An RFI is used to gather more information from the market prior to sending out bid documents to a set of selected vendors. An RFQ focuses on price. The product, service, and/or materials are well-defined and can be obtained from several sources. The bidder that can meet the project quality and schedule requirements usually wins the contract by quoting the lowest price. An RFP is issued when the project team does not know the required solution. The RFP is intended to solicit ideas on how to fulfill the project's objective with specific solutions. This approach is used in construction projects utilizing the predictive (waterfall) and adaptive (agile) methodology.

4.5.4.2 Invitation for Bid (IFB)

This is where some companies utilize an invitation for bid (IFB) process where only selected companies are allowed to bid. Either all or part of the companies on the buyer's preferred contractor list may be allowed to bid. IFBs are used in sealed bidding procurements for government agencies. These IFBs contain all the necessary technical documents, specifications, and drawings needed for a bidder to develop a priced offer. In sealed bid procurement, there are no discussions or negotiations and the contract is always awarded to the lowest acceptable offer using a firm fixed-priced contract.

4.5.4.3 Bid Selection

This is where contract award committee selects the bid that offers the lowest price since it is a rule set by the government to prevent biases in awarding contracts. If it's

a private project then factors such as insurances, equipment costs, qualifications and delivery methods should be looked into before you decide.

4.5.4.4 Awarding the Contract

After the district contract committee has selected the bidder that provides the best value for the project, a project representative reviews the contract terms with the successful vendor. Depending on the nature of the product/service to be purchased, some negotiation may occur. Negotiation typically does not occur on less complex awards, such as contracts for standard office supplies. More complex projects require a detailed discussion of the goals, the potential barriers to accomplishing those goals, the project schedule and critical dates, the processes for resolving conflicts and improving work processes, and any penalty clauses. Contracts have a penalty clause if the work is not performed according to the contract.

4.5.4.5 Project Delivery

In simplest terms, project delivery refers to the phases a construction project goes through until it reaches completion. The Project delivery institute defines a project delivery system as the structure of the parties' relationships, the roles and responsibilities of the parties and the general sequence of activities required to complete a bidding process.

4.6 Summary of findings

Specific objective one: Construction bids in Uganda are characterised by presentation of obligatory legal documents that aid in carrying out due diligence i.e. National Security Fund (NSSF) certificate, income clearance, Powers of Antony, Certificate of

incorporation, bills of quantities, bank guarantee obtained from your bank, high security bids. Obtaining bid security from the collaborating partners is usually easy, some contractors are not able to bid because of high bid security. Furthermore, although the bid title always communicates the work to be done and therefore cannot be used as an excuse by contractors while bidding for work. The analysis also revealed a positive, strong relationship between Characteristics of construction bids and contractor's response to LG bids in Uganda. The findings agree that huge financial capacity is necessary for bidding (Bagaya and Song, 2016) and (Akalp and Ozbek, 2016)

Specific objective two: The findings determined and assessed three major factors contract type, time and capacity that influence contractor's response to bids. It was revealed that most contractors cannot bid because of the amount of the bid security. It also revealed that contract type does not affect the bid response. The study also revealed that contractors are sensitive to project host communities' cultural norms of values in the bidding process. There is a moderate positive relationship between Factors (capacity and time and contract type) and contractor's response to LG bids. The findings agree with that of (Bagaya & Song, 2016) and (Akalp and Ozbek, 2016) who agree that financial incapacity of contractors hinders them from bidding.

Specific objective three: based on findings for specific objective one and two, a bidding decision model and framework was designed for proficient bidding to attract contractors in construction projects in Uganda.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

While the previous chapter four of this dissertation presented and discussed the study findings, this final chapter concludes the issues presented and ends with policy implications and areas for further study.

5.2 Conclusions

Objective one: In light of the study findings, this study concludes that bidding process remains critical in managing successful construction projects in local government entities. The study also concludes that standard construction bids in Uganda are mainly characterised by high bid security. There's a strong positive relationship between these characteristics especially high bid security and contractor's response to construction bids. This is in line with the fact that huge financial capacity is necessary for bidding (Bagaya and Song, 2016) and (Akalp and Ozbek, 2016).

Objective Two: Since there is a very high amount of bid security, most contractors cannot bid because of that. The analysis also revealed a positive, strong relationship between Characteristics of construction bids and contractor's response to LG bids in Uganda, and a moderate positive relationship between Factors (capacity and time and contract type) and contractor's response to LG bids. Favourable contract terms like affordable bid security can enhance more participation from contractors to bid. Adapting management processes, adjusting bid requirements, and addressing financial constraints can create a more effective and inclusive bidding process. Advanced

payment policy, clear contract documents and drawings as proposed before are some things that should be (Enshassi, et al., 2010).

Objective Three: Most contractors do not have a logical basis to base on to solicit for bids. Contractors faced with a bid or no bid situation should therefore adopt a systematic system to follow to increase their chances of winning bids. This however is not usually done by most contractors which is in agreement with a research done which revealed that a small number of 5 out of 20 contractors in Australia use a mathematical model to determine a bid or no bid decision (Urquhart & Whyte, 2016). Additionally, a framework developed has been proposed by the author to solve challenges in the bidding process in the local government construction bids. It highlights the relationships by various parties engaged in the process and provide a harmonized solution to any challenges. All key stakeholders like politicians should be involved not only in the formulating of laws but also in the bidding process.

5.3 Limitations of the study

The study was limited to responses in the stated time frame in chapter one. This however is subject to change overtime. The findings were limited to the districts under study therefore in case other studies are to be done in other regions, comparisons need to be made. Furthermore, the study acknowledges that the model and framework proposed have not been tested and proved. They were simply the authors proposal based on the findings of the research.

5.4 Recommendations

Specific objective one: Market analysis should be conducted to understand contractors' capabilities and preferences: Carry out a comprehensive market analysis to gain insights into contractors' capabilities, preferences, and areas of expertise.

The local governments should from time to time review the impact of bid security measures, particularly cash requirements, on contractor participation in local government construction bids. They should also consider adjusting the bid security required to ensure it is reasonable and aligns with the project's scale and complexity, motivating more contractors to submit bids.

Mechanisms of investing in capacity building and training programs should be prioritised. Allocate resources to capacity-building programs and training sessions that enhance contractors' knowledge and skills in bidding processes, contract management, project execution, and quality and safety standards compliance. The government can increase its confidence and competence by equipping contractors with the necessary capabilities, leading to improved bid responses.

Specific Objective Two: There is need to enhance communication and outreach to contractors for better outcomes. Organize pre-bid meetings or site visits to foster transparency and understanding of projects. Improved communication will foster trust, encourage contractor engagement, and lead to increased bid submissions.

Specific objective Three: Overall, there should be regular performance evaluations and provide feedback to minimise accumulating gaps. Establish a system for regular performance evaluations of contractors during project execution. Provide constructive feedback to contractors, highlighting areas of improvement or strengths in their bids.

Literally, sharing lessons from past experiment will contribute to continuous improvement and encourage contractors' active engagement in future bids.

Regular review and update policies to improve contractor response to local government bids: Conduct a thorough review of existing policies governing local government bids and update them as necessary to ensure they are relevant and cost-effective. Consider incorporating measures that address factors influencing contractor response, such as simplifying bidding procedures, providing clear bid documentation, and fostering effective communication, thereby increasing contractor interest and participation.

5.5 Areas for further study

More research is needed to assess the effectiveness of bid evaluation criteria and decision-making models in attracting contractors and ensuring fair and transparent selection processes. Comparative studies can be conducted to analyse the efficiency and outcomes of different evaluation methodologies. Furthermore, similar studies should be conducted in other regions of the country to test the proficiency of the proposed model.

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APPENDICES

Appendix A: Questionnaire



QUESTIONNAIRE FOR FACTORS AFFECTING CONTRACTORS' RESPONSE TO LOCAL GOVERNMENT CONSTRUCTION BIDS IN UGANDA

The following questionnaire is for a research titled “Factors Affecting Contractors’ Response to Local Government Construction Bids in Uganda”. This is research leading to the award of a **Master’s of Science Degree in Construction Technology and Management of Kyambogo University**. The purpose of this study is purely academic and confidential. You are humbly requested to freely express your opinion on each of the issues raised as objectively as possible. Your positive and quick response will be highly appreciated. Thank you for your cooperation.

Yours faithfully

.....

BAFAKI GILVAZIO

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Respondents' Consent

1. Do you agree to participate in this research questionnaire?

Yes No

2. If Yes, continue with the survey, if no, stop.

Section A: Respondent's Bio-Data. (Please Briefly Describe Yourself Below);

A.1 Gender?

Male Female

A.2 Age Bracket?

18-30 yrs 31-59 yrs >60 yrs

A.3 What is your profession?

Engineer Technician Accountant Statistician Economist

A.4 Highest qualification

University PHD Master's Degree Diploma Certificate

Others.....

A.5 Company Type?

Contractor Consultancy Free-lance Gov't Agency Others

.....

A.6 Position held in company/district?

Director Structural Eng. Site Eng. Clerk of works

Inspector of works Others.....

A.7 Personal Experience in the construction Industry?

<3 years 3-5 years 6-10 years 11-20 years 21 and above

Section B: Question on knowledge of local government bids

B.1 Which type of bids do you know?

Open Selective Others

B.2 Have you heard about bid security?

Yes No

B.3 Are some contractors not able to bid because of bid security?

Yes No Not sure

Section C: To characterise the local government construction bid. For each of the following statements, please tick where applicable the extent to which you agree using the Likert Scale.

SA = Strongly Agree (5); A = Agree (4); NS = Not Sure (3); D= Disagree (3); SD = Strongly Disagree (1)

S/N	Statement	Response				
		SA	A	NS	D	SD
C.1	Some contractors are not able to bid because of amount of the bid security					
C.2	Bid security are usually asked in form of Bank guarantee					
C.3	Bid security in form of cash allows many contractors to participate in bidding					
C.4	Bid security in form of Bank guarantee hinders many contractors to participate in bidding					
C.5	Some bidding processes usually attract the bid security					
C.6	The bid title always communicates the work to be done					
C.7	Formulation of Bills of quantities is always based on the title of the bid					
C.8	Most contractors usually misinterpret title of the bids hence submitting wrong bid documents					
C.9	The process of obtaining a bid security from the collaborating partners is usually easy					
C.10	The bid security options available are sufficient enough for the bidder to explore a favourable option.					

Section D: To assess factors influencing contractor's response to LG bids

SA = Strongly Agree (5); A = Agree (4); NS = Not Sure (3); D= Disagree (3); SD = Strongly Disagree (1)

S/N	Statement	Response				
		SA	A	NS	D	SD
D.1	Bid documents are always submitted on time					
D.2	Submission time is always adequate for contractors					
D.3	Bidders always have the knowledge to organise bid documents according to the terms of the reference					
D.4	The contract type negatively influences the response to bids					
D.5	The bidding process usually involves a lot of costs which affect bidder's capacity to submit the bid					
D.6	The season of the year is a major hindering factor in bidder's response to bidding					
D.7	The steps followed to prepare a bid document are simple					
D.8	The statutory requirements asked during the bidding process act as a hindrance					
D.9	Contractors are sensitive to the cultural norms of value of project host communities in the bidding process					

Section E: Contractors' response to LG bids

SA = Strongly Agree (5); A = Agree (4); NS = Not Sure (3); D= Disagree (3); SD = Strongly Disagree (1)

S/N	Statement	Response				
		SA	A	NS	D	SD
E.1	Contractors' response is always low when the amount of bid security is high					
E.2	Contractors' response is always low when the bidders' capacity is low					
E.3	Bidders' response is always moderate when the season is favourable					
E.4	Contractors' response is always high when the amount of bid security is low					
E.5	Bidders' response is always moderate when the season is favourable					
E.6	Bidders response is always high when the contractors are knowledgeable about the bidding process					

Appendix B: Interview Guide



INTERVIEW GUIDE FOR FACTORS AFFECTING CONTRACTORS’ RESPONSE TO LOCAL GOVERNMENT CONSTRUCTION BIDS IN UGANDA

The following interview guide is for a research titled “Factors Affecting Contractors’ Response to Local Government Construction Bids in Uganda”. This is research leading to the award of a **Master’s of Science Degree in Construction Technology and Management of Kyambogo University**. The purpose of this study is purely academic and confidential. You are humbly requested to freely express your opinion on each of the issues raised as objectively as possible. Your positive and quick response will be highly appreciated. Thank you for your cooperation. **BAFAKI GILVAZIO (0772947699/0701947699)**.

Yours faithfully

.....

BAFAKI GILVAZIO

0772947699/0701947699

bafakigilver@yahoo.com

Respondents' Consent

1. Do you agree to participate in this research interview?
 - a) Yes
 - b) No

Section A: Questions related to the interviewee

1. Could you share with me some of the information concerning yourself
 - a. Age
 - b. Education level
 - c. Position held
 - d. Marital status

Section B: Questions related to bidding procedures and compiling bid documents

1. In your understanding, what can you say about construction bidding process in local government (Call for bidding, bid evaluation, award of contract, response to bids, receipt of bid documents, Inception report)
2. How do you get information about bids?
3. Is the information often from no (2) above sufficient to disseminate information to all interested bidders? If No, can others such as social media be used to improve on communication?
4. In which of the following bidding process have you been involved in? (Buying the bid document, preparing, submission, opening, and evaluation)
5. In Your words, what steps are followed in evaluation of bid documents (what do they consider to evaluate a bid?)
6. Have you ever been selected as a successful bidder for a contract (if yes, what did they consider?)

7. Basing on what is involved in the bid evaluation stage, how do they impact on contract cost variations?
8. Have you ever been involved in the bid evaluation stage in your district (if yes, please share with me what is involved in this phase)
9. Are there any challenges in the bid management process? If any, please share
10. Can you suggest the best practices for enhancing better bid process management in your district?
11. What else can you share with me in relation to the choice of a bidder and contract cost variations in local government?

Section C: Questions related to fiscal policies

1. What eligibility compliancy guidelines do you know as far as bidding process is concerned?
2. Are they in any way affecting the bidding process?
3. If yes how are they affecting the bidding process?
4. Do you think such policies are hindering contractors from bidding for works?
5. If yes, how can they be modified to enable as many contractors who may want to bid for works?

Section D: Questions related to bureaucracy tendencies

1. Is the bidding process bureaucratic?
2. If yes, what do you think causes the process to be bureaucratic?
3. Can you suggest ways in which it can be mitigated?
4. Do you think some contractors don't participate in the bidding because of bureaucracy?

Section E: Questions related to competition

1. Is the bidding process competitive in your district?
2. If yes, in your opinion what level of competition is it? High, low, moderate?
3. Do you think the level of competition has any effect on the tender price?
4. Why do you think so?
5. Do you think the number of contractors bidding for work is affected by the competition anticipated?

End of Interview: Thank you for your time and cooperation

Appendix C: Sample Size Determination Table

Sample size distribution table is shown in Table A. 1.

Table A. 1 Sample size distribution table

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie and Morgan (1970)