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Joseph, Shati

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EMERGING CONTRACTOR DEVELOPMENT THROUGH THE PROVISION OF LOW-COST HOUSING IN THE EASTERN CAPE

Shati Joseph

2612879

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at the University of Witwatersrand, Johannesburg

Supervisor: Professor Anne Fitchett

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Declaration by Candidate

I, **Shati Joseph,** hereby declare that:

This work has not been previously accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

This treatise is being submitted in partial fulfilment of the requirements for the degree of Master of Science.

This dissertation is the result of my independent work and investigation, except otherwise stated. Other sources are acknowledged by complete referencing. A reference list is attached.



Acknowledgements

In their wisdom, our elders opined that it took a village to raise a child. Indeed, it took a ‘village’ to complete this dissertation. Among, the villagers, I would like to acknowledge and express gratitude to my supervisor Prof. Anne Fitchett whose subject expertise, unwavering support and encouragement aided significantly in seeing this dissertation through. Her commendable commitment to see this through evidenced by her willingness to work beyond her retirement eased the seemingly unbearable workload.

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Abstract

The construction industry is an economic stimulant and enabler of growth particularly in developing nations such as South Africa. The industry's low entry barriers and the nature of work being labour-intensive attract emerging contractors. These contractors create jobs, upskill the community and transfer wealth to the previously marginalised. However, studies have shown that despite these several benefits, emerging contractors are prone to fail. Therefore, this research investigated the challenges facing emerging contractors and in addition, examined the low-cost housing programme. The positivism paradigm was adopted because of the nature of the research questions, its efficiency in the collection of voluminous data, and its perceived credibility by the policymakers. The collated data from 66 out of 173 contractors on the Eastern Cape Department of Human Settlements database were statistically analysed.

The findings showed that most of emerging contractors are typically owned by a black male with a tertiary education, employ less than 20 employees, are capable of work worth less than R20 million and do not have a background in construction. The findings presented that the government was the primary employer of emerging contractors while some rely on subcontracting. Several contractors reported that they spent between 30 to 60 per cent of the contract value on materials. The start-up funds for emerging contractors are largely from family's savings due to limited access to low-interest loans. During operation, the contractors heavily depend on monthly payment certificates to meet their expenses hence the importance of promptly settling these certificates. Emerging contractors receive training, it is largely from unaccredited mentors, which limits the upskilling of these contractors and leads to poor performance. The study then proposed possible initiatives that can employed for a progressive developmental programme based on the findings.

Keywords

Emerging construction contractors, small contractor challenges, low-cost housing programme, contractors' developmental initiative, socio-economic development.

Abbreviations

BBBEE – Broad-Based Black Economic Empowerment

CIDB – Construction Industry Development Board

DoHS – Department of Human Settlements

NHBRC – National Home Builders Registration Council

PPPFA – Preferential Procurement Policy Framework Act

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1 CHAPTER ONE: INTRODUCTION

1.1 Introduction and Background

The construction industry contributed significantly to the nation's economy both in terms of gross domestic investment and employment of semi- and unskilled workers (Ncwadi and Dangalazana, 2005). It generated demand along the construction industry's broad value chain and constructed the efficient infrastructure which facilitated business opportunities. The industry had ripple effects, stimulating activity in other sectors of the economy (Adolwa, 2002) and accenting its significance on the growth of the economy. In 2020, construction in South Africa directly contributed a 2.7% share of the nation's gross domestic product (GDP) and was further expected to stimulate economic growth following the COVID-19-induced contraction (Thwala, 2022).

The sector's majority of general building and civil engineering contractors, the enterprise hereinafter referred to as a contractor, were Small, Medium, and Micro Enterprises (SMMEs) across CIDB grades 2 to 4 (Thwala, 2022) with a capacity to implement projects worth R20 million at most. Small businesses found it easier to venture into the construction industry due to relatively low entry barriers (CIDB, 2015b; Dapaah, Thwala and Musonda, 2017). It is beneficial considering that SMMEs were pivotal to the economic and social growth of developing countries because of the sheer number of generated employment opportunities (Amoah and Bikitsha, 2022). This becomes significant when employment is offered in rural areas, where job opportunities are scarce, to the marginalised, and previously disadvantaged (Saadi and Movahedi, 2014).

The growth of the industry was primarily enabled by government infrastructure development as part of the nation's social responsibility and sustaining economic growth (Thwala, 2022). Therefore, the bigger portion of the construction industry's work in developing nations such as South Africa was funded by the government and fuelled by the demand for social services (Adolwa, 2002; Ncwadi and Dangalazana, 2005). One of the main benefactors of the industry is the low-cost social housing programme that aims to improve society's living conditions through the provision of secure houses. The housing programme championed by the Department of Human Settlements sake to eradicate informal dwellings and support rapid urban migration

(Greyling, 2009). The Department was mandated to reverse the apartheid-influenced settlement patterns inequitably imposed on the marginalised, which resulted in enormous mobility costs between the settlements and the areas of employment (Ncwadi and Dangalazana, 2005). Though the programme's primary objective was to decrease housing shortages, it doubled as a vehicle to develop the technical skills of the previously disadvantaged and provided secure employment to emerging contractors.

The programme provided a suitable opportunity for small businesses to be integrated into the main construction supply chain. It offered a break for women and minorities to participate in the construction industry. According to Himlin, (2005), the programme must carry a specific objective to promote the inclusion of women at least 30 per cent of developing contractors must be women. Moreover, the housing programme was labour-intensive and can be used to emphasise on-the-job training, which upskill the locals. Mashiri, Dube and Chakwizira, (2010) in addition to the intensive on-the-job training posit that a concerted effort must be made to ascertain the use of local materials and equipment. The on-job trained contractors gain invaluable construction experience and enhance their chances to bid for similar projects in the future. The empowering of contractors is a continuous intervention and not limited to labour-only contracts. Therefore, the housing delivery programme must support community involvement, local job creation, and technical skills development (Himlin, 2005), and allow small contractors to develop (Ncwadi and Dangalazana, 2005).

Despite the small contractors' essential contribution to the economy, they were susceptible to both minor financial shock and a shortage of long-term work (Bartik *et al.*, 2020). These factors posed an existential threat that a substantial number of small contractors that found themselves without incoming revenue for a few months never reopened. The situation was exacerbated by the intense competition that led to low-margin projects and fragmented work, particularly in South Africa, where the construction industry was characterised by temporary and insecure employment (Ncwadi and Dangalazana, 2005; Amoah and Bikitsha, 2022). The collapse of small contractors has also been attributed to poor business practices, such as imprudent financial management, the ineptness of technical know-how, and the use of outdated technology (Adolwa, 2002; Mills, Reynolds and Herculano, 2022). The inferior business practices consequently translated to slow delivery, low productivity, poor

workmanship, and less profit margin for the upcoming contractors (Ncwadi and Dangalazana, 2005). This has seen emerging contractors beset with a prevalence of client distrust and dissatisfaction, resulting in reputational damage and loss of massive opportunities from commercial banks (Himlin, 2005; Martin and Root, 2012).

Many emerging contractors had limited access to modern and capital-intensive equipment to efficiently execute the works (Mofokeng and Thwala, 2012). This was aggravated by the lack of financial muscles associated with small construction firms. Additionally, upcoming contractors did not enjoy support from material suppliers partly because of the low-volume purchases and short-term contracts (Ncwadi and Dangalazana, 2005; Al-Mhdawi *et al.*, 2023) compared to the financially sound big construction firms. The failure of small construction businesses was also attributed to the minimal use of professional services such as civil engineering and architectural consultants mainly due to financial constraints and unintentional ignorance (Govender, 2012). Financial constraints stemmed from both a lack of collateral requirements to secure a loan and unreliable income streams worsening the odds of the small contractors' failure (Amoah and Bikitsha, 2022). Fitchett, (2001) adds that the government suspected that the lack of commitment by established contractors to empower the emerging contractors contributed to their failure while the private sector suggested that government policies inhibited the provision of sustainable work. The author postulates that such unfavourable government policies are demonstrated by the provision of market-unrelated low subsidy amounts, which almost solely means that the provision of housing projects was mostly implemented by large contractors relying on economies of scale leaving the emerging contractors vulnerable.

Mills, Reynolds and Herculano, (2022) opine that providing better access to financing at a lower capital cost significantly boosts the sustainability of small businesses. Commercial banks invest expecting a positive return, therefore, only invest in contractors with an accomplished track record (Ncwadi and Dangalazana, 2005). Therefore, emerging contractors must be developed before banks can extend working capital to them. Additionally, improved access to cheaper capital and sustainable long-term work, which increases the success rate of small contractors can be guaranteed through the enactment of SMME-enabling legislation. Bartik *et al.*, (2020) add that such legislation must ascertain the importance of getting the money to contractors quickly and promptly settling the contractors' payment certificates as delays in

payment on an extremely cash-strapped business negatively affect its resilience. Ncwadi and Dangalazana, (2005) add that providing sustainable work, thus long-term and secure, remarkably improves the development of contractors as they can develop a long-term strategy and competitively compete with established construction firms.

The emerging contractors are vital for the sustainability of the nation in addressing the rampaging unemployment, stunted economic growth, and skills development of the marginalised (Ncwadi and Dangalazana, 2005). The housing programme provides a conducive platform to bring emerging contractors to the mainstream hence the need to utilise the programme to develop these contractors. The programme will be examined whether it addresses the identified misgivings in the development of contractors such as limited access to working capital, professional services, equipment, reliable suppliers, delayed payments, and shortage of sustained work opportunities.

1.2 Substantiation of the Problem

The nation is grappling among other things with raging unemployment, an unskilled population, a stagnant economy, inequality, unsustainable urban migration, and inadequate housing. The construction industry offers a partial yet significant cure to these ills, the nation is suffering from. Both directly and indirectly, the industry contributes to the stimulation and health of the economy, affords employment to the unskilled and vulnerable groups, aims to equitably distribute wealth to reduce the wealth disparity, and fulfils the government's social responsibility to provide decent housing to its population.

The sector's contractors are mostly small with a capacity to implement projects of less than R20 million (Thwala, 2022). The emerging contractors generate a large number of employment opportunities which is significant because jobs are created in marginalised areas and for vulnerable groups (Saadi and Movahedi, 2014). The small contractors' lack of capital-intensive equipment means that most of their projects are labour-intensive, emphasising the on-the-job training and upskilling of the locals (Mashiri, Dube and Chakwizira, 2010). The upskilled emerging contractors leverage the gained experience to independently bid for similar but bigger projects in the future. These contractors will then provide the quality infrastructure which stimulates activity in other sectors contributing to the economy's growth (Adolwa, 2002).

Despite the several benefits offered by emerging contractors to both the national economy and social goals, small contractors are prone to failure. Ncwadi and Dangalazana, (2005), suggested that fragmented work opportunities and poor workmanship contribute to the collapse of emerging contractors. Adolwa, (2002) and Fitchett, (2001) add that poor business practices, lack of support from established contractors, and rigid government policies are also contributors to the failure of small contractors. This has motivated the study, cognisant of the enormous contribution of emerging contractors to society both economically and socially, the research seeks to investigate the development of emerging contractors, particularly in the Eastern Cape.

1.3 Problem Statement

Therefore, the research problem to be addressed in this study is:

The emerging contractor's development through the provision of low-cost housing in the Eastern Cape.

The following research objectives and research questions will address the research problem.

1.4 Research Questions

The research questions developed based on the problem statement and research objectives are:

RQ_M: How can the housing programme be used to develop emerging contractors?

The main research question led to the following questions that will have to be answered to address the main question:

RQ_1: What are the challenges faced by emerging contractors?

RQ_2: What are the potential benefits and features of a low-cost housing programme that will make it a successful developmental initiative?

1.5 Research Objectives

The understanding of the development of emerging contractors into independent, reputable, and sustainable contractors can inform government policies on the implementation of construction projects and provide a template for the upcoming contractors.

Main research objective

The study seeks to investigate the challenges facing emerging contractors in the housing programme and determine the possible remedial measures. Therefore, the following main objective was formulated:

i. **RO_M:** To investigate the challenges facing the development of emerging contractors to recommend possible solutions in the building industry.

To fulfil the main objective of the research, the following secondary objectives are framed:

i. **RO_1**: To examine the literature on the contributions and challenges facing emerging contractors.
ii. **RO_2**: To investigate the challenges facing emerging contractors.
iii. **RO_3**: To examine the potential benefits of a low-cost housing programme as a developmental initiative for emerging contractors.

1.6 Methodology

The research methodology, primarily informed by the nature of the problem, refers to the procedural framework within which the research is conducted (Singh and Walwyn, 2017). This section of the study briefly discusses the research paradigm, approach, data collection, and analysis.

1.6.1 Research Paradigm

The study uses the positivist research paradigm to answer the research questions. The paradigm is based on rationalistic (Mackenzie and Knipe, 2006) and reductionistic philosophy to determine the outcomes of a study (Creswell, 2014). The rationale behind adopting the positivism paradigm is its capability to minimise the researcher's bias by allowing the researcher to discover and verify information independently (Krauss, 2005). Additionally, Collis and Hussey, (2014) opine that positivism provides precise data with high reliability. The collected high-reliability data can be statistically analysed, which allows the sample results to be generalised. This means that the results of the study can be applied to other emerging contractors' programmes with similar contexts.

1.6.2 Research Approach

The research approach is the process of the research, thus research methods, data collection, and analysis methods (Creswell, 2014). Therefore, for a positivist study, which requires a large sample the study will utilise a self-administered questionnaire to collect quantitative data. The questionnaire, a reliable research tool that can easily access a large number of participants, is cost-effective, uncomplicated to administer, and less time-consuming (Collis and Hussey, 2014; Cassim, 2017). Additionally, this quantitative approach assists in collecting systematic data to address the research objectives. This research approach is free from the researcher's bias therefore data collected are objective and can be extrapolated with specific confidence (Cassim, 2017). The findings of the research can be generalised to all emerging contractors in South Africa.

1.6.3 Sampling Design

The target population is emerging contractors with CIDB grading 1-6 CE/GB involved in the provision of housing in the Eastern Cape. The population is relatively small, so a sizable representative sample of the population was selected to minimise the sampling error (Cassim, 2017). The researcher used a convenience sampling method thus selecting participants based on the available information. This according to Collis and Hussey, (2014), adds to the representativeness of the findings, which is critical in generalising the sample results to the population.

The study obtained the database of emerging contractors from the Eastern Cape Department of Human Settlements (DoHS) as a data set representative of the emerging contractors. The researcher sent out the online questionnaire to a representative number of contractors. This purposive sampling is economical and timesaving yet representative.

1.6.4 Data Collection

The study used an online closed-ended questionnaire to obtain responses from the target population. Previous similar studies were used to operationalise the questionnaire to ascertain its relevance (Cassim, 2017). The questionnaire briefly explained the purpose of the study, the anonymity of the respondents, and the ethical approval of the research. Thereafter, precise instructions detailed the procedure of responding to the questions to encourage participants to respond (Collis and Hussey,

2014). The questionnaire commenced with the general questions to cover the demographics moving to the specific contractor development inquiries. The specific questions included a 5-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree. The link to the questionnaire was sent to all emerging contractors in the EC DoHS database to counter the risk of low-response rate. The researcher sent a follow-up email to the contractors to reduce the risks of questionnaire fatigue and non-response bias.

The self-administered closed-ended questionnaire the selection was influenced by the fact that emerging contractors communicate contractual matters with clients through emails, which means they have access to the Internet to respond to the questionnaire. Therefore, the questionnaire can effortlessly and rapidly reach a large sample. The online questionnaire maintains the participants' anonymity to lessen sampling error due to biased communication (Cassim, 2017). An online application, QuestionPro was used to administer the questionnaire to maintain the respondents' anonymity. The obtained responses, unlike those of hardcopy questionnaires, can be easily imported into statistics software for analysis. This is essential considering that the research period is lean.

1.6.5 Data Analysis

The collected primary data was statistically analysed using statistical software. The results were evaluated of the response bias by comparing the respondents and non-respondents (Creswell, 2014). The analysed data was summarised to deduce the descriptive statistics, which include measures of central tendency and dispersion of data. Descriptive statistics are critical in describing the behaviour of random variables and mapping patterns of the collected data (Wegner, 2014).

Inferential statistics were employed to assess the validity and reliability of the questionnaire. The validity of a questionnaire refers to the degree of accuracy of data obtained from a sample (Cassim, 2017). The research used exploratory factor analysis to assess the validity of the independent variables. The reliability of a questionnaire alludes to the consistency of the instrument (Collis and Hussey, 2014). The reliability is improved by minimising sampling bias and sampling error (Cassim, 2017). Cronbach's alpha coefficients were used to assess the reliability of the questions. The statistically significant relationships between variables were evaluated at a 95%

confidence level using both the *t*-test and Pearson's correlation. This allowed the findings to be generalised beyond the study sample to a larger population.

1.6.6 Reporting or Synthesis

The analysed data was reported partly in the form of visual representations thus graphs, charts, and tables. Visual representations assist the reader in processing the results much easier (Cassim, 2017). The tables, graphs, and charts present statistically significant differences amongst the data groups and the level of significance. This shows whether the observed results reflect a relationship other than chance (Creswell, 2014).

The inferential statistics' supporting tests such as the p-values or F-values were used to report on the remaining analysed data. The statistics estimate parameters to establish any inferences about the research questions based on the collected data. This according to Creswell, (2014) establishes patterns found in the population from which the sample was drawn. The patterns were discussed to evaluate whether the research questions have been answered. The results' possible practical and significant consequences are considered to formulate recommendations on the development of emerging contractors and possible future research topics.

1.7 Limitations, Delimitations and Assumptions.

The research is limited to contractors plying their trade in the Eastern Cape and in the low-cost housing programme. The limitation was imposed due to both time and financial constraints. However, Ncwadi and Dangalazana, (2005) postulate that the challenges faced by South African emerging contractors are generally universal. Therefore, though the study is limited to the Eastern Cape contractors in the housing sector, the findings can be generalised to the population of small contractors in South Africa. Furthermore, the study was limited to only contractors due to time constraints, other stakeholders such as the professional teams, the funder and the regulator must be involved in the future. The study uses an online closed-ended questionnaire as an instrument to collect primary data. The questionnaire is devoid of interface interaction, which could cause a loss of meaning because of the missing non-verbal cues (Hesse-Biber and Griffin, 2013). This is exacerbated by the adoption of positivism instead of a qualitative method that could offer richer insights into the industry practice (Ehwi *et al.*, 2022) and contribute to generating theories (Amaratunga *et al.*, 2002).

Furthermore, other methods such as project-based case studies should be considered to complement the research. The researcher recommends similar future studies to be conducted using interface data collection instruments to effectively understand the significance that participants attach to actions, which owing to time constraints could not be done during the current study. The results will be compared with the current study's findings for any significant differences.

In addition, the study could be biased towards the mainstream views without considering the nuances of the groups who form the sample because of the limited shared experience between the researcher and the researched (Lewis *et al.*, 2023). The research is inclusive and void of stereotypical assumptions, identifying and managing any bias and ascertaining that the ethical research is underlined by the notion of respect and beneficence to minimise bias. Further to the stated limitations, the study risks experiencing a low response rate associated with the use of a questionnaire (Amaratunga *et al.*, 2002). The researcher sent the respondents a reminder to respond to the questionnaire and the questionnaire were sent out to several emerging contractors to counter the risk. The research is cross-sectional limiting the findings to the current economic and social environment, should the business environment considerably change the findings may vary. Therefore, the study recommends that future longitudinal studies be done on similar research. The study assumes that external factors such as the war in Russia did not have an impact on the research.

1.8 Research Structure

The research report is structured as follows:

Chapter 1 – Introduction

This chapter enunciates the significance of emerging contractors hence the need for the research. The highlighted problem statement led to the formulation of the research objectives to answer the set research questions. The chapter surveyed the available literature on the development of emerging contractors and identified the gaps the study seeks to close within the existing literature. This will be achieved, amongst others, through the collection and analysis of data. The chapter briefly describes the methodology to be employed by the research. The research will be conducted

cognisant of the moral and ethical concepts in adherence to the university's ethical policies. The chapter concludes with a presentation of the dissertation's structure.

Chapter 2 – Literature Review

The literature review examines the peer-reviewed journals and conference proceedings on the definition and contributions of emerging contractors. The chapter investigates the challenges facing new contractors, particularly in resource-constrained nations. As part of the research, it will explore the use of low-cost housing programmes as an initiative to enhance the development of small contractors. The research will identify possible measures that can be put in place to ensure the low-cost housing programme is an effective developmental initiative.

Chapter 3 – Research Design and Methodology

The chapter will investigate the research design and methodology used in this research. The rationale of the adopted methodology and justification of exclusions will be examined in this chapter. The research paradigm, sampling and data collection instrument will be discussed in detail. This will include determining how the methodology will be used to achieve the research objectives and address the research questions.

Chapter 4 – Results and Analysis

Data collected using the online questionnaire will be analysed using statistical techniques. The statistics parameters, thus both descriptive and inferential statistics, will be described in this chapter. The reliability and validity of the research data will be scrutinised and presented in this chapter. The findings will either be linked to the existing literature or added to the existing body of knowledge.

Chapter 5 – Discussion of Findings.

The findings of the research are summarised in this chapter. The chapter will report on both statistically significant and insignificant findings that will be identified by emerging contractors as barriers to their development.

Chapter 6 – Conclusion and Recommendations

Predicated on the findings and existing literature, the research will frame several recommendations that can be adopted by the construction industry to enhance the

development of emerging contractors into self-reliant contractors. The chapter will highlight the research limitations and propose future areas of research.

1.9 Summary

The chapter introduced the topic and laid out the background emphasising the significance of emerging contractors to both the economy and the fulfilment of the nation's social goals. The introductory chapter briefly considered challenges facing upcoming contractors and possible measures that can be implemented to enhance the development of contractors. Chapter 1 then sets out the research questions stemming from the problem statement. Thereafter, research objectives, both main and secondary, were formulated to respond to the research questions. To achieve the research objectives, the research will employ a specific methodology, which was briefly outlined in this chapter. The methodology covered the research paradigm, approach, and sampling design before discussing the data collection method. The data collection method examined the research instrument, data analysis, and reporting of collected data.

The study examined the possible research limitations and where practical, it proposed possible delimitation measures. The research will adhere to the ethical requirements of the university and will be carried out following the approved ethical clearance. The chapter concludes with the research structure.

The following chapter will conduct an in-depth literature study examining challenges facing emerging contractors, the implications of the challenges, and the possible remedial measures to enhance the development of contractors. The chapter will investigate the development of contractors in the low-cost housing programme. The literature review chapter will provide a grounding for the dissertation.

2 CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Small businesses form the backbone of the global economy, providing more than 70 per cent of employment opportunities and over 50 per cent of developing countries' GDP (McKinsey and ILO, 2022). But as the coronavirus pandemic reminded society, emerging businesses are vulnerable, especially in developing nations. In South Africa, where a relatively small number of contractors are ranked high by the CIDB grading is evidence that only a few emerging contractors have sustainably developed into established contractors (Amoah and Bikitsha, 2022). Recognising this, prompted the suggestion that government must create a comprehensive initiative that assists emerging companies to develop and become competitive. However, for the initiative to be effective it is necessary to investigate the challenges impeding the development of the contractors (Ncwadi and Dangalazana, 2005; Sitharam and Hoque, 2016; Al-Mhdawi *et al.*, 2023) before prescribing a developmental programme that will be to a greater extent immune to these challenges.

This chapter will define emerging contractors and examine their significance to socio-economic development, particularly in resource-poor countries. It will investigate both internal and external challenges facing these contractors. The chapter will then explore the low-cost housing programme intending to modify the programme into an emerging contractors' efficient developmental initiative. The chapter is formulated to achieve the objectives **RO_1**, **RO_2** and **RO_3** and in turn, respond to the research questions **RQ_1** and **RQ_2**. The research questions to be answered in this chapter are paired with corresponding objectives as follows:

- **RQ_1**: What are the challenges faced by emerging contractors?

  RO_1: To examine the literature on the contributions and challenges facing emerging contractors.

  RO_2: To investigate the challenges facing emerging contractors.

- **RQ_2:** What are the potential benefits and features of a low-cost housing programme that will make it a successful developmental initiative?

  RO_3: To examine the potential benefits of a low-cost housing programme as a developmental initiative for emerging contractors.

2.2 Emerging Contractors

An emerging contractor is an independent legal entity that adheres to statutory labour practices, is registered with a local revenue collection authority and provides commercial services for profit (Haupt, Hadebe and Akinlolu, 2019). Emerging contractors are relatively small-scale construction businesses with a fragile business structure and limited capital (Amoah and Bikitsha, 2022) making them vulnerable in a competitive marketplace. The small contractors are, according to the National Small Business Amendment Act, 26 of 2003, micro to small enterprises, which require support to develop. Most small contractors have minimal entrepreneurial skills (Sitharam and Hoque, 2016) and little is known about these small contracting firms in terms of their business structure, technical expertise, experience and networks, which militate against the prescription of a suitable development initiative (Martin and Root, 2012).

The vast majority are in the lowest CIDB four grades, with most of them in the lowest grade (Martin and Root, 2012). These contractors that require financial and technical support have a limited share of the market and are mostly managed by owners (Aigbavboa and Thwala, 2014). The survey on CIDB-registered contractors within or below grade 4 revealed that only 45% of them have received any formal construction-related training (Martin and Root, 2012). This leaves the contractors in a precarious position as the limited training and inexperience lead to non-performance and eventually closure of the business.

2.3 Contributions of the Construction Industry

The construction industry drives the global economy, stimulating economic activities, generating employment and fuelling activities in other sectors (Worku, 2016). It drives demand for other goods and services such as building materials and construction equipment, supporting the economy's other sectors (Windapo and Cattell, 2013; Haupt, Hadebe and Akinlolu, 2019; Al-Mhdawi *et al.*, 2023). In developing nations, the industry contributes between 5 and 10 per cent of the nation's GDP (Adolwa, 2002) and employs approximately 7 per cent of the countries' workforce (Al-Mhdawi *et al.*, 2023). Considering that the industry's majority of contractors are small contractors (Thwala, 2022) that tend to favour labour-intensive construction methods (Amoah and Bikitsha, 2022), therefore, it implies that emerging contractors play a vital role in the creation of employment and betterment of livelihoods especially in developing nations.

The upcoming contractors create more job opportunities per component of invested capital than the largely mechanised established contractors (Croswell and McCutcheon, 2001) probably owing to their meagre overheads (Thwala and Phaladi, 2009). Small contractors' labour-absorptive capacity, significant contribution to poverty alleviation and creation of employment have made the emerging contractors a major feature of socio-economic development policies in both developed and developing nations (Ndabeni, 2008). As part of socioeconomic development, emerging contractors make a significant contribution through the employment of the unskilled, development and transfer of modern technology (Windapo and Cattell, 2013). The small contracting companies create significant employment opportunities which contribute to reducing the poverty gap (Haupt, Hadebe and Akinlolu, 2019). These contractors render these contributions despite the shrinking public expenditure (Ndabeni, 2008).

Small contractors offer an environment to develop the technical and business management skills of the locals (Amoah and Bikitsha, 2022). The construction industry through the emerging contractors provides an opportunity for locals to venture into business owing to its minimum entry requirements (Thwala, 2022) and the attractive returns the industry offers (Haupt, Hadebe and Akinlolu, 2019). It avails a vehicle to transfer wealth to the previously disadvantaged and improve the quality of life of the locals through redistributing the productive assets amongst the disadvantaged (Thwala and Phaladi, 2009; Sitharam and Hoque, 2016). In essence, emerging contractors enable the empowerment of the historically disadvantaged as part of transforming the construction industry (Martin and Root, 2012).

The contractors provide a vital service in meeting the infrastructure needs of a rapidly urbanising population and reducing the housing shortage (Al-Mhdawi *et al.*, 2023). These emerging contractors are part of the stakeholders that develop and modernise the infrastructure such as roads and health care facilities to enhance the quality of life. The development of infrastructure has been shown to alleviate poverty and reduce the chances of unruly global unrest (Windapo and Cattell, 2013). Besides its social benefits, the construction of infrastructure improves connectivity, and increases the efficiency of the transportation and communication systems, leading to easy access to markets and opportunities (Al-Mhdawi *et al.*, 2023), particularly in remote areas that are unappealing to large contractors (Thwala and Phaladi, 2009). This translates the

investment efforts into profitable returns bolstering the economy and social development (Windapo and Cattell, 2013). Therefore, the development of emerging contractors must be a priority.

Emerging contractor programmes can be critical in the promotion of women in construction, as was observed in a low-cost housing project in South Africa, where 30 per cent of workers and emerging contractors were local women (Himlin, 2005). Such an opportunity enables women to participate in the construction industry reducing the gender inequity gap. Strong small contractor programmes afford women an opportunity to increase their income and gradually transform the local communities (Ndabeni, 2008).

In recent years, the construction industry has been heavily criticised for its activities that are detrimental to the environment. Its activities, which are adopted by emerging contractors, contribute heavily to unsustainable development (Aghimien, Aigbavboa and Thwala, 2019). However, emerging contractors generate social and economic development and can cause less environmental harm compared to large machinery-dependent contractors (Amoah and Bikitsha, 2022).

2.4 Challenges Facing Emerging Contractors

Notwithstanding the significant economic and social contributions to society, emerging contractors are susceptible to a plethora of challenges. The challenges facing emerging contractors are either related to the construction industry, the limited skills of the funder, the shortage of professionals, the incompetencies of the merging contractor or a combination of all these factors. This section of the study elaborates on these challenges.

2.4.1 Inadequacy of the Industry

Emerging Contractors' Access to Work

One of the biggest challenges facing emerging contractors is intermittent and unsecure work opportunities. Worku, (2016) attributes it to insufficient investments in infrastructural projects, the weak economy in developing nations, and plummeting business confidence compounded by the inefficient government administrative processes. It shrinks the projects leading to established contractors unfairly competing for smaller and fewer projects with emerging contractors (Worku, 2016). Additionally, Windapo and Cattell, (2013) postulate that the shortage of services such as electricity

and piped water disincentivises private investors who would otherwise invest in construction projects. This has been exacerbated by the COVID-19 pandemic, which has had developing nations re-directing construction project funds to curb the spread of the virus (Al-Mhdawi *et al.*, 2023). The outcome is dire because most small businesses cannot survive without consistent revenue-generating work (Dimson *et al.*, 2020). The emerging contractors are financially fragile, with limited resources to buffer even a short period without work (Bartik *et al.*, 2020). The situation is aggravated by a lack of capacity in the public sector, which leads to cumbersome and inefficient funding processes for projects (Windapo and Cattell, 2013). Lack of contract continuity means that the small contractor will either fail or lose the gained competence through lack of practice (Croswell and McCutcheon, 2001).

The construction industry is one of the highest fluctuating industries in developing nations (Fitchett, 2001b) partly because of the depressed public demand and its direct link to the general economy (Mofokeng and Thwala, 2012). Small contracting firms, unlike established contractors that can seek respite through the international market, are subjected to the volatility of work distributions (Thwala and Phaladi, 2009). The volatility of the industry leads to above-average levels of outsourcing and subcontracting to cut the cost of production (CIDB, 2015b). The discontinuity is also accredited to the project-based nature of construction work, which hinders long-term planning (Aigbavboa and Thwala, 2014). The unpredictability has resulted in a significant reduction in work opportunities (Al-Mhdawi *et al.*, 2023). This has seen emerging contractors lured away from the industry after the end of a project owing to a lack of further secure work. The practice undermines the development of emerging contractors as the gained experience, skills and trades are lost (Fitchett, 2001b). It leaves a void within the construction industry, especially in small markets, which unfortunately cannot be filled by established contractors (Al-Mhdawi *et al.*, 2023).

Emerging Contractors' Regulations Issues

Cumbersome regulations and bureaucratic procedures pose a challenge to emerging contractors (Worku, 2016). This is evidenced by the market-unrelated tendering processes riddled with both outdated and irrelevant procedures. The preferential procurement procedures and registering regulations' silence on financial and technical requirements encourage participation by opportunists intensifying unhealthy

competition, which impedes the development and sustainability of emerging contractors (Windapo and Cattell, 2013). The fact that about 95% of all registered contractors fall below CIDB grade 4 with over 50,000 of them in the lowest grade is concerning as it fuels unsustainable competition among emerging contractors and leaves them vulnerable to the whims of the established contractors (Martin and Root, 2012; Aigbavboa and Thwala, 2014; Amoah and Bikitsha, 2021).

Restrictive regulations and militant labour unions have not done the small upcoming contractors any favours. The inefficient labour market is restrictive, particularly for emerging contractors whose business depends on labour (Sitharam and Hoque, 2016). The labour laws, though now a bit more flexible, legally prevent the employment of casual labourers beyond a stipulated period (Croswell and McCutcheon, 2001) complicating the day-to-day operations of emerging contractors. Furthermore, the complex administrative tax laws burden the emerging contractors and use resources that could be allocated towards growing the business. Although admittedly restrictive, some regulations such as the BBBEE and PPPFA Acts facilitated meaningful participation in the economy by small contracting companies through the lowering of entry barriers into the historically white-dominated economy (Martin and Root, 2012). However, both legislations have recently been found to be unlawful. The Constitutional Court on the 16th of February 2022, dismissed the Minister of Finance's appeal against the Supreme Court of Appeal's order, which declared that the PPPFA of 2017 was invalid (Constitutional Court, 2022). The court held that discretionary pre-qualification regulations contradicted the Procurement Act, which requires organs of the state to contract following a system that is equitable, transparent, fair, competitive and cost-effective.

Emerging Contractors' Development Financial Barriers

Most of the new contractors do not own collateral that can be leveraged to access reasonably cheap capital. Construction companies owned by youth and rural people are unlikely to have access to start-up capital (Coetzer and Louw, 2012). This is worsened by the fact that since the 2008 global economic crisis, banks' lending criteria have become more cautious and the capital available for lending shrunk (Windapo and Cattell, 2013). The limited access to protected finance and ignorance of reputable financial institutions that offer cheaper capital (Mills, Reynolds and Herculano, 2022)

have driven emerging contractors to unscrupulous financial agencies that impose excessive interest rates. Sitharam and Hoque (2016) concur, adding that sometimes emerging contractors opt for internal funding from family, friends, and savings, which is often inadequate. The struggle to access funds means emerging contractors cannot afford to obtain performance guarantees, which leads to financial constrictions during construction (Amoah and Bikitsha, 2022) and prevents emerging contractors from securing major contracts (Laryea, 2010). Limited access to credit facilities in a capital-intensive sector such as the construction industry spells the end for most emerging contractors. Without the funds, emerging contractors cannot afford to hire experienced staff, and acquire material and construction equipment to efficiently execute large and profitable projects (Govender, 2012; Mofokeng and Thwala, 2012). In consideration of the above, Martin and Root, (2012) posit that low levels of capital and underfinancing have been recognised as some of the obstacles impeding the development of small contracting companies.

Emerging Contractors' Barriers to Development.

Globalisation influences the construction industry and in turn, poses a challenge to the development of emerging contractors. The easiness of importing construction services at the expense of upcoming contractors, a result of the openness of markets, imposes restraints on the development of emerging contractors (Windapo and Cattell, 2013). Small contractors are no longer competing with only established domestic contractors but rather with aggressive foreign contractors seeking a share of the global market (Sitharam and Hoque, 2016). Small contractors find it difficult to compete against established foreign contractors with the financial and political backing of their governments (Laryea, 2010). These contractors, mostly from developed nations, enjoy low interest rates and a firm currency, which provides a competitive edge over local emerging contractors (Adams, 1997). The lax compliance and environmental laws, and relatively cheap labour in developing nations lure foreign contractors (Laryea, 2010). This is exacerbated by the fact that emerging contractors have limited international market knowledge and resources to counter foreign contractors in their local markets (Thwala and Phaladi, 2009). Secondly, the imported technology in the form of alternative building methods limits the scope of projects that can be done by emerging contractors. These technologies are usually favoured by professional teams and the client plummeting the stock of small contractors.

The fierce competition imposed on emerging contractors due to minimal entry barriers is the primary contributor to the continuous decline in profit margins, which is unsustainably forcing emerging contractors to cut costs (Thwala and Phaladi, 2009) and rely on inexperienced personnel as they cannot retain key employees compromising on the work quality. It decreases the potential of work continuity opportunities hindering the substantial development of emerging contractors (Amoah and Bikitsha, 2022). The unhealthy competition has seen emerging contractors desperately entering into disadvantageous contracts (Amoah and Bikitsha, 2021). Despairing small contractors take any presented work opportunity with an insufficient understanding of the contract requirements (Croswell and McCutcheon, 2001) leading to protracted and costly litigious processes. In addition, the high number of competitors due to low entry barriers makes the industry unattractive to investors (CIDB, 2015b). The industry body has been urged to be more stringent in its registering requirements of contractors to improve the development of emerging contractors. At present, open access complicates the selection of promising emerging contractors with the potential to develop from opportunists who are financially driven (Haupt, Hadebe and Akinlolu, 2019). Currently, the new entrants exceed the number of contractors who have a track record of capability (Martin and Root, 2012).

Building material costs account for up to 60 per cent of the project costs (Windapo and Cattell, 2013), meaning that the significant growth of emerging contractors is hinged upon the stability of material prices. Therefore, material price escalation beyond the inflation rate attributed to various causes, including macroeconomics and geopolitics pushes away emerging contractors (Al-Mhdawi *et al.*, 2023). The appalling situation is exacerbated by the fact that contractors are paid on a reimbursement basis meaning the financially constrained contractors have to use their capital to acquire material (Mofokeng and Thwala, 2012). In addition, emerging contractors lack the reputation and consistency to gain the support of building material suppliers, which would otherwise allow the contractors to enjoy the suppliers' credit facilities (Ncwadi and Dangalazana, 2005). The building material price increases compromise the quality of the deliverables and impede the timely completion of projects (Windapo and Cattell, 2013). The exorbitant material price leaves emerging contractors reliant on labour-only subcontracting work from established contractors (Ncwadi and Dangalazana, 2005). The subcontracting is usually secured at below the market-related rate and with

minimal training (Amoah and Bikitsha, 2021). Extensive subcontracting, now a common feature in the South African construction industry impedes the development of emerging contractors as it is unsustainable.

The industry's monolithic structure and resistance to keeping up with technological advances limit the development of contractors (Adolwa, 2002). The unwillingness to adopt technologies to manage construction projects (Al-Mhdawi *et al.*, 2023) in favour of the heavy reliance on the industry's traditions retards the development of emerging contractors. Furthermore, admittedly noble, some conditions of contract, such as the General Conditions of Contract 2015, set out that the design part of projects is led by the consultant independently from the contractors, which besides leading to cost and time overruns nurtures an adversarial relationship between the parties (Adolwa, 2002).

2.4.2 Clients' Technical Incapacity and Shortage of Consultants.

The various government and private stakeholders that are responsible for the development of emerging contractors work in silos. The practice is inconsiderate of the benefits that can be gained from an integrated approach. Policymakers, who promulgate these deficient policies are suspected of disregarding input from professionals into policy modifications (Fitchett, 2001b) The fragmented approach as observed by Worku, (2016) during the investigation of obstacles affecting contractors in Limpopo, South Africa instils bureaucratic inertia in the programme. The practice inhibits collaboration across institutions that would otherwise enhance the development of small contractors. This results in missed opportunities for the efficient development of emerging contractors.

The shortage of skills within the government sectors responsible for contractors' development is a constraint on infrastructure delivery and the growth of emerging contractors (Windapo and Cattell, 2013). The inadequate experience and skills within the government sector limit the number and type of projects that the organisation can undertake. Therefore, the number of projects available to emerging contractors is limited. The heavy reliance on traditional and outdated designs is attributed to the lack of technical skills in government (Thwala and Phaladi, 2009). The outdated designs prescribe standards that are overdesigned and complex, inconsiderate of the technically challenged small contractors (Adams, 1997).

The scarcity of professionals and technical staff available to emerging contractors exacerbated by the domination of established contractors inhibits the development of emerging contractors (Fitchett, 2001b). The professionals demand competitive remuneration and recognition, something small contractors cannot offer. This is an unending conundrum considering that the newly established contractors depend on continuous monitoring by the professionals to develop and deliver quality service (Worku, 2016). Additionally, the skills of the professionals being supplied to the market mismatch the required competence, lowering the capacity of the professionals in the industry (Windapo and Cattell, 2013). Therefore, the unavailability of professionals impedes the contractors' development. Worku, (2016) postulates that in addition to technical incapacity, emerging contractors are crippled with the inability to network with established contractors to gain practical skills, which reduces their chances to penetrate the walled local market. The inability to network stems from a lack of the necessary resources, mentoring and inaccessibility to the Internet particularly in remote areas obstructing communication (Al-Mhdawi *et al.*, 2023).

2.4.3 Emerging Contractors' Incompetencies

The emerging contractors have been accused of compromising quality and completing projects after the due completion date despite surveys of projects such as the Volsoorus Housing contradicting the notion (Himlin, 2005). However, Ncwadi and Dangalazana, (2005) as well as Fitchett, (2001b) concur with the contention arguing that productivity and output quality by emerging contractors have significantly fallen. This has seen the upcoming contractors beset with the prevalence of detrimental reviews. A study cited by Adolwa, (2002), alleges that an overwhelming 82 per cent of small contractors could not complete building projects on time, within budget and to specification. Such a significant failure rate, especially to deliver quality work thwarts public faith in emerging contractors. Moreover, it shrinks the small contractors' chances to secure sizeable projects from commercial banks as they only work with reputable companies (Ncwadi and Dangalazana, 2005). The quality inferiority is partly attributed to CIDB which permits these contractors to register in more than one work category nurturing jacks of all trades and masters of none (Martin and Root, 2012). Worku, (2016) agrees about the inferiority of quality delivered by emerging contractors but suggests that the compromise is an ill-thought mechanism to curtail the cost of

material to gain a competitive edge over established contractors who enjoy economies of scale.

The developing contractors in South Africa, mostly owned by the previously disadvantaged, suffer from a lack of capacity, entrepreneurial development and technical skills to develop into self-reliant contractors (Hauptfleisch and Verster, 2007; Worku, 2016). Unlike in developed countries where small contractors break away from established contractors after gaining significant experience and a great deal of training, small contractors in developing nations have a weak educational base and minimal training (Croswell and McCutcheon, 2001). Lack of education and poor quality of education in developing nations, thus a curriculum that is irrelevant to the market needs, devoid of practical and industrial expertise, are contributors to the technical incapacity of most new contractors (Worku, 2016). The supplied skills are in most cases either outdated or inappropriate to the demands of the construction industry creating a skills void (Windapo and Cattell, 2013). The scarcity of technical and financial management skills, which enable efficiency in executing the works has held back the development of contractors (Amoah and Bikitsha, 2022).

The small contractors' knowledge gaps and shortage of skills limit their development (Al-Mhdawi *et al.*, 2023). The inadequate training and lack of technical expertise lead to poor performances and reputational damage (Adolwa, 2002). This is not helped by the projects' limited training programmes, which are inadequate to expertly develop an emerging contractor into an independent and competent contractor (Fitchett, 2001b). The fragmented programmes are not dovetailed to the practical needs of the upcoming contractors, which obstructs the growth of the contractors (Worku, 2016). These short-term programmes do not afford small contracting firms ample time to grow deeper roots in the industry (Martin and Root, 2012). This is exacerbated in marginal communities where upon completion of the project, the opportunities to further develop dry up due to lack of the facilities to market their gained skills to other communities.

The employment of inexperienced staff with minimal financial and technical management skills due to financial constraints culminates in project costs and time overruns (Govender, 2012). Amoah and Bikitsha, (2022) posit that the inexperienced personnel available to emerging contractors possess limited tendering knowledge, resulting in misjudged pricing estimations. Thwala and Phaladi, (2009) concur adding

that sometimes it forces emerging contractors to outsource the work at a loss to established contractors. It becomes a fundamental basis of project failure, moreover when compounded with the need to implement a complex project. The inexperienced staff have limited contractual and risk assessment knowledge blindly leading emerging contractors to stumble into contracts unaware of potential dangers (Amoah and Bikitsha, 2022). This results in project delays due to avoidable disputes and claims.

2.4.4 External Environment

Sometimes the failure of the new contractors is not self-inflicted but rather a result of an external hand. External environmental factors such as onerous regulations, inefficient infrastructure and unpredictable labour market can hinder the growth of contractors (Sitharam and Hoque, 2016). Regulations which invariably package projects incognisant of emerging contractors' limited capacity impede the growth of these contractors (Croswell and McCutcheon, 2001). This was brought to light after the analysis of the construction expenditure, which showed that an overwhelming percentage of contracts can only be executed by either medium or large contractors. The development of small contracting firms is further thwarted by the bureaucratic structure of government departments, the main funder of projects, which frustrates the effectiveness and efficiency of implementing projects (Adams, 1997). Recent studies have also shown that the weak Rand and high inflation rates escalate the cost of doing business eroding the contractors' profit. The construction industry is sensitive to economic cycles and political winds, something beyond the influence of small contracting companies. Chan and Owusu, (2017) add that the external environment is worsened by corruption in the construction industry, which creates unfair competition. The unfolding power shortage in the country will likely result in an increased cost of doing business (Ateba, Prinsloo and Gawlik, 2019) further diminishing the chances of developing emerging contractors.

2.5 Development of Emerging Contractors

Small and medium-sized businesses are the lifeblood of an economy and their survival is beneficial (Dimson *et al.*, 2020). Hence the small contractors' rate of failure of over 50 per cent (Windapo and Cattell, 2013; Sitharam and Hoque, 2016) is worrisome considering their significance. This necessitates developing a comprehensive development programme if the industry is to maintain its contribution towards socio-economic development (Adolwa, 2002). The industry's significance can only be

maintained through the sustainable development of small contracting firms. This can be achieved through intentional interventions by the government, the main stakeholder and the funder (Dimson *et al.*, 2020), such as adopting the low-cost housing programme to be a developmental initiative. The primary objective of the initiative must be to develop emerging contractors into financially viable, profit-making and self-reliant contractors (Croswell and McCutcheon, 2001; Ndabeni, 2008).

The low-cost housing programme initiative's primary objective of transforming upcoming contractors into self-reliant and competitive contractors can be achieved through the improvement of small contractors' access to work, the creation of a conducive business environment and the offering of practical and relevant training to emerging contractors (Adams, 1997). Therefore, the significance of improved access to finance, skills development and flexible regulations must inform the low-cost housing developmental programme to foster entrepreneurship (Rogerson, 2008). The programme must be diligently managed by a competent programme manager assisted by experienced project managers, who will manage the projects daily (Hauptfleisch and Verster, 2007). As advised by Adolwa, (2002) the approach must be cognisant of the local prevailing circumstances.

2.5.1 Access to Work

Adolwa, (2002) suggests that development can be enhanced by reserving certain small projects for emerging contractors to ascertain that small contractors always have work. Low-cost housing programmes must be long-term, politically and financially backed, rather than ad hoc which breeds uncertainty (Croswell and McCutcheon, 2001). The certainty of work over a reasonably longer period allows the contractors to develop long-term plans and minimise abrupt fluctuations which considerably enhances the development and competitiveness of the emerging contractors (Adams, 1997; Ncwadi and Dangalazana, 2005). It accelerates growth and boosts the success of emerging contractors to establish strong positions in niche markets (Ndabeni, 2008). The initiative offers significant benefits to the nation's poor through entrepreneurship development and alleviating poverty (Coetzer and Louw, 2012).

The developmental programme must strengthen the emerging contractors' resilience by assisting them in advocating for friendly policies, securing new markets and rapidly digitising (Dimson *et al.*, 2020) to secure continuous work. The programme has the

better bargaining power to persuade policymakers to promulgate regulations that foster the growth of emerging contractors (Croswell and McCutcheon, 2001). This may include modifying the contract strategy and allowing the appointment of emerging contractors on multi-projects instead of the currently permitted project-based appointment. As well as revisiting the contract strategy, the bargaining power of the programme can be leveraged to solicit political support, which comes with elusive financial commitments. In addition, the regulations must compel low-cost housing programmes to unbundle the otherwise large projects to improve the access of emerging contractors to components of the projects (Adams, 1997)

The size of the contract offered to small contracting firms must be varied following the capacity of the contractor (Croswell and McCutcheon, 2001). The capacity of the contractor must therefore be assessed before the programme commences (Haupt, Hadebe and Akinlolu, 2019). Furthermore, the low-cost housing programme, as recommended by Croswell and McCutcheon, (2001) based on the work done to develop small road contractors, must adopt emerging contractors' friendly designs based on past experience. The programme must standardise the designs to facilitate skill development and enhance the competitiveness of emerging contractors (Adams, 1997).

The Department of Human Settlements must mandate that on all its programmes, large contractors must subcontract a certain percentage of the work to selected upcoming contractors (Adams, 1997). Such a mandatory policy will improve access to work for emerging contractors. This can be further improved through incentivising mergers, notwithstanding their complexity, which will likely form viable contractors that can tackle bigger and more profitable projects. This initiative must strengthen the shared economy and significantly reduce the skills and opportunities gaps within a reasonable timeframe (Haupt, Hadebe and Akinlolu, 2019). This means that developmental programmes besides improving the capacity of the previously disadvantaged would also ensure that emerging contractors have adequate work (Thwala and Phaladi, 2009).

2.5.2 Conducive Business Environment

The development of small contractors must employ a framework that offers guidance on challenges facing emerging contractors (McKinsey and ILO, 2022). The framework

must help contractors build resilience ahead of possible future challenges and transition the business into an established contractor. The cultivation of a conducive business environment considerably contributes to the competitiveness of the contractors (Ndabeni, 2008). This can be achieved through a low-cost housing programme approach, where small contractors are trained over several projects with adequate time and resources to be competently upskilled (Fitchett, 2001b). Furthermore, besides its effectiveness in transferring skills, the programme approach is a cost-effective way of delivering low-cost houses and generating impactful employment. The low-cost housing programme through the emerging contractors can stimulate economic activities in marginalised areas (Thwala and Phaladi, 2009). The authors further argue that the low-cost housing programme should teach contractors environmentally friendly operations, facilitating climate change awareness.

The low-cost housing programme is adopted as a developmental programme predicated on research in other nations, which observed that the development of emerging contractors heavily relies on the state's support (Worku, 2016). This is echoed by Dimson *et al.*, (2020) who noticed that small businesses supported by the state had better survival chances. Small businesses flourish under supportive policies that increase their competitiveness and efficiency (Ndabeni, 2008). Therefore, the provision of a low-cost housing programme can offer an economically enabling environment, and protected learning, for the skills development of emerging contractors.

Developing a sustainable developmental initiative requires meticulous planning otherwise it leaves the attainment of its socio-economic goals precariously hanging (Coetzer and Louw, 2012). The programme's custodian, the Department of Human Settlements, needs to ascertain that various social development experts form part of the project stakeholders. An integrated low-cost housing developmental programme involving other governmental sectors (Adams, 1997) such as the Department of Labour, Department of Small Businesses, NHBRC and local municipalities enhances the chances of success. In addition, Haupt, Hadebe and Akinlolu, (2019) recommend that the programme must rigorously select contractors with high potential from the pool full of opportunists to achieve the initiative's goals. This involves regulating the programme through incentives and punitive measures to only retain committed contractors.

The initiative will offer emerging contractors access to construction materials. Limited funds to procure costly materials is one of the biggest challenges facing emerging contractors (Adams, 1997). The provision of a facility where the government has dedicated accounts with local suppliers where emerging contractors can easily access material enhances the timely completion of projects (Adolwa, 2002). Other facilities suggested such as advance payments and unsecured loans to the contractors, based on past similar programmes, carry such huge risks and legal implications that they are not considered further. However, although the provision of the materials facility improves the chance of developing contractors, some studies suggest it is unsustainable over a long time because its administration requires enormous manpower (Adolwa, 2002). Hence Hauptfleisch and Verster, (2007) suggest that the programme offers security to commercial banks on behalf of the emerging contractors for them to secure funding for the material. The funding will be repaid at no to minimal interest and at a depreciation value (Coetzer and Louw, 2012).

In addition to providing material accounts and collateral to secure loans, the Department of Human Settlements may adopt the path taken by SANRAL when it signed a memorandum of understanding with a construction machinery supplier, BELL, that gives small road contractors access to construction equipment (SANRAL, 2018). The undertaking eliminates the hurdle to raise capital to acquire expensive equipment, offering small contractors access to leasing and rental options, which enables emerging contractors to participate meaningfully in major construction projects. Adams, (1997), adds that the low-cost housing programme can reduce the retention to be held on the programme and promptly settle the emerging contractors' certificates to improve their cash flow.

2.5.3 Training

As part of the skilling of upcoming contractors, the government through low-cost housing must provide grants to fund technical assistance and management services (Himlin, 2005). The provided technical and management assistance must create some key competencies with the contractors such as judicious financial management and effective cost control (Hauptfleisch and Verster, 2007). This can be achieved through the advancement of recognition of workplace learning (Fitchett, 2001b). As part of technical assistance, it is prudent to also offer mentoring and coaching services to promote the optimal use of scarce resources (Worku, 2016). The contractors are then

encouraged to retain the trained staff, these workers are the small contractors' most valuable asset (Bartik *et al.*, 2020). Martin and Root, (2012) as well as Mofokeng and Thwala, (2012) recommend that before offering training, the development initiative must assess the existing level of experience and skills of emerging contractors to tailor-make mechanisms for knowledge transfer.

The low-cost housing programme requires adequate financial resources to be effective. The funds for training and mentoring, in addition to the direct construction cost, must be availed otherwise the programme risks failing (Hauptfleisch and Verster, 2007). Although it is not a silver bullet to all challenges faced by emerging contractors, training is regarded as the most valuable remedy to small contractors' difficulties (Adams, 1997). The programme will have little success unless accredited mentors are appointed to the programme. This is because the development of emerging contractors is hinged on extensive training (Croswell and McCutcheon, 2001) and mentoring (Coetzer and Louw, 2012). Training and mentoring guide upcoming contractors and assist companies in developing effectual business systems (Mofokeng and Thwala, 2012). Additionally, mentors are responsible for the programme as a whole to ensure that it achieves the set goals, in this case, contractor development, construction of technically sound low-cost units and employment generation. Martin and Root, (2012) echo the assertion adding that above appointing mentors, the emerging contractors must engage the established firms to gain skills and knowledge to build capacity. Networking also opens up more opportunities for emerging contractors based in rural or low-income areas, where business is limited (Coetzer and Louw, 2012).

The success of the developmental project as alluded to depends upon appointing the programme's champion or mentor. The mentors offer their extensive experience to the emerging contractors to expedite the contractors' development (Mofokeng and Thwala, 2012). Croswell and McCutcheon, (2001), postulate that with the recognised lack of capacity in government departments, the programme could benefit from appointing a programme manager from the private sector to champion the initiative. The programme manager supported by project managers guides technical and administration compliance to the upcoming contractors (Coetzer and Louw, 2012).

Targeted contractor development must expose small contracting firms to ‘on-the-job’ practical training and mentorship to develop their managerial, technical and administrative skills (Volmink and Soobryan, 2022). Practical training enhances the acquiring of skills better than in an educational setting (Coetzer and Louw, 2012) particularly when working with small contractors with limited education. This will enable the contractors to take on complex construction projects and upgrade their CIDB grading. The training and mentorship should preferably be continuous and CETA accredited. Such training should be aligned with the CIDB requirements necessary to run a construction company (Haupt, Hadebe and Akinlolu, 2019). Small contractors should be encouraged to attend training modules such as management of resources, tendering procedures, and legal requirements of contracts. Croswell and McCutcheon, (2001), suggested linking attendance to training with the assignment of contracts to incentivise contractors. As part of training, the contractors can be educated on society’s ills such as corruption and the effects of HIV/AIDS (Coetzer and Louw, 2012). The objectives of the training and mentoring courses can be enhanced through provision of a practical (pictorial) manual.

In a developmental programme, the concepts that underlie the programme typically present both short- and long-term goals. The ultimate goal of the programme is to develop small contracting firms into independent and competitive contractors that deliver quality, generate employment and facilitate economic growth (Mofokeng and Thwala, 2012). Based on a developmental programme, Working for Water aiming to develop contractors, Coetzer and Louw, (2012) posit that functional training, in this case, the construction of low-cost units must be the first and primary objective. Once construction commences contractor training will then be offered, which include courses on contracts, health, and safety, tendering and business finances. Training will increase the capacity and performance of emerging contractors (Haupt, Hadebe and Akinlolu, 2019).

2.5.4 Programme Shortcomings

The construction industry and in part emerging contractors have been cited as some of the resistant catalysts of environmental degradation. The industry is resistant to moving from old practices and materials which are detrimental to the environment (Aghimien, Aigbavboa and Thwala, 2019). Therefore, the low-cost housing programme must adopt environmentally friendly practices and materials. Aghimien,

Aigbavboa and Thwala, (2019) suggest shifting the construction processes from linear to cyclic, whereby the use of recycled material will be incentivised. Moreover, it is recommended that the regulations and building manuals be updated to reflect the adoption of environmentally friendly practices. In addition, a developmental programme naturally involves several stakeholders with diverse functions, which can add to the complexity of efficiently implementing the programme (Coetzer and Louw, 2012).

2.6 Low-Cost Social Housing Programme

The apartheid regime shaped the settlement pattern in profoundly inequitable ways which imposed enormous mobility costs on the non-white communities (Ncwadi and Dangalazana, 2005). Deliberate marginalisation of the non-white population restrained their participation in the main economy leading to an unequal society (Haupt, Hadebe and Akinlolu, 2019). Additionally, the apartheid government underdeveloped rural areas, which has seen a throng of people migrating to urban areas in search of employment opportunities (Govender, Barnes and Pieper, 2011). The South African democratic government has made a concerted effort to address the apartheid legacy which included redressing the disparity of the previously marginalised (Fitchett, 2001b). In particular, the patriarchal structure of homeownership rooted in the apartheid era that till 1979 did not permit women to own houses (Roos, 2021). The policies promulgated to uplift the then-disadvantaged involved the provision of subsidised low-cost houses as a tool to counter systemic marginalisation. Ncwadi and Dangalazana, (2005) add that with over 40 million urban population in South Africa, the policies will extend to curb the increasing housing shortages in urban areas. The programme initially planned to deliver high service levels to accommodate the middle-class taste but later adopted an incremental approach on account of budget constraints. Fitchett, (2001b) considers this a blessing in disguise as the initial high service level yet underfunded was substantially tailored for large-scale contractors relying on economies of scale. The adopted incremental approach caters for emerging contractors (GTAC, 2018).

With nearly one-fifth of the population living in informal dwellings, the government rolled out low-cost housing programmes to eradicate informal housing and backyard shacks (Govender, Barnes and Pieper, 2011). The low-cost housing programme provides household infrastructure and services as part of social and economic

development (Ncwadi and Dangalazana, 2005). The services vary from water, sanitation, residential roads, and electricity. The provision of low-cost houses can significantly improve society's quality of life and carries symbolic transformative weight (Roos, 2021). The housing initiative aims to meaningfully alleviate poverty partly through property ownership and through the creation of employment for the unskilled during construction. The employment part stems from the recognition that low-cost housing programme depends on the adoption of labour-intensive methods, which translate into local job creation and skills development (Himlin, 2005).

Financial support measures for small businesses are scarce in developing nations (McKinsey and ILO, 2022), hence the low-cost housing programme can be innovatively used as a platform to support emerging contractors. The social housing programme then combines the delivery of the needed low-cost houses with the skilling and empowering of emerging contractors (Fitchett, 2001b). It allows the government to eradicate apartheid-induced inequality with skills development and training of the previously marginalised (Ncwadi and Dangalazana, 2005). The low-cost housing programme can be useful in effectively, sustainably, and inclusively developing contractors. However, Roos, (2021) opines that the programme in its current setting hampers the development of emerging contractors because it is tailored for established contractors. In addition, the programme has been accused of prioritising the number of emerging contractors that go through the programme instead of the quality of contractors that emerge from the programme.

Himlin, (2005), based on the experience gained from the Vosloorus housing project suggests that a low-cost housing programme must utilise the Eastern Cape Department of Human Settlements subsidies to deliver houses, primarily using emerging contractors instead of established developers. Fitchett, (2001b) contrary to Himlin, (2005), argues that due to the minimal profit margins coupled with a high-risk environment, which has seen experienced contractors shying away from the low-cost housing programme leaving a considerable gap, undermines the effectiveness of the programme in developing contractors. However, a provincial low-cost housing programme can potentially engage several emerging contractors, which will be cost-effective due to the economies of scale (Hauptfleisch and Verster, 2007).

The effort of the Department of Human Settlements has declined in recent years from an estimated 200,000 to 150,000 units annually. The decline, albeit expected due to the shrinking economic growth, is partly explained by the government's limited capacity, cumbersome administrative procedures and challenges in acquiring suitable land (Roos, 2021).

2.7 Summary of Key Findings

The World Bank suggests that given its GDP, South Africa only has one-third of the sustainable small businesses it should have. In consideration of the small businesses' contributions including the construction industry's small contractors, the study seeks to investigate the challenges facing small contractors to narrow the gap of sustainable small businesses in the country. The research considers the use of a low-cost housing programme as a developmental programme to expedite the growth of small contracting firms, which will participate in the main economy. A developmental programme is not merely a reinforced construction programme for emerging contractors, but rather a holistic initiative, which includes a comprehensive training programme cognisant of the lack of education, skills and institutional capacity of emerging contractors. The training component among others shall equip the small contracting firms with technical, legal, managerial, and entrepreneurial competencies. To ensure that the competencies are fostered, the low-cost developmental programme must be long-term structured in a series of small contracts, which the trained contractor implements with less and less mentoring. Therefore, the study suggests that emerging contractors must be appointed on a multi-project basis to ensure their development into self-reliant contractors.

The literature review has shown that the Department of Human Settlements implements the low-cost housing programme almost solely with only the involvement of other stakeholders for compliance purposes. Working in a silo impedes the development of emerging contractors. Therefore, the research advocates for an integrated approach, where other relevant stakeholders with an interest in and influence on the development of small contracting companies form part of the programme. These stakeholders among others include departments namely Labour, Small Business Development, Higher Education and Training, Trade and Industry, and financial and development institutions such as the Eastern Cape Development Corporation and building material suppliers. The programme will gain financial,

technical and compliance support from these institutions, removing some of the hardest hurdles faced by upcoming contractors.

Construction is a capital-intensive industry of which about 60 per cent of the emerging contractors' capital is consumed by building materials. The review of existing literature suggests that most small contractors have limited financial muscle to afford building materials. Despite this being identified as one of the biggest challenges facing upcoming contractors, the literature is silent on the remedial measures that the low-cost housing programme has adopted to address this critical challenge. This study, therefore, proposes various measures assumed from other developmental programmes and other countries. It opines that as adopted by the Botswana government in developing local contractors, the Department of Human Settlements must leverage its capacity to secure credit facilities with the building material suppliers on behalf of emerging contractors. The easy access to building materials enhances the prompt completion of projects. Furthermore, the research adds that the housing programme can guarantee loans on behalf of small contractors from commercial banks or financial institutions at minimal interest rates. The loan, which would otherwise be almost impossible to secure without the Department of Human Settlement's intervention, affords emerging contractors capital to employ competent staff, purchase building materials and hire construction equipment. In addition to offering security for loans, the Department of Human Settlements is recommended to adopt the SANRAL's initiative of signing a memorandum with a construction equipment supplier to give small contractors access to lease and rent modern equipment. This will allow emerging contractors to meaningfully participate in major projects.

It is generally agreed that a developmental programme's success hinges on the quality of training offered. The extant literature revealed that developmental programmes offer training, however, it was observed that most of the training is standardised and inconsiderate of the level of experience, education, and skills of emerging contractors on a specific programme. Therefore, the study recommends that the Department of Human Settlements assess the level of education and experience of developing contractors to prescribe relevant 'on-job' training. The research further postulates that for the training to be effective, the developmental programme must train the right contractors rather than opportunists. It, therefore, suggests that the Department of

Human Settlements must only select contractors with potential from a pool of opportunists through a rigorous pre-screening process.

3 CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The previous chapter reviewed the contributions, challenges facing emerging contractors, and the possible use of the low-cost housing programme as a developmental initiative. The various aspects of a developmental initiative that would make a low-cost housing programme an effective contractors' developmental programme were examined. The literature reviewed identified gaps in contractors' developmental programmes and provided recommendations. The research investigates the conceptually defined constructs, and the research methodology details the method and procedure of how this was achieved.

This chapter reports on the research design and methodology through which the main objective of the study, RO_M: *To investigate the challenges facing the development of emerging contractors to recommend possible solutions in the building industry*, will be achieved. It provides the research plan framing the methodological approach, the systematic data collection and analysis informed by the research questions. In addition, it offers justification and rationale for the adopted research method and procedures. The design and methodology set out the considerations of the research determine the applicability of its findings and detail the steps taken in conducting the study, which allows the repeatability of the study by other researchers.

3.1.1 Research approach

Positivism, sometimes referred to as the scientific method, holds that reality is independent of the researcher, thus reality is objective hence it can be independently studied through the documentation of the relationship between the variables that constitute reality (Ehwi *et al.*, 2022). It views the social phenomenon and its meanings as existing autonomously of social actions (Clarke-Hagan and Curran, 2018) hence its attempt to generate valid social knowledge scientifically to eliminate human biases. The paradigm is based on a rationalistic, deterministic, and empiricist philosophy which posits that causes determine effects or outcomes to discover objective truth (Mackenzie and Knipe, 2006). Thus positivists opine that strict adherence to methodological rules, thus putting forward a theoretical hypothesis for an identified problem and using methods to test and verify the hypothesis results in objective truth (Makombe, 2017). The paradigm uses quantitative and experimental methods to test

these hypothetical-deductive generalisations (Amaratunga *et al.*, 2002). It searches for casual explanations of relationships and reduces the whole to the simplest element to facilitate analysis. The paradigm assumes that a study can obtain hard, secure, and objective knowledge independent of the environment (Abubakar *et al.*, 2022), therefore, the findings can be generalised to a wider context. It opines that findings from a finite set of data can be generalised and be the basis for predicting the future (Amaratunga *et al.*, 2002). Therefore, this objective paradigm is better equipped for studies that aim to evaluate relationships between independent variables and dependent variables (Waziri, 2023).

The purpose of the study, the nature of the research questions being examined, and the limited time and resources prescribed for the adoption of the positivism paradigm. The study's research questions are suitably approached through an objectivist epistemology. The study adopted the positivism paradigm because of its efficiency in the collection of a large amount of data and easiness of comparing data. The aggregation of data from a large sample considerably increases the relevance of the findings to policy-making decisions. Thus, the paradigm allows for the discovery, verification and examination of knowledge through measurements of the studied phenomenon's components. In addition, the paradigm unlike interpretivism, grows out of a strong academic tradition, thus it is perceived to be more credible by non-researchers (Clarke-Hagan and Curran, 2018) enhancing the chances of non-academic stakeholders adopting the study's findings. The paradigm is quick and economical (Amaratunga *et al.*, 2002), hence it was adopted considering that the research is both time and resource-constrained. The collected data can be easily analysed using statistical software packages and based on the paradigm's central concept of deducticism, the research findings from a sample can be generalised to a population. Thus, though the research was based on low-cost housing Eastern Cape contractors, the findings can be generalised to all emerging contractors in South Africa. However, positivism because is highly structured, does not consider either the meanings or the theories attached to the findings to obtain a better understanding of the challenges inhibiting the development of emerging contractors. In addition, according to Makombe, (2017), critics of positivism have argued that the paradigm's empiricism precepts are outdated, restrictive and inadequately capture some social concepts associated with the subject. Furthermore, there has been growing

dissatisfaction stimulated by the paradigm's nomothetic disjunction, thus the fact that the generalisation of findings is not always applicable to individual cases. The researcher suggests conducting similar studies in the future based on interpretivism to counter the drawbacks of the positivism paradigm.

3.1.2 Research Method

Research methods are the particular techniques used in a study that is informed by the research questions (Abubakar *et al.*, 2022). The research method informs how data are collected, analysed, and reported and the generalisations of the research findings (Mackenzie and Knipe, 2006). The research method that will be used in this study is based on the research questions, research paradigm and the participant's familiarity with the approach. Qualitative and quantitative methods represent the opposite ends of the research methods continuum with the mixed methods residing in the middle (Creswell, 2014). These research methods are briefly discussed below.

3.1.2.1 Qualitative Method

Qualitative methods are grounded in either the interpretivism or constructivism paradigm and pay attention to rich textual data associated with objects within the context of human behaviour (Ehwi *et al.*, 2022). The richness and holism of qualitative data enable the method to reveal complex relationships. It concentrates on naturally occurring, ordinary events in natural situations to attempt to describe and express their reality (Amaratunga *et al.*, 2002). The researchers, unlike the quantitative method, are embedded into the study to gain an in-depth understanding of the participants' social phenomena (Creswell, 2014). Therefore, the findings are jointly created within the framework of the research. The study collects thick descriptions and subjective data usually context-specific from participants in their natural settings over a sustained period hence the method is preferred for researching any process. The non-statistical method generally involves discussions with participants on research questions and exploring a central phenomenon of the gathered data (Clarke-Hagan and Curran, 2018). This allows the researchers to generate a contextualised theory shaped by the views of the participants (Creswell *et al.*, 2007) and generate new meanings (Krauss, 2005). Thus the qualitative approach gathers insights into understanding the participants' perceptions and experiences in their environment (Clarke-Hagan and Curran, 2018; Waziri, 2023).

The qualitative method believes in multi-realities based on the participants' reality, which is socially constructed and constantly changing. It is, therefore, suited for understanding the participants' presuppositions, assumptions and structures of their lives in connection to the social world around them (Amaratunga *et al.*, 2002). It usually probes deeper into the participants' beliefs and assumptions about the study (Singh and Walwyn, 2017). Thus, the qualitative method does not limit the study to one element of reality but rather views the research in its context to obtain a deeper understanding and reveal complex reality. Further, the collected data are useful in supplementing, testing, and validating quantitative data on similar research. The method relies on peer reviews, expert insights and debriefings with participants to establish validity and reliability (Ehwi *et al.*, 2022). However, the qualitative method involves voluminous data (Amaratunga *et al.*, 2002) yet it limits the generalisation of the findings (Anupama and Chaudhary, 2022). Furthermore, data collection and analysis for a qualitative method are time-consuming and complex respectively (Clarke-Hagan and Curran, 2018), hence the method could not be adopted for this time and budget-constrained research.

3.1.2.2 Quantitative Method

The quantitative method is rooted in the positivism paradigm and primarily adopts research designs that objectively analyse relationships between variables (Ehwi *et al.*, 2022). The method submits that there is only one truth, an objective reality that is independent of human perception, therefore, the researcher and the research are independent. Thus the method entails the collection and statistical analysis of objective, numerical data, and investigating relationships between variables (Clarke-Hagan and Curran, 2018). It assumes that findings can be derived from the research using deductive logic; therefore, the developed hypotheses and theories are generalisable across the settings (Amaratunga *et al.*, 2002). The method's credibility, validity and generalisability are derived from appropriately selecting a representative sample size, using a sampling technique, and maintaining internal constituency constructs and robust checks (Creswell, 2014).

The research based on the quantitative method tends to either be written or orally administered closed questionnaires with a limited range of predetermined responses (Clarke-Hagan and Curran, 2018). The approach enhances the independence of the researcher from the study; therefore, the subject is measured objectively rather than

being inferred subjectively (Amaratunga *et al.*, 2002). This improves the reliability and validity of the research as well as providing statistical proof.

Makombe, (2017) posits that research located in a positivist paradigm assumes objective detachment as the epistemological stance and quantitative as a method. Therefore, a quantitative research method was adopted for this study as determined by the selected positivism paradigm. Quantitative research is appropriate in measuring variables such as quantitative assumptions regarding the development of the emerging contractors in that the development can be reduced to measurable variables, which are equivalent to construction projects hence the rationale to use the quantitative approach. The study adopted the quantitative method because it allows the collection of data from a large sample of the population with limited resources, which minimises biases. The collected data are easily analysed, and the findings can be generalised because the method reduces the casual relationships to the simplest possible elements (Easterby-Smith, Thorpe and Jackson, 2015) and such relationships' strengths can be statistically tested (Amaratunga *et al.*, 2002). The figures, graphs and trends from the quantitative data are persuasive to policymakers (Mackenzie and Knipe, 2006). Furthermore, the method is strong in measuring descriptive aspects of the built environment and allows comparison and replication of similar studies. However, the researcher is aware of the adopted method's drawbacks such as its failure to ascertain deeper underlying meanings and the tendency to measure aspects of the study at only a specific moment in time (Amaratunga *et al.*, 2002). This means the approach may miss some aspects of the development of emerging contractors that require more than a single quantitative study to be identified and be limited in deeply explaining the reasons behind the findings. The researcher, owing to limited funds and time, countered some of these weaknesses by developing a questionnaire based on broad literature to enhance the aspects covered by the study. Additionally, the researcher recommends future similar but longitudinal studies be conducted based on qualitative methods.

3.1.2.3 Mixed Method

The mixed method is a combination of both qualitative and quantitative methods within a single study. Amaratunga *et al.*, (2002) posit that quantitative and qualitative methods are complementary, they focus on different dimensions of the same phenomenon. Therefore, the basis of the mixed method is to overcome the respective

weaknesses of quantitative and qualitative methods by integrating the designs across different stages of the research (Ehwi *et al.*, 2022) to counterbalance the strengths of another. The method holds the potential for rigorous and methodologically sound studies as it can capture both the trends and details of the research (Creswell, Fetters and Ivankova, 2004). The mixing of the methods according to Anupama and Chaudhary, (2022) provides a better understanding of the research problem than either approach individually. Clarke-Hagan and Curran, (2018) concur suggesting that a pluralistic approach provides a natural balance and a complete picture of the researched phenomena. It minimises the quantitative and qualitative method's overdependence on statistical data and subjectivity respectively in explaining social occurrences.

Several factors contributed to the evolution of mixed methods. These include the need to address complex research problems that require framing contexts with trends and statistics, and using either qualitative or quantitative data to expand on the other (Creswell, Fetters and Ivankova, 2004). Thus, sometimes the research qualitative data is collected to aid with conceptual development for a quantitative instrument and explain quantitative data outliers. While collected quantitative data assist in finding a representative sample for a qualitative study. In addition, either complementary or contrasting quantitative and qualitative data offer a richer and better understanding of the research findings (Clarke-Hagan and Curran, 2018; Anupama and Chaudhary, 2022). This is corroborated by Creswell, Fetters and Ivankova, (2004), who highlight that the adoption of mixed methods advances the reliability and validity of the study's results, strengthening the generalisation of the findings. The mixed method findings often have a greater impact because the quantitative results are persuasive to policymakers whereas the qualitative part is more easily remembered and repeated (Mackenzie and Knipe, 2006). The method also pays attention to paradoxes, outliers and surprises initiating new lines of thinking and providing fresh insights into the researched phenomenon (Amaratunga *et al.*, 2002). However, the mixed method is time-consuming; therefore, due to time constraints, this study could not be based on the mixed method. In addition, the analysis of both quantitative and qualitative data collected in a mixed method can be challenging, particularly when there are discrepancies (Clarke-Hagan and Curran, 2018). The mixed method requires more resources to implement, which for a tightly budgeted study such as this, the cost further

inhibited the use of the method. Future similar studies based on mixed methods are recommended.

3.1.3 Research Design

The research design consists of the logical strategies adopted by the research to collect and analyse data based on the research questions (Ehwi *et al.*, 2022) to maximise the validity of the findings (du Toit and Johann, 2013). The research design provides an instrument by which a study is conducted, thus determining the data to be collected and how the data will be analysed to address the research questions (Makombe, 2017). The design is associated with the research method; therefore, the research design for this study is associated with the selected quantitative method. This quantitatively informed research design allows the relationships between variables to be objectively investigated. The adopted research design, independent of the researcher's influence, minimises biases and enhances the reliability of the collected data.

3.1.3.1 Data collection

The research will collect quantitative raw material in numerical figures, interval and ratio scales using an online self-administered questionnaire. This was chosen cognisant of the type of variables and the required accuracy. The collection of primary data is beneficial since the researcher can control the process and easily detect errors, unlike secondary data (Cassim, 2017). In addition, the online collected primary data is easily transferable, which enables the efficient analysis of the data using various statistical tests (Stark, Smulders and Odendaal, 2023). The cross-sectional design will only collect data once from the participants due to time limitations. Furthermore, the data collection process in compliance with the university's research ethics policies guaranteed that participants remained anonymous.

A pilot study was conducted to operationalise the measuring instrument to enhance its reliability and validity. Reliability refers to the extent a study produces similar findings under similar circumstances on all occasions, thus the repeatability of the research (Collis and Hussey, 2014; Hays *et al.*, 2016). Reliability aims to reduce errors and biases in research, which can be improved by using a large sample size (Cassim, 2017). This refers to the consistency of findings across time and researchers, while the validity of the study determines how good are the findings, thus whether the

research's results describe reality with a good fit (Amaratunga *et al.*, 2002). Therefore, the questionnaire was sent to known emerging contractors to validity whether it was measuring what the questionnaire was intended to measure. The respondents who validated the questionnaire were known emerging contractors and therefore representative of the sample. The necessary adjustments were made to the questionnaire based on the received feedback. The pilot study did not form part of the final collected data, it was purely used to operationalise and refine the questionnaire.

3.1.3.2 Questionnaire Design

An online questionnaire was adopted because it is both low-cost and easy to administer (Mattos-Vela, Evaristo-Chiyong and Siquero-Vera, 2023) since the research was budget-constrained. It collects information faster, cheaper, and more accurately. The questionnaire was adopted and modified from previous similar studies to collect primary data. These concise structured statements/questions minimised the risk of different interpretations while soliciting reliable responses from the participants (Collis and Hussey, 2014). It was designed to that will take less than 10 minutes to be administered because lengthy questionnaires increase respondents' fatigue leading to non-response and inducing the use of an undesired response style (Adigüzel and Wedel, 2008). The closed questionnaire's responses are easily imported into both Microsoft Excel and SPSS for analysis.

The researcher is aware of the online questionnaire's shortcomings such as the loss of meaning owing to lack of interface interaction and missing non-verbal cues (Collis and Hussey, 2014). The closed questionnaire also fails to capture the reasons behind the provided responses. The study recommends that a similar study be conducted using an open-ended questionnaire administered by the researcher to interface with the participants and obtain the reasons behind their responses. This could not be done in this study because of the limited time. Furthermore, Cassim, (2017) mentions non-response bias as another drawback of an online questionnaire. The research will send follow-up reminders to participants to counter the non-response bias.

Any introductory section detailing the aims of the research and emphasising that participation was voluntary and anonymous formed the cover page of the questionnaire. The questionnaire has three major sections arranged sequentially to establish a smooth general flow by grouping questions with the same context; the first

part consists of the participants' demographic information such as gender, race, etc. The second part is related to the background of contractors and the last section covers the perceived problems faced by emerging contractors. The questions are phrased in such a way that they are clear, concise and understandable with minimal bias (Adigüzel and Wedel, 2008). This limits the participants from making inferences but rather responding to the questions independently. The questionnaire commences with the general questions to cover the demographics of the respondent. The specific questions include a 5-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree. The scale was chosen because it provides a convenient way to measure unobservable constructs (Jebb, Ng and Tay, 2021). On some questions, the 5-point Likert scale was collapsed to a 3-point Likert scale. This was done by combining strongly disagree and disagree to represent "disagree", neutral remained "neutral" and strongly agree and agree were combined to represent "agree". The 3-point Likert Scale was used where the constructs were better measured using reduced options (Jebb, Ng and Tay, 2021): though it lowers variability, it maintains the reliability of the results (Leung, 2011).

The questions were derived from the literature review and previous questionnaires of similar studies. The literature background was used to generate questions that explicitly link the key variables in the development of emerging contractors to respond to the research's questions. Table 3-1 presents the summarised literature and the corresponding generated questions. The detailed questionnaire is attached as Annexure B.

Table 3-1:Questionnaire Design

<table>
<tr><th>Literature Background</th><th>Key Variables Questions</th></tr>
<tr><td>Emerging contractors are relatively small-scale construction businesses with a fragile business structure and limited capital (Amoah and Bikitsha, 2022)</td><td>• What was the value of the biggest project ever constructed by the company?
• How many years have your construction company been active in the industry?
• What was your construction total annual turnover or biggest project amount in 2022?</td></tr>
<tr><td>Most small contractors have minimal entrepreneurial skills (Sitharam and Hoque, 2016) and little is known about these small contracting firms in terms of their business structure, technical expertise, experience and networks, which militate against the prescription of a suitable development initiative (Martin and Root, 2012).</td><td>• How many full-time employees did the company have in 2022? (Please do NOT include the local labourers)
• What is the CIDB grading (CE or GB) of your company?</td></tr>
<tr><td>The survey on CIDB-registered contractors within or below grade 4 revealed that only 45% of them have received any formal construction-related training (Martin and Root, 2012). This leaves the contractors in a precarious position as the limited training and inexperience lead to non-performance and eventually closure of the business.</td><td>• Have you had informal or formal training on any of your projects?
• If you had training on any project, please indicate in which of the following fields:
• Who provided the training?</td></tr>
<tr><td>One of the biggest challenges facing emerging contractors is intermittent and unsecure work opportunities. Worku, (2016) attributes it to insufficient investments in infrastructural projects, the weak economy in developing nations, and plummeting business confidence compounded by the inefficient government administrative processes.</td><td>• What was your construction total annual turnover or biggest project amount in 2022?
• What is the longest duration that you did not have work/project?
• Has the company ever worked as a labour-only subcontractor?</td></tr>
<tr><td>Lack of contract continuity means that the small contractor will either fail or lose the gained competence through lack of practice (Croswell and McCutcheon, 2001). Small contractors are no longer competing with only</td><td>Rate each based on the Likert scale:<table><tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>The erratic inflow of projects</td><td></td><td></td><td></td><td></td><td></td></tr></table></td></tr>
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<table>
<tr>
<td>established domestic contractors but rather with aggressive foreign contractors seeking a share of the global market (Sitharam and Hoque, 2016).</td>
<td>
<table>
<tr><td>Stiff competition from fellow contractors</td><td></td><td></td><td></td><td></td><td></td></tr>
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</td>
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<tr>
<td>Small contracting firms, unlike established contractors that can seek respite through the international market, are subjected to the volatility of work distributions (Thwala and Phaladi, 2009). The volatility of the industry leads to above-average levels of outsourcing and subcontracting to cut the cost of production (CIDB, 2015b).</td>
<td>Rate each based on the Likert scale:
<table>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>Preference of established contractors</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Unhealthy subcontracting</td><td></td><td></td><td></td><td></td><td></td></tr>
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</td>
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<tr>
<td>Most of the new contractors do not own collateral that can be leveraged to access reasonably cheap capital. Construction companies owned by youth and rural people are unlikely to have access to start-up capital (Coetzer and Louw, 2012). This is worsened by the fact that since the 2008 global economic crisis, banks’ lending criteria have become more cautious and the capital available for lending shrunk (Windapo and Cattell, 2013)</td>
<td>

Which of the following are your major sources of finances?
Has the company experienced problems with meeting the collateral requirements when seeking a loan?
If ‘yes’, what was/were the problems?

Rate each based on the Likert scale:
<table>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>Access to loans</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Repayment of loans/High-interest rates</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td>
</tr>
<tr>
<td>Building material costs account for up to 60 per cent of the project costs (Windapo and Cattell, 2013), meaning that the significant growth of emerging contractors is hinged upon the stability of material prices. Therefore, material price escalation beyond the inflation rate attributed to various causes, including macroeconomics and geopolitics pushes away emerging contractors (Al-Mhdawi et al., 2023).</td>
<td>

On your last completed project, what were the following costs as a percentage of the project contract price?

Rate each based on the Likert scale:
<table>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>Supply/Cost of building material</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td>
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</table>

<table>
<tr><td></td><td>
<table>
<tr><td>Supply/Cost of construction equipment (plant, generators, etc)</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Cumbersome regulations and bureaucratic procedures pose a challenge to emerging contractors (Worku, 2016). This is evidenced by the market-unrelated tendering processes riddled with both outdated and irrelevant procedures.
Restrictive regulations and militant labour unions have not done the small upcoming contractors any favours. The inefficient labour market is restrictive, particularly for emerging contractors whose business depends on labour (Sitharam and Hoque, 2016).</td><td>Rate each based on the Likert scale:
<table>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>Labour legislation (BBBEE and minimum wage)</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Labour strikes/protests</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>The shortage of skills within the government sectors responsible for contractors’ development is a constraint on infrastructure delivery and the growth of emerging contractors (Windapo and Cattell, 2013).
The scarcity of professionals and technical staff available to emerging contractors exacerbated by the domination of established contractors inhibits the development of emerging contractors (Fitchett, 2001b).</td><td>Rate each based on the Likert scale:
<table>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>Shortage of skilled labour</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Lack of technical skills</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>The scarcity of technical and financial management skills, which enable efficiency in executing the works has held back the development of contractors (Amoah and Bikitsha, 2022).
The employment of inexperienced staff with minimal financial and technical management skills due to financial constraints culminates in project costs and time overruns (Govender, 2012).</td><td>• Before becoming a contractor in which industry were you working?
• What is your highest level of education?
• What motivated you to be a contractor?
Rate each based on the Likert scale:
<table>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>Shortage of skilled labour</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Lack of technical skills</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
</table>

3.1.4 Data analysis

The quantitative data analysis will involve the raw data assessment, data processing and reporting of the findings. The analysis and interpretation of data using statistical techniques search for trends and establish relationships and strengths of variables. The collected data will be analysed using both descriptive and inferential statistics to understand, explain and interpret the phenomena of interest (Ehwi *et al.*, 2022), to answer the research questions (Anupama and Chaudhary, 2022), and generate theories (Amaratunga *et al.*, 2002). Descriptive statistics summarises the demographics of the respondents while inferential analysis is used to establish relationships among variables. The process involves the use of analytical and logical reasoning to determine patterns or trends (Clarke-Hagan and Curran, 2018). The statistical evidence will be used to establish the strength and determine the directions of the observed patterns (Amaratunga *et al.*, 2002). The analysis will deal with statistical errors, missing data, and outliers to present accurate and reliable data.

3.1.4.1 Descriptive and Inferential Statistics

Descriptive statistics outlines and summarises the collected data using the sample's mean, median, mode, range and standard deviation (Cassim, 2017). The descriptive statistics will describe the differences between the respondents and non-respondents to enhance the transparency of the representativeness of the studied sample (Mattos-Vela, Evaristo-Chiyong and Siquero-Vera, 2023). The variability of the respondents' responses will be measured using the standard deviation and pictorially expressed in the form of charts or graphs, which makes it easier to visually identify patterns (Collis and Hussey, 2014). On the other hand, inferential statistics employ both parametric and non-parametric statistical tests such as t-test, Chi^2-test, and correlations test to investigate statistical relationships among factors at a set level of confidence. The inferential statistics according to Cassim, (2017) allow the findings of the study to be generalised.

3.1.4.2 Friedman's ANOVA Test

The analysis of variance (ANOVA) tests the results of the survey's significance and informs the rejection of the null hypothesis or acceptance of the alternate hypothesis (Collis and Hussey, 2014). It tests whether, for an independent factor, there are significant differences between the groups. Friedman's ANOVA is a non-parametric statistical test which is used for one-way repeated measures analysis of variance

ranks (Wegner, 2014) will be used in this research. The test is an ideal statistic for repeated measures to determine the effect of a particular factor and verify whether the difference between agreement and disagreement is significant (Scheff, 2016). In this study, the Friedman test as argued by Eisinga *et al.*, (2017) was used to rank the collected data before analysis to robustly screen out outliers.

3.1.4.3 Chi^2 Test

The Chi^2 test is a measure of the differences in frequencies between two categories based on the projected frequencies that define the null hypothesis against frequencies collected from a random sample (Collis and Hussey, 2014). The study conducted a Chi^2 test of independence, which not only provides information on the significance of any observed differences but also factors that account for the differences (Mchugh, 2013). The test was conducted to establish whether the findings have any statistical significance between the general agreement and disagreement of the participants on the challenges facing emerging contractors. The Chi^2 test determines the practical significance of the challenges facing emerging contractors if the p-value is less than 0.05 (statistically significant) based on the sample frequencies (Gravetter and Wallnau, 2009).

3.1.4.4 Reliability and Validity

Reliability and validity assure the accuracy of the findings hence the importance of a quantitative study to provide a reliable and valid measuring instrument (Ibrahim, Hami and Abdulameer, 2020). The measuring instrument was piloted to identify any challenges in responding to the questions and recording the data. The piloting of the questionnaire made it possible to assess the questions' validity and reliability. The reliability and validity of collected data will be checked using Cronbach's alpha coefficient. The Cronbach's alpha coefficient ranges from 0 to 1, with the minimum accepted values ranging between .6 to .69 (Ibrahim, Hami and Abdulameer, 2020). The study's reliability will be analysed as shown in Table 3-1. The study's validity measures both internal validity, which refers to the degree to which the findings seem accurate based on the adopted research methodology, and external validity, which relates to the generalisation of the findings to population, time frame and settings similar to those of the research (Hays *et al.*, 2016). The internal validity establishes that the study is grounded within recognised constructs; therefore, the questionnaire

was developed based on peer-reviewed literature and previous similar questionnaires to assert its internal validity.

Table 3-2: Interpretation intervals for Cronbach's alpha coefficient (Gravetter and Wallnau, 2009)

Indication	Cronbach's alpha
Excellent	0.80 +
Good	0.70 - 0.79
Fair	0.60 - 0.69
Poor	0.50 - 0.59
Unacceptable	< 0.50

3.1.5 Sampling Design

Sampling design refers to the specific process by which the participants, the sample, are selected. The selected sample must align with the purpose of the study (Headley and Plano Clark, 2020) and be a representative subset of the population, where the population is too large to participate in the research (Garg, 2016). A representative sample, adequately reflecting the heterogeneity of the population improves the potential of generating valid and credible findings (Cassim, 2017). Collis and Hussey, (2014) concur, adding that a larger sample not only enhances the credibility and generalisability of the findings but also lowers the sampling error and nullifies the significance of outliers. The sample design determines the required minimum number of participants to be attained so the data can be reliably and statistically analysed. Therefore, the sampling design informs the quality of the survey, determines the survey error and controls the representation error (Kölln, Ongena and Aarts, 2019).

3.1.5.1 Sampling Frame.

The sampling frame design, which is the ordering of characteristics of the target population's elements, is based on availability, coverage, adopted methodology, and costs (Kölln, Ongena and Aarts, 2019). The chosen sampling frame influences the study's nonresponse and coverage errors. The sample size must be predetermined and sufficiently representative of the population to answer the research questions (Garg, 2016). This allows the findings to be generalised to the target population. A sample size of 66 out of 173 contractors on the database of the Eastern Cape Department of Human Settlements, almost 40% response rate, was achieved, which was representative of the target population of housing contractors in the Eastern Cape

adequate to generalise the findings. Sivo *et al.*, (2006) in their seminal work, propose that every researcher ideally must pursue a 100 per cent response rate but postulate that in reality, only a few studies enjoy such a rate. The authors found that in reviews of small businesses, such as emerging contractors, response rates hovered below 40% but the results can still be generalised with due respect to the limitations.

Confounding factors that may affect the research, yet not directly relevant to the study (Garg, 2016) such as loadshedding and geopolitical stances of the nation on the ongoing Ukraine-Russia war will be adjusted for in the statistical analysis. Such factors are not accounted for in the sampling frame.

3.1.5.2 Convenience and Snowball Sampling

Randomisation, a method to select participants, is a basic assumption required for statistical data analysis. It minimises both selection and allocation biases, which enhances the representativeness of the sample (Garg, 2016). Therefore, a random sample is representative of the target population (Cassim, 2017). Randomisation is done using either probability or non-probability sampling. Probability sampling gives equal and non-zero chances to the individual components of the population though restraints depending on the homogeneity and size of the population can be applied. On the contrary, non-probability sampling does not offer equal chances for the components of the target population to be selected (Collis and Hussey, 2014). The non-probability sampling methods include quota sampling, which is based on the features of the target population, and judgement sampling, which is based on the researcher's subjectivity (Cassim, 2017). Quota sampling is tedious and applies to a reasonably small target population while judgement sampling tends to introduce bias hence both sampling techniques were not used in this study.

The study is based on a non-probability sampling technique, thus convenience and snowball sampling. Convenience sampling includes participants who are easily accessible to the researcher and is relatively cheaper considering that the study is both time and resource constrained. In this case, the questionnaire was sent out to contractors on the database of the Eastern Cape Department of Human Settlements. However, the sampling technique has the potential to draw a sample that is not representative of the target population and in turn introduce bias (Cassim, 2017). The participants, contractors on the database, were requested to forward the survey to

other emerging contractors, thus snowball sampling. This increases the representativeness of the sample and assists in reducing bias (Garg, 2016). The survey in Google Forms restricted one response per email address to reduce the risk of response duplication and enhance the reliability of the findings.

3.2 Ethical Requirements

The research was designed and conducted in compliance with the University of Witwatersrand's policies and procedures on ethical research following the approved ethical clearance certificate annexed as Annexure A. It followed the cardinal rule of ethical and moral research, thus the participants enjoyed their rights to confidentiality, to be consulted and to withhold consent (Bell, 2017). Additionally, in accordance with the University's research ethics policies, the anonymity of the participants was preserved as the survey did not in any form collect the participants' identities. Participation in this study was not only voluntary but allowed the respondents to terminate the survey at any point without repercussions (Hays *et al.*, 2016; Lewis *et al.*, 2023). The survey neither included sensitive nor controversial issues that could potentially expose participants to risks and unintentionally harm participants.

3.3 Summary

The chapter outlined the research design and methodology adopted by the study to objectively respond to the research questions. Chapter Three defined research as a process to generate new knowledge while conforming to specific quality requirements. Part of the requirements includes grounding the research in appropriate philosophical assumptions, thus the research paradigm. The chapter briefly described the main research paradigm before justifying the reasons behind grounding the study in the positivism paradigm. The paradigm was adopted because of the nature of the research questions, its efficiency in the collection of voluminous data, and its perceived credibility by the policymakers. The researcher noted positivism's drawbacks such as its rigidity and inadequacy in capturing reasons behind the responses and recommended that similar studies conducted in the future grounded in other paradigms to counter the drawbacks.

The adoption of the positivism paradigm translated to the use of a quantitative rather than either a qualitative or mixed method. The method objectively analyses relationships between variables and using deductive logic, it generalises the findings.

A closed online questionnaire was used to collect the quantitative data because it's low-cost and easy to administer considering that the research was both time and cost-constrained. The questionnaire had an introductory section detailing the purpose of the study and emphasising that participation was purely voluntary. The other sections of the questionnaire were arranged sequentially to establish a smooth flow. The shortcomings of the measuring instrument such as questionnaire fatigue and loss of meaning due to lack of interface interaction were countered.

The chapter briefly discussed how descriptive and inferential statistics were used to analyse the collected primary data. Descriptive statistics were used to summarise the findings and visually establish relationships between variables. On the other hand, inferential statistics investigates the statistical relationship between factors to allow for the generalisation of the findings. Reliability and validity which assure the accuracy of the findings were succinctly discussed and how the study enhances them. The chapter then summarised the sampling design, stating the rationale of the adopted sampling frame. Finally, the chapter postulated the ethical standards that the study complied under the University’s ethical standards.

4 CHAPTER FOUR: RESULTS AND ANALYSIS

4.1 Introduction

The research design and methodology chapter discussed the detailed procedure that will be taken to meet the primary objective of the study, ***ROM:*** *To investigate the challenges facing the development of emerging contractors to recommend possible solutions in the building industry.* The study seeks to examine the challenges facing emerging contractors, particularly in the housing sector and offer contextual recommendations that will enhance the sustainability and growth of competitive emerging contractors. The results and analysis chapter reports the collated and analysed data to address the study's primary objective. This chapter examines the statistical significance of the challenges faced by emerging contractors to respond to the research question.

4.2 Data Analysis

The study had a sample size of 66 respondents, a representative sample for a target population of 173 contractors on the Eastern Cape Department of Human Settlements database. The online (Google Forms) collected data were analysed into meaningful information using statistical software SPSS version 29. Descriptive analysis was used to profile the demographic variables and other variables of the research instrument. A descriptive approach coupled with a non-parametric chi-square test of equal proportions was opted for comparing the differences in the perception of respondents on various aspects of the research instrument. The ranking of the various aspects of the study was conducted based on Friedman's two-way ANOVA test. The collected data only showed one population hence the results were analysed as one representative sample of the target population. Further studies that will analyse the challenges experienced by the contractors within the same CIDB grade are recommended. The detailed reporting and analysis of the results are presented in the following sections.

4.3 Biographical Data of Respondents

Before a detailed analysis of the data was done, basic distributions according to the study's biographical profile of sampled participants were initially performed. A descriptive approach was used to detail the biographical variables of the study as presented in Table 4-1.

Table 4-1: Biographical Data of Respondents

Variable	Levels	Frequency	Percentage
Gender	Female	20	30.3
	Male	46	69.7
Race	Black	57	86.4
	Coloured	4	6.1
	Indian	1	1.5
	White	4	6.1
Education	Less than Matric	2	3.0
	Matric	8	12.1
	Certificate	6	9.1
	Diploma	26	39.4
	Degree	17	25.8
	Postgraduate Degree	7	10.6
Role/Position	Sole owner/director	39	59.1
	Partner	15	22.7
	Contracts/Office Manager	11	16.7
	Administrative Employee	1	1.5

N=66

4.3.1 Percentage Distribution by Gender

The majority of the respondents (69.7%, *n* = 46) were male respondents, while female respondents comprised 30.3% of the respondents (*n* = 20). The gender distribution is presented in Figure 1. The data concurs with both Ndabeni, (2008) and Himlin, (2005) who both observed that women only account for about 30 per cent of emerging contractors. The proportion of female respondents is higher than the 15.7% national construction industry average (Stats SA, 2022). This means that though there have been opportunities in the construction industry for women there is more that still needs to be done to reduce the gender disparity.

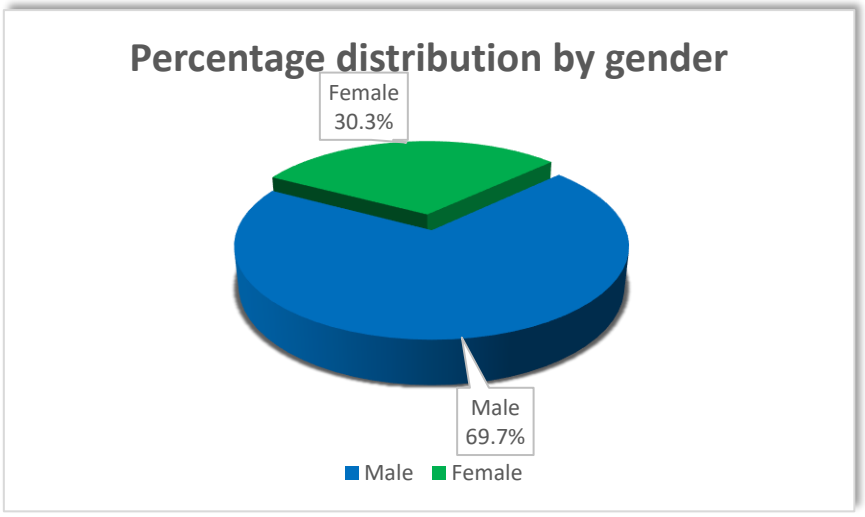


Figure 1: Respondents' Gender

4.3.2 Percentage Distribution by Race

The pie chart shown in Figure 2 depicts that most of the respondents (86.4%; *n* = 57) were Blacks followed by 6.1% (*n* = 4) who were Coloureds with a similar percentage (6.1%) who were Whites. Only 1 participant was Indian. Most of the emerging contractors are Blacks probably because the sample was largely drawn from the Eastern Cape where 85% of the population is Blacks, 7.6% is Coloured, 5.6% is White and Indians comprise less than half a per cent (StatsSA, 2022). In addition, Thwala and Phaladi, (2009) as well as Sitharam and Hoque, (2016) note that the government has been intentionally empowering historically disadvantaged individuals into emerging contractors owing to its minimum entry requirements hence the majority of respondents were Blacks. The entry barriers are low because there are no dominant firms that control the market, the government offers a wide range of support incentives to black-owned emerging contractors, the material and construction equipment can be obtained on credit or leased respectively and the required technical knowledge can be subcontracted from established contractors (CIDB, 2015b). Since the majority of emerging contractors are mostly managed by owners (Aigbavboa and Thwala, 2014), the respondents were assumed to be representative of the company's management for the analysis of the data.

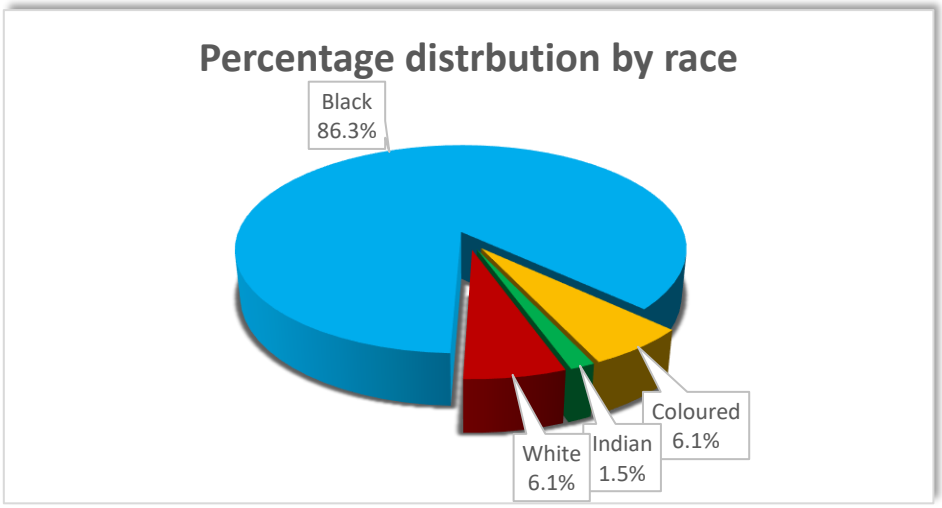


Figure 2: Respondents' Race

4.3.3 Percentage Distribution by Level of Education

The bar chart presented in Figure 3 shows that most respondents (39.4%; *n* = 26) had a Diploma as their highest qualification, followed by 36.4% (*n* = 24) who had a degree or a Postgraduate Degree whilst 15.1% (*n* = 10) had a Matric certificate or less and six (9.1%) had a certificate as their highest qualifications. A significant percentage (75.8%) of the respondents have tertiary qualifications, which is contrary to the assertation by Croswell and McCutcheon, (2001) that small contractors have a weak educational base and minimal formal training. However, the argument that small contractors have limited education is sustained because, as shown later in this research, though most of the small contractors have at least a tertiary qualification about 47% of the qualifications are not built environment related.

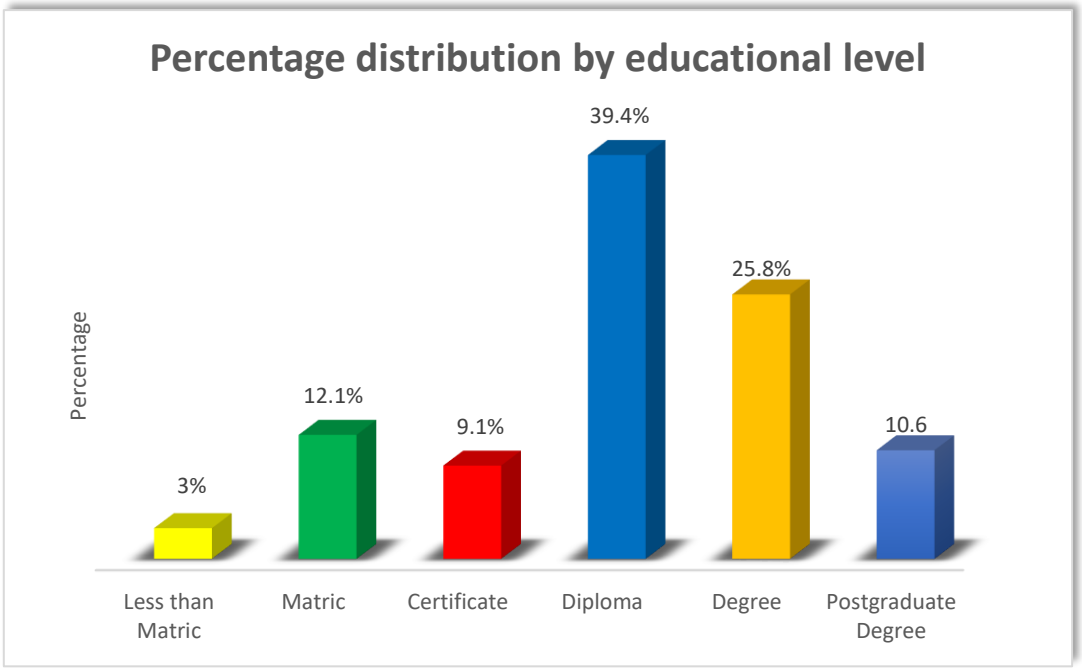


Figure 3: Respondents' Level of Education

4.4 Small Contractors' Demographic Profile

A descriptive analysis of the demographic profile of the sampled emerging contractors was also conducted (see Table 4-2).

Table 4-2: Small Contractors' Demographics

Variable	Levels	Frequency	Percentage
Province	Eastern Cape	56	84.8
	Limpopo	2	3.0
	Gauteng	5	7.6
	Mpumalanga	2	3.0
	KwaZulu-Natal	1	1.5
Tenure of company	Less than 2 years	3	4.5
	Between 2 to 5 years	20	30.3
	Between 6 to 10 years	26	39.4
	Over 10 years	17	25.8
Annual turnover	R0 million	2	3.0
	Less than R1 million	10	15.2
	Between R1 and R3 million	7	10.6
	Between R3 and R6 million	12	18.2
	Over R6 million	35	53.0
Fulltime employees	0 - 5	24	36.4
	6 - 20	37	56.1
	21 - 50	5	7.6
CIDB Grade	Grade One	11	16.7
	Grade Two	5	7.6
	Grade Three	4	6.1

	Grade Four	11	16.7
	Grade Five	8	12.1
	Grade Six	13	19.7
	Grade Seven	10	15.2
	Grade Eight	3	4.5
	Not registered	1	1.5

N=66

4.4.1 Distribution by Province

The bar chart presented in Figure 4 shows that an overwhelming number of emerging contractors (84.8%; n = 56) were head-officed in the Eastern Cape Province. Out of the 66 sampled small contractors, 5 (7.6%) were in Gauteng Province, while only 1 (1.5%) was in KwaZulu Natal Province. Two respondents each reported that their head offices were in Limpopo and Mpumalanga Provinces. Though some contractors indicated that they are from other provinces, the contractors were all working in Eastern Cape for the Department of Human Settlements; therefore, for this research, they were classified as Eastern Cape contractors. The research used the database of contractors working for the Eastern Cape Department of Human Settlements hence most of the contractors are local. Furthermore, the low-cost housing programme emphasises upskilling locals (Mashiri, Dube and Chakwizira, 2010), evidenced by the significant number of local emerging contractors.

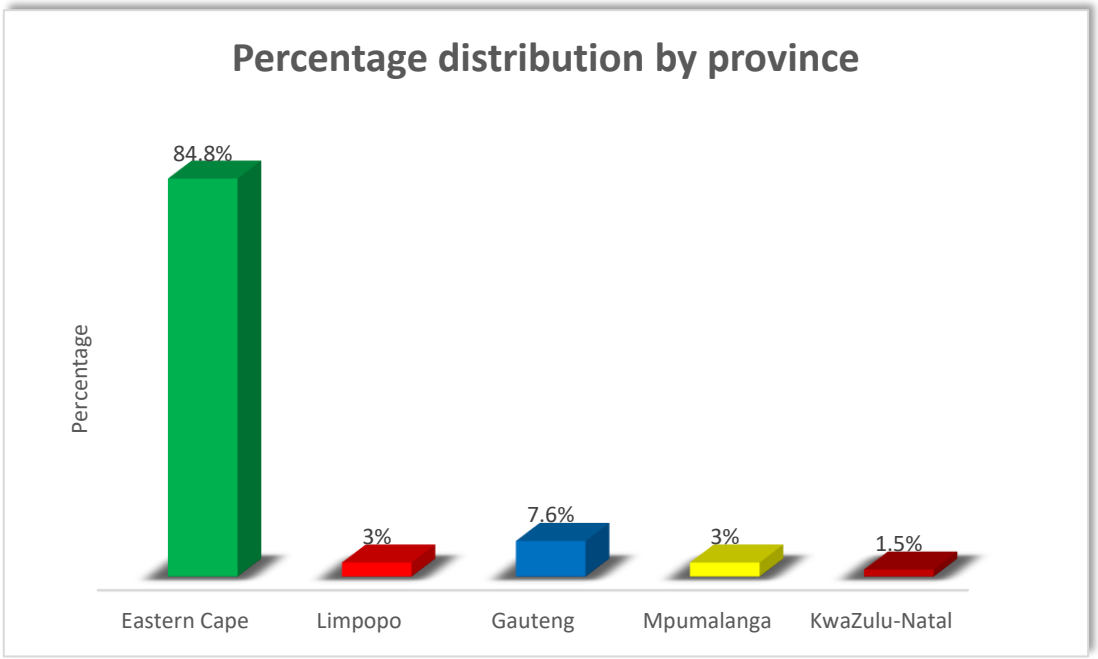


Figure 4: Geographical Distribution of Contractors

4.4.2 Distribution by the Company's Tenure

Most of the contractors (39.4%, *n* = 26) had 6 to 10 operational years, followed by 30.3% (*n* = 20) which were between 2 to 5 operational years. Seventeen companies (25.8%) were over 10 years in operation whilst only 4.5% (*n* = 3) of the businesses had been in operation for less than 2 years. The bulk of emerging contractors (74.2%) are less than 10 years old. The upcoming contractors are relatively new in the industry. Figure 5 shows the distribution of respondents concerning the tenure of the small contractors.

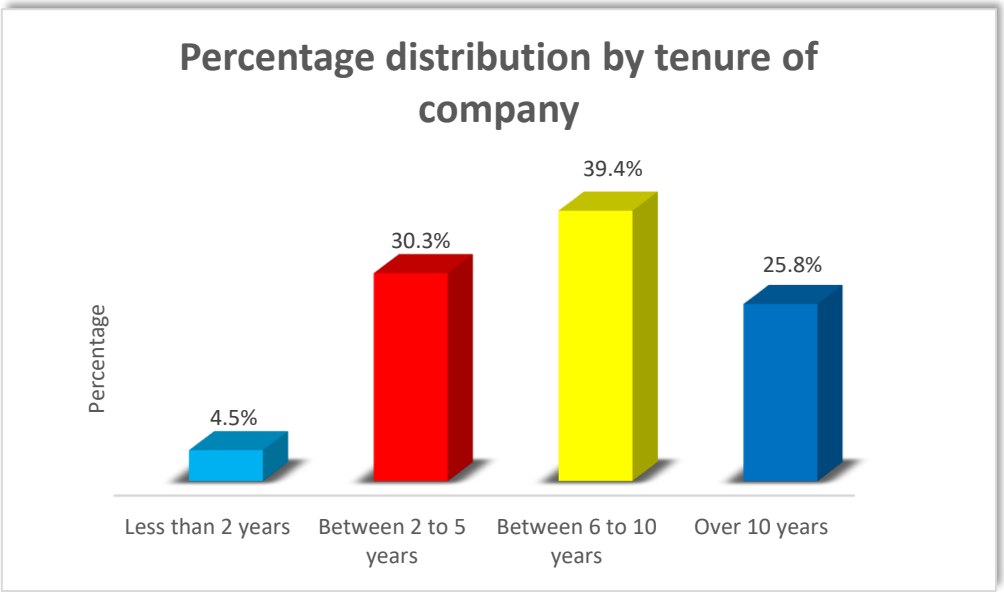


Figure 5: Contractors' Tenure

4.4.3 Distribution by Annual Turnover

A significant number of the contractors (53.0%; *n* = 35) had an annual turnover of more than R6 million while twelve contractors (18.2%) had an annual turnover of between R3 and R6 million, with seven businesses (10.6%) achieving an annual turnover of between R1 and R3 million. The other ten emerging contractors (15.2%) had an annual turnover of less than R1 million and only two businesses (3.0%) had an annual turnover of R0 million. At least almost 5 out of 10 of the emerging contractors had an annual turnover of less than R6 million which is substantiated by Thwala, (2022)- as well as Martin and Root, (2012) who both observed that the vast majority of the housing contractors are emerging contractors in the lowest CIDB four grades and without the capacity to implement projects worth over R20 million. Furthermore, a combined 29% of the contractors had an annual turnover of less than R3 million

demonstrating the unhealthy competition among emerging contractors due to the low entry barriers. The annual turnover of the respondents is depicted in Figure 6.

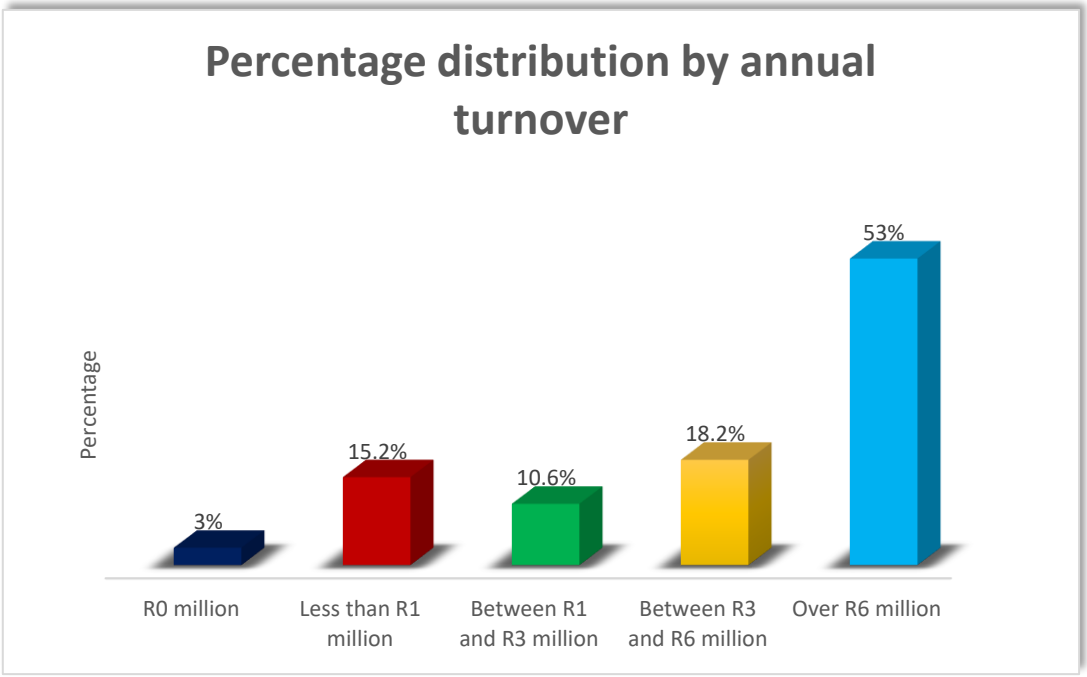


Figure 6: Annual Turnover of Contractors

4.4.4 Distribution by Fulltime Employees

Figure 7 shows the number of employees in the sampled contractors. The pie chart shows that most of the businesses (56.1%; *n* = 37) had 6 to 20 employees followed by twenty-four (36.4%) companies which had 0 to 5 employees. Only five businesses (7.6%) had 21 to 50 employees. Over 92% of the emerging contractors have less than 20 full-time employees, which is expected partly because of the intermittent work opportunities that contractors opt for minimum full-time employees they can sustain during the dry months (Worku, 2016) and the industry's unhealthy competition forces the contractors to cut on labour to break even (Amoah and Bikitsha, 2022). In addition, CIDB suggests that protracted industrial action by both non-unionised and unionised members has forced contractors to opt for a lean staff complement they can manage (CIDB, 2015a).

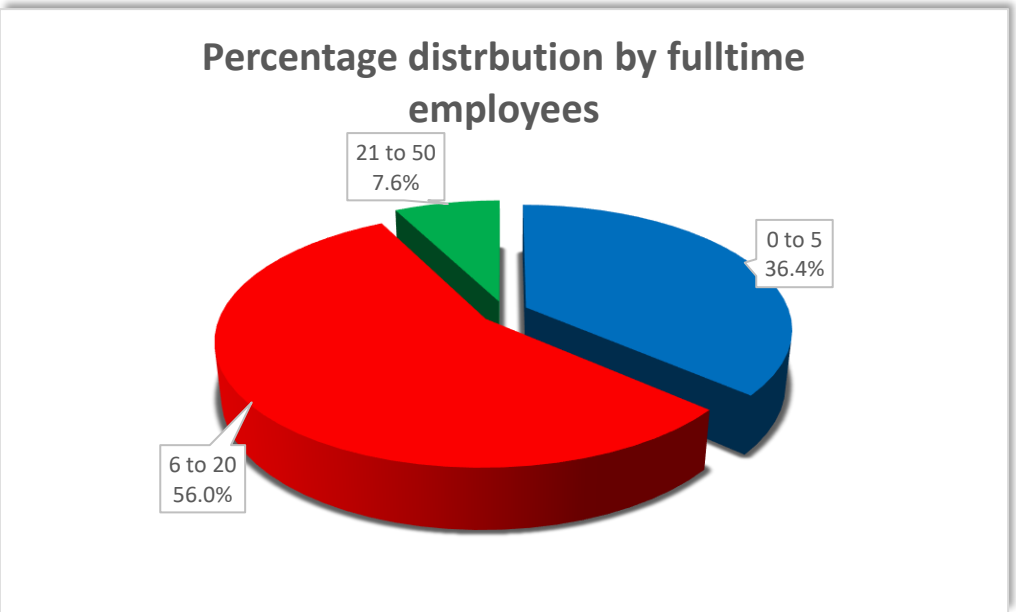


Figure 7: Fulltime Employees

4.4.5 Distribution by CIDB Grade

Figure 8 shows the distribution of respondents to CIDB grading. Most of the businesses (19.7%, *n* = 13) were Grade six, followed by 16.7% (*n* = 11) which were Grade four or Grade one companies. Ten companies (15.2%) fall in Grade seven, eight (12.1%) in Grade five, whilst five companies (7.6%) were classified under Grade two. Four companies (6.1%) were Grade Three with only 4.5% classified under Grade Eight companies. A significant 80% of all the respondents are CIDB grade 6 or less, these are contractors with an estimated annual turnover of less than R20 million and are considered as either small or micro contractors (Stats SA, 2022). This means that the housing sector experiences the challenges associated with emerging contractors such as compromised quality (Windapo and Cattell, 2013), delayed completion dates and use of inexperienced staff (Govender, 2012). Additionally, as postulated in the CIDB report, on average the upgrade rate is between 5-8%, meaning that most of these contractors will remain in the same grade for years to come (CIDB, 2015b).

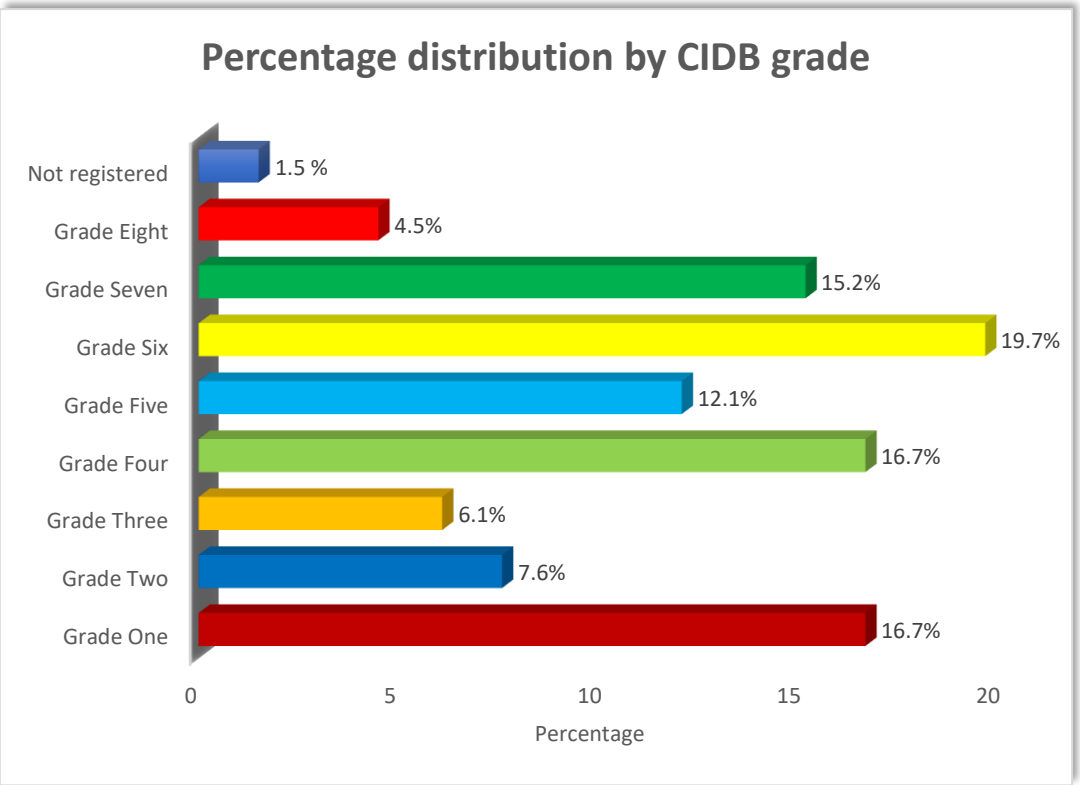


Figure 8: CIDB Grading

4.5 Descriptive and Inferential Analysis of the Contractors' Background

4.5.1 General Background of the Sampled Contractors.

Firstly, it was necessary to establish the general background of the sampled small contractors. Selected questions from the research instrument which cover various aspects were used. A descriptive analysis was also used to profile and present the general background of the sampled emerging contractors which is presented in Table 4-3.

Table 4-3: General Background of Small Contractors

Question	Categories	Frequency	Percentage
Before becoming a contractor in which industry were you Working?	Construction Engineering	35	53.0
	Accommodation and food	8	12.1
	Administrative and support	3	4.5
	Arts. entertainment & recreation	4	6.1
	Education	4	6.1
	Financial and insurance	1	1.5
	Human health and social work	2	3.0
	Manufacturing, mining, &	3	4.5
	Unemployed	3	4.5

	Student	1	1.5
	Church leader	1	1.5
	Spaza shop owner	1	1.5
What motivated you to be a contractor?	Family business/inherited	4	6.1
	Unemployment	10	15.2
	Independence	13	19.7
	Prospect of earning more	22	33.3
	Ambition	14	21.2
	Wanted to leave sub-contracting	3	4.5
Main source of income?	Yes	63	95.5
	No	3	4.5
Longest duration with no project?	Less than 6 months	42	63.6
	> 6 but < 12 months	12	18.2
	Over 12 months	12	18.2
Workforce doing now?	Laid off/returned to hirer	8	12.1
	Being paid but not working	2	3.0
	Doing subcontracting work	24	36.4
	Working on-site as the main	32	48.5
Worked as labour-only subcontractor	Yes	41	62.1
	No	25	37.9
Amount of the last project	Less than R1 million	10	15.2
	Between R1 and 3 million	5	7.6
	Between R3 and 6 million	17	25.8
	Over R6 million	34	51.5
Collateral problems on loans	Yes	46	69.7
	No	11	16.7
	Not applicable	9	13.6
Problems with the collateral	Did not own property for security	22	46.8
	Did not have contracts for	12	25.5
	Not been in business long	10	21.3
	Other	3	6.4

N=66

Table 4-3 shows that the majority of the participants (*n* = 35; 53.0%) were working in the construction industry before becoming a contractor. This was followed by 12.1% (*n* = 8) who worked in the accommodation and food service industry before becoming a contractor. A significantly small number (*n* = 4; 6.1%) were once in the arts entertainment & recreation as well as the education industry before becoming contractors. A sizeable number of emerging contractors (47%) lack any construction background but the low entry barriers and the use of labour-intensive methods permit such companies to venture into the construction industry (Dapaah, Thwala and Musonda, 2017). The entry of opportunistic small companies into the construction industry, with limited technical capacity has led to unhealthy competition, stifling the sustainable growth of emerging contractors (Ncwadi and Dangalazana, 2005) and the

profitability of the industry, repelling away potential investors (CIDB, 2015b). Additionally, it means that a notable number of these emerging contractors do not have adequate training concurring with Martin and Root, (2012) who noted that over 45% of emerging contractors do not have construction-related training. The minimal technical training and lack of construction background led to non-performance (Amoah and Bikitsha, 2022) and a high rate of company failure due to a lack of business networks and relevant knowledge of the business environment (CIDB, 2015b).

When the emerging contractors were asked about the motivation behind venturing into the industry, most respondents indicated that they were motivated by the prospects of earning more than what they were earning (*n* = 22; 33.3%) followed by 21.2% (*n* = 14) who were motivated by ambition when becoming contractors. Thirteen participants (19.7%) had the desire to be independent, 4 (6.1%) were motivated by family business whilst 3 (4.5%) wanted to leave sub-contracting. Ten respondents were motivated because they were unemployed. The construction industry's profit margin of between 2.2 to 9.4% (Stats SA, 2022) presents a lucrative business opportunity coupled with the low barriers to entering the market (Thwala, 2022). Therefore, the expected economic profits and limited resistance from existing contractors motivate emerging contractors to enter the market (CIDB, 2015b). In addition, a notable percentage of emerging contractors were motivated by unemployment, a growing concern in the country, and a pandemic ravaging the nation, particularly the youth (Stats SA, 2019).

From the sampled companies, most respondents (*n* = 63; 95.5%) reported that construction was their main source of income. This was expected considering that the target population was mostly contractors working in the housing sector. However, the percentage of respondents that have construction as their main income is slightly higher than the 83% for grade 2 or higher contractors (CIDB, 2015b). Asked as to what was the longest duration that they did not have work/project, most respondents (*n* = 42; 63.6%) indicated that they did not have projects only for less than 6 months. On the other hand, twelve (18.2%) participants indicated that they did not have projects for over 12 months. The shortage of continuous work opportunities attributed to a plethora of reasons such as insufficient infrastructure investment, inefficient government administration processes and a weak economy (Worku, 2016) is gravely concerning because according to Dimson *et al.*, (2020), most of these financial fragile small companies cannot survive that long without work. Additionally, should the

emerging contractors make it through the dry work season, they would have lost the experienced staff; therefore, losing gained competence (Croswell and McCutcheon, 2001).

Responding to what the company workforce (full-time employees) are currently doing, most respondents (*n* = 32; 48.5%) reported that their workforce was working on-site as the main contractor followed by 36.4% (*n* = 24) were doing subcontracting work. The findings concur with the CIDB which reported that around 43% of emerging contractors obtain work as subcontractors (CIDB, 2015b). On the other hand, 12.1% (*n* = 8) were laid off whilst 3.0% (*n* = 2) were being paid but not working. The trend concurs with the Stats SA, (2022) report that showed that the construction industry has had an employment decrease of about 7.2% per annum from 2017. The 51% of the employees who are either on subcontracting work or laid off or paid but not working are attributed to one of the biggest challenges facing emerging contractors, the shortage of sustainable work opportunities (Worku, 2016). This results in most emerging contractors opting for unprofitable subcontracting work (Amoah and Bikitsha, 2022). The survey confirmed that most of the sampled companies (*n* = 41; 62.1%) acknowledged that they once worked as a labour-only subcontractor.

In terms of the amount of the last project, most respondents (*n* = 34; 51.5%) reported that their project was over R6 million followed by 25.8% (*n* = 17) who reported that their last projects were between R3 and R6 million. On the other hand, 15.2% (*n* = 10) reported that their last projects were less than R1 million whilst 3.0% (*n* = 2) were between R1 and R3 million. The responses summarise that over 48% of the emerging contractors' last projects were below R6 million, which cements that most of these contractors are micro entities. These upcoming contractors through the survey informed the research that when seeking loans, a significant number of them (*n* = 46; 69.7%) faced challenges with meeting the collateral requirements. The problems associated with this issue of collateral requirements were mostly due to the companies not owning property that can be used for the security of loans followed by not having contracts that can be used as collateral (*n* = 12; 25.5%). The remaining ten companies (21.3%) reported that they had not been in business long enough. These observations confirm Coetzer and Louw, (2012) as well as Amoah and Bikitsha, (2022) pronouncements that most emerging contractors lack collateral that can be used to access cheap capital and the reluctance of financial institutions to extend credit

facilities to relatively new companies. The underfinancing of emerging contractors means that they can neither hire experienced personnel nor acquire material and plant, which impedes their development (Martin and Root, 2012).

4.5.2 Contractors' Employers.

In order to establish the general findings regarding the type of contract employers, a non-parametric Chi-square test coupled with a descriptive analysis was conducted. A descriptive analysis was conducted by assessing the frequencies and percentages of how the respondents perceived various items measuring the general perception of participants regarding the type of employers. The items were measured on a 3-point Likert scale; from 1-never to 3-always.

In Table 4-4, the results suggest that most of the contractors were never contracted by private individuals and developers (*n* = 32; 48.5%; Chi-square = 22.182; *p* = <0.001). In addition, the Chi-square test suggests that an overwhelming number of businesses never get contracts from commercial banks or financial institutions (n = 58; 87.9%; Chi-square = 89.182; p = <0.001). Similarly, a significant size of the respondents never get their contracts from other sources (n = 59; 89.4%; Chi-square = 93.545; p = <0.001). Ncwadi and Dangalazana, (2005) opine that this is the trend in the industry because both private developers and commercial banks are profit-driven, therefore, invest expecting a return within a certain timeframe, preferring to use reputable and financially capable contractors to emerging contractors. Therefore, as evidenced by the survey, a large majority of emerging contractors rely on government departments and parastatals for work opportunities (*n* = 50; 75.8%; Chi-square = 54.909; *p* = <0.001). The government has the mandate to empower and upskill emerging contractors as part of the development and uplifting of previously disadvantaged communities (Himlin, 2005). In addition, emerging contractors are a notable contributor to economic growth through job creation, particularly for the less educated and are vehicles for wealth transfer to narrow the inequality gap (Govender, 2012; Windapo and Cattell, 2013) hence the government provide most of the work opportunities to these contractors.

Further, there is sufficient statistically significant evidence to suggest that almost 6 out of every 10 of the sampled contractors sometimes get their contract from large contractors (*n* = 37; 56.1%; Chi-square = 18.091; *p* = <0.001) with only 13.6% always

getting contracts through sub-contracting. Subcontracting has become a common feature albeit an imposed one for most emerging contractors partly because of a shortage of work, exorbitant material prices and lack of funding that forces these small contractors to accept work at below-market rates (Amoah and Bikitsha, 2021). Admittedly, intentional and developmental subcontracting is noble as it allows the transfer of skills, provides funding and accelerates the growth of emerging contractors (Haupt, Hadebe and Akinlolu, 2019). However, subcontracting without a defined developmental programme and strict monitoring by the client will likely exploit the emerging contractors hindering any form of development of these upcoming contractors.

Table 4-4: Frequencies, Percentages & Non-parametric Chi-square Results for Type of Employers

Item	Employer	Never	Sometimes	Always	Chi-Square	Exact p-value
1	Private (Individuals & Developers)	*n* = 32 (48.5%	*n* = 30 (45.5%)	*n* = 4 (6.1%)	22.182	<0.001*
2	Government Departments & Municipalities	*n* = 4 (6.1%)	*n* = 12 (18.2%)	*n* = 50 (75.8%	54.909	<0.001*
3	Large Contractors	*n* = 20 (30.3%	*n* = 37 (56.1%)	*n* = 9 (13.6%	18.091	<0.001*
4	Commercial Banks/Financial	*n* = 58 (87.9%	*n* = 7 (10.6%)	*n* = 1 (1.5%)	89.182	<0.001*
5	Other (specify)	*n* = 59 (89.4%	*n* = 5 (7.6%)	*n* = 2 (3.0%)	93.545	<0.001*

N=66, (*) - Statistically significant differences (at Alpha = 0.05). Statements were rated on a 3-point scale from 1 (Never) to 3 (Always).

Figure 9 presents the graphical summary of the findings on the types of employers of emerging contractors.

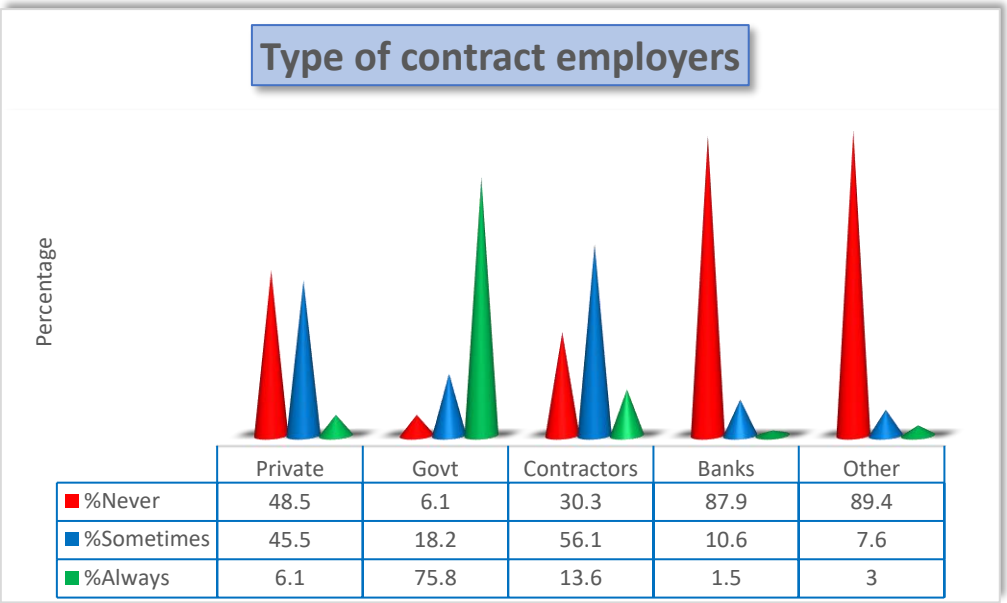


Figure 9: Type of Contractors' Employers

4.5.2.1 Friedman's Two-way ANOVA Tests on Contractors' Employers.

A Friedman's two-way ANOVA test was conducted to rank the type of the contractors' employers. Results in Table 4-5 show that there was significant evidence to conclude that the type of contract employers was rated differently by the respondents (p = <0.001). The mean rankings suggest that government departments and municipalities (mean rank = 4.55) followed by large contractors (mean rank = 3.37) and private (individuals and developers) (mean rank = 2.92) are the most dominant type of emerging contractors' employers. On the other hand, commercial banks/financial Institutions (mean rank = 2.08) and other employers (mean rank = 2.08) were the least possible type of employers for small companies. The results concur with section 4.5.2 findings as well as the explanation of the results.

Table 4-5: Friedman's Two-way ANOVA Ranks of Employers

Item	Mean Rank	N	Test Statistic	df	p-value
Type of contract employers.					
1. Private (Individuals & Developers)	2.92	66	143.969	4	<0.001
2. Government Departments &	4.55				
3. Large Contractors	3.37				
4. Commercial Banks/Financial	2.08				
5. Other (specify)	2.08				

In summary, the types of contractors' employers in their respective order are as follows:

i. Government Departments & Municipalities
ii. Large Contractors
iii. Private (Individuals & Developers)
iv. Commercial Banks/Financial Institutions
v. Other employers

4.5.3 Methods of Obtaining Contracts.

The descriptive analysis and the findings of the Chi-square tests regarding methods of obtaining contracts are presented in Table 4-6. There was statistically significant evidence to suggest that an overwhelming majority of the businesses always get their contracts through the tender process (n = 48; 72.7%; Chi-square = 50.545; p = <0.001). This reinforces the earlier results, which showed that most of the contractors obtain their work from government departments and municipalities since public procurement is primarily done through tendering. On the other hand, there was sufficient statistically significant evidence to suggest that a substantial number of contractors sometimes get their contracts through subcontracting (n = 36; 54.5%; Chi-square = 13.727; p = <0.001). Subcontracting as alluded to earlier is largely driven by a shortage of consistent work, and scarce credit lines to acquire construction equipment and materials (Aghimien, Aigbavboa and Thwala, 2019). Similarly, the data showed significant evidence to conclude that a considerable number of emerging contractors get their contracts through negotiation (n = 46; 69.7%; Chi-square = 40.727; p = <0.001). The emerging contractors sometimes negotiate contracts with bigger contractors and clients. Lastly, there was statistically significant evidence to suggest that an overwhelming majority of the businesses never use other means to get their contracts (n = 57; 86.4%; Chi-square = 34.909; p = <0.001).

Table 4-6: Results on Methods of Obtaining Contracts

Item	Method	Never	Sometimes	Always	Chi-Square	Exact p-value
1	Competitive tender	*n* = 2 (3.0%)	*n* = 16 (24.2%)	*n* = 48 (72.7%)	50.545	<0.001*
2	Subcontracting	*n* = 13 (19.7%	*n* = 36 (54.5%)	*n* = 17 (25.8%)	13.727	<0.001*
3	Negotiation	*n* = 14 (21.2%	*n* = 46 (69.7%)	*n* = 6 (9.1%)	40.727	<0.001*
4	Other (specify)	*n* = 57 (86.4%	*n* = 9 (13.6%)	*n* = 0 (0.0%)	34.909	<0.001*

N=66, (*) - Statistically significant differences (at Alpha = 0.05). Statements were rated on a 3-point scale from 1 (Never) to 3 (Always).

The tabulated results on the method of obtaining contracts are graphically presented in Figure 10

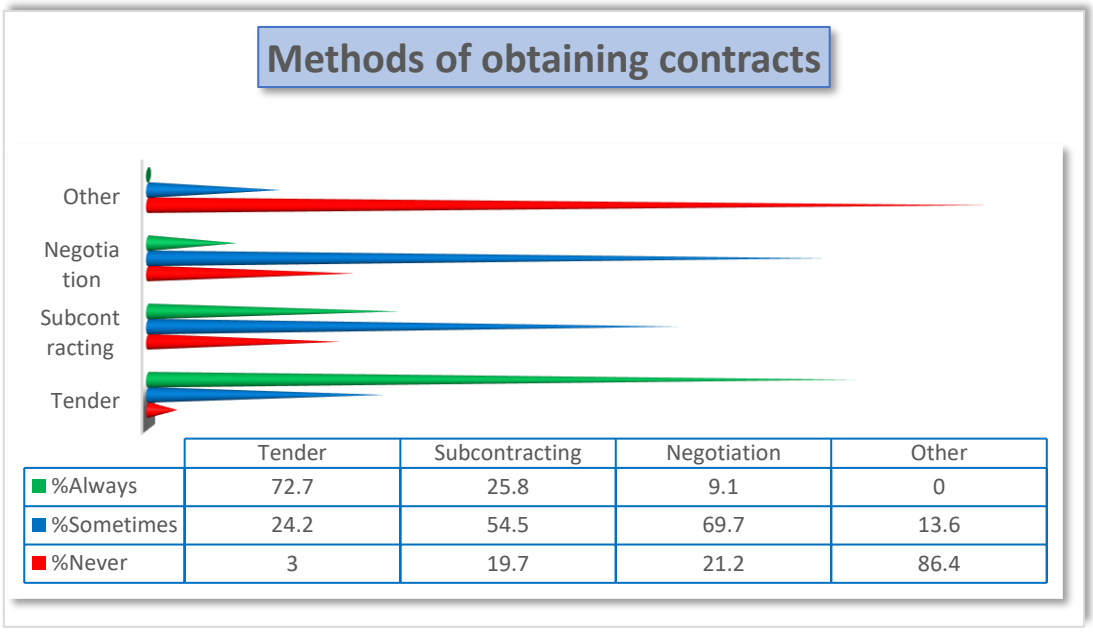


Figure 10: Methods of Obtaining Contracts

4.5.3.1 Friedman's Two-way ANOVA Tests on Methods of Obtaining Contracts.

In order to rank the methods of obtaining contracts, Friedman's two-way ANOVA test was conducted. The results are reported in Table 4-7, highlighting that there was significant evidence to conclude that the methods of obtaining contracts were rated differently by the respondents (p = <0.001). The mean rankings suggest competitive tendering (mean rank = 3.51) followed by sub-contracting (mean rank = 2.71) are the

most dominant methods of obtaining contracts. On the other hand, negotiating (mean rank = 2.42) and other methods (mean rank = 1.36) were the least possible methods of obtaining contracts for small contractors.

Table 4-7: Friedman's Two-way ANOVA Ranks for Methods of Obtaining Work

Item	Mean Rank	N	Test Statistic	df	p-value
Methods of obtaining contracts.					
1. Competitive tender	3.51	66	115.002	3	<0.001
2. Subcontracting	2.71				
3. Negotiation	2.42				
4. Other (specify)	1.36				

In summary, the methods of obtaining contracts in their respective order are as follows:

i. Competitive tender
ii. Subcontracting
iii. Negotiation
iv. Other methods

4.5.4 Project Costs Against the Contract Amount.

The study enquired about the estimated project costs as a percentage of the contract amount. The frequency and percentage distributions detailed in Table 4-8 reveal that the bulk of the respondents spend at least 30% to 60% of their contract amount on building materials. The findings agree with Windapo and Cattell, (2013), who posited that material cost in construction projects can amount to as much as 60 per cent of the contract value. Therefore, according to Al-Mhdawi *et al.*, (2023), material cost has a remarkable influence on the development of emerging contractors. The data also suggested that most companies spend less than 30% of their contract amount on labour costs as well as construction equipment. On the labour part, emerging contractors, owing to funding constraints and a shortage of long-term secure work, generally utilise relatively cheaper inexperienced staff (Govender, 2012). The emerging contractors have limited capital to finance construction equipment (Mofokeng and Thwala, 2012) and, therefore, largely rely on labour-intensive methods (Mashiri, Dube and Chakwizira, 2010) hence the amount spent on construction equipment is minimal.

A non-parametric Chi-square test of equal proportions was conducted to establish if there is any statistically significant evidence to suggest with statistical certainty these general findings. There was statistically significant evidence to suggest that a pronounced number of contractors spend 30% to 60% of their contract amount on building material (*n* = 34; 51.5%; Chi-square = 11.273; *p* = 0.004). There was also statistically significant evidence to conclude that many emerging contractors spend less than 30% of their contract amount on both skilled and unskilled labour costs (*n* = 55; 83.3%; Chi-square = 74.818; *p* = <0.001). Lastly, the Chi-square test suggests that most companies spend less than 30% of their contract amount on construction equipment hire/payment (*n* = 51; 77.3%; Chi-square = 60.091; *p* = <0.001).

Table 4-8: Results on Project Costs as a Percentage of Contract Amount

Item	Expense	< 30%	30% - 60%	> 60%	Chi-Square	Exact p-value
1	Building Material	*n* = 20 (30.3%)	*n* = 34 (51.5%)	*n* = 12 (18.2%)	11.273	0.004*
2	Labour (both skilled & unskilled)	*n* = 55 (83.3%)	*n* = 8 (12.1%)	*n* = 3 (4.5%)	74.818	<0.001*
3	Construction equipment hire/payment	*n* = 51 (77.3%)	*n* = 13 (19.7%)	*n* = 2 (3.0%)	60.091	<0.001*

N=66, (*) - Statistically significant differences (at Alpha = 0.05). Statements were rated on a 3-point scale.

A graphical presentation of Table 4-8 is presented in Figure 11.

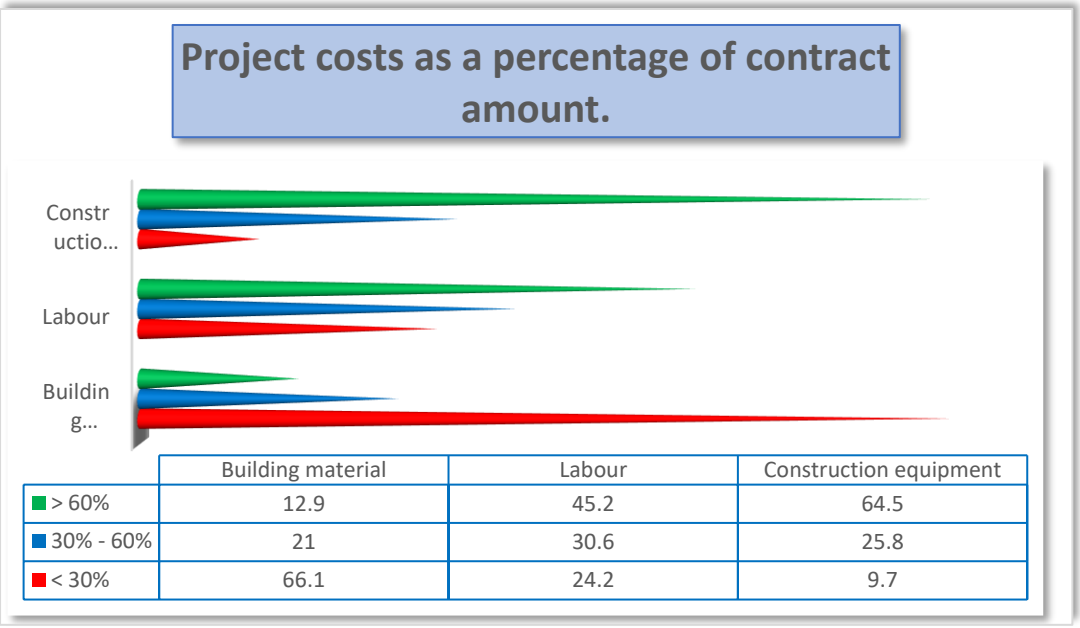


Figure 11: Project Costs as a Percentage of Contract Amount

4.5.4.1 Friedman's Two-way ANOVA Tests on Project Costs

A Friedman two-way ANOVA test was conducted to statistically rank the project costs as a percentage of the contract amount. The results disclosed in Table 4-9 show that there was significant evidence to conclude that the costs were rated differently by the respondents (p = <0.001). The mean rankings reveal that building materials (mean rank = 2.54) followed by construction equipment (mean rank = 1.76) are the costliest items as a percentage of the contract amount while labour (mean rank = 1.70) constitutes the least costs as a percentage of the total contract amount.

Table 4-9:Friedman's Two-way Ranks for Project Cost as a Percentage of Contract Amount

Item	Mean Rank	N	Test Statisti	df	p-value
Methods of obtaining contracts.					
1. Building Material	2.54	66	52.317	2	<0.001
2. Labour (both skilled & unskilled)	1.70				
3. Construction equipment hire/payment	1.76				

In summary, the project costs as a percentage of the contract amount in their respective order are as follows:

i. Building Material.
ii. Construction equipment hire/payment.
iii. Labour (both skilled & unskilled).

4.5.5 Major Sources of Finances.

As part of determining the major sources of finances, the respondents were asked to indicate, which of the various sources of funding existed currently or at start-up of the company. A descriptive analysis was conducted by assessing the frequencies and percentages of how the participants responded to the various items measuring the sources of finance. A non-parametric Chi-square test of equal proportions was also conducted to establish if there is any statistically significant evidence to suggest with statistical certainty the general standing of the sources of finance. The findings of the descriptive summary and Chi-square tests are reported in Table 4-10 and the same information is presented graphically in Figure 12.

There was statistically significant evidence (Chi-square = 26.064; *p* = <0.001) to suggest that the majority (*n* = 41; 87.2%) of the respondents stated that the major source of finances at start-up came from their savings or family and friends' savings. The responses concur with the CIDB report, which reported that around 82% of funding for small contractors comes from their own funds, and family and friends' savings (CIDB, 2015b). The Chi-square test also revealed that there was statistically significant evidence (Chi-square = 14.440; *p* = <0.001) to conclude that a significant number of the participants (*n* = 22; 88.0%) reported that their start-up finances came from business partners. The findings corroborate Windapo and Cattell, (2013) as well as Govender, (2012) argument that due to lack of collateral and high interest rates, emerging contractors are heavily reliant on personal funding. The results further revealed that a previous project or advance payment on the project currently forms the major source of finances (Chi-square = 26.684; *p* = <0.001). This implies that most of these emerging contractors are dependent on monthly cash flow for their liquidity hence an extended period without income-generating work sees the collapse of these small contractors (Bartik *et al.*, 2020). Further, there was statistically significant evidence (Chi-square = 11.111; *p* = <0.001) to suggest that a significant number (*n* = 28; 77.8%) of the respondents stated that their current major source of finances is coming from the main contractors. The finding validates the earlier observations that a considerable number of emerging contractors rely on subcontracting, piggybacking on the main contractor's finances (Amoah and Bikitsha, 2021). Lastly, the Chi-square test also revealed that there was statistically significant evidence (Chi-square = 12.902; *p* = <0.001) to conclude that a significant number of the participants (*n* = 32; 78.0%) reported that their current finances came through credit from building material/plant suppliers. The emerging contractors owing to limited capital and restrained access to funding opt (Mofokeng and Thwala, 2012), through cessions, to receive both building material and construction equipment from suppliers.

Table 4-10: Major Sources of Finances

Item	Source of finances	Current	At start-up	Chi-Square	Exact p-value
1	Own/family and friends' savings	*n* = 6 (12.8%)	*n* = 41 (87.2%)	26.064	<0.001*
2	Business partners	*n* = 3 (12.0%)	*n* = 22 (88.0%)	14.440	<0.001*

3	Commercial Banks	*n* = 9 (50.0%)	*n* = 9 (50.0%)	0.000	1.000
4	Informal market (money lenders)	*n* = 14 (53.8%)	*n* = 12 (46.2%)	0.154	0.845
5	Previous projects/advance payment on a project	*n* = 48 (84.2%)	*n* = 9 (15.8%)	26.684	<0.001*
6	Government Agencies e.g., SEDA	*n* = 4 (44.4%)	*n* = 5 (55.6%)	0.111	0.739
7	Main Contractor	*n* = 28 (77.8%)	*n* = 8 (22.2%)	11.111	<0.001*
8	Credit from building material/plant suppliers	*n* = 32 (78.0%)	*n* = 9 (22.0%)	12.902	<0.001*
9	Development corporations e.g., ECDC	*n* = 10 (71.4%)	*n* = 4 (28.6%)	2.571	0.180

N=66

The major sources of finances according to the respondents are plotted in Figure 12.

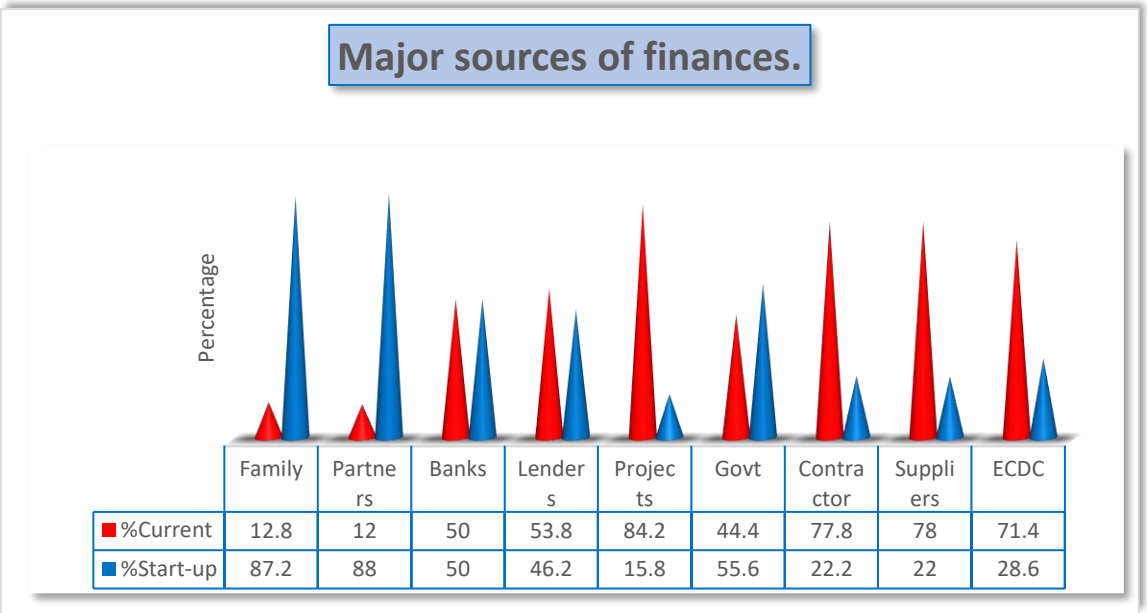


Figure 12: Major Sources of Finances

4.5.6 Findings on Training.

Part of the questionnaire requested participants to respond to questions regarding the training of their employees in various aspects of business and project-related areas.

Table 4-11 shows the descriptive summary of the items regarding training and respective Chi-square statistics and p-values.

Table 4-11: Training Related Results

Question	Frequency	Percentage	Chi-square	p-value
Have you had informal or formal training on any of your projects?				
Yes	61	92.4	47.515	<0.001*
No	5	7.6		
Who provided the training?				
Appointed construction mentor	11	17.7	12.516	0.014*
Accredited training institute	13	21.0		
Project professional	20	32.3		
Main contractor	15	24.7		
Client	3	4.8		
If you had training on any project, please indicate in which of the following fields.				
Skills & Technical training				
Yes	48	84.2	26.684	<0.001*
No	9	15.8		
Site management				
Yes	58	92.1	44.587	<0.001*
No	5	7.9		
Business management				
Yes	21	39.6	2.283	0.169
No	32	60.4		

N=66

Figure 13 shows that there is sufficient statistical evidence to suggest that most of the small companies (*n* = 61; 92.4%) had informal or formal training on their projects (Chi-square = 47.515; *p* = <0.001). Only a few companies (*n* = 5; 7.6%) did not have any informal or formal training on their projects. The responses are remarkable showing that nearly all emerging contractors are receiving some form of training, which differs from Martin and Root, (2012) who contended that most small contractors do not receive any construction-related training.

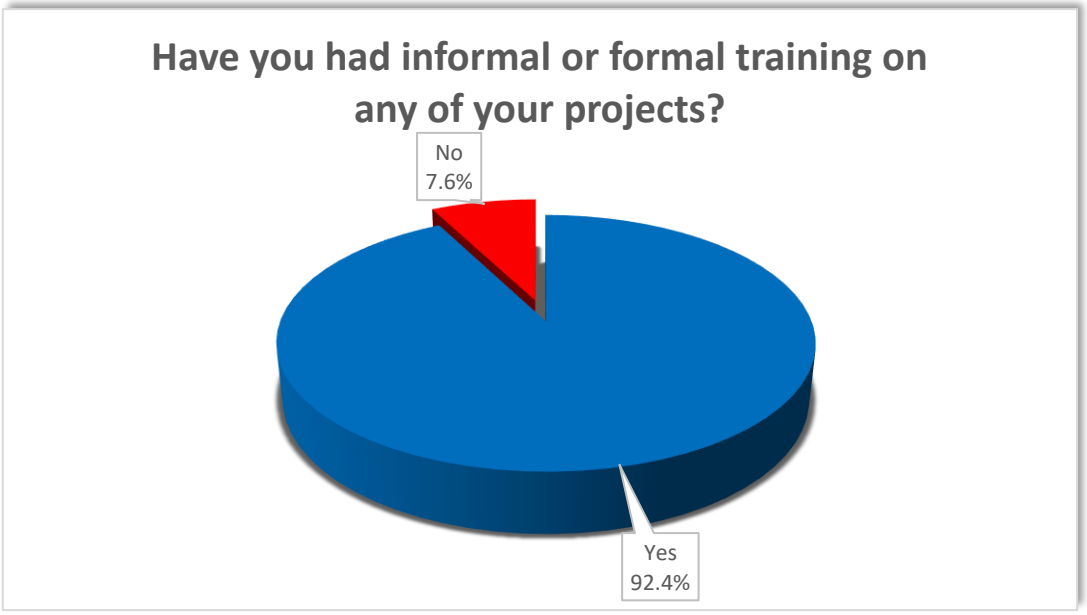


Figure 13: Type of Training

In terms of who provided the training for these contractors, Figure 14 shows that project professionals were significantly the larger group of people who provided the training (*n* = 20; 32.3%; Chi-square = 12.516; *p* = 0.014). This was followed by main contractors (*n* = 15; 24.7%) and accredited training institutes (*n* = 13; 21.0%) respectively. Around 17% (*n* = 11) were appointed construction mentors whilst only 3 were clients. Just over 6 out of 10 emerging contractors were trained by either the project professionals, the main contractor, or the client. These are not accredited trainers meaning most of the emerging contractors are receiving limited training, which leads to poor performance, reputational damage and stunted growth (Adolwa, 2002).

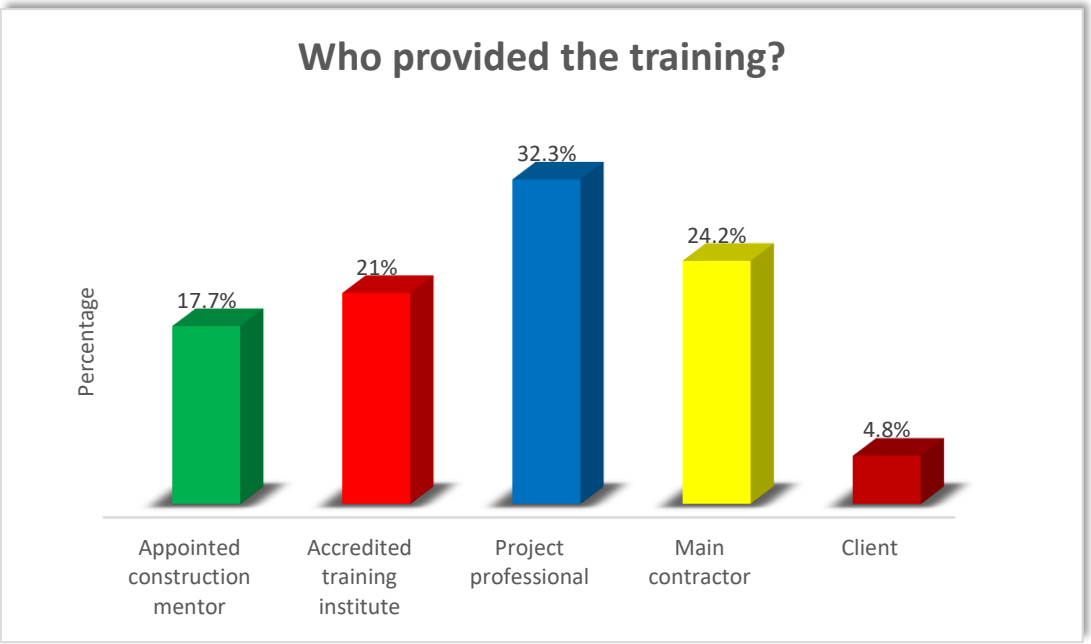
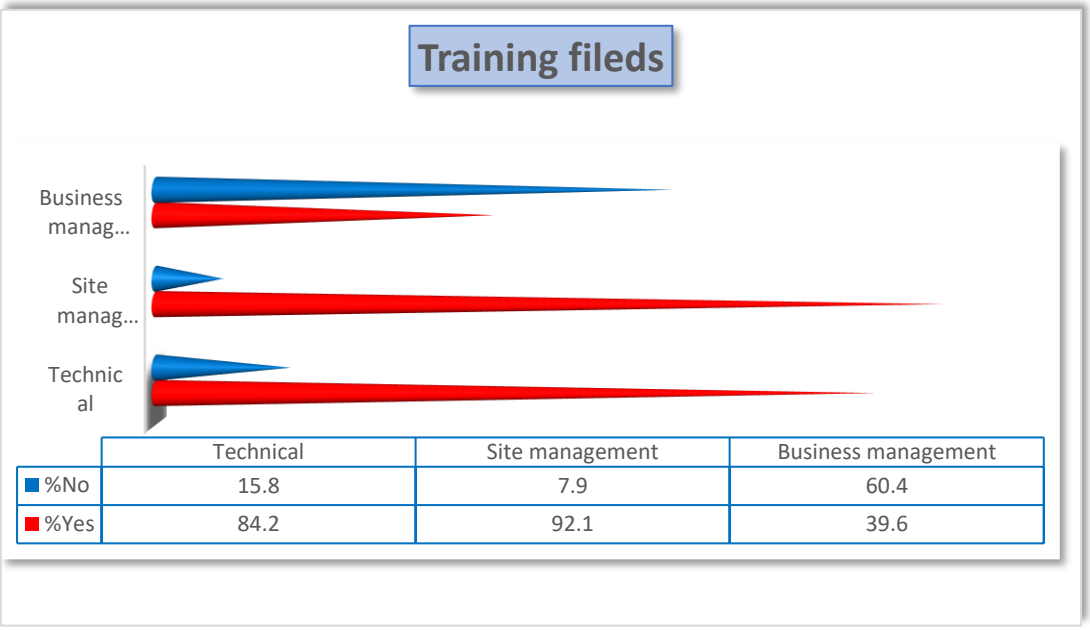


Figure 14: Training Providers



	Technical	Site management	Business management
%No	15.8	7.9	60.4
%Yes	84.2	92.1	39.6

Figure 15: Training Field

Figure 15 shows that there is sufficient statistical evidence to suggest that most of the small companies (*n* = 48; 84.2%) offered skills and technical training for their employees (Chi-square = 26.684; *p* = <0.001). Further, the findings show that most of the companies (*n* = 58; 92.1%) had site management training for their employees. On the other hand, most companies did not offer business management training for their

employees (*n* = 32; 60.4%), however, this is not significantly different to those who offered business management training to their employees (Chi-square = 2.283; *p* = 0.169). The small contractors, when they receive training, it is primarily technical training with minimum business management training. Admittedly worthy, however, the lean business management training impedes the development of emerging contractors as it results in project cost overruns due to limited financial management skills and a high staff turnover due to poor human resource management (Govender, 2012; Amoah and Bikitsha, 2021).

4.5.7 Challenges Facing Small Contractors.

This section addresses the problems and challenges faced by the sampled small businesses. Firstly, a descriptive analysis was conducted to establish the general pattern of problems facing small companies. The frequency and percentage distributions in Table 4-12 reveal that most of the participants generally agreed that among others, the erratic inflow of projects, stiff competition from fellow contractors and tendering procedures pose challenges to small companies. On the other hand, most of the participants generally disagreed that the poor location of businesses, cost of labour, shortage of skilled labour and labour strikes are challenges facing small companies. Access to loans, repayment of loans or high-interest rates, supply or cost of building material, supply or cost of construction equipment, lack of technical skills and late payments of approved certificates were generally reported by most respondents as posing challenges to small companies. However, on the other hand, most respondents generally disagreed that labour legislation, tax returns legislation and complicated designs are problems faced by small companies. Lastly, the frequency and percentage distributions revealed that most of the participants generally agreed that the preference for established contractors and unprofitable subcontracting work are challenges faced by small companies.

Table 4-12: Perceptions of Challenges Facing Small Contractors

No.	Challenge	SD	D	N	A	SA	Mean	St. Dev
1	The erratic inflow of projects.	*n* = 4 (6.1%)	*n* = 1 (1.5%)	*n* = 4 (6.1%)	*n* = 6 (9.1%)	*n* = 51 (77.3%)	4.50	1.66
2	Stiff competition from fellow contractors.	*n* = 4 (6.1%)	*n* = 0 (0.0%)	*n* = 5 (7.6%)	*n* = 15 (22.7%)	*n* = 42 (63.6%)	4.38	1.34
3	Tendering procedures.	*n* = 9 (13.6%)	*n* = 11 (16.7%)	*n* = 15 (22.7%)	*n* = 21 (31.8%)	*n* = 10 (15.2%)	3.18	0.44
4	Poor location of the business.	*n* = 24 (36.4%)	*n* = 7 (10.6%)	*n* = 15 (22.7%)	*n* = 16 (24.2%)	*n* = 4 (6.1%)	2.53	0.31
5	Cost of Labour.	*n* = 5 (7.6%)	*n* = 27 (40.9%)	*n* = 14 (21.2%)	*n* = 17 (25.8%)	*n* = 3 (4.5%)	2.79	0.40
6	Shortage of skilled labour.	*n* = 4 (6.1%)	*n* = 31 (47.0%)	*n* = 7 (10.6%)	*n* = 18 (27.3%)	*n* = 6 (9.1%)	2.86	0.43
7	Labour strikes/protests.	*n* = 19 (28.8%)	*n* = 18 (27.3%)	*n* = 15 (22.7%)	*n* = 9 (13.6%)	*n* = 5 (7.6%)	2.44	0.16
8	Access to loans.	*n* = 3 (4.5%)	*n* = 1 (1.5%)	*n* = 11 (16.7%)	*n* = 26 (39.4%)	*n* = 25 (37.9%)	4.05	0.87
9	Repayment of loans/High-interest rates.	*n* = 3 (4.5%)	*n* = 2 (3.0%)	*n* = 15 (22.7%)	*n* = 23 (34.8%)	*n* = 23 (34.8%)	3.92	0.77
10	Supply/Cost of building material.	*n* = 2 (3.0%)	*n* = 0 (0.0%)	*n* = 8 (12.1%)	*n* = 36 (54.5%)	*n* = 20 (30.3%)	4.09	0.98
11	Supply/Cost of construction equipment.	*n* = 1 (1.5%)	*n* = 3 (4.5%)	*n* = 8 (12.1%)	*n* = 28 (42.4%)	*n* = 26 (39.4%)	4.14	0.93
12	Lack of technical skills.	*n* = 6 (9.1%)	*n* = 13 (19.7%)	*n* = 7 (10.6%)	*n* = 30 (45.5%)	*n* = 10 (15.2%)	3.38	0.68
13	Late payments of approved certificates.	*n* = 2 (3.0%)	*n* = 2 (3.0%)	*n* = 5 (7.6%)	*n* = 14 (21.2%)	*n* = 43 (65.2%)	4.42	1.37
14	Labour legislation.	*n* = 21 (31.8%)	*n* = 15 (22.7%)	*n* = 10 (15.2%)	*n* = 14 (21.2%)	*n* = 6 (9.1%)	2.53	0.20
15	Tax returns legislation.	*n* = 22 (33.3%)	*n* = 17 (25.8%)	*n* = 10 (15.2%)	*n* = 9 (13.6%)	*n* = 8 (12.1%)	2.45	0.10
16	Complicated designs.	*n* = 15 (22.7%)	*n* = 21 (31.8%)	*n* = 19 (28.8%)	*n* = 9 (13.6%)	*n* = 2 (3.0%)	2.42	0.29
17	Preference of established contractors.	*n* = 5 (7.6%)	*n* = 10 (15.2%)	*n* = 14 (21.2%)	*n* = 22 (33.3%)	*n* = 15 (22.7%)	3.48	0.53
18	Unprofitable subcontracting work.	*n* = 3 (4.5%)	*n* = 5 (7.6%)	*n* = 9 (13.6%)	*n* = 26 (39.4%)	*n* = 23 (34.8%)	3.92	0.81

N=66, Statements were rated on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree).

A non-parametric Chi-square test of equal proportions was conducted to establish if there is any statistically significant evidence to suggest with statistical certainty the general agreement or disagreement of the participants to the respective items measuring the problems facing small contractors. The 5-point Likert scale was collapsed to a 3-point Likert scale. This was done by combining strongly disagree and disagree to represent “disagree”, neutral remained “neutral” and strongly agree and agree were combined to represent “agree”. From Table 4-13, the results suggest with statistical significance that most respondents reported that the erratic inflow of projects is a challenge faced by small companies (*n* = 57; 86.4%; Chi-square = 83.545; *p* = <0.001). A similar number of participants also agreed that stiff competition from fellow contractors (*n* = 57; 86.4%; Chi-square = 83.545; *p* = <0.001). There is also sufficient evidence to suggest that tendering procedures are a challenge to small businesses (Chi-square = 6.091; *p* = 0.048). On the other hand, the Chi-square test revealed that most of the participants (*n* = 31; 47.0%) reported that poor location of businesses is not a challenge faced by small companies (Chi-square = 6.091; *p* = 0.048). The Chi-square test also suggests that cost of labour (Chi-square = 7.636; *p* = <0.001), shortage of skilled labour (Chi-square = 18.091; *p* = <0.001) and labour strikes (Chi-square = 15.364; *p* = <0.001) are not problems faced by small companies. There was statistically significant evidence to suggest that most of the participants agreed that access to loans (*n* = 51; 77.3%; Chi-square = 58.455; *p* = <0.001), repayment of loans or high-interest rates (*n* = 46; 69.7%; Chi-square = 41.545; *p* = <0.001), and supply or cost of building material (*n* = 56; 84.8%; Chi-square = 79.636; *p* = <0.001) are problems facing small companies. Further, supply or cost of construction equipment (Chi-square = 70.182; *p* = <0.001), lack of technical skills (Chi-square = 25.364; *p* = <0.001) and late payments of approved certificates (Chi-square = 83.545; *p* = 0.001). In addition, there was sufficient statistically significant evidence to suggest that most of the respondents agreed that preference for established contractors (*n* = 37; 56.1%; Chi-square = 15.364; *p* = <0.001) and unprofitable subcontracting work (*n* = 49; 74.2%; Chi-square = 49.727; *p* = <0.001) are also problems faced by small companies. Most of the participants disagreed that labour legislation is a challenge for small companies (*n* = 36; 54.5%; Chi-square = 15.636; *p* = <0.001). The data also showed significant evidence to conclude that tax returns legislation (Chi-square = 56.333; *p* = <0.001), as well as the issue of complicated designs (Chi-square = 41.953; p = <0.001), are not problems faced by small businesses.

Table 4-13:Non-parametric Chi-square results on problems facing small contractors.

Item	Challenge	Disagree	Neutral	Agree	Chi-Square	Exact p-value
1	The erratic inflow of projects.	*n* = 5 (7.6%)	*n* = 4 (6.1%)	*n* = 57 (86.4%)	83.545	<0.001*
2	Stiff competition from fellow contractors.	*n* = 4 (6.1%)	*n* = 5 (7.6%)	*n* = 57 (86.4%)	83.545	<0.001*
3	Tendering procedures.	*n* = 20 (30.3%)	*n* = 15 (22.7%)	*n* = 31 (47.0%)	6.091	0.048*
4	Poor location of the business.	*n* = 31 (47.0%)	*n* = 15 (22.7%)	*n* = 20 (30.3%)	6.091	0.048*
5	Cost of Labour.	*n* = 32 (48.5%)	*n* = 14 (21.2%)	*n* = 20 (30.3%)	7.636	0.022*
6	Shortage of skilled labour.	*n* = 35 (53.0%)	*n* = 7 (10.6%)	*n* = 24 (36.4%)	18.091	<0.001*
7	Labour strikes/protests.	*n* = 37 (56.1%)	*n* = 15 (22.7%)	*n* = 14 (21.2%)	15.364	<0.001*
8	Access to loans.	*n* = 4 (6.1%)	*n* = 11 (16.7%)	*n* = 51 (77.3%)	58.455	<0.001*
9	Repayment of loans/high interest rates.	*n* = 5 (7.6%)	*n* = 15 (22.7%)	*n* = 46 (69.7%)	41.545	<0.001*
10	Supply/Cost of building material.	*n* = 2 (3.0%)	*n* = 8 (12.1%)	*n* = 56 (84.8%)	79.636	<0.001*
11	Supply/Cost of construction equipment.	*n* = 4 (6.1%)	*n* = 8 (12.1%)	*n* = 54 (81.8%)	70.182	<0.001*
12	Lack of technical skills.	*n* = 19 (28.8%)	*n* = 7 (10.6%)	*n* = 40 (60.6%)	25.364	<0.001*
13	Late payments of approved certificates.	*n* = 4 (6.1%)	*n* = 5 (7.6%)	*n* = 57 (86.4%)	83.545	<0.001*
14	Labour legislation.	*n* = 36 (54.5%)	*n* = 10 (15.2%)	*n* = 20 (30.3%)	15.636	<0.001*
15	Tax returns legislation.	*n* = 39 (59.1%)	*n* = 10 (15.2%)	*n* = 17 (25.8%)	20.818	<0.001*
16	Complicated designs.	*n* = 36 (54.5%)	*n* = 19 (28.8%)	*n* = 11 (16.7%)	14.818	<0.001*
17	Preference of established contractors.	*n* = 15 (22.7%)	*n* = 14 (21.2%)	*n* = 37 (56.1%)	15.364	<0.001*
18	Unprofitable subcontracting work.	*n* = 8 (12.1%)	*n* = 9 (13.6%)	*n* = 49 (74.2%)	49.727	<0.001*

N=66, (*) - Statistically significant differences (at Alpha = 0.05). Statements were rated on a 3-point scale from 1 (disagree) to 3 (agree).

4.5.7.1 Friedman's Two-way ANOVA Tests on Problems Faced by Small Contractors.

In order to rank the established problems faced by small companies, Friedman's two-way ANOVA test based on the 5-Likert scale was conducted. Results in Table 4-14 show that there was significant evidence to conclude that the established problems faced by small companies were rated differently by the respondents (p = <0.001). The mean rankings of top statistically significant factors suggested that the supply/cost of building material (mean rank = 4.64), stiff competition from contractors (mean rank = 4.61) and late payments of approved certificates (mean rank = 4.60) are the most dominant problems faced by small companies whilst preference of established contractors (mean rank = 3.67), lack of technical skills (mean rank = 3.64) and tendering procedures (mean rank = 3.33) were the least rated problems faced by small companies. Friedman's two-way ANOVA ranks for problems faced by small companies.

Table 4-14: Friedman's two-way ANOVA ranks for problems faced by small contractors.

Item		Mean Rank	N	Test Statistic	df	p-value
Problems faced by small contractors						
i.	Supply/Cost of building material.	4.64	66	119.435	10	<0.001
ii.	Stiff competition from fellow contractors.	4.61				
iii.	Late payments of approved certificates.	4.60				
iv.	The erratic inflow of projects	4.58				
v.	Supply/Cost of construction equipment.	4.52				
vi.	Access to loans	4.42				
vii.	Repayments of loans/High interest rates	4.24				
viii.	Unprofitable subcontracting work.	4.24				
ix.	Preference of established contractors	3.67				
x.	Lack of technical skills	3.64				
xi.	Tendering procedures.	3.33				

In summary, the identified significant problems faced by small companies in their respective order are as follows:

i. Supply/Cost of building material.
ii. Stiff competition from fellow contractors.
iii. Late payments of approved certificates.

iv. The erratic inflow of projects
v. Supply/Cost of construction equipment.
vi. Access to loans
vii. Repayments of loans/High interest rates
viii. Unprofitable subcontracting work.
ix. Preference of established contractors
x. Lack of technical skills
xi. Tendering procedures.

4.6 Summary of the Key Findings

The chapter discussed the analysis of collated data from 66 respondents out of 173 emerging contractors on the Eastern Cape Department of Human Settlements database. The respondents' demographics thus gender, race, education, and position in the company were analysed to profile the emerging contractors. The study further profiled the emerging contractors, examining the geographical location, tenure, annual turnover, full-time employees and the CIDB grading of the respondents. An overwhelming number of the contractors indicated are from the Eastern Cape, which was expected considering that the questionnaire was only distributed to contractors working in the Eastern Cape. The responses show that most of the respondents are emerging contractors who have been in business for less than 10 years with an average turnover of less than R6 million and employ below 20 full-time staff members. As suggested in the literature review, the bulk of the respondents are CIDB grade 6 or less which limits them to projects worth R20 million or less.

The analysis used responses from various questions to establish the general background of the sampled companies. The participants suggested that a considerable number of them did not have a background in the construction industry, but construction was their main source of income. The responses further showed that most of these contractors had worked as subcontractors and a tad shy of half of them had only done work valued at less than R6 million. The collated responses also concurred with the literature that posited that an overwhelming number of housing contractors struggled to secure funding from financial institutions because of a myriad of reasons such as lack of collateral and have not been in business long enough.

As part of the response to the main research question, the questionnaire provided the challenges facing emerging contractors. The small contractors agreed with the literature that some of the toughest challenges in the construction industry are the erratic inflow of projects, stiff competition from fellow contractors and cumbersome tendering procedures. In addition, the respondents strongly pointed to late payments, cost of building materials, limited access to loans and lack of technical support as challenges that are impeding their growth. However, the contractors generally disagreed that the poor location of businesses, cost of labour, shortage of skilled labour and labour strikes are concerning challenges.

5 CHAPTER FIVE: DISCUSSION OF FINDINGS

5.1 Introduction

The construction industry interconnects different sectors of the economy (Govender, 2012) hence it is an economic stimulant and enabler of growth particularly in developing nations such as South Africa (Bikitsha and Amoah, 2020). The industry's low entry barriers and the nature of work being labour-intensive attract emerging contractors (Dapaah, Thwala and Musonda, 2017). These contractors not only stimulate economic growth but create jobs, upskill the community and transfer wealth to the previously marginalised (Ncwadi and Dangalazana, 2005). However, studies have shown that despite these several benefits, emerging contractors are prone to fail due to a plethora of causes such as the inability to raise capital and to efficiently manage cashflows. Bikitsha and Amoah, (2020) attribute the failure to poor financial management and inconsistent work opportunities. The short-term and insecure work opportunities pose an immense challenge to emerging contractors to efficiently manage cashflows and develop long-term strategies, which are vital for the progression of the contractors (Ncwadi and Dangalazana, 2005). Therefore, this research, cognisant of the benefits of thriving small contractors, investigated the challenges facing emerging contractors to recommend a comprehensive and sustainable contractors' development programme.

As part of the research objectives, the study investigated challenges facing emerging contractors and in addition, examined the low-cost housing programme. The research initially investigated the challenges facing low-cost housing contractors based on peer-reviewed literature before formulating a literature-based questionnaire. The collated data from 66 out of 173 contractors on the Eastern Cape Department of Human Settlements database was statistically analysed. The analysed results identified emerging contractors' demographics, background information and the challenges that are impeding the sustainable growth of contractors into competent, dependable, and sustainable contractors. The analysed hurdles were both practically and statistically significant. The results obtained from the survey contribute to the literature on the challenges that emerging contractors are encountering and inform the emerging contractors' developmental programme.

This chapter seeks to respond to *RQ_1: What are the challenges faced by emerging contractors?* The study summarises the findings, detailing the challenges facing emerging contractors.

5.2 Summary of the Research Findings

This section of the chapter summarises the research findings, it follows the data analysed in the previous chapter. The findings are categorised in terms of demographics, background and barriers that are impeding the development of emerging contractors.

5.2.1 Demographics

According to the study, the majority of emerging contractors in South Africa are males (69.7%; n=46), concurring with the CIDB, (2015b) that reported that the female ownership in construction varies from 25-32%. This is contrary to the nation's population distribution, which shows that males make up around 48.6% of the population (StatsSA, 2019). The collected data concurs with Himlin, (2005) and Ndabeni, (2008) who both noted that around 30% of women in the construction industry are either owners or in management. However, Stats SA, (2022), reports that females account for only 15.7% of the contractors in the country, which is way lower than the 30.3% that participated in the survey. Though the participation of women is above the construction industry average, the stark gender chasm challenges the government, the construction industry, society, and other relevant stakeholders to do more in empowering women and opening up opportunities in the industry. A deliberate improved involvement of women in the industry curbs inequality and gives voice to the vulnerable.

Blacks constitute in this study 86.4% (n=57) of emerging contractors with Coloureds and Whites accounting for a total of 12.2%. The findings are representative of the Eastern Cape population (StatsSA, 2022), where most of the respondents were drawn from. The findings are corroborated by the CIDB records which state that for grade 4 or lower contractors, around 91% are black-owned (CIDB, 2015b). The government has been, through the BBBEE policy, deliberately incentivising historically disadvantaged individuals, the majority of whom are Blacks, to participate in the industry (Thwala and Phaladi, 2009). This is evidenced by the tenure of these contractors as a significant number of them are less than 20 years, with almost 75%

of them less than 10 years old, corresponding to the ‘gold rush’ of Black contractors after the introduction of the BBBEE policy in 2003. The high representation of previously disadvantaged individuals amongst emerging contractors shows the importance of developing emerging contractors as part of a holistic transformation of the nation. An overwhelming majority, 75.8% (n=50) of the respondents had a tertiary qualification, which is considerably higher than the nation’s average, a measly 12% (Simpson, 2017; Department of Higher Education and Training, 2018). This is atypical of emerging contractors, according to Croswell and McCutcheon, (2001) whom they describe as having minimal education and formal training. However, it is noteworthy that though 75% of the small contractors possess a tertiary qualification, the survey showed that over 47% of the qualifications are not in the built environment. Therefore, a worryingly high number of contractors are practising without the required technical skills hence the high percentage of poor-quality projects by emerging contractors (Adolwa, 2002; Worku, 2016). Furthermore, the CIDB established that companies with owners who do not have construction-related qualifications are almost twice as likely to leave the industry (CIDB, 2015b).

The annual turnover of emerging contractors averages at more than R6 million corresponding to contractors who are ranked by CIDB as grade 6 and below. The annual turnover and CIDB grading findings suggest that most of these emerging contractors only can implement projects worth less than R20 million (Martin and Root, 2012; Thwala, 2022). The findings also present a concerning trend that a combined 29% of the contractors had an annual turnover of less than R3 million, attributed to the cutthroat competition among emerging contractors. The massive number of small contractors due to lackadaisical entry barriers is both unhealthy (Aigbavboa and Thwala, 2014) and a repellent to investors, reducing the profitability of the industry (CIDB, 2015b). In terms of full-time employees, the respondents revealed that over 92.5% of them employed less than 20 employees. The findings showed that a staggering number of contractors based on the annual turnover and number of employees are classified as either micro- or small enterprises. The demographics section drew a typical profile of an emerging contractor as mostly being a black male with tertiary education, with an annual turnover of over R6 million, classified by CIDB as grade 6 or less, employing less than 20 employees and battling stiff competition

from fellow emerging contractors. A greater part of the findings concurs with the literature which profiled a typical emerging contractor.

5.2.2 Background of Emerging Contractors

The analysed results indicated that on average slightly over 1 in 2 respondents (53%; n=35) have worked in one form or another in the construction industry before becoming to be a contractor. Dapaah, Thwala and Musonda, (2017) attribute the significant number of contractors without construction backgrounds to the use of labour-intensive methods, which are not capital-intensive, therefore lowering the industry's entry barriers. The low-entry barriers, though beneficial in empowering the previously disadvantaged, are a double-edged sword in that they invite opportunistic contractors with minimal training into the industry resulting in unhealthy competition, an impediment to the sustainable growth of contractors (Ncwadi and Dangalazana, 2005; Martin and Root, 2012). In addition, the contractors expressed that most of them were pulled either by the prospect of earning more or the ambition to become an independent contractor. Some of the respondents indicated that they were pushed into construction due to unemployment and retrenchment from previous employment.

The research found that slightly above 60% and close to 20% of contractors did not have work for around 6 months and over 12 months respectively. The results are further backed by the findings that over 51% of the contractors are currently either working as subcontractors or laid off due to a shortage of projects. The findings corroborate Mofokeng and Thwala, (2012) and Al-Mhdawi *et al.*, (2023) who posit that work opportunities in the industry are highly fluctuating partly because of the depressed economy, inefficient administrative processes and unfair competition from established contractors. The inconsistency and intermittent work opportunities undermine the growth of emerging contractors as the gained experience is lost during the dry seasons (Fitchett, 2001b) and potentially leads to the permanent closure of the small companies considering that these cannot stay afloat without revenue for even shorter periods (Bartik *et al.*, 2020; Dimson *et al.*, 2020). Additionally, this not only means the loss of employment opportunities for the local community but leaves a gap in the construction industry that cannot be occupied by large established contractors (Al-Mhdawi *et al.*, 2023). The responses further suggested that due to a shortage of work, most small contractors opt for unprofitable subcontracting, which hinders the growth of emerging contractors (Amoah and Bikitsha, 2022).

One of the barriers to the development of emerging contractors is the limited access to financial assistance (Coetzer and Louw, 2012; Martin and Root, 2012), which the findings concurred with, reporting that almost 70% of emerging contractors struggled to secure loans because could not meet the collateral requirements. This leaves emerging contractors heavily reliant on cheap inexperienced workforce, hired construction equipment and shortage of material, which hold back their development.

5.2.3 Employers and Procurement Strategies

Government departments and parastatals offer emerging contractors a colossal amount of work, over 75%, while commercial banks and private developers hardly employ these contractors. The findings corroborate the observations by Himlin, (2005) that the government through the BBBEE policy, has the mandate to empower, upskill, and transfer wealth to previously disfranchised contractors. Secondly, small contractors immensely contribute to the nation's economy through job creation and to society by narrowing the have-and-not gap (Windapo and Cattell, 2013). After the government, large contractors employ a significant number of emerging contractors. Deliberate subcontracting, where emerging contractors are offered technical and management training, and funding ensures that there is skills transfer which enhances the growth of emerging contractors to competent contractors (Haupt, Hadebe and Akinlolu, 2019). However, Amoah and Bikitsha, (2021) based on their research, suggest that most small contractors subcontract primarily because they cannot secure work or cannot afford construction equipment and materials, and do so at unsustainable rates, receiving minimal training and mentorship. Finally, the findings concur with the pronouncements by Ncwadi and Dangalazana, (2005) that due to poor quality of work and a history of completing projects late, both commercial banks and private developers rarely offer emerging contractors projects.

Considering that most of the work for emerging contractors is from the government, the findings that a large of contractors, over 72%, are procured through tendering was expected. The government informed by the nation's constitution chiefly uses tendering process, which is fair, equitable, transparent, competitive and cost-effective, as the procurement process (Anthony, 2018). Similarly, to the type of employers, the findings state that after tendering, emerging contractors secure projects through subcontracting and negotiation. Subcontracting, as alluded to earlier is mostly

imposed on emerging contractors due to erratic flow of work and limited funding (Aghimien, Aigbavboa and Thwala, 2019).

5.2.4 Project Costs and Funding Sources

The study learnt that the bulk of the contractors spend at least 30-60% of the contract amount on materials, and less than 30% on labour and construction equipment. The findings corroborate the literature that postulated that emerging contractors spent up to 60% of the contract value on materials and much less on both labour and construction equipment (Govender, 2012; Windapo and Cattell, 2013; Al-Mhdawi *et al.*, 2023). Therefore, it can be inferred from the findings that the material cost has a significant influence on the development of emerging contractors. The impact is exacerbated by that emerging contractors, as shown in the study, struggle to meet collateral requirements, which would open up credit facilities with material suppliers (Ncwadi and Dangalazana, 2005). When it comes to the amount spent on labour and construction equipment, Govender, (2012) and Mashiri, Dube and Chakwizira, (2010) submit that the amount is minimal because emerging contractors generally use cheaper inexperienced skilled labour and prefer labour-intensive to capital-intensive construction equipment construction method.

Most of the contractors reported that they were informally funded at start-ups either from their own savings or business partners. The emerging contractors are largely reliant on personal funding at start-ups due to limited access to formal funding and high interest rates imposed on businesses without a track record (Govender, 2012; Windapo and Cattell, 2013). In addition, after the 2008 global economic crisis, commercial banks and financial institutions are reluctant to extend capital funding to emerging contractors (Mills, Reynolds and Herculano, 2022). The findings further revealed that during operation, almost all emerging contractors depend on monthly payments from either the client or main contractor for those subcontracting or material suppliers for those that meet the collateral requirements. This suggests that for the better development of emerging contractors, the monthly payment certificates must be settled on time to improve their liquidity. Bartik *et al.*, (2020) caution that any delay in setting payments for an extended period poses an existential threat to emerging contractors.

5.2.5 Training

The findings suggest that a considerable number of emerging contractors received either formal or informal training albeit from non-accredited trainers, which contradicts Martin and Root, (2012), who suggested that small contractors hardly receive any training. The training is primarily offered by either project professionals or main contractors, who are both unaccredited suggesting that the informal training is limited. This leads to poor performance and limited upskilling of emerging contractors (Adolwa, 2002), hence despite most of the small contractors receiving training, a whopping 82% of projects undertaken by small contractors compromise on quality and are not completed within the stipulated project duration (Croswell and McCutcheon, 2001). The study showed that when training is offered, it is largely technical training with limited financial and business management training. Technical training alone hinders the growth of small businesses to sustainable contractors (Amoah and Bikitsha, 2021). Furthermore, the training must be attended by company owners since hands-on owners enhance the chances of development of small contractors (CIDB, 2015b).

5.2.6 Impediments to the Development of Small Contractors

The research, based on peer-reviewed literature listed the possible challenges facing emerging contractors. The contractors' responses were analysed, and the statistically significant challenges were identified. A significant number of contractors opined that the challenges facing them are as follows:

i. The erratic inflow of projects.
ii. Stiff competition from fellow contractors.
iii. Late payments of approved certificates.
iv. Supply/Cost of construction equipment.
v. Supply/Cost of building material.
vi. Access to loans.
vii. Unprofitable subcontracting work.
viii. Repayment of loans/High-interest rates.
ix. Preference of established contractors.
x. Tendering procedures.
xi. Lack of technical skills.

The respondents, in addition, statistically disagreed that the following supposed challenges hindered their development:

i. Location of the business
ii. Shortage of skilled labour, cost of labour and labour strikes
iii. Legislation
iv. Complicated designs

5.3 Summary

The construction industry contributes economically and socially to the development of the nation. Emerging contractors attracted by low-entry barriers create job opportunities, upskill the less educated and transfer wealth to the previously disfranchised. Despite these notable contributions, small contractors are prone to fail due to a myriad of factors. This prompted the research to determine these barriers hindering the growth of small contractors. A survey was conducted among the Eastern Cape Department of Human Settlements upcoming contractors and the collated data were analysed to identify statistically significant challenges.

The findings from the survey suggest that immense work still needs to be done to close the gender parity in the construction industry evidenced by the fact that only a measly 30% of emerging contractors are women. In terms of race, blacks in this study constitute an overwhelming 87% of all small contractors. The high representation of the previously subjugated blacks places an impetus on the development of contractors as a progressive transformation route. In addition, the majority of the contractors possess a tertiary qualification albeit the majority are not construction-related. This is worrisome that a significant number of small contractors lack the required technical skills hence the high percentage of failed projects and the collapse of these contractors. Most of these contractors are grade 6 or lower CIDB contractors capable of only implementing projects less than R20 million. This is exacerbated by the numerous numbers of contractors within this grading leading to unsustainable competition, stunted profitability, and limited work opportunities. The findings then reported that due to limited work opportunities and cutthroat competition, most emerging contractors employ less than 20 employees to cut production costs.

The profile of small contractors based on the survey, observed that a considerable number of them did not have the construction industry background but were rather

attracted to the industry by the prospect of earning more. A notable number of respondents divulged that they were rather pushed into the industry by unemployment. The study also found that around two-thirds of emerging contractors either did not have work for the past 6 months or were reliant on subcontracting work due to a shortage of projects. The observation is concerning considering that small contractors cannot stay afloat without revenue-generating work even for shorter periods. Additionally, this means that the gained skills and employment opportunities for the locals will be lost. The findings, as expected, reported that the government was the main employer of emerging contractors as part of the empowerment of the previously disadvantaged and the creation of job opportunities. On the other hand, the lack of reputation, history of failure on projects, and shortage of experienced personnel and other resources make emerging contractors unattractive to private sector clients such as commercial banks. Since the government is the primary employer, the findings confirmed that most of the emerging contractors secure work through competitive tendering. A few contractors obtain work through both subcontracting and negotiation with established contractors. These contractors responded that they spent between 30-60% of the contract amount material. This means that the cost of construction materials influences the development of emerging contractors. In addition, contractors submitted that they were own-funded at start-up due to limited access to formal capital and now they rely on monthly payments. This suggests that monthly payments must be settled on time as any delays pose an existential threat to small contractors. The study found that a considerable number of contractors received either formal or informal training contrary to the literature review, which suggested that small contractors hardly received training. The responses showed that though most emerging contractors receive training, it is largely from unaccredited mentors, which limits the upskilling of these contractors and leads to poor performance.

The study then summarised the statistically significant challenges facing emerging contractors and ranked them in the order of importance as follows:

i. The erratic inflow of projects.
ii. Stiff competition from fellow contractors.
iii. Late payments of approved certificates.
iv. Supply/Cost of construction equipment.
v. Supply/Cost of building material.

vi. Access to loans.
vii. Unprofitable subcontracting work.
viii. Repayment of loans/High-interest rates.
ix. Preference of established contractors.
x. Tendering procedures.
xi. Lack of technical skills.

6 CHAPTER SIX: RECOMMENDATIONS AND CONCLUSION

6.1 Introduction

Small contractors are a vital cog in the transformation of South Africa both economically and socially since an overwhelming majority of these contractors are previously disfranchised individuals. The emerging contractors provide more employment opportunities to the less educated, transfer wealth to the previously disadvantaged, impart skills to communities, contribute 5-10% to the nation's GDP, empower women and minorities, and implement infrastructure projects too small to be considered by established contractors. These significant contributions by emerging contractors prompted the necessity to investigate the hindrances to their development and proposed measures that can be employed to enhance the development of emerging contractors hence this study. The study sought to investigate the challenges facing emerging contractors in the housing programme and determine the possible remedial measures. Therefore, the following main objective was formulated:

i. **RO_M:** To investigate the challenges facing the development of emerging contractors to recommend possible solutions in the building industry.

To fulfil the main objective of the research, the following secondary objectives were framed:

i. **RO_1**: To examine the literature on the contributions and challenges facing emerging contractors.
ii. **RO_2**: To investigate the challenges facing emerging contractors.
iii. **RO_3**: To examine the potential benefits of a low-cost housing programme as a developmental initiative for emerging contractors.

The study then developed the following research questions based on the problem statement and research objectives:

RQ_M: How can the housing programme be used to develop emerging contractors?

The main research question led to the following questions:

RQ_1: What are the challenges faced by emerging contractors?

RQ_2: What are the potential benefits and features of a low-cost housing programme that will make it a successful developmental initiative?

This chapter seeks to respond to the research questions ***RQ$_1$**: What are the challenges faced by emerging contractors? and **RQ$_2$**: What are the potential benefits and features of a low-cost housing programme that will make it a successful developmental initiative?*

6.2 Challenges Faced by Emerging Contractors

This section of the chapter addresses the research question ***RQ$_1$**: What are the challenges faced by emerging contractors?* The barriers to the development of emerging contractors are based on the analysed data collected from Eastern Cape Department of Human Settlements contractors.

6.2.1 Demographics

The findings showed that gender parity in the construction industry is a distance away corroborated by the paltry number of women (30%) participating in the industry. Though the number is slightly above the industry average, the gender disparity is a challenge to the government and society to empower and educate women, redefine women's roles in society and create a conducive environment that will attract more women into the industry. The study observed that almost half of emerging contractors did not have construction-related qualifications, which alarmingly translates to poor performance and a high rate of the company collapsing. Furthermore, the contractors indicated that about a third of them had an annual turnover of less than R3 million due to limited work opportunities and stiff competition from fellow small contractors.

6.2.2 Background of Contractors

The study discovered that almost half of the contractors had never worked in the construction industry before becoming contractors partly due to the industry's low-entry barriers and the perception of above-average economic profits. This allows opportunistic companies with minimal industry knowledge and training to enter the unguarded market creating stiff and unsustainable competition. Some of the contractors submitted that construction was an alternative employment avenue, suggesting that should they secure employment they will probably leave the construction industry and lose the gained skills. The contractors also highlighted that about a quarter of them had not had work for over 12 months, which was further substantiated by over half of the contractors who lamented that they are currently either working as subcontractors or laid off due to a shortage of work. The trend is

bothersome considering that most emerging contractors cannot survive extended periods without income and lose the gained experience. Several emerging contractors particularly highlighted that the limited access to financial assistance because of failure to meet the required collateral was a major hindrance to their development. The lack of financial support meant that small contractors had to be reliant on a cheap inexperienced workforce, hired equipment and accept the delay in procurement of material. This considerably impedes the development of small contractors.

6.2.3 Employers and Procurement Strategies

Government departments and parastatals are the primary employers of emerging contractors, while commercial banks and private developers hardly employ these contractors. The private sector clients are hesitant to engage small contractors because of their infamous reputation of delaying projects and inferior quality of work. This is a challenge as it limits upcoming contractors to only government contracts exacerbating the cutthroat competition among small contractors. Additionally, a sizeable number of small contractors indicated that they work as subcontractors largely because they cannot secure work or cannot afford construction equipment and materials, and do so at unsustainable rates, receiving minimal training and mentorship. Although this research did not explore in detail the extent to which subcontracting was used, it is most likely that most of these subcontracting arrangements are labour-only contracts.

Most of the contracts for emerging contractors, according to the survey are obtained through tendering. Tendering success includes compliance with mandatory requirements, competitive pricing, and a bit of luck. Some of the contractors have limited tendering skills and they fail to comply with the tender requirements and to price competitively. Secondly, the tendering process is extremely competitive and the chances of an emerging contractor obtaining successive contracts are slim to none hence contractors have gone extended periods without work. As the study has shown, during these dry seasons emerging contractors lose gained skills and will probably close the business.

6.2.4 Project Costs and Funding Sources

Several small contractors according to the study spend between 30 to 60% of the contract value of materials. The amount is a lot considering that it must be funded from

the contractors' pocket since a significant number of them struggle to meet collateral requirements, which would open credit facilities with material suppliers. This may lead to delays in the completion of projects and the use of cheaper yet inferior materials compromising the quality of work. As alluded to earlier in this section, contractors have limited access to formal funding and heavily lean on monthly payment certificates to cover operation expenses. Therefore, any delay in settling monthly payments poses an existential threat to emerging contractors.

6.2.5 Training

The primary trainers of emerging contractors are professionals and main contractors, who are both unaccredited suggesting that the training is limited leading to poor performance, unresponsive tenders, cost and time overruns during construction, and limited upskilling. Secondly, the training is offered to emerging contractors' staff members who have a high staff turnover, meaning when the company runs out of projects the staff leave with the gained skills. The study suggests that training must be attended by both staff and owners to ascertain that the contractor retains the skills.

6.2.6 Summary of Barriers to the Development of Small Contractors

The statistically significant challenges facing small contractors according to the research are summarised as follows, in order of significance:

i. The erratic inflow of projects.
ii. Stiff competition from fellow contractors.
iii. Late payments of approved certificates.
iv. Supply/Cost of construction equipment.
v. Supply/Cost of building material.
vi. Access to loans.
vii. Unprofitable subcontracting work.
viii. Repayment of loans/High-interest rates.
ix. Preference of established contractors.
x. Tendering procedures.
xi. Lack of technical skills.

6.3 Recommendations for Emerging Contractors' Developmental Programme

The emerging contractors are significant contributors to both the nation's economy and society. It is therefore imperative that government departments and relevant

stakeholders enhance the development of emerging businesses. The understanding of the challenges impeding the development of small contractors informs technical and management considerations that must be part of the emerging contractors' developmental programme.

This section, predicated on the study's findings details the recommendations for a developmental programme to respond to the research question ***RQ$_2$**: What are the potential benefits and features of a low-cost housing programme that will make it a successful developmental initiative?*

6.3.1 Demographics

The responses showed that a typical contractor is a black male with tertiary education, employing less than 20 skilled employees and overseeing a company with an annual turnover of over R6 million. The survey agrees with CIDB, (2015b) which opines that women are disadvantaged in the construction industry partly due to barriers arising from socialisation practices and family roles of a generally patriarchal society, educational experiences and lower access to good mentors and funding. The findings suggest that the government and its relevant departments must do more to lure women into the industry. It is recommended that as part of procurement women must be given preferential points and during construction, the government must build a safe and welcoming environment to incentivise women's participation. Secondly, the study advocates for improved girl education particularly in technical subjects and the removal of patriarchal barriers hindering females from meaningfully participating in construction.

6.3.2 Background of Emerging Contractors

A worryingly considerable number of emerging contractors do not have a background in construction but are motivated by the prospect of earning more and getting employed. Contractors with neither the background in construction nor the required training produce inferior work and struggle to complete projects within the stipulated timeframes (Adolwa, 2002). In addition, studies have shown that strong correlation between the contractor having construction-related training or qualification and the contractor's progression (CIDB, 2015b). Therefore, it recommended that the government entities demand that the emerging contractors' directors must have built-environment-related training equivalent to a certificate or higher and have employees

with relevant verifiable qualifications before they can be registered by CIDB The government must launch an initiative for already registered contractors offering mandatory formal training in technical skills and managing of a construction company.

6.3.3 Employers and Procurement Strategies

The government and large contractors are the primary employers of emerging contractors. However, the findings have shown that most subcontracting work is at below-market rates and emerging contractors seldom receive comprehensive training. Firstly, the study recommends that the government must mandate and compensate large contractors to offer work at market-related rates and structured training programmes. Secondly, it is recommended that the government train the small contractors and those that would have passed the rigorous practical training, producing quality work on time are offered to commercial banks and private developers. This means the small contractors will have an additional pool of projects to compete for, reducing the chances of going for longer periods without income-generating work. Additionally, the contractors must be trained to be proficient in tendering, thus competitively pricing bids and supplying all required documentation to enhance their chances of obtaining work.

6.3.4 Project Costs and Funding Sources

About two-thirds of the small companies' contract amount is spent on material and since most of these contractors have limited capital struggle to acquire material resulting in delays. The study suggests that the Department of Human Settlements leverage its financial muscles to negotiate with suppliers for credit facilities, zero interest rates and better prices to provide material to emerging contractors. The Department of Human Settlements will in turn directly pay the suppliers for materials supplied on site. The suppliers will be guaranteed to receive payment once the material is delivered on-site. This will hopefully relieve the immense financial pressure on capital-starved contractors. Additionally, the employers of emerging contractors are implored to promptly settle approved payment certificates since the findings have shown that these small companies heavily depend on monthly payments.

6.3.5 Training

A significant number of emerging contractors received either formal or informal training albeit from professionals and clients. Despite the informal training, the compromise on

quality and delays in completion of projects are still worrisomely high. As suggested by Amoah and Bikitsha, (2021), it is recommended that both the government, voluntary associations for contractors and other employers of emerging contractors offer mandatory structured training programmes with incentives. The training both onsite and formal must cover technical, tendering, marketing, and managing a construction business skill. This will ensure that emerging contractors do not simply participate in a compliance exercise but seek to acquire competitive technical and management skills. Additionally, the training must be attended by the owners and managers of the company as research has shown that small contractors with hands-on owners tend to do well (CIDB, 2015b). The attendance by owners will assist in shaping their personal development in professionalism, leadership and networking skills.

6.3.6 Impediments to the Development of Small Contractors

The recommendations, based on the statistically significant challenges are detailed below responding to the research question ***RQ$_2$****: What are the potential benefits and features of a low-cost housing programme that will make it a successful developmental initiative?*

The Erratic Flow of Projects

The government, the primary employer of small contractors, is recommended to put in place long-term, politically, and financially supported emerging contractors' developmental programmes. Such a programme brings consistent work over a reasonably longer period, which Adams, (1997) postulates that it will considerably enhance the development of the small companies. In addition, consistent work allows the contractors to gain and hone skills, and a competitive edge in the industry. Secondly, the Department of Human Settlement is compelled to unbundle massive projects into sizeable chunks that can be worked on by emerging contractors, alternatively, the employer can mandate established contractors working on their projects to subcontract part of work at pre-determined market-related rates. In addition, the government must have projects earmarked for developing contractors to fend off competition from established contractors.

Stiff Competition

The low entry barriers and use of labour-intensive methods attract opportunistic contractors who create unhealthy competition. Stiff competition decreases the

potential of work continuity and drives contractors to enter into unsustainable subcontracting agreements hindering the development of emerging contractors. The study recommends that the CIDB must be more stringent in its registration requirements for new contractors and be stricter on the de-registration of poor-performing contractors. CIDB must mandate that only individuals with construction qualifications and training can register as contractors. In addition, the organisation must force contractors to upgrade within a certain period to trim off opportunistic contractors.

Late payments of approved certificates.

The findings indicated that small contractors depend on monthly payment certificates for their daily operations. Therefore, emerging contractors cannot exist for an extended period without payments. Based on the research findings, it is recommended that the government departments and established contractors that employ emerging contractors promptly settle approved certificates within 28 days.

Supply/Cost of construction equipment and building materials.

Most of the small contractors spend close to 60 per cent of the contract value on material and construction equipment. The research proposes that the government signs a memorandum of understanding with suppliers that guarantees emerging contractors will receive material and equipment on-site and the government deducts the funds from the contract value and settles the suppliers.

Access to loans and Repayment of loans/High-interest rates.

The study put forward that the Department of Human Settlements must, as discussed earlier, provide a guarantee to material and construction equipment suppliers on behalf of emerging contractors. This will offer small contractors access to leasing and rental options for construction equipment and acquire material on credit facilities without worrying about high interest rates. Access to credit facilities and leased construction equipment are the most important factors in ensuring the success of emerging contractors (CIDB, 2015b). Additionally, emerging contractors must be implored to attend workshops and networking sessions with financial institutions where they can learn how to access finance and alternatives to financing. The research does, however, not recommend paying contractors in advance or offering them hard cash

loans as it comes with administrative complications and is riskier for small contractors The emerging contractors who have attended and passed financial and business management training can gradually be trusted with responsibility of material and construction equipment. The process must be done progressively until the small contractor has matured to carry the full responsibility of managing finances, materials, and construction equipment. The emerging contractors must be provided with access to accredited mentors on the various aspects of the construction processes.

Unprofitable subcontracting work.

The provision of continuous work as alluded to earlier under the erratic flow of projects will provide a remedy to this challenge. With adequate work, emerging contractors will not be obliged to enter subcontracts below market-related rates.

Preference of established contractors.

The government and the private sector prefer established to emerging contractors because of the historically poor performance and delays by the emerging contractors. The small contractors also struggle to acquire the required material and experienced personnel. Considering the small contractors' contribution to the economy and society, the study recommends that the government unbundles huge but uncomplicated projects into sizeable chunks that can be implemented by emerging contractors. Furthermore, the government must offer robust training to emerging contractors to curb poor performance. Secondly, where it is impractical to unbundle the projects, the government must mandate the established contractors subcontract part of the work and offer structured training to emerging contractors.

Tendering procedures.

The Department of Human Settlements, akin to other departments and parastatals must hold workshops on tendering at least twice a year. The workshop will demonstrate how to correctly complete a tender document and educate emerging contractors on common pitfalls when tendering. The workshops will educate contractors on required compliance documentation and how to competitively price bids. These workshops must be recorded, and the recording must be sent out to all contractors on the housing department database.

Lack of technical skills.

The study proposes that the government through the low-cost housing projects, allow for accredited training. The practical training must cover both technical and management skills over longer periods to ensure that emerging contractors gain the skills to be competitive in the market. In addition, the findings suggest that emerging contractors must be appointed on long-term projects giving them ample opportunity to learn and continuous work opportunities allow emerging contractors to retain their trained staff. The training can be a combination of both formal and informal training documented in a pictorial practical manual.

6.4 Summary of the Research Contribution

The research contributes to the existing literature on the challenges facing emerging contractors in South Africa, particularly in the housing sector. The statistically analysed cross-sectional study reported the impediments curbing the development of contractors into competent and sustainable businesses. The study also noted that, statistically, the location of the business and the cost of the labour force are not barriers to the development of emerging contractors. The findings provide useful information to the governmental departments and other stakeholders on improvements that can be made to better the development of emerging contractors in recognition of their immense contribution to both the economy and society. The study offers insight to contractors, government departments, consultants, mentors, and other relevant stakeholders into the hindrances encountered by emerging contractors and possible measures that can be employed to minimise these stumbling blocks. The challenges reported in the study as statistically significant include the erratic inflow of projects, stiff competition from fellow contractors and cumbersome tendering procedures. In addition, the respondents strongly pointed to late payments, cost of building materials, limited access to loans and lack of technical support as challenges that are impeding their growth. However, the contractors generally disagreed that the poor location of businesses, cost of labour, shortage of skilled labour and labour strikes are concerning challenges. The research proposed a developmental programme that counters these challenges by empowering women, incentivise established contractors to offer profitable subcontracts and structured training, providing a guarantee to material suppliers, promptly settling monthly payment certificates, offering emerging contractors access to accredited mentors, training the contractors' owners, provide the

contractors with continuous work opportunities to hone their skills, become stricter with the registration of contractors to reduce the stiff competition and enhance small contractors' access to funding. In addition, the study provides a foundation for future related research.

6.5 Limitations and Delimitations of the Study

The research, owing to both time and resource constraints, was limited to respondents from the Eastern Cape Department of Human Settlements, thus the housing sector. The distribution of the questionnaire only to these contractors has the potential of limiting the findings from being generalised to all built environment emerging contractors in South Africa. The study proposes that should it be deemed necessary, future studies including different categories of emerging contractors must be included to better generalise the findings. In addition, the response rate of almost 40% might induce non-response bias and limit the generalisation of the study. However, Ncwadi and Dangalazana, (2005) and Thwala, (2022) posit that the main challenges facing emerging contractors are generally similar. The study was cross-sectional, and a second limitation, is that should there be considerable changes either economically or politically, which will substantially influence the external environment, the findings may then differ.

The positivism paradigm was used for the research, which meant the employing of the quantitative method. This limited the depth of the responses as respondents were required to stick to the structured questionnaire. Therefore, the study findings statistically determined the barriers impeding the development of emerging contractors without fully exploring the reasons behind these challenges. The researcher recommends conducting future similar research based on the interpretivism paradigm and qualitative method to better understand the reasons behind the determined stumbling blocks. Furthermore, it is recommended that similar studies investigate certain hindrances such as the cost of labour and shortage of skilled labour, which this research found to be not significant while other researchers (Hauptfleisch and Verster, 2007; Windapo and Cattell, 2013; Sitharam and Hoque, 2016) emphasise that these factors significantly impede the growth of emerging contractors. Future studies must also examine the training received by emerging contractors, as the study findings revealed that most emerging contractors receive

either formal or informal training yet literature (Martin and Root, 2012) posits that these small contractors receive minimal training.

6.6 Future Research Studies

Based on the study, the researcher recommends the following topics to complement the research:

- Development of emerging contractors in the Eastern Cape based on interpretivism paradigm.
- Drivers of the low-cost housing programme as a developmental initiative for emerging contractors in South Africa
- Implementation of emerging contractors' development in South Africa
- The study of challenges experienced by emerging contractors within the same CIDB grade.

6.7 Summary

The study examined the challenges facing emerging contractors, particularly those low-cost housing contractors in the Eastern Cape. Based on peer-reviewed literature, several possible barriers to the development of emerging contractors were identified. A survey was then conducted to confirm the challenges affecting small low-cost housing contractors in the Eastern Cape. The collected data were analysed and statistically reported that emerging contractors are affected by the following:

i. The erratic inflow of projects.
ii. Stiff competition from fellow contractors.
iii. Late payments of approved certificates.
iv. Supply/Cost of construction equipment.
v. Supply/Cost of building material.
vi. Access to loans.
vii. Unprofitable subcontracting work.
viii. Repayment of loans/High-interest rates.
ix. Preference of established contractors.
x. Tendering procedures.
xi. Lack of technical skills.

Predicated on the findings, the study then proposed measures that can be taken to address the impediments facing small contractors. The recommendations will hopefully eliminate or mitigate the impact of the challenges and enhance the development of these emerging contractors. The recommendations of a developmental programme include the following:

i Empowering of women
ii Incentivise established contractors to offer profitable subcontracting work and structured training.
iii The government must provide a guarantee to material suppliers on behalf of emerging contractors.
iv Promptly settle monthly payment certificates
v Offer emerging contractors access to accredited mentors.
vi Train the contractors' owners in both technical and management skills
vii Provide the contractors with continuous work opportunities to hone their skills.
viii CIDB must become stricter with the registration of contractors to reduce the cutthroat competition.
ix Enhance small contractors' access to funding.
x Unbundle huge projects into sizeable chunks that can be implemented by small companies.
xi Train the contractors on tendering procedures and competitive pricing.

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Annexures

Annexure A – Ethical Clearance Certificate

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL OF CIVIL AND ENVIRONMENTAL ENGINEERING ETHICS COMMITTEE
CONSTITUTED UNDER THE UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)

CLEARANCE CERTIFICATE **PROTOCOL NUMBER: CEECC-2612879-2023**

PROJECT TITLE Emerging Contractor Development Through the Provision of Low-Cost Housing in The Eastern Cape

INVESTIGATOR/S Joseph Shati

SCHOOL/DEPARTMENT OF INVESTIGATOR CIVIL AND ENVIRONMENTAL ENGINEERING

DATE CONSIDERED 24 July 2023

DECISION OF THE COMMITTEE Conditionally Approved
Conditional Clearance: Data collection cannot commence until the permission letter is submitted to the school/dept HREC Non-Medical Committee

RISK LEVEL MINIMAL RISK

EXPIRY DATE Date of submission of the Research Report

ISSUE DATE OF CERTIFICATE 24 July 2023 **CHAIRPERSON** _____
(Professor John Ndiritu)

cc: Prof Anne Fitchett:

DECLARATION OF INVESTIGATOR

To be completed in duplicate and **ONE COPY** returned to the Chairperson of the School/Department ethics committee.

I/we fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure be contemplated from the research procedure as approved, I/we undertake to submit an amendment of the protocol to the Committee.



Signature **Date** 27/07/2023

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Annexure B – Questionnaire

https://forms.gle/LWTjk5zFmHKCF9Rh6

Dear Participant

The construction industry contributes significantly to the socio-economic development of South Africa. The sector's majority of contractors are small across CIDB grades 1 to 4. The emerging contractors create job opportunities, alleviate poverty, build infrastructure, and empower the previously marginalised. Despite these contributions, emerging contractors are facing challenges that are impeding their development. Initiatives to enhance the growth of emerging contractors, such as the low-cost housing programme loosely known as RDP housing have been launched with varying outcomes. I am interested in developing contractors' perceptions of the low-cost housing development programme. It is imperative for future contractors' developmental programmes to learn your opinions on the matter.

Your participation in this research is fully voluntary. There are no foreseeable risks associated with your participation in this research. However, should you at any time feel uncomfortable answering any question, you are free to withdraw from the survey. The survey responses will be strictly confidential and reported only in the aggregate. The questionnaire is coded to ensure your anonymity and the information derived will remain confidential. The study will be conducted following the ethical guidelines of the University of Witwatersrand as per the approved ethical clearance number XXXX. Should you have any questions about the survey or the procedures, you may contact Joseph Shati at 2612879@students.wits.ac.za Thank you for your time and support, the survey will take approximately 15 minutes of your time.

Please start with the survey by clicking next. The clicking of the 'Next' survey button implies consent.

a. In which Province is your head office?
b. Please indicate your gender.
    - Female
    - Male
    - Other
c. What is your race?
    - Black

- Coloured
- Indian
- White
- Other (Please specify)

d. What is your highest level of education?
    - less than Matric
    - Matric
    - Certificate
    - Diploma
    - Degree
    - Postgraduate degree
e. What is your role in your company?
    - Sole owner/director
    - Partner
    - Contracts/Office Manager
    - Administrative Employee
f. Before becoming a contractor in which industry were you working?
    - Construction, Engineering or Built Environment
    - Accommodation and food service activities
    - Administrative and support service activities
    - Agriculture, forestry, and fishing
    - Arts, entertainment, and recreation
    - Education
    - Financial and insurance activities
    - Human health and social work activities
    - Information and communication
    - Manufacturing, mining, and quarrying
    - Unemployed
g. What motivated you to be a contractor?
    - Family business/inherited.
    - Unemployment or difficulty landing a job.
    - Independence

- The prospect of earning more than in another job
- Lack of education
- Ambition
- Wanted to leave sub-contracting.

h. Is construction your main source of income?
    - Yes
    - No

i. What is the CIDB grading (CE or GB) of your company?
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9

j. What was the value of the biggest project ever constructed by the company?
    - Less than R1 million
    - Between R1 and R3 million
    - Between R3 and R6 million
    - Over R6 million

k. How many years have your construction company been active in the industry?
    - Less than 2 years
    - Between 2 to 5 years
    - Between 6 to 10 years
    - Over 10 years

l. What was your construction total annual turnover or biggest project amount in 2022?
    - R0 million
    - Less than R1 million
    - Between R1 and R3 million

- Between R3 and R6 million
- Over R6 million

m. How many full-time employees did the company have in 2022? (Please do NOT include the local labourers)
    - 0-5
    - 6-20
    - 21-50
    - More than 50

n. What is the longest duration that you did not have work/project?

    Less than 6 months

    More than 6 but less than 12 months

    Over 12 months

o. What are your company workforce (full-time employees) and plant doing now?
    - Laid off/returned to hirer.
    - Being paid but not working.
    - Doing subcontracting work
    - Working on-site as the main contractor

p. Has the company ever worked as a labour-only subcontractor?
    - Yes
    - No

q. As a contractor how often were you employed by the following type of employer in the past 5 years?

Employer	**Frequency over the past 5 years**		
	Never	**Sometimes**	**Always**
Private (Individuals & Developers)			
Government Departments & Municipalities			
Large Contractors			
Commercial Banks/Financial Institutions			
Other (specify)			

r. How often do you obtain work/projects by the following methods?

Employer	Frequency over the past 5 years		
	Never	Sometimes	Always
Competitive tender			
Subcontracting			
Negotiation			
Other (specify)			

s. How much was your last completed project?

Less than R1 million

Between R1 and 3 million

Between R3 and 6 million

Over R6 million

t. On your last completed project, what were the following costs as a percentage of the project contract price?

Item	% of the Contract Amount		
	Less than 30%	Between 30%-60%	Over 60%
Building Material			
Labour (both skilled & unskilled)			
Construction equipment hire/payment			
Other (specify)			

u. Which of the following are your major sources of finances?

Source of funding	At which stage?	
	Current	At start-up
Own/family and friends' savings.		
Business partners		
Commercial Banks		
Informal market (money lenders)		

Previous projects/advance payment on a project		
Government Agencies e.g., SEDA		
Main Contractor		
Credit from building material/plant suppliers		
Development corporations e.g., ECDC		
Other (specify)		

v. Has the company experienced problems with meeting the collateral requirements when seeking a loan?
    - Yes
    - No
    - Not applicable (never applied for a loan)
        i. If 'yes', what was/were the problems?
            - Did not own property that could be used as security.
            - Did not have contracts to act as collateral.
            - Have not been in business long enough to obtain a loan.
            - Did not know the requirements to apply for a loan.
            - Other (specify)

w. Have you had informal or formal training on any of your projects?
    - Yes
    - No

x. Who provided the training?
    - Appointed construction mentor.
    - Accredited training institute
    - Project professional (engineer, architect, quantity surveyor, etc)
    - Main contractor
    - Client (project manager, internal mentor, etc)

y. If you had training on any project, please indicate in which of the following fields:

Skills & Technical training (bricklaying, plastering, plumbing electrical, painting, etc)	Yes	No

Site management (acquiring of material, tendering, developing cashflows and programme of works, etc)	Yes	No
Business management (financial management, human resource management, administration, etc)	Yes	No
Other (specify)		

z. What are your plans for the next 5 years for the company?

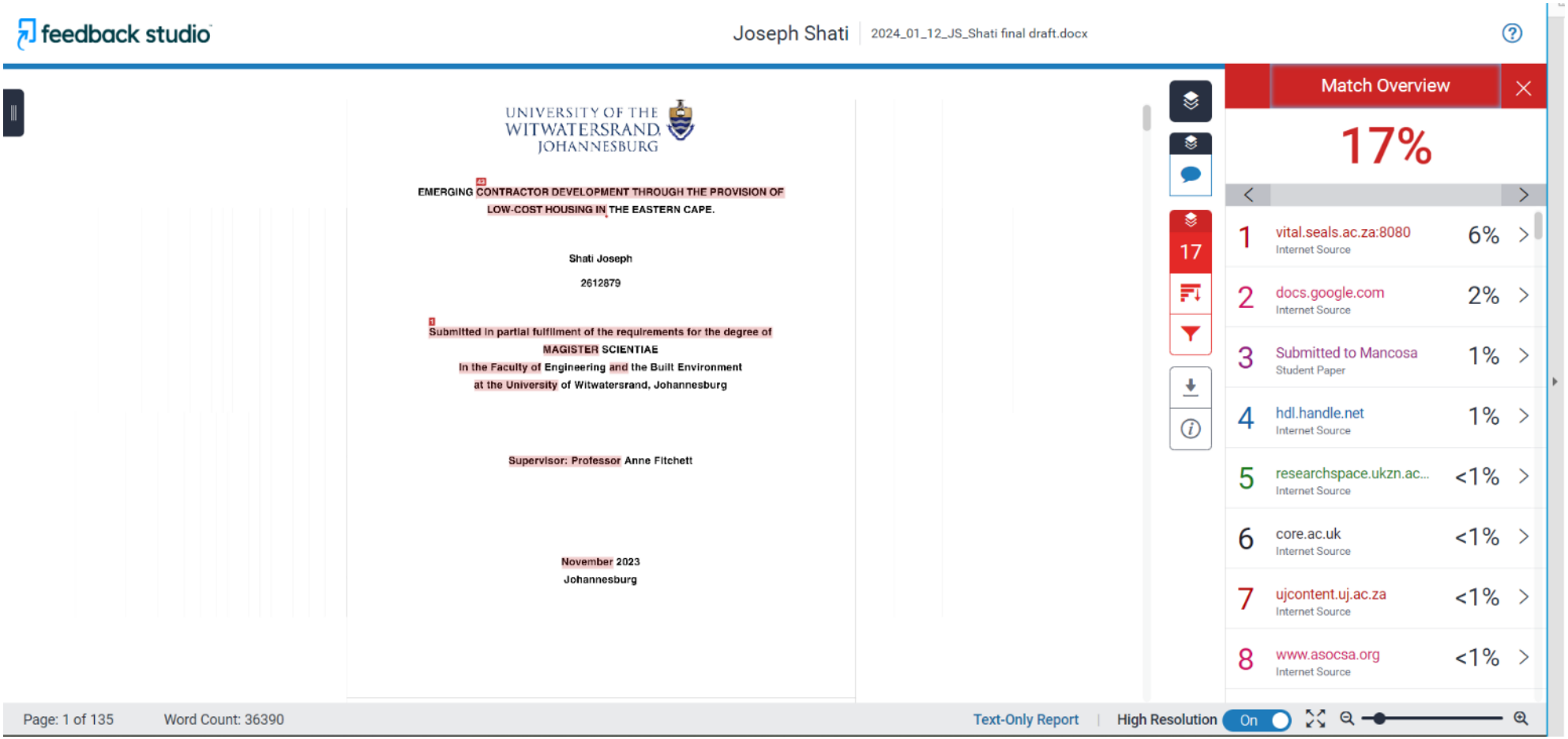
- Downsize
- Expand and upgrade the CIDB grading.
- Remain the same size.
- Sell the company and construction leave the industry.
- Sell the company and get a better-salaried job.
- Diversify into other industries, such as manufacturing, mining, etc.

aa. The following statements relate to the development of emerging contractors, please rate each of the following **problems facing small companies**. Rate each based on the Likert scale where 1 is Strongly Disagree, 2 is Disagree, 3 is Neutral, 4 is Agree and 5 is Strongly Agree.

	1	2	3	4	5
The erratic inflow of projects					
Stiff competition from fellow contractors					
Tendering procedures					
Poor location of the business					
Cost of Labour					
Shortage of skilled labour (competent and experienced technical and managerial staff, construction mentors)					
Labour strikes/protests					
Access to loans					
Repayment of loans/High-interest rates					
Supply/Cost of building material					
Supply/Cost of construction equipment (plant, generators, etc)					
Lack of technical skills					

Late payments of approved certificates					
Labour legislation (BBBEE and minimum wage)					
Tax returns legislation					
Complicated designs					
Preference of established contractors					
Unprofitable subcontracting work					

Annexure C – Turnitin Report


feedback studio
Joseph Shati
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UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
EMERGING CONTRACTOR DEVELOPMENT THROUGH THE PROVISION OF LOW-COST HOUSING IN THE EASTERN CAPE.
Shati Joseph
2612879
Submitted in partial fulfilment of the requirements for the degree of MAGISTER SCIENTIAE
In the Faculty of Engineering and the Built Environment
at the University of Witwatersrand, Johannesburg
Supervisor: Professor Anne Fitchett
November 2023
Johannesburg
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