




**Analysing the influence of entrepreneurial
orientation on labour-intensive SMEs within the
South African construction industry**

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Mini-dissertation accepted in partial fulfilment of the
requirements for the degree *Master in Business Administration*
at the North-West University

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Graduation: August 2021

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Declaration

I, KJ Mayombo, student number 31433626, hereby endorse that the work presented in this mini-dissertation titled “*Analysing the influence of entrepreneurial orientation of SMEs and labour-intensive in the construction industry*” is my original work and has not been submitted to any other institution for the purpose of obtaining a qualification.

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March 2021

Dedication

I am dedicating this dissertation to my lovely wife and children. Thanks for the patience you showed me throughout this research journey. Always know that daddy loves you more and you must strive to do better.

Acknowledgements

I give thanks to God the Almighty for the gift of life, His grace and mercy; the strength he provided me with to achieve this qualification.

Thanks to my family and friends who supported me all through this endeavour, which was interesting and challenging; I would also like to thank my parents for the support they have shown me, I would not be here if it had not been for you.

To the statistician, Mr Modisane Seitshiro, thanks for the assistance in data analysis. I extend my gratitude to Mrs Cecil Van Zyl for assisting with the editing of the document.

Last but not least, I would like to give thanks to my study supervisor, Prof N Mouton, who continued to give me guidance and support throughout the research journey until completion.

Abstract

Human resources are valuable and must be well managed to obtain optimal value. Best performances, entrepreneurial orientation and the labour-intensive nature of the construction industry are important factors to creating work, teaching new trades and poverty alleviation (Karnami, 2011). This study set out to ascertain, examine, and rank factors that appear to influence the entrepreneurial orientation of SMEs, while affecting labour-intensive productivity in small and medium companies in the construction framework for their relative significance in the rural economy and impact on society. This study aimed to demonstrate the impact of the construction sector in creating employment through SMEs' orientation and labour-intensive methods.

The secondary objective clearly outlined the concept of small and medium enterprises in the construction industry and job creation within Labour-intensive (LI). This study used a quantitative method to describe how the entrepreneurial orientations of small and medium-sized enterprises and labour-intensive enterprises in the construction sector affect employment opportunities in the community. The self-administered questionnaire, using a five-point Likert scale, was used to collect data on small and medium-sized enterprises in the construction industry. The convenience sampling method was used to determine the sample size of 100 participants. The research results showed that effective Enterprise-orientation (EO) has a positive impact on SMEs, which is a key factor in ensuring the success of enterprises. A well-established EO can even enhance and bring about new ideas and opportunities for labour performance and productivity, resulting in the creation of employment for disadvantaged inhabitants. All participants were from the construction industry and the majority of them felt strongly that the construction industry can be the solution to addressing unemployment issues and could subsequently play a pivotal role in the alleviation of poverty.

KEY TERMS: entrepreneurial orientation; labour-intensive; SME; construction industry

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Definition of key concepts

Key term /abbreviation	Meaning
Autonomy	Right or condition of self-governance
Competitiveness	Quality of being as good as or better than others of a comparable nature
Construction company	It is a type of business or organisation formed with the purpose to construct and develop a wide variety of buildings, housing, roads, sanitation and all construction projects
Entrepreneurship	Is the act of taking a risk and developing a business venture and managing it with the hope of making profits
Enterprise orientation (EO)	Decision-making process with managerial philosophies and strategic behaviours
Innovativeness	Originality by introducing new ideas
Labour-intensive (LI)	Requiring a large amount of work concerning output needed
Proactiveness	Places greater emphasis on forward-thinking strategic planning
Risk	Potential for uncontrolled loss
Small and medium enterprises (SMEs)	These are organisations that employ between 1 and 150 employees and have an average income of between R1 and more than R2 million

CHAPTER 1: NATURE AND SCOPE OF STUDY

1.1 INTRODUCTION

Small and medium enterprises' (SMEs) orientation and labour resources are valuable, and therefore they must be well managed to get optimal value and the best performances. The labour component in the construction industry is an important factor for job creation and poverty alleviation. Sub-Saharan countries face a similar challenge of an increasing rate of unemployment among the youth or young adults (Klopper, 2015:18). Individuals need to consider creating self-employment and shy away from the idea of being employed by organisations (Herrington, M., Kew, J. & Kew, 2014:19). Herrington et al (2014) further indicates that the corporate sector is failing to create jobs and even the government's efforts to curb unemployment are in vain. Individuals need to familiarise themselves with the fact that large companies and the government are not the sole providers of employment. According to StatsSA (2020), South Africa's official unemployment rate was sitting at 29.1% by the end of the third quarter of 2019.

SMEs in the construction sector are significant contributors to the well-being of the community. The construction industry has been dominated by SMEs (i.e. subcontractors) and it is inevitable to handpick appropriate subcontractors who will execute almost all the construction activities in projects (Ulubeyli, S., Kazaz, A. & Volkan, A., 2017). The construction sector is one of the largest drivers of employment in the country, with two-thirds of all skill-related employees being employed in the construction sector (Windapo, 2016).

Subcontractors or SMEs can be found in the community residing in the vicinity of the project, consequently creating jobs and alleviating poverty, especially in developing countries characterised by high unemployment and increased poverty (Makina, Fanta, Mutsonziwa, Khumalo, Maposa, 2015). South Africa's President, Mr Ramaphosa, announced that public infrastructure development would be used as a driver of the economy in the near future (Manga, 2019). Construction companies must ready themselves to benefit from those public works programmes. For these construction

organisations to ready themselves, they need to be competitive, organised and innovative.

1.2 BACKGROUND

Priority programmes in infrastructure development or construction are identified by the government to create jobs and alleviate poverty. The growth in poverty rates, sub-standard delivery of basic services and inadequacy of infrastructure are largely experienced around rural areas in South Africa (Skweyiya, 2003:2). This might be the reason why, when an infrastructure project starts in those areas, there is hope in the population not only because of the new infrastructure, but also for numerous opportunities that the project might bring.

The majority of the population lives in dispersed rural areas characterised by low levels of literacy, high unemployment and poor livelihoods (NDA, 2014). Figures 1.1 and 1.2 below illustrate maps of Mpumalanga and the Free State Province, respectively, and a brief description of each province is followed to offer a glimpse of the two provinces.



Figure 1-1: Mpumalanga Province

Figure 1.1 shows the map of Mpumalanga in eastern South Africa. It covers an area of approximately 76 495 km² with a population of 4 592 187 inhabitants, which is 7.8% of the total population of South Africa (StatsSA, 2019). Approximately 68% of Mpumalanga's surface area is used for agriculture purposes. Extensive mining is also done with multiple minerals, where 83% of South Africa's coal is produced. Mpumalanga is popular for tourism as well with the Kruger National Park, which is a popular tourist destination.



Figure 1-2: Free State Province

Figure 1.2 shows the Free State Province, which is centrally located on the South African map. The province has a population of 2 887 465, which is 4.9% of the total population of South Africa (StatsSA, 2019). For years, the economy of the Free State has been dependent on mining and agriculture. The north-western part of the province is also known as goldfields. The Free State also has large percentages of agricultural production; grains, in particular, originate from the region. Free State Consolidated Goldfields, which is the country’s largest gold-mining complex, with an area of 330km², is found in the Free State (Badsha, 2019) (GlobalBizzNetwork, 2020).

1.3 STATEMENT OF THE PROBLEM

The rate of unemployment is still high despite government intervention, as observed, especially in this pandemic period where unemployment rate struck a record of 30.8% in the third quarter of 2020 (Winning, 2020). Furthermore, SMEs in the construction sector

are keen to recruit workers from unemployed groups such as young people, adults and less qualified workers. In the first quarter of 2019, the unemployment rates in the Free State and Mpumalanga were, respectively, 34.9% and 34.2% (StatsSA, 2019). Although the construction sector can be a big generator of employment through SMEs and labour-intensive methods, it has seen a drop in employment during the last quarters of 2019 (Zama, 2019) (CCMA, 2019).

SMEs and labour-intensive methods in the construction industry can mitigate the unemployment problem faced by South Africa. Good management of SMEs' enterprise orientation and labour-intensive methods can reduce the unemployment rate, causing social development of the community. This study will investigate how much work can be created by a construction project with a labour-intensive method and strategies taken to propel SMEs in the construction sector to create more employment.

Possible challenges causing unemployment in South Africa in general are:

- The shortage of skilled construction workers;
- a lack of education and training;
- a lack of funding to enhance infrastructure project in rural and urban areas to stimulate job creation (Thwala, W.D. 2008);
- SMEs and labour-intensive methods can mitigate the unemployment problem but access to credit or funding is a serious constraint for SMEs and in most case doesn't allow them to grow and develop therefore fail after few years of existence (OECD, 2009);
- new entrants in the labour market, labour supply is affected by the increase of job seekers. More people enter the working age than the number of jobs that become available;
- recession as well contribute to unemployment since many workers lose their jobs;
- pandemic period like the one we are living in now with the covid-19;
- trade unions demanding higher wages may lead to a decline in new employment;
- lack of interest in entrepreneurship by young people;
- crimes and corruption;

- nepotism.

1.4 RESEARCH GOAL

This study aimed to demonstrate the impact of the construction sector in creating employment through SMEs' orientation and labour-intensive methods.

1.5 RESEARCH OBJECTIVES

The secondary objectives were formulated as follows:

- Explore SMEs and LI as schemes for job creation in construction;
- Describe and discuss challenges faced by SMEs and LI in construction; and
- Determine possible opportunities that the state proposes to uplift SMEs and LI in the construction industry.

1.6 SCOPE OF THE STUDY

This study aimed at investigating how the construction sector through SMEs and LI creates jobs and emancipates poverty. People working in the sector from different backgrounds were interviewed to obtain accurate data. The researchers focused on two provinces, Mpumalanga and the Free State, where there are high employment rates in the construction and statistician companies. Furthermore, the possibility exists that SMEs' orientation and LI can be part of the entrepreneurial solution to create considerable employment. Therefore, the alleviation of poverty was explored.

1.7 RESEARCH METHODOLOGY

The study conducted an empirical analysis to evaluate employment created by SMEs and labour intensive methods (LI) in construction. It will use an empirical research design approach, which is defined as evidence-based research, involving the acquisition of new knowledge and direct observation of evidence-based research for the acquisition of new

knowledge (Marczyk, G., Matteo, D. & Festinger, D., 2005). Proper design is required to conduct research (Glatthorn & Joyner, 2005:97; Cooper & Schindler, 2008:156). This study will be quantitative and will make use of structured questionnaires. After the analysis, the conclusions drawn came from the collected data (Bruce, 2007:52). The target population of this study was managers, owners and employees of small and medium-sized enterprises in the construction industry, as well as colleagues in the construction industry (engineers, architects and project managers), consulting engineer companies, municipalities, as well as Mpumalanga Province and Liberty State's departmental province. The population was restricted to these two provinces because of budgetary and time constraints. This research used a stratified probability sample. As stipulated, the unit of analysis was located in the two different provinces and a stratified sample per province used snowball sampling to obtain the data in each province. In this sampling strategy, one participant can recommend another participant who might be helpful for the study that will be done (Leavy, 2017:149). Therefore, various employees in small and medium-sized companies in the construction and consulting engineers' sectors and governmental sector were targeted, who then referred the researchers to other construction companies and local government or department employees. Targeted SMEs, companies and individuals were sent the questionnaires by emails, WhatsApp, using the Google Form link. As the form was web-based and could be shared via the link, responses could be received and reviewed in the Google Form. A summary of responses was seen or the researchers chose to receive an email when a response was sent.

The researchers will also make use of a statistician, who will ensure that the samples are satisfactory and that validity and reliability are verified.

1.8 RESEARCH ETHICS

According to the NWU Research Ethics Policy, the research will attempt to be ethical in all its stages (NWU, 2018). The research was autonomous and fully conducted by the researchers. This research will benefit all populations from rural areas as it will seek to assess the best ways that poverty can be alleviated through the creation of jobs with labour-intensive methods and the EO of SMEs in the construction industry.

In this study, due to the type of research, there was no consent form from an organisation. Respondents were more likely to provide honest responses when their identity is not exposed, and in that way, confidentiality was respected. A signed declaration accompanies the questionnaire, stipulating that all information collected will be handled with the utmost confidentiality and participation in the research will be voluntary, and if anyone needs to withdraw from the study they will just have to notify me by email to deregister.

1.9 DISSERTATION ORGANISATION

Chapter 1: Introduction

This chapter outlines the entire content of the research, including the introduction, problem statement, research questions, goals, research methods, limitations and research layout.

Chapter 2: Literature review

The literature review covers extensive research on SMEs and LI as part of the research. This chapter defines SME, LI, and EO, and discusses the challenges they face, which are identified from the literature.

Chapter 3: Research methods

This chapter introduces the main goals and secondary goals of the research, thereby determining the necessity and importance of the research. The questionnaire will be filled out by a predetermined group of people to help complete the empirical research. The research methods will be discussed, including sample size and subsequent sampling methods.

Chapter 4: Discussion of results

This chapter introduces all the survey results and data obtained from the survey form. In this chapter, detailed discussions and findings will be discussed. The knowledge provided by the participants will be explained in order to make the results meaningful, which also helps to solve the research problem.

Chapter 5: Conclusions and recommendations

This chapter summarises the conclusions and recommendations. Subsequently, suggestions were made to alleviate poverty in rural areas through SMEs and LI methods.

1.10 CHAPTER SUMMARY

The chapter introduced the research and its context. The background of the study was described, and the research question mapped out. The study outlined its research objectives that led to determining a research methodology, where an empirical method was used to collect data from the targeted population. The measuring tool was introduced and statistical analysis was discussed briefly. Chapter 1 therefore established the research procedure followed in this study before concluding with the ethical considerations and limitations of this study.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, a detailed explanation of the related studies and works is provided. The chapter further discusses the literature on SMEs and the informal sector, entrepreneurial orientation and the labour-intensive method. Firms and companies are always under pressure to grow and remain competitive (Eshima & Anderson, 2017:770). This could be demonstrated by the decisions that their managers take, the competitive pressure they try to exert on organisations, the resources they acquire, and also how they react to market changes. Therefore, it is in the interest of companies to identify and exploit opportunities for market growth as global business environments change rapidly (Boling, J.R., Pieper, T.M. & Covin, J.G, 2016:891). Top executives therefore saw a need for their organisations to be more entrepreneurially oriented.

For many years, governments around the world and the South African government in particular have used public works programmes and the labour-intensive method as a way of creating employment for the poor, preferring the labour-based method of work in public works programmes rather than machinery work. Certain tasks have created programmes to promote labour employment, people to perform tasks and activities, and therefore creating work and reducing poverty, increasing income and infrastructure development; however, one question remained. Many industries, construction in particular, have experienced problems such as poor working conditions and unqualified managers. Many studies have identified these factors as the main contributors to poor productivity and performance in the construction industry (Ninno, C.D., Subbarao, K. & Milazzo, A, 2009).

REVIEW OF SOME TERMS USED IN THE THESIS:

2.2 SMALL AND MEDIUM ENTERPRISES (SMEs)

According to the South African National Small Business Enabling Act (Act 102 of 1996), a small business is defined as *“a cooperative enterprises and non-governmental*

organisations which is managed by one owner or more and is distinct and separate business entity. It may include its branches or subsidiaries, if any, is predominantly carried on in any sector or subsector of the economy. In such an instant it can be classified as a micro thus a very small enterprise or a small or a medium enterprise” (Cant & Rabie, 2018:228).

These small and medium enterprises (SMEs) consist of 250 employees or fewer (medium), while small businesses consist of 50 employees or fewer (Ayandibu, A.O., Houghton, J.O. & Research, R.M., 2017:134). Most of these businesses are characterised by their managers mostly being their owners. SMEs are considered as drivers of economic growth through employment creation (Jili, N., Masuku, M., Selepe, B.J.A.J.o.H., Tour & Leis, 2016:2).

VARIOUS COUNTRIES						BRICS					
	EU	USA	Asia (Malaysia)	Egypt	Ghana	Brazil (Industrial)	Brazil (commercial)	Russia	India	China	South Africa
Name											
	Small and Medium Enterprise	Small and Medium Business	Small and Medium Enterprise	Micro, Small and Medium Enterprise	Micro, Small and Medium Enterprise	Small and Medium Enterprise	Small and Medium Enterprise	Small and Medium Enterprise	Micro, Small and Medium Enterprise	Small and Medium Enterprise	Micro, Very Small, Small and Medium Enterprise
Number of employees											
Micro	<10	–	<5	1–4	1–5	1–19	1–9	–	0	–	<5
Small	<50	<100	5–50	5–14	6–29	20–99	10–49	15–100	0	<300	20–49
Medium	<250	<500	51–150	15–49	30–39	100–499	50–99	101–250	0	300–2000	50–200
Annual turnover											
Micro	<€2	0	RM250.000	0	\$10k	0	0	–	<Rs50m	–	<R200k
Small	<€10	0	RM250.000–<RM10m	0	\$100k	0	0	400m RUB max	Rs50–60m	<Y30m	R3m–R32m
Medium	<€50	0	RM10m–RM25m	0	\$1m	0	0	1bn RUB max	Rs60–99m	Y30–Y300m	R5m–R64m

Figure 2-1: Global definition of small, medium, and micro-enterprises (Dhlomo, 2017:52)

Katz and Green characterise SMEs by means of:

- Their constant need for cash or shortage of capital;
- Their risk and innovative strategies are unconventional;
- The manager and/or owner influences the culture of the organisation;
- They are mostly built up through personal relationships;
- They require business revenue to generate quick cash;
- They generally operate in a small market, such as sedibeng or gauteng;
- Decision-making is quicker as they mostly consist of flat structures; and
- They cannot influence development in the market like the bigger organisations can.

2.2.1 Role SMEs play in the economy

According to the study by Cant and Rabie (2018:231), the following are the roles SMEs play in the economy:

- They are major drivers of growth in the economy;
- They are essential if the market is to be competitive;
- They reduce poverty in developing countries;
- They can adapt faster and easier to changing market needs; and
- They can also institute structural change as most small businesses introduce innovation that alters market conditions.

2.2.2 SMEs and the informal sector

SMEs contribute significantly in addressing the unemployment problem in South Africa by providing jobs to people. Additionally, the informal sector contributes to addressing unemployment issues in the country and the government tends to focus on the formal sector when reporting on employment trends within the country. The informal sector tends to be ignored, especially by the National Development Plan (NDP), when reporting about

the economy and employment. The NDP's analysis and policy recommendations have to include the informal sector, as it plays a pivotal role in addressing unemployment issues (Fourie & Kerr, 2017). However, the NDP expects the informal sector (plus domestic work) to come up with two million new jobs by 2030 (NPC, 2012:121-2). This generates many questions on how the sector should be included and approached in the NDP analysis and policy design as a critical contributor in job generation (Fourie & Kerr, 2017).

2.3 SOCIAL ENTREPRENEURSHIP

Some of the problems caused by government failures and unstable markets can be addressed by social entrepreneurship. With limited resources, social entrepreneurial firms or individuals tend to come up with a unique set of approaches and tactics to generate significant solutions for their communities. Recent trends have shown that women's participation in social entrepreneurship has increased due to the availability of training programmes and local setups to upkeep women's business ownership. This continues to create a positive impact within communities around the world (Henry, C., Treanor, L., Griffiths, M. D., Gundry, L. K., Kickul, J. R, 2013).

2.4 LABOUR-INTENSIVE METHOD

SMEs tend to employ more labour-intensive production processes than large enterprises do (Olawale & Garwe, 2010). As a result, employment opportunities are created leading to the generation of income, and poverty reduction within communities (OECD 2014). Labour-intensive construction methods entail finding the proper mix of labour and machines in producing quality products.

The Expanded Public Works Programme (EPWP) aims at lessening poverty and reducing unemployment. The programme is conducted nationally and includes all government organisations and state-owned enterprises (SOE's). EPWP has in the past provided opportunities in the infrastructure, social, environmental and economic sectors. The introduction of labour-intensive construction methods is recognised in the infrastructure

sector where the emphasis is on creating more work opportunities within the sector (Public Works, 2005). Labour-demanding infrastructure projects under the EPWP include:

- Providing job opportunities to local jobless persons through labour-intensive construction methods;
- Providing skills development and training to those locally employed labourers; and
- Constructing quality, but cost-effective assets.

Compared to equipment-based buildings, effective labour-intensive construction (LIC) provides employment opportunities for a large number of people. The construction industry is not conducive to providing permanent employment, especially for workers, because it is difficult for construction companies to guarantee jobs when they are not sure when to sign another construction contract. However, the LIC should be informed that the task rate is determined per the standard, and therefore when a project is awarded there is security of job creation in the community.

In present-day South Africa, the provision of urban infrastructure falls within the realm of socio-economic development. No longer is only the physical provision of infrastructure of importance, but also the livelihood of the beneficiary communities. Included are the creation of employment opportunities and an income for the people, the transfer of skills in equipping them for the future and the pursuit of opportunities for the development of small contractors. Some propagate a change in civil engineering construction methodology as one of the strategies to achieve these broader objectives. Labour-intensive construction techniques, with their larger employment multiplier, lower capital requirements and larger direct community interaction, are hailed as one of the solutions.

For many years, governments around the world and the South African government in particular have used the labour-intensive method as a way of creating employment for the poor, preferring the labour-based method of work to machinery work for certain tasks. They have created programmes to promote labour employment, the creation of SMEs, people to perform tasks and activities, therefore creating work.

2.5 SMEs AND LI CONTRIBUTIONS, CHALLENGES AND SOLUTIONS IN RURAL DEVELOPMENT

By creating jobs, providing taxes and contributing to GDP, SMEs are one of the main drivers of economic development. However, among African SMEs, in addition to playing an active role in economic development, many SMEs also face many challenges. These challenges include corruption, poor management, shortage of capital and infrastructure (Muriithi, 2017). SMEs and LI are involved in all major sectors and are the link between simple to complex industries. They also provide an opportunity to uplift the livelihoods of the rural inhabitants. However, SMEs in rural areas encounter numerous challenges that slow their growth and limit their long existence. Business failure is an everyday event and the rate of LI depends on the duration and numbers of project to create employment (Lakew, 2017).

2.6 DEFINING ENTREPRENEURSHIP

The term “entrepreneur” was derived from “entreprendre” a French term meaning “to take in-between” (Frederick, H., O’Connor, A. & Kuratko, D., 2019:10). Entrepreneurship is therefore an act that an entrepreneur undertakes. Schumpeter (Geitlinger, 2016:7) defines entrepreneurship as an act that engages creativity to find new products or firms, and that particular firm being an innovation with all the ideas involved being novel as they are created using creativity.

Shane and Venkataraman (Mamabolo, 2016:10), however, view entrepreneurship in a different light as they view it as organisations or individuals (whom), where, and how they seek opportunities to create future services and goods, and how these opportunities can be discovered, evaluated and exploited. Therefore, entrepreneurship is viewed as opportunity recognition and how that opportunity can be translated into value such as money.

Entrepreneurship can be viewed from a macro- or a micro-perspective. The macro-aspect considers factors that are out of the entrepreneur’s control such as education, physical

infrastructure, culture and financing (Frederick *et al.*, 2019:15). This can be explained by four schools of thought, namely:

- The social and cultural school of thought claims that the external environments have an effect on an entrepreneur's lifestyle such as studying further to enhance one's entrepreneurial skills. If an environment is non-toxic and encourages freedom of expression, also supporting ideas or contribution from employees, those employees will pay to further enhance their entrepreneurial skills (Henry *et al.*, 2013);
- The financial/capital school of thought focuses on the idea that organisational purpose or entrepreneurial activities of organisations are only meant to benefit the financial growth of the organisation and therefore shareholders (Frederick *et al.*, 2019:16). All activities that involve capital such as fund raising or application for funds from a financial institution are mostly focused on especially when planning the business;
- The displacement school of thought focuses on the aspects of the macro-environment that have a negative influence on entrepreneurship such as government regulations and policies, economic conditions like recessions, and ethnicity and religions that hinder growth for other organisations (Frederick *et al.*, 2019:17); and
- Ecological school of thought deals with green entrepreneurship in that profit-making should not sacrifice the environment. If organisations do not take environmental factors into consideration, then they will be unsustainable and therefore might face regulators and start being penalised.

The micro-view of entrepreneurship looks into internal factors that affect the individual entrepreneur and are also called the internal locus of control. This school of thought is the entrepreneurial trait school of thought that looks into character traits of successful entrepreneurs such as achievement, creativity, determination and technical knowledge (Frederick *et al.*, 2019:17). Some of the traits are family development and the level of education. The venture opportunity school of thought focuses on opportunities that can

be exploited by entrepreneurs (Frederick *et al.*, 2019:18). This include idea development and sources, and implementation of new venture opportunities. Successful entrepreneurs require a strategy that is interwoven into their organisations (Frederick *et al.*, 2019:19). This can be seen where entrepreneurs create unique products (through innovation), for unique customers (through customer segmentation), and into unique markets (through strong ventures).

2.7 DEFINING ENTREPRENEURIAL ORIENTATION

According to Lomberg *et al.* (2017:1), entrepreneurial orientation (EO) is a process where strategy is made and when an organisation is provided with a basis for decisions and actions that identify with entrepreneurial characteristics. This allows the organisation to create a competitive advantage. Wales and Covin (2012) further states that EO is a strategic decision-making process practised by a company within the entrepreneurial context. An entrepreneurially-oriented organisation can therefore be named as the one that is always innovating when coming to market products; it makes risky decisions and ventures, always thinks ahead of its competitors by bringing pro-active innovations, and also beats competitors by being highly competitive (Martínez, A.B., Galván, R.S. & Palacios, T.M.B., 2016:539).

By having a strategic dimension into EO, companies can be sustained over time as their entrepreneurial actions are repeatedly executed or recur frequently (Wales, 2016:4). This means that organisations consider managerial strategies and also sustainable entrepreneurial behaviour if they are to engage in uncertain, entrepreneurial activities over time. EO is also embarked upon because organisations and companies would like to have positive outcomes in their performance indicators such as firm growth, new venture creation, and financial performance (Boling, J.R., Pieper, T.M. & Covin, J.G., 2016:891).

EO has influenced many business-level outcomes such as marketing competencies, strategic alliances, and technology commercialisation. There are two ways in which entrepreneurial orientation can be conceptualised, which are unidimensional and

multidimensional constructs (McKenny, A.F., Short, J.C., Ketchen Jr, D.J., Payne, G.T. & Moss, T.W., 2018:505). The unidimensional construct of EO refers to processes that are undertaken by organisations that reflect their entrepreneurial intentions within their organisation as a whole or their business units (Covin & Wales, 2019:4; Lomberg *et al.*, 2017:2).

The second construct of EO is a multi-dimensional approach. This is defined by Lumpkin and Dess (Covin & Wales, 2019:4; Lomberg *et al.*, 2017:2) as looking at an organisation as an entrepreneurial attribute in that all entrepreneurial activities are applied across an organisation. Each dimension is independent of the other and has its effect on the performance of the firm or its desired outcome. Anderson, Kreiser, Kuratko, Hornsby and Eshima (2014) proposed some new structures that divide EO into two dimensions, namely the management attitude to the risk dimension and the entrepreneurial behaviour dimension (Covin & Wales, 2019:5). Entrepreneurial behaviour is a combination of innovativeness and proactiveness, while managerial attitude toward risk is the conceptual domain of the firm.

2.7.1 Autonomy

Hughes and Morgan (Ndang, 2017:69) refer to autonomy as “right and independence afforded by an individual or team to modernize a business concept and vision and to channel them toward completion”. This is the freedom that employees are given to think innovatively without being pressured and also to make very important decisions that can help the organisation progress without consulting anybody from the higher position.

If the organisation allows innovativeness, autonomy is practised, giving everyone the opportunity to make decisions and that promotes innovation among them. Autonomy therefore is the freedom of employees to take risks that can help the organisation progress and also with the performance of the organisation (Verachia, 2017:27). For small businesses, it is their most powerful tool as they are mostly in a flatter structure.

2.7.2 Innovativeness

According to George W. Downs, Jr. and Lawrence B. Mohr, 1976:700-714 (Calabrò, A., Minola, T., Campopiano, G. & Pukall, T., 2016:511; Martínez, A.B., Galván, R.S. & Palacios, 2016:539), innovative organisations can easily restore themselves in terms of their products and their business lifecycle where they have an opportunity to create wealth, employment and remain sustainable. According to Lumpkin and Dess (Calabrò *et al.*, 2016:511), innovativeness can be defined as an organisation's ability to engage, experiment through their research and design, as well as explore novel ways and innovative processes that produce new quality products. It is also with the acceptance of management that these innovations are given a chance to be implemented or introduced to the market (Taheri, B., Bititci, U., Gannon, M.J. & Cordina, R., 2019:1228). This process can result in one acquiring new knowledge from outside or developing one from the organisation's research and design team (Etriya, E., Scholten, V.E., Wubben, E.F., Kemp, R.G. & Omta, S., 2018:972).

2.7.3 Proactiveness

Proactiveness refers to an organisation's decision to introduce new products or services before everyone else; putting in place sustainable strategies that will ensure that an organisation survives turbulent markets; looking at market trends and adjusting strategies to maximise performance, growth and profits; entering blue ocean markets before competitors; and also pursuing market leadership jobs (Lomberg, C., Urbig, D., Stöckmann, C., Marino, L.D. & Dickson, P.H., 2017:3).

Taheri *et al.* (2019:1228) further add that those organisations that aggressively and actively pursue initiatives and opportunities where they intend to increase competitive capabilities by acquiring new businesses, being first in the market to introduce a product, and also putting in place strategies to avoid stagnation are being proactive or engage in proactive processes of entrepreneurial orientation. Proactive organisations can also predict future challenges and act to prevent them from affecting their performance (Hussain, J., Rahman, W. & Shah, F.A., 2016:390).

2.7.4 Risk-taking

Risk-taking is a tendency of an organisation to engage in high-risk activities in the pursuit of higher returns, which also involves taking bold decisions in uncertain environments (Taheri *et al.*, 2019:1228). This includes committing large portions of company assets and borrowing heavily to projects that are risky and returns are uncertain.

Within the context of small businesses, risk-taking is almost calculated, but can also have adverse effects as the mortality of small businesses is very high (Ndang, 2017:66). The advantage of taking risks ensures that the organisation can manage uncertainty as opposed to encouraging the fear of taking risks as it can paralyse an organisation in uncertain market conditions. Risk-taking can also have a positive effect as it can encourage organisation growth if it is well planned, and also stimulate innovation that triggers growth and performance of small businesses.

2.7.5 Competitive aggressiveness

Competitive aggressiveness is characterised by beating competitors in the same market and customer by competing through aggressive marketing strategies, quality or competing on low cost that competitors cannot match (Sole, 2018:41). Other aggressive strategies can involve being highly innovative and proactive to beat industry uncertainty. Competitive aggressiveness lies in an organisation's strength to be innovative and be proactive as organisations put strategies in place to aggressively act towards any competitors.

One challenge for small businesses might be knowledge acquisition as it can be challenging for small businesses to enhance their human development programmes as employees acquire knowledge through human resource development programmes (Ndang, 2017:68). Through knowledge acquisition, they could innovate, and therefore they could be having trouble being aggressive if they do not have a proper knowledge acquisition system in place.

2.8 RELEVANCE OF EO

According to Covin and Miller (2014), (Eshima & Anderson, 2017:770), EO is a strength of organisations that favours entrepreneurial activities and processes. EO does not discriminate regarding organisation size and/or age. Arshad and Rasli (2018:28) found that organisations with higher levels of EO allow themselves to outperform other organisations that are non-entrepreneurial.

Organisations put in place strategies that ensure their sustainability in the market and therefore organisations look into themselves and decide on which strategies they will employ to compete in the market (Eshima & Anderson, 2017:770). EO is part and parcel of strategies employed by organisations that want to succeed in the market. Firms with high EO usually get high-performance results in that they are likely to avoid uncertainty in the market or worry about under-performance (Titus Jr, V., Parker, O. & Covin, J., 2019:2). According to Hussain *et al.* (2016:390), strategic EO that organisations undertake include organisational renewal, improving revenue streams in innovative ways, success in other regions like international markets or spreading nationally, increasing effectiveness, introducing innovative products and services, and using resources efficiently and effectively.

2.9 EO ON ORGANISATIONAL PERFORMANCE

Organisational performance can be measured by its ability to generate profits, or its ability to meet or exceed its projected output (Mafundu & Mafini, 2019:3). Many factors contribute to this. Internal factors may include organisational structure, management or leadership practices, operational efficiencies, and mergers and acquisitions. External factors may include political and social factors affecting the market.

Business performance therefore can influence profitability, customer service delivery, meeting or exceeding customers' demands and market needs. As much as EO is linked to accounting performances such as sales growth, return on assets and return on equity (McKenny *et al.*, 2018:507), different dimensions of the EO construct can have a positive

effect on certain portion of performance, while having negative effects on others (Núñez-Pomar, J., Prado-Gascó, V., Sanz, V.A., Hervás, J.C. & Moreno, F.C., 2016:5337).

Performance can also be measured by organisations' ability to maintain growth amid constraining factors such as competitive pressure from the market, resource acquisition, market changes, and management or shareholder desires (Eshima & Anderson, 2017:770). When organisation grow, they acquire new resources and therefore have more value, which then translates into better performance (Eshima & Anderson, 2017:771). EO therefore has growth as its number one outcome, followed by knowledge expansion, strategic learning and improved competitiveness.

2.10 CHAPTER SUMMARY

Economic expansion depends on small and medium-sized enterprises (Smith & Watkins, 2012). Their absolute number and nature in a country are different, and they have made a significant contribution to the country's GDP by promoting innovation (Mandachian, M., Hussein, N., Nordin, F. & Taherdoost, H., 2015). SMEs usually account for 40% of all forms of economic activity, and they also contribute 36% of South Africa's gross domestic product (GDP) (Leboea, 2017:50; Agbenyegah, 2013:2).

Labour-intensive work methods have long been used to create excellent infrastructure work. Labour-intensive programmes generate more direct and indirect local employment opportunities and income. They do this by using locally available resources, thereby generating greater demand for local products and services. South African small and medium construction companies are considered to be largely underdeveloped as compared to the big, well-established companies (Agumba & Haupt, 2017). They are left from participation in the mainstream economy, and therefore they need to find ways that can help them participate in the industry. Many of these small and medium enterprises are black-owned and have benefitted most from the available government initiated support (Mafundu & Mafini, 2019).

Government agencies, therefore, should heed the various internal and external factors that hinder growth in this construction sector. Large companies have also been a source of income for smaller companies in recent times, after the 2010 Soccer World Cup (Kriel, 2016:15), as it is a policy from government to identify, where feasible, to subcontract at least 30% of the awarded project for contracts above R30 million to SMEs (Treasury, 2017). These large organisations have damaged their reputation by colluding so they were forced to outsource some of their functions as part of community involvement.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

A literary review was done in Chapter 2 of this study to discuss the main topic related to the research.

This chapter outlines the research methods used in the research. It includes analysis and logical interpretation of pragmatic evidence to determine facts or to prove theories (Marczyk *et al.*, 2017:6). The reason why this study uses a descriptive research design is that the researchers intended to investigate how the entrepreneurial direction of SMEs contributes to the well-being of enterprises and creates works in the community.

The self-managed questionnaire was used to collect the main data of the sample members. This questionnaire was distributed electronically using Google Forms. The researchers distributed the questionnaire to ±250 SME owners/managers, technicians, engineers, construction industry officials, and only 100 answered. The validity of the questionnaire can be ensured through the review of professionals and the review of statistical experts. Figure 3.1 below shows the research methodology map for this study.

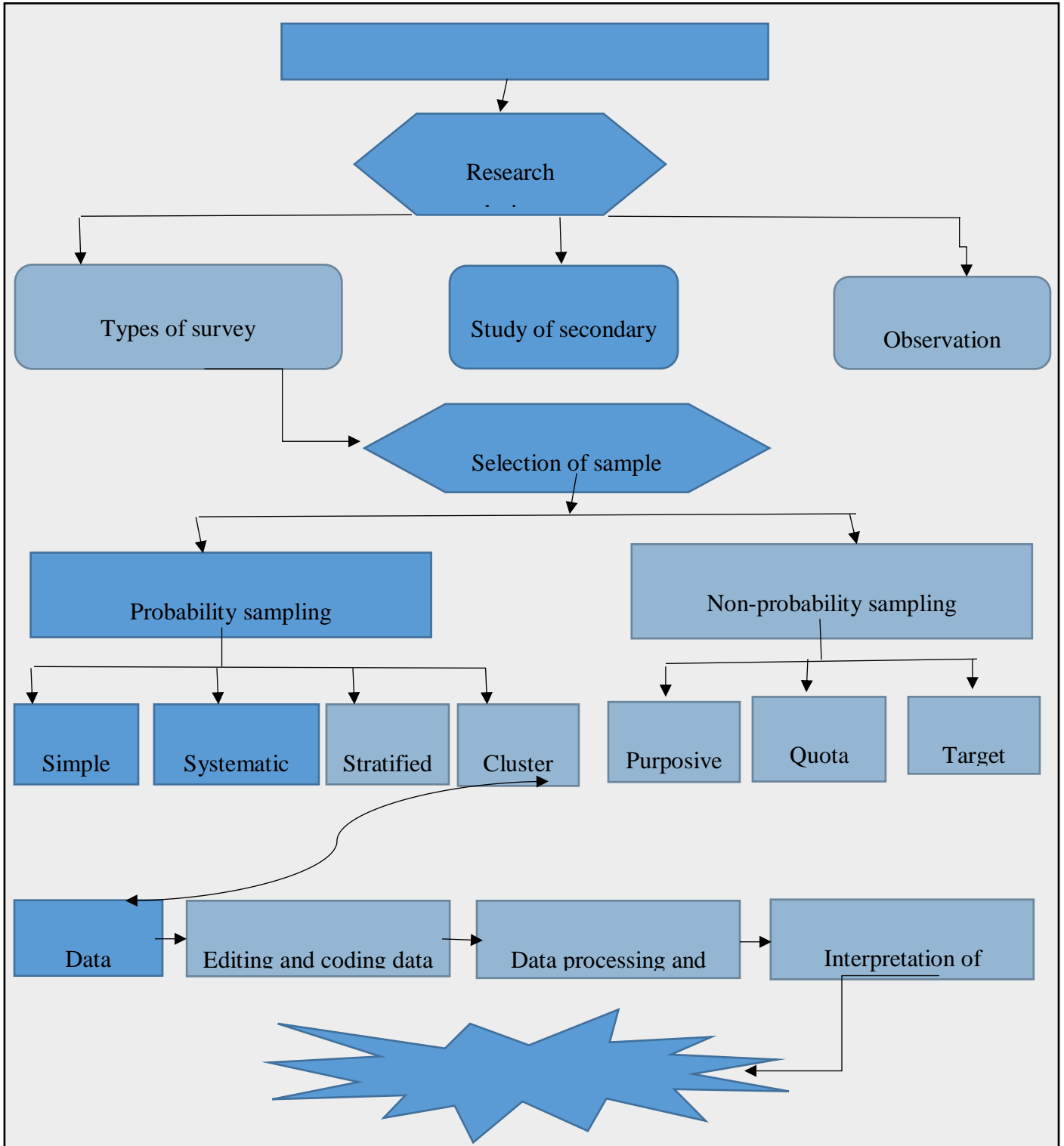


Figure 3-1: Research methodology map

3.2 EMPIRICAL RESEARCH

Empirical research methods form the basis of scientific methods. This is a fact-based method that relies on observed and measured phenomena in the process of acquiring experience, rather than from theory or belief (Marczyk *et al.*, 2017:6). It includes systematic inspection and reasonable interpretation of empirical data to establish facts or prove theories (Sreejesh, S., Mohapatra, S. & Anusree, M.R., 2013:4). Further empirical research methods include the use of statistical models, structural models and experimental or quasi-experimental studies that measure causality, each of which has its advantages and disadvantages (Reiss, 2011:950).

3.3 RESEARCH DESIGN

Research has been defined differently and with some amusing definitions. According to Zora Neale Hurston, “Research is formalized curiosity” or “it is poking and prying with a purpose” or else, as per Albert Szent, “Research is to see what everybody else has seen, and to think what nobody else thought” (Boncz, 2015:8). The following are the main categories of research designs (Leavy, 2017:5).

3.3.1 Exploratory research

This research is exploratory; it brings the idea of newness in an attempt to develop fruitful innovations; it makes it easy to understand the root of the problem and give conclusive evidence. It emphasises explaining the aspects of the study in a detailed way, i.e. qualitative research (Dudovskiy, 2019).

3.3.2 Descriptive research

A statement of affairs as it presents itself describes the effort to ensure that the process of data collection will describe the results in a better way (Dudovskiy, 2019).

3.3.3 Causal research

Also known as explanatory research, it is directed to ascertain the nature and extent of cause-and-effect relationships. To assess the impacts of specific changes on existing norms, casual research has to be conducted (Dudovskiy, 2019).

3.3.4 Chosen research design

This study employed a descriptive research design since as the researchers conducted a survey that is considered conclusive due to its quantitative aspect, the research was pre-planned and structured so that the data collected can be statistically analysed.

3.4 RESEARCH METHOD

The research method serves as a way of stimulating, evoking and provoking into thinking a group of people to see things differently or promote new learning (Leavy, 2017:6). Research is finding solutions to problems after the extensive collection of data, which are then analysed to get meaningful findings (Sekaran & Bougie, 2016:1). Qualitative and quantitative research should not be seen as distinct or opposites, but representing different ends, often the difference is the use of closed-ended questions for quantitative rather than open-ended questions or interview for qualitative (Creswell, 2014:2). This section explains the two methodologies and indicates which one was adopted by the researchers.

3.4.1 Quantitative approach

It is characterised by the use of deductive methods for research procedures designed to prove, refute or give credibility to existing theories. This type of research includes the relationship between measured variables and test variables to reveal patterns, correlations or connections (Leavy, 2017:9). Researchers can use linear data collection methods and use statistical software to analyse the results. Quantitative methods,

according to Geldenhuys (2018:15), include distributing self-managed questionnaires to participants and some of the advantages of the method include the following:

- Having large samples will increase the accuracy of findings;
- The collection of demographic information is simple using structured questionnaires;
- This method is cheaper compared to other methods; and
- Software programs make it relatively simpler to analyse the data collected through a quantitative approach.

3.4.2 Qualitative approach

The qualitative methodology anticipates comprehending a multifaceted reality and the meaning of actions from a particular perspective. It is categorised by inductive methods to knowledge building intended at creating significance (Leavy, 2017:9). Researchers use this method to explore and learn about societal distinctiveness. Qualitative research is appropriate when the main purpose of the research is to discover, specify or clarify. It aims to be subjective rather than objective, and its methods include case studies, focus groups, interviews, ethnography, action research, grounded theories and the use of observation (Cooper & Schindler, 2014:144). Other sources from which qualitative data can be obtained include the following: texts, objects, media products and events.

3.4.3 The chosen approach

This study chose a quantitative research method. This approach allows researchers to provide enhanced explanations to demonstrate the impact of the construction industry on job creation through SME-oriented and labour-intensive methods (Basias & Pollalis, 2018).

3.5 RESEARCH POPULATION AND SAMPLING

A sampling method is essential to design quality research; the study's research population is demarcated to create a clear study focus. Moreover, an appropriate representative of the entire population is determined by choosing the correct sample.

3.5.1 Target population

It is difficult for the study to use the whole population because participants might not be accessible to the researchers or be known by the researchers (Saunders, M., Lewis, P. & Thornill, A., 2016:275). The population therefore had to be narrowed down to units that share the same characteristics. The focus was on the SMEs in Mpumalanga and the Free State Province within the construction industry.

3.5.2 Sampling frame

In any research, the best strategy is to examine the problems of the entire population. The sample is a subsection of the population and is designated to represent the larger population. If the sampling frame is not correctly extracted from the target population, the sampling frame is indispensable for probability sampling, because random sampling from the frame cannot solve the survey problem. The general theory is that you can only assess 'only' the actual population defined by the sampling frame (Elfil & Negida, 2017:1-2). As the SA population has the right to confidentiality, it is not possible to publicly obtain a detailed list of all registered SMEs involved in the construction industry. Due to the lack of a sample frame, invitations were issued to construction, consulting companies, engineers, and architects that have business operations in Mpumalanga and the Free State. The researchers themselves have been involved in the construction industry for nearly 20 years. The construction industry sectors considered in the study include, but are not limited to the following:

- Construction services;
- Consulting services;

- Municipalities personnel;
- Departments personnel;
- Architectural services; and
- Property developers.

3.5.3 Sampling method

Sampling is a process by which participants can be selected from a larger group or a population (Leavy, 2017:76). Sampling is usually done because researching a larger population is challenging, and this is caused by the impracticability of researching the entire target population that is due to budgetary issues and expenses, and also time constraints that result in surveying or researching the entire target population (Saunders *et al.*, 2016:274).

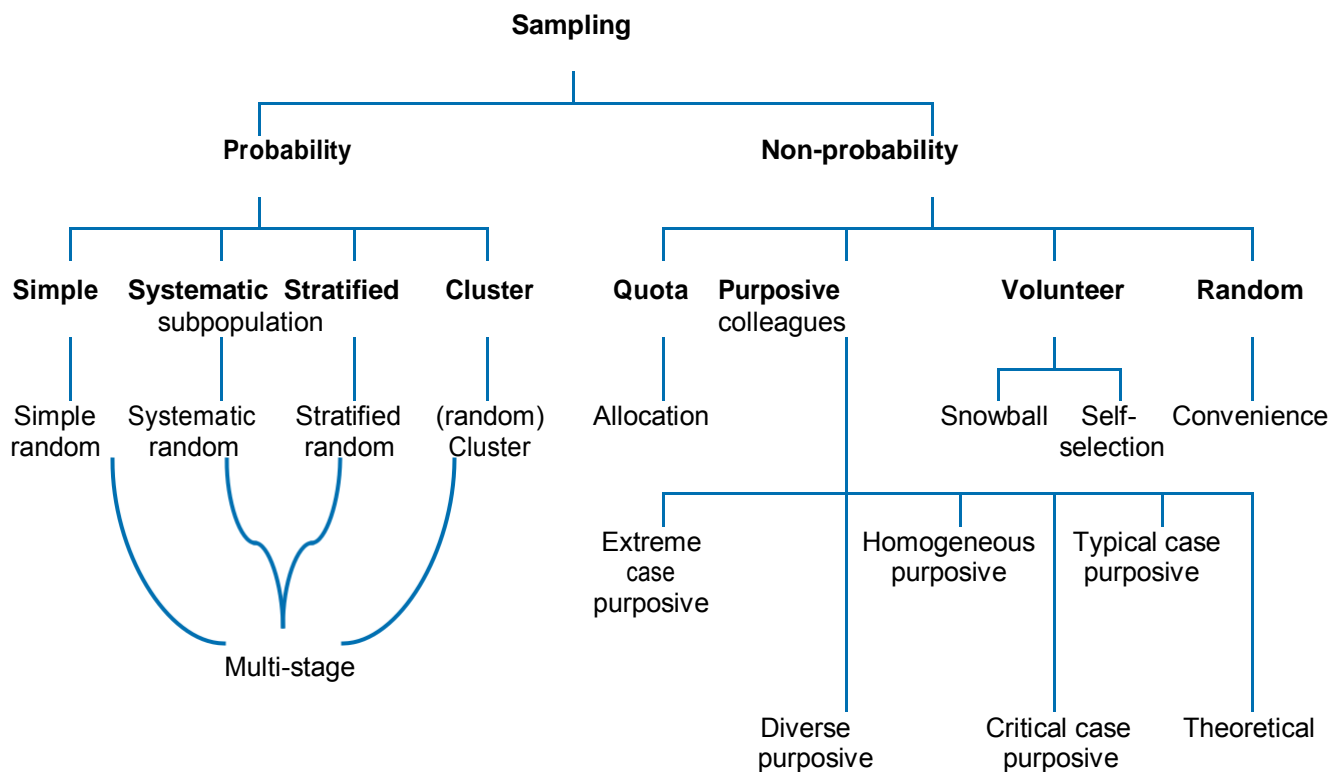


Figure 3-2: Sampling strategies

3.5.4 Non-probability sampling

This sampling method is a sampling strategy that is used mostly when working on research that requires in-depth analysis of a situation (Saunders *et al.*, 2016:295). Furthermore, probable sample members do not have the same chance to be selected (Salkind, 2012:102). This is used mostly in qualitative research where there is a very small number of subjects or elements. The following section briefly explains the non-probability methods of sampling.

- **Quota sampling**

This is a sampling procedure that ensures that specific demographic characteristics (such as race, area of residence, gender, age group, socioeconomic group) will be dedicated to the exact number of investigators required. The goal is to select a representative sample and/or perform a subgroup analysis. The interviewer selects the first available topic that meets the inclusion criteria in the quota sampling technique (Acharya, A. S., Prakash, A., Saxena, P. & Nigam, 2013:330-333).

- **Convenience sampling**

The sample is selected based on the researchers' accessibility. In many cases, responders are designated. The advantage is that they are frequently used and cheap, and do not require an inventory of all demographic elements (Acharya *et al.*, 2013:330-333).

- **Judgement sampling**

In this method, researchers can choose participants based on their judgement (Elfil & Negida, 2017:2). Therefore, this means that when a researcher selects personnel who specialise in regional research, the interviewee may provide accurate data (Lamb *et al.*, 2015:188). It is important to note that not all participants in all populations have equal opportunities to participate. This makes it possible for researchers to choose respondents

who may not be relevant to the study, which is why this method is at risk of being highly criticised (Elfil & Negida, 2017:2).

- **Snowball sampling**

In this sampling process, the initial interviewee was selected through probabilistic or non-probabilistic methods (Elfil & Negida, 2017:4). In this method (also known as chain recommendation), researchers asked each respondent to contact colleagues from the same population (Acharya *et al.*, 2013:330-333).

3.5.5 Probability sampling

Probability sampling is usually related to quantitative survey sampling. It is also characterised by its association with probability theory, which ensures that samples are selected in a certain way to ensure that every element or topic in the target population has a known or non-zero chance of being selected (Leavy, 2017:78).

- **Simple random sampling**

In this method, everyone has the same opportunity to be chosen from the sample. The use of random numbers or computer-generated lists of random numbers or lottery methods to select respondents is more prominent (Acharya *et al.*, 2013:330-333). It is the most basic form of probability sampling (Neuman, 2006:227).

- **Stratified random sampling**

The data are divided into many subgroups (classes/classes) with common characteristics. The advantage of this is to ensure the correct representation of all groups in the desired group. The characteristics of each sector can be estimated and evaluated (Acharya *et al.*, 2013:330-333). Assuming that stratified sampling is homogeneous and sufficient to describe the various divisions together, due to the random sampling method, stratified sampling can minimise research errors (Elfil & Negida, 2017:1).

- **Systematic sampling**

When using this method, the selection of the first responder is arbitrary, and then successive responders are selected through a periodic process. In this method, the researcher uses a fixed time interval according to the rules of the system to select the interviewees to be included in the sample. The advantages of this method are reasonable use, reasonable cost, high internal and external effectiveness, simple drawing, and easy verification. The weakness is that, technically speaking, only the first respondent's choice is probabilistic, because, for the rest of the respondents, the probability of choice will be zero (Acharya *et al.*, 2013:330-333).

- **Cluster random sampling**

The entire population is divided into clusters or groups, such as location, wards, schools, neighbourhoods, and streets. It is most suitable for large-scale national surveys that require large sample sizes (Acharya *et al.*, 2013:330-333).

3.5.6 Chosen sampling method

Since there was not an established sample frame and due to the difficulty of interviewing a large sample due to time constraints, the researchers made use of a combination of more suitable sampling methods to be able to have enough data for the analysis. Snowball sampling was used. The researchers used a network of colleagues, officials and SMEs in the two provinces (Mpumalanga and Free State) accumulated during his 20 years of experience in the construction industry to whom he provided his questionnaires. Due to COVID-19 restrictions, electronic surveys were then sent using Google Forms via e-mail, WhatsApp and any other medium on social media.

3.5.7 Sample size

The researchers aimed to retrieve information from as many respondents involved in the construction industry as possible. However, an estimated number of units considered as an unbiased depiction of respondents in the two provinces was 100 units.

3.6 DATA COLLECTION

According to Fisher and Bloomfield (2019), data collected for quantitative research, which is used in this study, depend on the research design and method used. It is in numerical form, which can be measured or collected as scales or frequencies. Since the elements or subjects to be used in research will be large in number and quantitative, a questionnaire is an instrument to use in this instance (Sekaran & Bougie, 2016). Questionnaires therefore will be used as a data collection method for this research.

3.6.1 Research instrument

Researchers use self-managed questionnaires because this instrument minimises the interaction between the researchers and the research sample during this pandemic, thereby minimising the risk of contamination. The questionnaire was sent to approximately 250 participants, and 100 responses were received.

- **Layout of the questionnaire**

The questionnaire was categorised into three sections, namely entrepreneurial orientation, labour-intensive and commercial success, and demographic information. The sections are elaborated on as follows:

Section A: Entrepreneurial orientation

This section of the research instrument wants to evaluate SMEs faced with entrepreneurial orientation by measuring SMEs against EO elements, which are autonomy, risk-taking, proactiveness, innovativeness and competitive aggressiveness. The importance of this section is to evaluate whether EO could enhance the operation and performance of SMEs.

Section B: Labour-intensive and business success

This part of the tool wants to measure the importance of labour-intensive methods against business success. The researcher wants to evaluate the importance of labour-intensive

methods in the construction industry and therefore see its impact on the success of the business and community.

Section C: Demographic information

This section determines some demographic data of the participants and business where they operate; it requires feedback on age, highest qualification, management level, work experience, business operation, age of the business and job created by the business or project. It gives us an idea of how many jobs were created with labour-intensive methods and experience, as well as exposure of the respondents in the construction industry.

3.6.2 Pilot study

According to the suggestion of Coughlan (2017:109), it is recommended to pilot the questionnaire with respondents representing the main research participants. The reason for doing this is to determine the time the respondent will take to fill out the questionnaire; to determine the possible problems with the data collection method; and to check whether the Google Form is valid. Therefore, before distributing the questionnaire for the main research, the preliminary version of the questionnaire was distributed to some colleagues in the construction field. During the preliminary research process, it was established that 15 to 20 minutes are required to complete the questionnaire. Google Forms were used to compile and administer the questionnaire and receive feedbacks.

3.7 DATA ANALYSIS AND REPORTING

Data analysis requires us to be rigorous, reflective and rational to the research approach (Bergin, 2018:16).

3.7.1 Content validity

It is defined as the number of elements of the evaluation tool that fit and explain the target hypothesis for a specific evaluation purpose (Yusoff, 2019:1-6). The assessment instrument in this research refers to the questionnaire, which is the method used to gather

data and it must be sound and refer to all aspects of the measurement procedure, like assessing the entrepreneurial orientation of SMEs while creating more jobs with labour-intensive methods and at the same time enhancing the operation of SMEs. Content validity should be used together with structure validity to evaluate research and clearly define research questions.

3.7.2 Construct validity

It refers to the concept, attribute, domain, or variable that is the target of a measuring instrument, and the validity of the structure is essential for quantitative research. It confirms the exact tool used for the researched topic, because it helps determine whether the question in the questionnaire is specific and is based on a literature review (Yusoff, 2019:1-6). Bertram and Christiansen (2014:186) stipulate that structure validity can determine whether the data collection methods and tools used can measure and answer research questions. The effectiveness of the construct can be measured by measuring sampling adequacy (MSA) or Kaiser-Meyer-Olkin (KMO), ranging from 0 to 1 and in this study we used the KMO as shown in appendix C.

3.7.3 Reliability

The questionnaire is reliable when another researcher can still obtain the same results from the reproducibility of the same study in the original study. If the collected results are the same or similar, the same process must be repeated in the future to achieve reliability (Singh, 2017: 795). The consistency between similar questions should be observed, and different people answering the same questionnaire should be graded in the same way. This is why we used Cronbach's alpha test (an important and useful test) to measure the reliability of questionnaires and the strength of questionnaire consistency.

The reliability of this study was confirmed by determining the Cronbach alpha value.

Cronbach's alpha internal consistency

$\alpha \geq 0.9$	Excellent
$0.8 > \alpha \geq 0.9$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

3.8 METHODS AND STATISTICAL TECHNIQUES USED

After collecting the data, the entrepreneurial direction and labour-intensive methods of SMEs are analysed as analytical tools to enhance the business capabilities of SMEs and at the same time create new employment opportunities for the community to reduce poverty. The nature of the research and the characteristics of the collected data allow us to use the Social Science Statistical Software Package (SPSS) as the most suitable analysis tool for data analysis.

3.8.1 Descriptive statistics

Descriptive statistics are an important part of research and are used to define the basic characteristics of research data. They provide a summary of samples and indicate that data collected in this study were used to calculate the mean and standard deviation, including determining the mean, mode and median of the data.

3.8.2 Inferential statistics

The reason why we conduct statistical research is to understand the phenomena in the population. Tools from inferential statistics allow us to use a fairly small collection of actual observations to evaluate (Witte & Witte, 2017:3). For example, one sip of soup tells us that the batch is too salty or not, dipping a toe in the swimming pool tells us if the water is warm or cold. Generalisation can go wrong if a sample misrepresents the population, but taking a survey of the whole population might be expensive or sometimes impossible,

which is why we use samples (Witte & Witte, 2017:148-149). In this study, the McNemar-Bowker test analysis technique was used to analyse the data in detail.

3.9 ETHICAL CONSIDERATIONS

This section provides some background knowledge of ethics in this research. This research did not affect the autonomy of any respondents who participated in the survey. The study aims to demonstrate the impact of the construction industry on job creation through small and medium-sized enterprises and labour-intensive methods and will provide recommendations to strengthen the construction industry practices in the two provinces of Mpumalanga and the Free State. The informed consent form has been integrated into the questionnaire, and all interviewees agreed to participate in the survey.

3.10 CHAPTER SUMMARY

This chapter introduced the research methods used in this study to collect empirical evidence. A quantitative method was used in this study. Engineers, architects, quantity surveyors, officials, small and medium-sized business owners, supervisors, project managers, and urban planners were selected from the target population of the construction industry in Mpumalanga and the Free State. The sample was selected by means of the convenience sampling method. The sample size used in the study was 100 participants.

CHAPTER 4: DATA ANALYSIS AND PRESENTATION OF RESULTS

4.1 INTRODUCTION

This chapter gives the analysis and interpretation of the influence of entrepreneurial orientation of SMEs and labour-intensive performance in the construction industry through the questionnaire that was administered to the labour force. A structured questionnaire was developed to acquire the necessary dataset to be analysed and interpreted. In this chapter, this study therefore presents the results obtained from the distributed questionnaires. The descriptive statistics for the labour-intensive and business success results are presented. The discussion of the findings from the analysis of the inferential statistics is also explained.

4.2 ENTREPRENEURIAL ORIENTATION

This section provides descriptive statistics results from the statistical ordinal scale of measurements known as the Likert-type scale with five options. The inferential statistics of the data for the respondents who participated are based on the chi-square test statistics for association between significant variables only. All 100 respondents fully gave their response in this section. The Cronbach's alpha for the reliability statistics of the entire 27 questions of the entrepreneurial orientation in this section is 0.946, which indicates the best consistency and reliability as shown in Appendix C.

4.2.1 Descriptive statistics of the responses for entrepreneurial orientation

The results of Table 4-1 show the sample size of respondents (N), the range (R), minimum (min) and maximum (max) option chosen by respondents, the arithmetic mean (mean), as well as skewness and kurtosis with their respective standard errors. In this section, the mean and the skewness results will be interpreted. The frequencies of 100 respondents were summarised from 27 questions denoted by A1 to A27, as shown in Table 4-1.

There are 29% and 19% of respondents who agree and strongly agree respectively that they have autonomy in doing their jobs and that they are not continually supervised to do their work, while 35% of respondents remained neutral about the matter. This latter statement is represented by the mean of 3.43 (higher than 3) and a skewness value of -0.391 (negative). Therefore, the minority of respondents respectively disagree and strongly disagree.

Table 4-1: Entrepreneurial orientation descriptive statistics

Descriptive statistics										
	N	R	Min	Max	Mean	Std. dev	Skewness		Kurtosis	
							Value	Std. error	Value	Std. error
I have enough autonomy in my job without continual supervision to do my work. (A1)	100	4.00	1.00	5.00	3.4300	1.12146	-.391	.241	-.341	.478
Our business allows me to be creative and try different methods to do my job. (A2)	100	4.00	1.00	5.00	3.6500	1.14040	-.483	.241	-.456	.478
Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures. (A3)	100	4.00	1.00	5.00	2.7200	1.27192	.364	.241	-.807	.478
Employees in our business are encouraged to manage their own work and have the flexibility to resolve problems. (A4)	100	3.00	2.00	5.00	3.7700	.93046	-.366	.241	-.671	.478
I seldom have to follow the same work methods or steps while performing my major tasks from day to day. (A5)	100	4.00	1.00	5.00	3.4300	1.13043	-.315	.241	-.535	.478

Our business regularly introduces new services/products/processes. (A6)	100	4.00	1.00	5.00	3.8500	1.03840	-.632	.241	-.496	.478
Our business places a strong emphasis on new and innovative products/ services/processes. (A7)	100	4.00	1.00	5.00	3.7000	1.03962	-.523	.241	-.217	.478
Our business has increased the number of services/products offered during the past two years. (A8)	100	4.00	1.00	5.00	3.2300	1.17082	-.153	.241	-.628	.478
Our business is continually pursuing new opportunities. (A9)	100	4.00	1.00	5.00	4.2100	1.00800	-1.281	.241	1.077	.478
Over the past few years, changes in our processes, services and product lines have been quite dramatic. (A10)	100	4.00	1.00	5.00	3.4200	1.06534	-.452	.241	-.186	.478
In our business, there is a strong relationship between the number of new ideas generated and the number of new ideas successfully implemented. (A11)	100	4.00	1.00	5.00	3.6900	1.09816	-.521	.241	-.524	.478
Our business places a strong emphasis on continuous improvement in products/service delivery/processes. (A12)	100	4.00	1.00	5.00	3.2400	1.10206	-.446	.241	-.418	.478
Our business has a widely held belief that innovation is an absolute necessity for the business' future. (A13)	100	4.00	1.00	5.00	4.0200	1.02474	-1.075	.241	.807	.478
Our leaders seek to maximise value from opportunities without constraint to existing models, structures or resources. (A14)	100	4.00	1.00	5.00	3.6300	.94980	-.707	.241	.398	.478

When confronted with uncertain decisions, our business typically adopts a bold posture to maximise the probability of exploiting opportunities. (A15)	100	4.00	1.00	5.00	3.2700	1.03333	.219	.241	-.674	.478
In general, our business has a strong inclination towards high-risk projects. (A16)	100	4.00	1.00	5.00	3.5400	1.06761	-.310	.241	-.590	.478
Owing to the environment, our business believes that bold, wide-ranging acts are necessary to achieve the business' objectives. (A17)	100	4.00	1.00	5.00	3.6300	1.04112	-.574	.241	-.261	.478
Employees are often encouraged to take calculated risks concerning new ideas. (A18)	100	4.00	1.00	5.00	3.6000	1.04447	-.380	.241	-.401	.478
The term 'risk-taker' is considered a positive attribute for employees in our business. (A19)	100	4.00	1.00	5.00	3.1800	1.20084	-.105	.241	-.745	.478
Our business is very often the first to introduce new products/services/processes. (A20)	100	4.00	1.00	5.00	2.9200	1.16930	.042	.241	-.883	.478
Our business typically initiates actions that competitors respond to. (A21)	100	4.00	1.00	5.00	2.9100	1.23169	-.024	.241	-.975	.478
Our business continuously seeks out new products/processes/services. (A22)	100	4.00	1.00	5.00	3.4800	1.03942	-.414	.241	-.304	.478
Our business continuously monitors market trends and identifies future needs of customers/clients. (A23)	100	4.00	1.00	5.00	3.5600	1.12205	-.547	.241	-.279	.478

In dealing with competitors, our business typically adopts a very competitive 'undo-the-competitor' posture'. (A24)	100	4.00	1.00	5.00	3.2400	1.10206	-.354	.241	-.501	.478
Our business is very aggressive and intensely competitive. (A25)	100	4.00	1.00	5.00	3.5900	1.00599	-.313	.241	-.468	.478
Our business effectively assumes an aggressive posture to combat trends that may threaten our survival or competitive position. (A26)	100	4.00	1.00	5.00	3.4300	1.07548	-.337	.241	-.201	.478
Our business knows when it is in danger of acting overly aggressive (this could lead to erosion of our business' reputation or retaliation by our competitors). (A27)	100	4.00	1.00	5.00	3.7500	.96792	-.431	.241	-.135	.478

Table 4-1 shows that the average of A2 results is 3.65 and the skewness is -0.486, which means that most respondents agree and strongly agree that their business allows them to be creative and try different methods at work. Regarding A3, the average is 2.72 and the skewness is 0.364, which shows that most of the interviewees strongly disagree and do not allow employees in their businesses to make decisions without going through detailed formulation, argumentation and approval procedures. There is an approval process in the business structure of the respondents. The mean value is 3.77 and the skewness value is -0.366, indicating that most of the respondents responded to the categories of strong agreement and agreement. Some people held a neutral attitude and believed that they encouraged employees to manage their work and were flexible to solve the problem. This reflects employees who work independently. In short, most respondents chose categories that strongly agree, and agree that an average value greater than 3 and the negative skewness shown in Table 4-1 are at least -1. Their business is always looking for new opportunities. In the past few years, their processes, services and product lines have undergone tremendous changes. There is a strong relationship between the number of new ideas generated and the number of new ideas successfully implemented. Their business attaches great importance to continuous improvement of product/service delivery/process. When faced with

uncertain decisions, their business usually takes a bold stance to maximise opportunities. Usually, their business tends to take on high-risk projects. Due to environmental reasons, their companies believe that bold and extensive behaviour is necessary to achieve corporate goals. Employees are often encouraged to take a planned risk on new ideas. The term risk-taker is seen as a positive attribute in an employee's business.

Decisions can be made without going through detailed argumentation and approval procedures. This reflects that the business has policies and procedures in place that are followed and taken into account during the decision-making process. In summary, the majority of respondents choose the categories of strongly disagree and disagree with the mean less than 3 and a negative skewness of at least greater than zero shown in Table 4-1 with red font. When faced with uncertain decisions, their business usually does not take a bold stance to maximise the possibility of taking advantage of the opportunity. Their business is usually not the first company to introduce new products/services/processes. Their business usually does not initiate actions that competitors respond to.

According to Covin and Wales (2012:678), the acceptable value of the scale may be the minimum requirement for researchers to explore alternative entrepreneurial-oriented measures. The statistical descriptive analysis in this study reflected most of the results discussed by other researchers in terms of entrepreneurial orientation (Short, J.C., Broberg, J.C., Cogliser, C.C. & Brigham, K.H. 2010, 2010). The results are also remarkable through their use of computer-assisted text analysis to extract the number of times the words related to entrepreneurial orientation were stated in the CEO's letter to shareholders in the S&P 500's annual report. These words include but are not limited to some words extracted from this research questionnaire, such as adventure, innovation, awareness, initiative, autonomy, competitive enthusiasm, etc.

When the company engages in new entries, all these factors may exist. On the contrary, when only some of these factors are at work, a successful new entry can also be achieved. To some extent, these dimensions can be used to predict that the nature and success of a new business may depend on external or internal factors (Short *et al.*, 2010).

4.3 LABOUR-INTENSIVE AND BUSINESS SUCCESS

This section provides descriptive statistics results from the statistical ordinal scale of measurements known as the Likert-type scale with five options.

Table 4-2: Labour-intensive and business success descriptive statistics

		Statistics							
		B1	B2	B3	B4	B5	B6	B7	B8
N	Valid	100	100	100	100	100	100	100	100
	Missing	0	0	0	0	0	0	0	0
Std. error of mean		.09482	.10587	.10200	.10664	.10469	.09434	.10964	.12082
Median		3.7429^a	3.5714^a	3.5522^a	3.3438^a	3.5143^a	3.6957^a	4.0746^a	3.6667^a
Std. deviation		.94815	1.05868	1.02000	1.06643	1.04693	.94340	1.09637	1.20818
Skewness		-.522	-.340	-.379	-.250	-.565	-.321	-.690	-.483
Std. error of skewness		.241	.241	.241	.241	.241	.241	.241	.241
Kurtosis		.058	-.563	-.384	-.591	-.061	-.415	-.467	-.609
Std. error of kurtosis		.478	.478	.478	.478	.478	.478	.478	.478
		Statistics							
		B9	B10	B11	B12	B13	B14	B15	
N	Valid	100	100	100	100	100	100	100	
	Missing	0	0	0	0	0	0	0	
Std. error of mean		.11290	.09721	.11753	.10778	.11254	.11534	.09640	

Median	3.5246^a	3.6761^a	2.8214^a	3.7778^a	3.8226^a	3.8966^a	4.3544^a
Std. deviation	1.12900	.97214	1.17529	1.07778	1.1254 2	1.1534 3	.96400
Skewness	-.481	-.582	.107	-.657	-.835	-.862	-1.105
Std. error of skewness	.241	.241	.241	.241	.241	.241	.241
Kurtosis	-.616	.152	-.806	.067	.216	.122	.568
Std. error of kurtosis	.478	.478	.478	.478	.478	.478	.478
a. Calculated from grouped data							

According to Table 4-2 in column B1, the median is 3.7429, which means that most respondents agree and strongly agree that their business has experienced labour-intensive methods and achieved positive results in the past few years. The standard error of the average is 0.9482, which is relatively small and can confirm the reliability, which shows that our average is relatively close to the true average of the population. The skewness close to zero indicates that most interviewees are neutral on the statement. A negative value of skewness indicates that the interviewee is consistent and very consistent with the statement, while a positive value indicates that the majority of interviewees disagree and strongly disagree with the given statement. Therefore, a skewness of -0.522 means that most respondents agree and strongly agree that their business has experienced labour-intensive methods and achieved positive results in the past few years.

According to Table 4-2 in column B2, the median is 3.5263 and the skewness is -0.340, which implies that the majority of respondents agreed and strongly agreed that their business has experienced labour-intensive methods with positive outcomes over the past few years. The standard error of the mean of 0.09482 is relatively small and confirms reliability with an indication that the mean is relatively close to the true mean of our overall population.

Overall, Table 4-2 revealed the median values greater than 3 and the negative skewness values. This is an indication that the majority of the 100 respondents had selected the response categories of strongly agree and agree from questions posed in the questionnaire about labour-intensive and business success. Therefore, with the implementation of labour-intensive methods, the competitive position of enterprises has improved in the past few years. In the past few years, the

effectiveness of implementing labour-intensive methods has increased. In the past few years, the business efficiency of respondents has improved. In an enterprise, employees and labour are regarded as the most valuable assets in the enterprise or project. Where possible, companies are highly committed to labour-intensive companies. In the past few years, the moral satisfaction of our employees has improved. Additionally, our business image has improved relative to our competitors. The presence of skilled and professional technical staff such as supervisor/designer/engineer/project manager, with relevant experience and knowledge to implement labour intensive, is indicated. The respondents' businesses monitor and measure labour productivity. They look at issues that affect labour productivity. The more jobs the respondents' businesses create in the community, the more it helps to alleviate poverty. It is known in this regard that the success of a business and its entrepreneurial endeavours cannot be separated from the labour-intensiveness of teams and individuals that institute the wider employee base of the business success.

Table 4-2, in column B11, shows to be the only variable with a median of 2.8214, which is less than 3 and the positive skewness of 0.107, indicating the majority of respondents in this regard have chosen the category of strongly disagree and disagree. Therefore, in difficult economic times, labour-intensive methods and development will not continue, and fiscal cuts will be drastically reduced. According to Lyubomirsky, S., King, L. & Diener, E. (2005:804), a behaviour that shows a positive work attitude toward a new goal may be similar to showing an active attitude. This behaviour is called a positive effect. Therefore, the interviewees in this section have shown characteristics related to positive influence, including self-confidence, optimism and self-efficacy.

4.4 DEMOGRAPHIC INFORMATION

This section provides descriptive statistics of the biographical data for the respondents who participated in the study. All 100 respondents fully gave their response in this section.

4.4.1 Respondents' age

Table 4-3: Frequency distribution of age

Age					
		Frequency	Percent	Valid percent	Cumulative percent
Valid	20-29	14	14.0	14.0	14.0
	30-39	44	44.0	44.0	58.0
	40-49	36	36.0	36.0	94.0
	50-59	4	4.0	4.0	98.0
	60 +	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

The results in Table 4-3 show that the majority of 29% and 26% of the respondents strongly agree that their business can enable them to be creative at work and try different methods. Although 31% of the interviewees held a neutral attitude, 9% and 5% of the minority of interviewees held different opinions and strongly opposed the matter.

4.4.2 Highest academic qualification

Figure 4-1 shows the highest academic qualifications of the respondents. The majority of 41% of respondents have a degree, followed by 26% of 100 respondents with a diploma and 12% with a master's degree. Among the 100 respondents, only 2% and 5% had certificates and others, respectively.

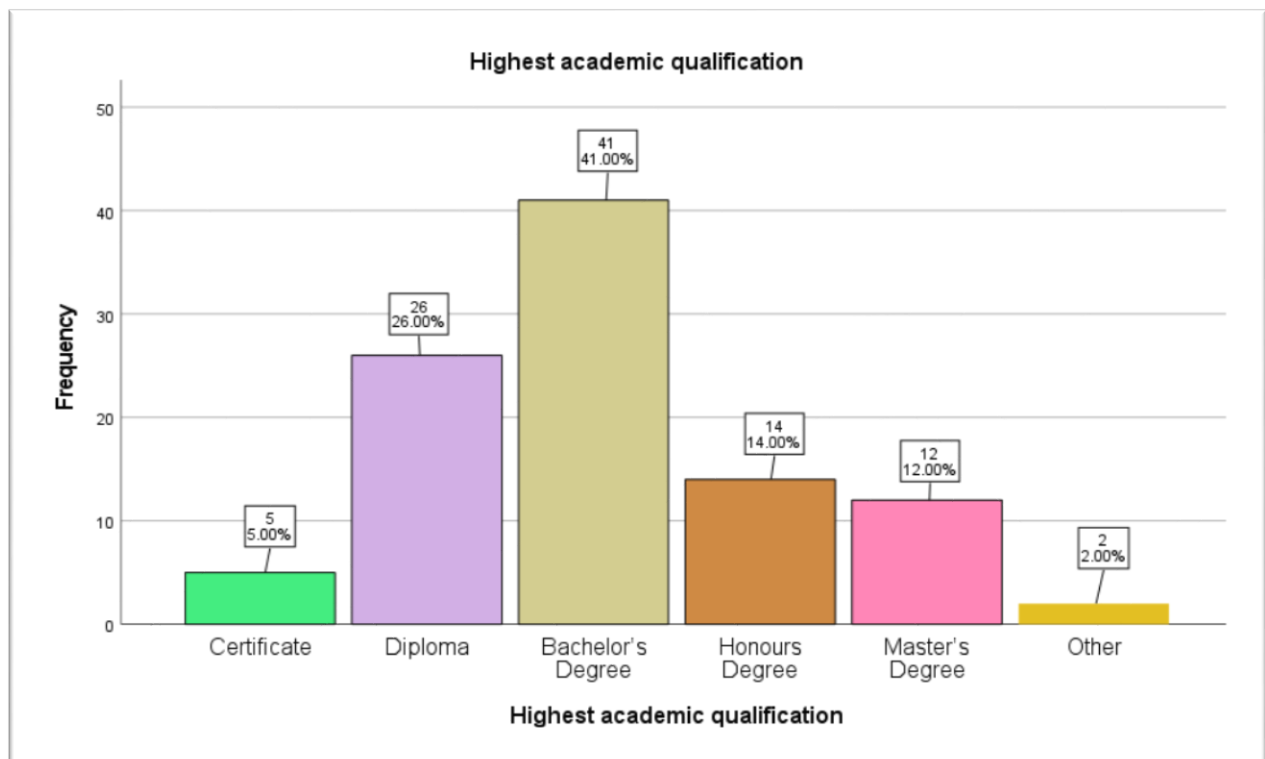


Figure 4-1: Highest academic qualification

4.4.3 Management level

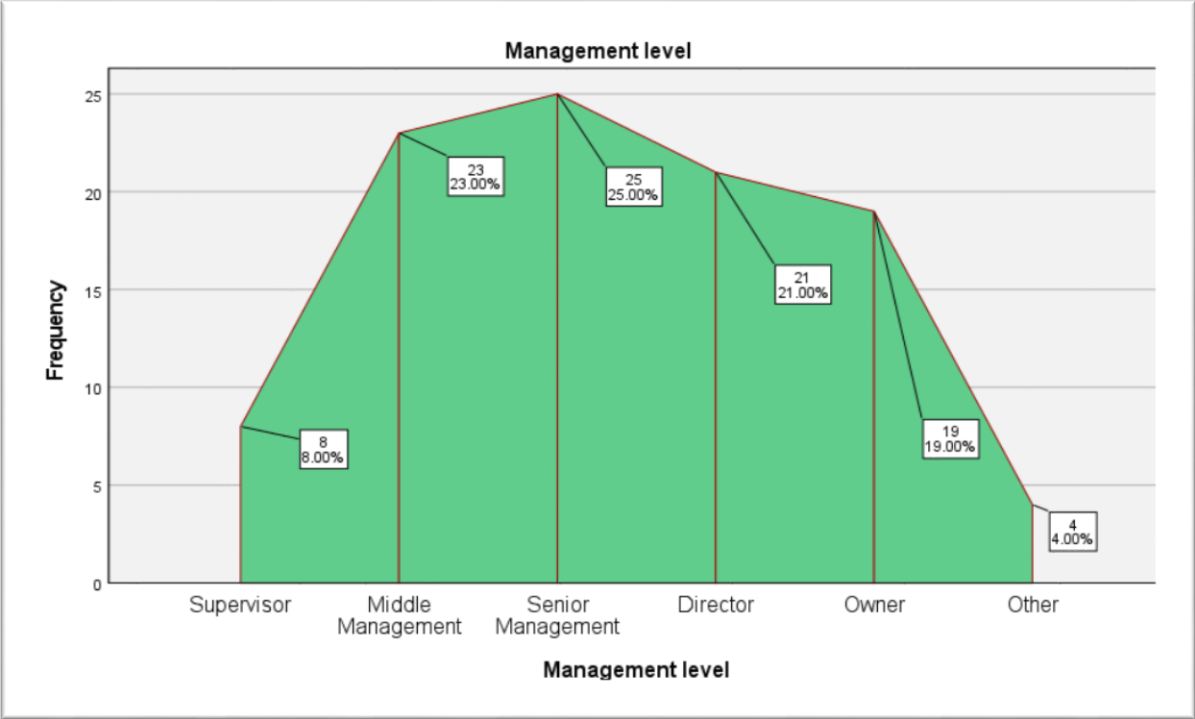


Figure 4-2: Management level

The frequencies of respondents' categories are shown in Figure 4-2. There are a majority of 25% of respondents in the category of senior management level. 23% of respondents are in middle management, followed by 21% of respondents on director level. Only a minority of 8% and 4% of respondents are respectively in the supervisor and other management levels.

4.4.4 Years of experience

In Figure 4-3 below, the respondent's years of experience are revealed. It is noted that 36% of respondents have experience of 11 to 15 years, followed by 28% of respondents with four to 10 years of working experience. 16% of 100 respondents have experience of 16 to 20 years. Only 9%, 7%, and 4% of respondents, respectively, have zero to three years, 21 to 25 years and 25+ years of working experience.

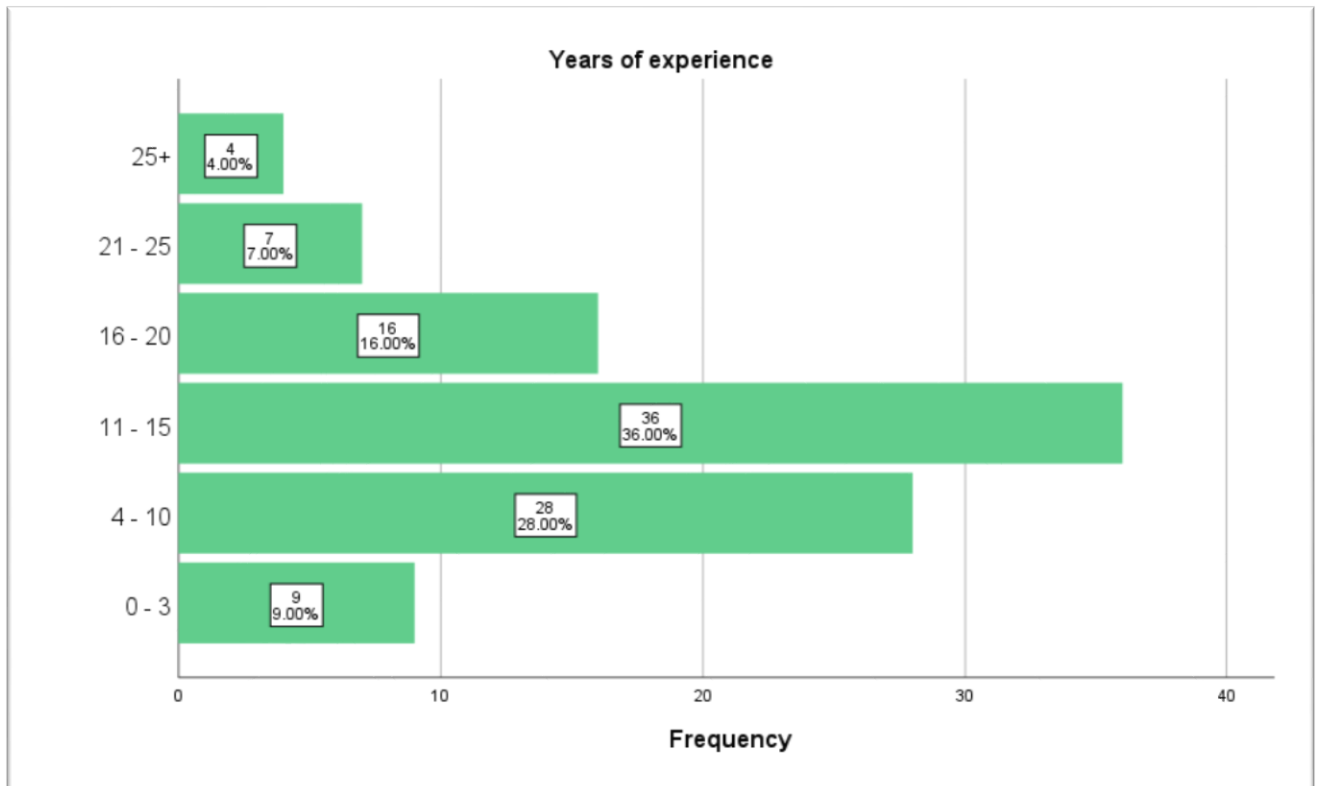


Figure 4-3: Years of experience

4.4.5 Number of permanent employees

The number of permanent employees is revealed in Figure 4-4. 34% of the respondents indicate that they have five to 10 permanent employees in their business. 29% of respondents indicated that their number is 11 to 25 permanent employees. It is followed by the 12% of respondents with 26 to 50 permanent employees. Only 11%, 10%, and 4% of respondents respectively have one to five, 200+ and 51 to 100 permanent employees employed by their direct business.

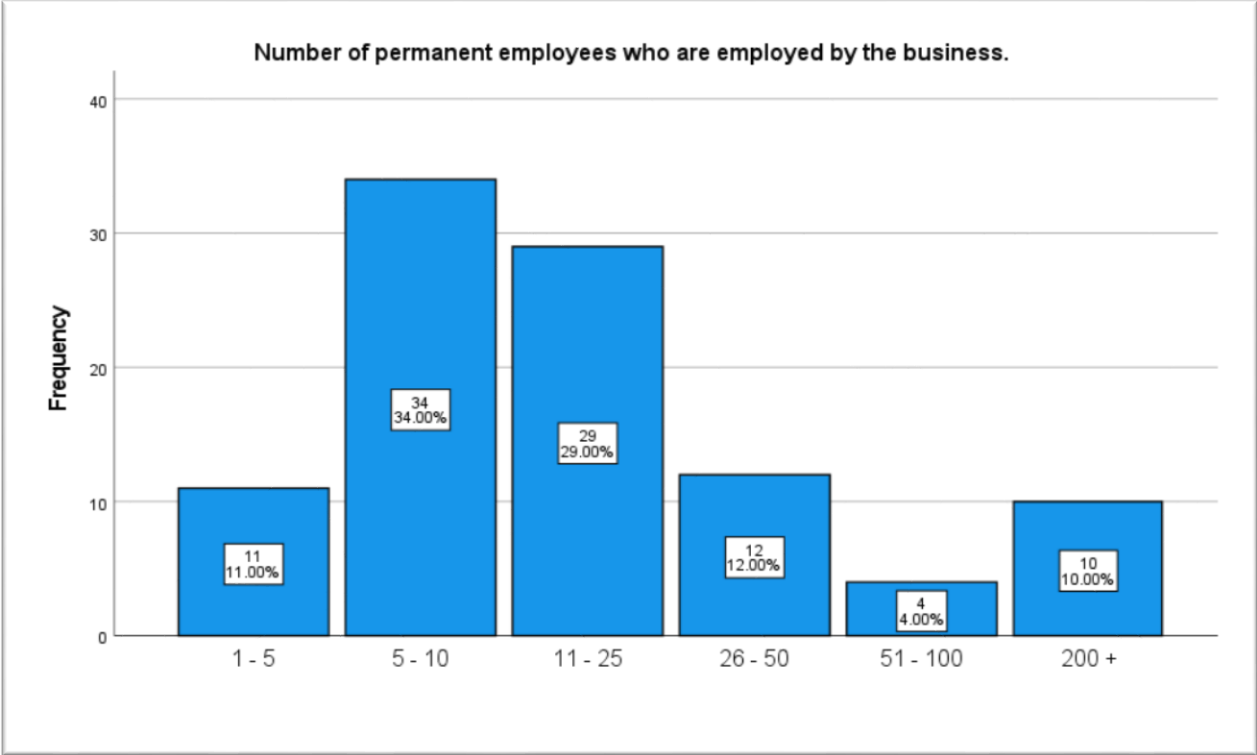


Figure 4-4: Number of permanent employees

4.4.6 Category of employee's business operation

Figure 4-5 shows the respondents' departmental categories that their employees operate in. The majority of 42% of respondents operate in consulting engineering, followed by 16% of respondents who operate in civil construction. 15% are in services, 14% are in building construction, 5% are in the department, 4 % are in architectural and 2% are in supplies. Only 1% of respondents are respectively in municipality and agencies.

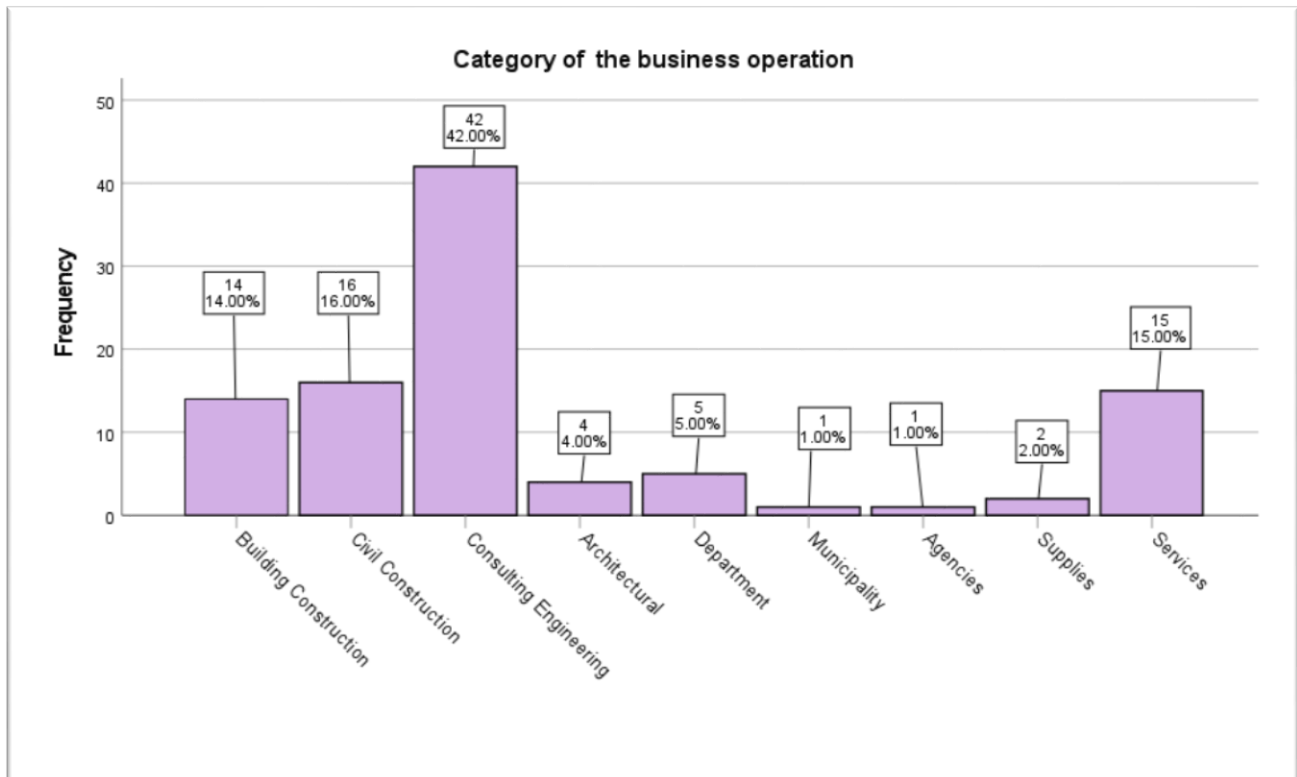


Figure 4-5: Category of employee's business operation

4.4.7 Business existence (in years)

The histogram of business existence given in years by respondents is shown in Figure 4-6 below. The respondents have given responses that yield positively skewed frequencies of the existence of their business in years. On average, the business existence of 100 respondents is 16 years that their business has been in existence, with outlying years of 50, 60, 100 and 120 years of business existence indicated by respondents.

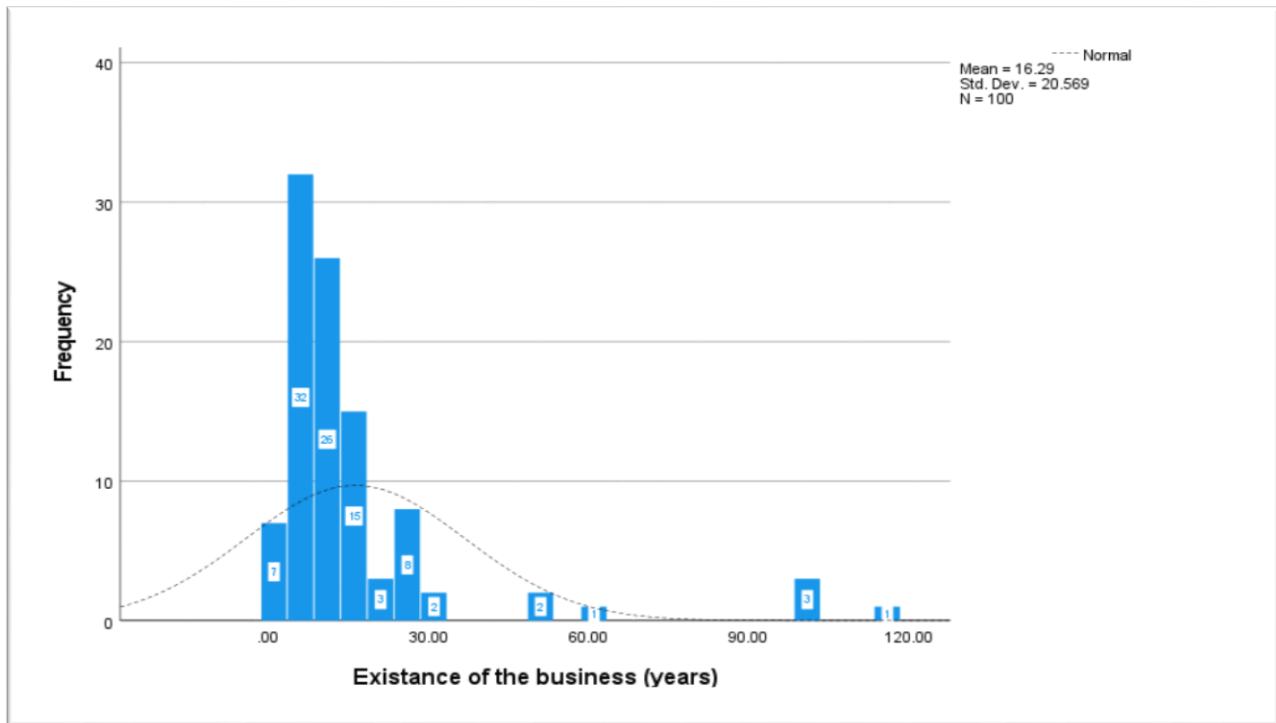


Figure 4-6: Histogram of business existence (in years)

4.4.8 Number of jobs that were created in the latest project

Figure 4-7 below shows the respondents' categories (given as less or equals) to the number of jobs created from the last project. The majority of 60% of respondents have indicated that fewer than or equal to 20 jobs were created in the latest project. This is followed by 23% of respondents with fewer than or equal to 50 jobs, 9% of respondents with fewer than or equal to 100 and 2% of respondents with fewer than or equal to 150 jobs. Only 6% of respondents have at least 150 jobs from the latest project.

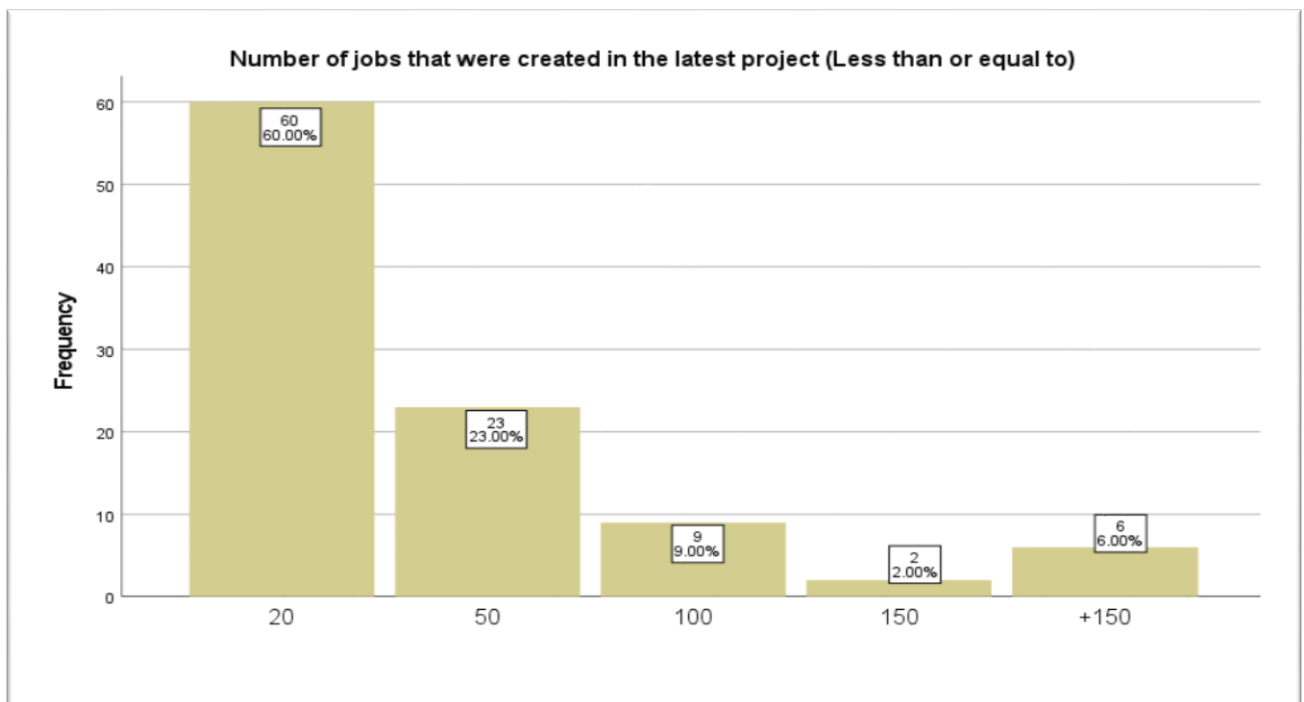


Figure 4-7: Number of jobs that were created in the latest project

4.5 INFERENCE STATISTICS

According to Adedokun and Burgess (2012:126), the McNemar hypothesis testing is applied for testing the binary responses are unchanged; whereas, Bowker (1948:572) extended the McNemar test by introducing the multi-response testing on the nominal variable with the same categories. The method applied in this study for comparison of responses is known as the McNemar-Bowker test. According to Schober, P., Boer, C. & Schwarte, L.A. (2018:1763-1764) and Cohen (2013), the correlation coefficient (r) can be divided into three categories. For the statistical results of this inference, the impact size is set to 0.3, which has practical significance. Apply inferential statistics to datasets to determine the relationship between responses to entrepreneurial attitudes and the success of labour-intensive companies. The following section describes the evaluation of propositions through inferential statistics.

4.5.1 Proposition 1

I have enough autonomy in my job without continual supervision to do my work vs In our business, employees and labourers are viewed as the most valuable asset of the business or project.

Table 4-4: McNemar-Bowker Test of A1 vs B7

Chi-square tests					
	Value	df	Asymptotic significance (2-sided)		
McNemar-Bowker test	19.656	10	.033		
N of Valid Cases	100				
Symmetric measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.446	.084	4.934	.000 ^c
Ordinal by ordinal	Spearman correlation	.460	.082	5.129	.000 ^c
a. Not assuming the null hypothesis.					

b. Using the asymptotic standard error assuming the null hypothesis.
c. Based on normal approximation.

Table 4-4 shows the McNemar-Bowker test, which is statistically significant since the p-value of 0.033 is less than the 0.05 significance level. This implies that the two variables given have similar distribution. Therefore, the respondents have the same viewpoints and there exists a correlation between the two variable “I have enough autonomy in my job without continual supervision to do my work” against “In our business, employees, labourers are viewed as the most valuable asset of the business or a project”. This notion is confirmed by the high Spearman correlation of 0.46 with the significance of zero.

4.5.2 Proposition 2

Our business is continually pursuing new opportunities vs The efficiency (doing things right) of our business has improved over the past few years.

Table 4-5: McNemar-Bowker Test of A9 v/s B6

Chi-square tests					
	Value	df	Asymptotic significance (2-sided)		
McNemar-Bowker test	34.651	8	.000		
N of valid cases	100				
Symmetric measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.498	.071	5.693	.000 ^c
Ordinal by ordinal	Spearman correlation	.501	.074	5.738	.000 ^c
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					

c. Based on normal approximation.

Table 4-5 shows that the McNemar-Bowker test with a p-value of 0.000 is less than 0.05 significance level. This implies that the two variables given have similar distributions. The high Spearman correlation of 0.501 with the significance of zero implies that there exists a significant correlation between the two variable “Our business is continually pursuing new opportunities” against “The efficiency (doing things right) of our business has improved over the past few years”.

4.5.3 Proposition 3

Our business is continually pursuing new opportunities. * The image (stature) of our business, relative to our competitors, has grown over the past few years.

Table 4-6: McNemar-Bowker Test of A9 v/s B10

Chi-square tests					
	Value	df	Asymptotic significance (2-sided)		
McNemar-Bowker test	37.400	7	.000		
N of valid cases	100				
Symmetric measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.598	.080	7.380	.000 ^c
Ordinal by ordinal	Spearman correlation	.507	.082	5.829	.000 ^c
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Table 4-6 shows that the McNemar-Bowker test with a p-value of 0.000 is less than 0.05 significance level. This implies that the two variables given have similar distributions. The high Spearman correlation of 0.507 with the significance of zero imply that there exists a significant correlation between the two variable “Our business is continually pursuing new opportunities” against “The image (stature) of our business, relative to our competitors, has grown over the past few years”.

4.5.4 Proposition 4

Our business is continually pursuing new opportunities vs Our business look at issues that affect labour productivity.

Table 4-7: McNemar-Bowker Test of A9 v/s B14

Chi-square tests					
		Value	df	Asymptotic significance (2-sided)	
McNemar-Bowker test		26.443	9	.002	
N of valid cases		100			
Symmetric measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.562	.077	6.724	.000 ^c
Ordinal by ordinal	Spearman correlation	.561	.072	6.713	.000 ^c
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Table 4-7 shows that the McNemar-Bowker test with a p-value of 0.002 is less than 0.05 significance level. This implies that the two variables given have similar distributions. The high

Spearman correlation of 0.561 with the significance of zero imply that there exists a significant correlation between the two variable “Our business is continually pursuing new opportunities” against “Our business look at issues that affect labour productivity”.

4.5.5 Proposition 5

Our business places a strong emphasis on continuous improvement in products/service delivery/processes vs Our business is highly committed to labour-intensive where possible.

Table 4-8: McNemar-Bowker Test of A12 v/s B8

Chi-square tests					
	Value	df	Asymptotic significance (2-sided)		
McNemar-Bowker test	20.333	8	.009		
N of valid cases	100				
Symmetric Measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.624	.072	7.916	.000 ^c
Ordinal by ordinal	Spearman correlation	.623	.070	7.883	.000 ^c
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Table 4-8 shows that the McNemar-Bowker test with a p-value of 0.002 is less than 0.05 significance level. This implies that the two variables given have similar distributions. The high Spearman correlation of 0.561 with the significance of zero imply that there exists a significant correlation between the two variable “Our business places a strong emphasis on continuous

improvement in products/service delivery/processes” against “Our business is highly committed to labour-intensive where possible”.

4.5.6 Proposition 6

Our business has a widely held belief that innovation is an absolute necessity for the business’ future vs The efficiency (doing things right) of our business has improved over the past few years.

Table 4-9: McNemar-Bowker Test of A13 v/s B6

Chi-square tests					
		Value	df	Asymptotic significance (2-sided)	
McNemar-Bowker test		20.759	7	.004	
N of valid cases		100			
Symmetric Measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.540	.067	6.348	.000 ^c
Ordinal by ordinal	Spearman correlation	.537	.071	6.302	.000 ^c
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Table 4-9 show that the McNemar-Bowker test with a p-value of 0.004 is less than 0.05 significance level. This implies that the two variables given have similar distributions. The high Spearman correlation of 0.537 with the significance of zero imply that there exists a significant correlation between the two variable “Our business has a widely held belief that innovation is an

absolute necessity for the business's future” against “The efficiency (doing things right) of our business has improved over the past few years”.

4.5.7 Proposition 7

Our business has a widely held belief that innovation is an absolute necessity for the business’ future vs The image (stature) of our business, relative to our competitors, has grown over the past few years.

Table 4-10: McNemar-Bowker Test of A13 v/s B10

Chi-square tests					
	Value	df	Asymptotic significance (2-sided)		
McNemar-Bowker test	23.025	8	.003		
N of valid cases	100				
Symmetric measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.565	.068	6.786	.000 ^c
Ordinal by ordinal	Spearman correlation	.539	.075	6.327	.000 ^c
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Table 4-10 shows that the McNemar-Bowker test with a p-value of 0.003 is less than 0.05 significance level. This implies that the two variables given have similar distributions. The high Spearman correlation of 0.539 with the significance of zero imply that there exists a significant correlation between the two variable “Our business has a widely held belief that innovation is an

absolute necessity for the business' future" against "The image (stature) of our business, relative to our competitors, has grown over the past few years".

4.5.8 Proposition 8

Our leaders seek to maximise value from opportunities without constraint to existing models, structures or resources vs Our business, employees, labourers are viewed as the most valuable asset of the business or a project.

Table 4-11: McNemar-Bowker Test of A14 v/s B7

Chi-square tests					
	Value	df	Asymptotic significance (2-sided)		
McNemar-Bowker test	25.125	9	.003		
N of valid cases	100				
Symmetric measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.498	.088	5.679	.000 ^c
Ordinal by ordinal	Spearman correlation	.500	.081	5.723	.000 ^c
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Figure 4-11 shows that the McNemar-Bowker test with a p-value of 0.003 is less than 0.05 significance level. This implies that the two variables given have similar distributions. The high Spearman correlation of 0.5 with the significance of zero imply that there exists a significant correlation between the two variable "Our leaders seek to maximise value from opportunities

without constraint to existing models, structures or resources” against “In our business, employees, labourers are viewed as the most valuable asset of the business or a project”.

4.5.9 Proposition 9

Our business is very often the first to introduce new products/services/ processes vs Our business monitor, measure labour productivity.

Table 4-12: McNemar-Bowker Test of A20 v/s B13

Chi-square tests					
	Value	df	Asymptotic significance (2-sided)		
McNemar-Bowker test	37.640	9	.000		
N of valid cases	100				
Symmetric measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.549	.065	6.502	.000 ^c
Ordinal by ordinal	Spearman correlation	.517	.073	5.974	.000 ^c
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Table 4-12 shows that the McNemar-Bowker test with a p-value of 0.000 is less than 0.05 significance level. This implies that the two variables given have similar distributions. The high Spearman correlation of 0.517 with the significance of zero imply that there exists a significant correlation between the two variables “Our business is very often the first to introduce new products/services/ processes” against “Our business monitor, measure labour productivity”.

4.5.10 Proposition 10

Our business typically initiates actions that competitors respond to vs Our business monitors and measures labour productivity.

Table 4-13: McNemar-Bowker Test of A14 v/s B7

Chi-square tests					
	Value	df	Asymptotic significance (2-sided)		
McNemar-Bowker test	38.021	10	.000		
N of Valid cases	100				
Symmetric measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.533	.073	6.244	.000 ^c
Ordinal by ordinal	Spearman correlation	.516	.080	5.957	.000 ^c
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Table 4-13 shows that the McNemar-Bowker test with a p-value of 0.000 is less than 0.05 significance level. This implies that the two variables given have similar distributions. The high Spearman correlation of 0.516 with the significance of zero imply that there exists a significant correlation between the two variables “Our business typically initiates actions that competitors respond to” against “Our business monitors and measures labour productivity”.

4.5.11 Proposition 11

In dealing with competitors our business typically adopts a very competitive undo-the-competitor 'posture' vs Our business looks at issues that affect labour productivity.

Table 4-14: McNemar-Bowker Test of A14 v/s B7

Chi-square tests					
	Value	df	Asymptotic significance (2-sided)		
McNemar-Bowker test	25.736	9	.002		
N of valid cases	100				
Symmetric measures					
		Value	Asymptotic standard error ^a	Approximate T ^b	Approximate significance
Interval by interval	Pearson's R	.504	.084	5.783	.000 ^c
Ordinal by ordinal	Spearman correlation	.512	.081	5.908	.000 ^c
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Table 4-14 shows that the McNemar-Bowker test with a p-value of 0.002 is less than 0.05 significance level. This implies that the two variables given have similar distributions. The high Spearman correlation of 0.512 with the significance of zero imply that there exists a significant correlation between the two variables "In dealing with competitors our business typically adopts a very competitive undo-the-competitor 'posture'" against "Our business look at issues that affect labour productivity".

4.6 CHAPTER SUMMARY

Chapter 4 presented the findings. The chapter mainly provided the quantitative statistical analyses. The dataset of 100 completed questionnaires was extracted from Google Forms and Excel and submitted for statistical analysis. The dataset was analysed with IBM SPSS Statistics version 27 software. The statistical results of the responses to this study were presented by the use of summarised tables and graphs, then interpreted. Respondents indicate that they have a high level of entrepreneurial orientation and these were measured along the constructs of autonomy of employees to their work of business, creativity or innovation given by the business, proactiveness in decision-making and implementation of ideas, high business risk-taking, leadership skills, innovativeness and business awareness of surrounding business environment. The level of business labour-intensive and business success experience was also presented. Results showed that there exists a strong relationship between EO and labour-intensive and statistically significant business success. The individual constructs of EO were further analysed with the inferential test statistics of the chi-square McNemar-Bowker test and it also correlated with the articulation of business success experienced and will further be discussed in Chapter 5.

CHAPTER 5: DISCUSSION, RECOMMENDATIONS AND CONCLUSION

5.1 CHAPTER OVERVIEW

This chapter gives an overview of the results of the study, which were formulated from the problem statement in Chapter 1. The summary of the findings and the conclusions are presented in this chapter. The specific recommendations for the SMEs that were impacted by the study are also discussed and the suggestions for further research studies are presented.

The study's aim was to demonstrate the impact of the construction sector in creating employment through small-medium enterprises' (SMEs) orientation and labour-intensive methods (LIM).

The following secondary research objectives were formulated to be able to attain the primary objective:

- To explore entrepreneurial orientation of SMEs and labour-intensive methods as schemes for job creation in construction;
- To describe and discuss challenges faced by SMEs and labour-intensive methods in construction; and
- To determine possible opportunities that the state proposes to uplift SMEs and labour-intensive methods in the construction industry.

5.2 DISCUSSION OF FINDINGS

Autonomy refers to the ability to make decisions and take independent actions aimed at bringing business perception or vision and continuing to realise it. In Chapter 4, section 4.5.1, Proposition 1, the study found that the more employees become independent in their work and business, the more businesses regard them as the most valuable asset. According to Lumpkin *et al.* (2009), autonomy provides organisational members with the freedom and flexibility to develop and formulate entrepreneurial plans. The study findings

are in line with that of Lumpkin *et al.* (2009). An entrepreneurial orientation viewpoint on autonomy, by contrast, suggests decision-making and action outside of the construction institutional chain of command involving choices about entrepreneurial initiatives that have strategic implications.

In section 4.5.2, Proposition 2, the study results found that the more the business continually pursues new opportunities, the more it becomes efficient, which has led to business improvement over the past few years. Furthermore, section 4.5.3, Proposition 3 revealed that the more the business continually pursues new opportunities, the more the image statue of the business grew over the years, i.e. relative to their competitors. Section 4.5.4, Proposition 4, further reveals that the more the business continually pursues new opportunities, the more the business focuses on issues that affect labour productivity. Use the initiative, risk and innovation of EO to collect the purpose of business improvement. This finding is consistent with the market knowledge view that SMEs and more collaborators and EOs have more market information, and there are signs of exploring new market opportunities, which will be better completed (Ferreira *et al.*, 2015; Cheng & Krumwiede, 2012).

The objective of exploring the entrepreneurial orientation of SMEs and labour-intensive methods as schemes for job creation in construction is met been through Proposition 4. Where it is revealed that the more the business continually pursues new opportunities, the more the business focuses on issues that affect labour productivity. In this case, labour productivity refers to job creation in the construction sector. This is evidence that when business continually pursues new opportunities the unemployment rates of 34.9% and 34.2% for the Free State and Mpumalanga reported for the first quarter of 2019 by Statistic South Africa can be mitigated and reduced significantly (StatsSA, 2019).

Section 4.5.5, Proposition 5 establishes a high degree of commitment to labour intensity, which is mainly reflected in the high emphasis on continuous improvement of product/service delivery/business processes. If it is determined that the contribution of entrepreneurial orientation dimensions to entrepreneur performance is mixed in this particular case, then this finding is consistent with the findings of Callaghan and Venter

(2011), and its impact is along the entrepreneurial performance measured by entrepreneurs' inner dimension of the process. Satisfaction is not an external dimension of entrepreneurial performance measured by income. This finding is one factor contributing to the objective of describing the challenges faced by SMEs and labour-intensive methods in the construction business.

Section 4.5.6, Proposition 6 reveals that it is widely believed that innovation is a direct requirement of an enterprise in the future, which is closely related to the efficiency of the enterprise (doing things right). In the past few years, the efficiency of the enterprise has improved. Section 4.5.7 Proposition 7 found that people generally believe that innovation is necessary for the future of the company, which is highly correlated with the company's image (status), because the company has grown in the past few years relative to its competitors. These findings are consistent with the views of Rhee *et al.* (2010). Innovation plays an important role in improving company performance, and the innovative thinking style of managers has a significant impact on the performance of small and medium-sized enterprises.

Sub-section 4.5.8, Proposition 8 found that business leaders seek to get the most value from opportunities without limiting existing models, structures or resources. This is closely related to business employees and labour and is regarded as the most valuable asset in a company or project. In section 4.5.9, the study of Proposition 9 found that, due to the process of companies monitoring and measuring labour productivity, companies are usually the first to introduce new products/services/processes due to their process of monitoring and measuring labour productivity. According to Chaston and Mangles (1997), the adoption of information systems may allow adequate information flows and learning for decision-making, productivity and customer service support purposes.

Sub-section 4.5.10, Proposition 10, states that business actions that competitors respond to are highly influenced by the business' monitoring and measurement of labour productivity.

Sub-Section 4.5.11, Proposition 11, states that companies usually adopt a very competitive attitude to deal with competitors, to study the problems affecting labour productivity. These problems affecting productivity are related to initiative, which is related to the advantages of first-mover businessmen and is reflected in seeking opportunities, a forward-looking perspective before competition, and anticipating future needs to create change and shape the environment (Lumpkin & Dess, 2001). Innovative industry markets where competition is most concentrated look at SMEs' internal capabilities that are correlated with growth, especially when linked to an entrepreneurial orientation.

The challenges faced by SMEs and labour-intensive construction methods are evident in the results. The evidence is highlighted by Proposition 9 and 11, whereby some businesses are usually the first to introduce new products/services/processes due to their process of monitoring and measuring labour productivity. Also, some businesses adopt a very competitive attitude to deal with competitors. These sentiments were strongly agreed upon by participants responses from the questionnaire.

The objective of determining possible opportunities that the government proposes to uplift SMEs and LI in the construction industry is highlighted through some reports. According to the PricewaterhouseCoopers (PwC) in their SA Construction, 4th edition report indicated that the South African government which initiated the National Development Plan (NDP) indicates that there will be the inception of public infrastructure investment of R 810 billion over the next few years to boost the construction industry's growth (SA construction, 2015), see <https://www.pwc.co.za/en/publications/sa-construction.html>.

According to the Construction in South Africa - Key Trends and Opportunities to 2024, the South African government rolled out an ambitious R858.78 billion Economic Reconstruction and Recovery Plan to reindustrialise the economy by focusing on small businesses and strengthening medium and large ones and accelerate economic reforms to unlock investments.

5.3 RECOMMENDATIONS

The results of this research can help formulate unique strategies to help South Africa's small and medium-sized enterprises transform early, thereby ensuring job creation in Mpumalanga and the Free State Provinces and obtaining long-term returns for the shift to sustainable construction industrial path. However, the provincial governments of the two provinces will have to invest in policy implementation that will contribute to and strengthen the economy as a whole, through the construction industries.

According to Smyth (2008), stakeholder management theory or policy must shift from a power-based analysis method to a moral care responsibility identification method that adopts active management, which is crucial.

For industrial construction stakeholders:

- the study recommends that the South African provincial government should implement policies and programmes to strengthen the construction industry in these two provinces. Therefore, the effect of reducing poverty and unemployment in their communities will be obvious;
- data analytics in provincial offices should contain necessary technical skills for implementation and evaluation of entrepreneurial orientation;
- the provincial government should develop more opportunities for education and adult learning as it's play a crucial role in helping people to adapt and correct the skills deficits in disadvantaged communities;
- centre should be developed for communities education and training;
- educate engineers about employment creation and train them in specific planning skills, monitoring, implementation and evaluation of large labour-intensive programmes;
- public support for SMEs, support programme, community participation;
- construction technology that is pragmatic and innovative in nature to create more work for unskilled workers;
- access to finance so SMEs shouldn't rely on internally generated funds which are not sufficient to support expansion and growth;

- government and training institutions and the private sector need to work together for skill revolution;
- encourage more people to start their own businesses, to be entrepreneurs and self-employed;
- fight nepotism, crimes and corruption.

5.4 LIMITATIONS OF THE STUDY

The focus of this research was on the impact of business-oriented and labour-intensive methods on small and medium-sized enterprises operating in Mpumalanga and the Free State Province. Therefore, the research was limited to certain specific areas around South Africa. The analysis unit was also limited to managers, owners and employees of small and medium-sized construction enterprises engaged in the construction industry, consulting engineer companies, and municipalities (such as engineers, architects and project managers). Due to time constraints, the research was also limited in research design.

5.5 ORIENTATION FOR FURTHER STUDIES

The following orientation could be exploited for further studies:

- Future research should use the probability sampling method so that findings from the research can be generated for the whole population;
- future research should consider a qualitative approach for this study, as qualitative methods will give detailed approaches to the social conditions of respondents.

5.6 CONCLUDING REMARKS

In terms of income and job creation, SMEs are an important pillar of South Africa's economy and society and will continue to do so. However, the continuous increase in the unemployment rate in South Africa is still a constraint on the growth and transformation

of SMEs. However, the operation, growth and sustainability of these SMEs are hindered by many constraints, including cheap foreign labour. In this regard, the research focuses on creating employment opportunities through SME-oriented and labour-intensive methods (LIM) to address concerns about the impact of the construction sector. Investment in labour methods to infrastructures can generate much needed employment for the poor and can as well be technically and economically efficient, such method have the advantage to focus on local resources.

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Appendix A: Questionnaire

ENTREPRENEURIAL ORIENTATION AND LABOUR-INTENSIVE SUCCESS

CONFIDENTIAL

Student: Mr Jonathan Mayombo

083 414 1688

Supervisor: Prof Nelda Mouton

073 590 9431

Note: All responses are confidential and neither the individual nor the organisation would be identified in any report or release.

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Research on the analysis of the influence of entrepreneurial orientation of SMEs and labour-intensive in the construction industry

Dear Participant,

You are herewith invited to complete a questionnaire as part of my MBA research project at the North-West University (NWU).

The purpose of the study is to analyse the influence of entrepreneurial orientation of small and medium-sized enterprises and labour-intensive performance in the construction industry.

Please note the following:

- This is an anonymous study survey as your name will not appear on the questionnaire. The answers you give will be treated as strictly confidential as you cannot be identified in person based on the answers you give. The completed questionnaires will be captured and analysed by the Statistical Consultation Services at the North-West University. The data will be stored in secured document storage and all hard copies of the questionnaires or statistical analyses will be destroyed after three years.
- Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.
- Please answer the questions in the following questionnaire as completely and honestly as possible. This should not take more than 20 minutes of your time
- The researchers will ensure that all results will be kept confidential and no ethical guidelines will be breached. Only the researchers, the supervisor and the statistician will have access to the data being captured. After the specified timeframe, the data collection process will end and the statistical analysis will commence, which will take place scientifically and ethically.
- By continuing to fill out and submitting this questionnaire, you indicate that you have read and understand the information provided above. Furthermore, you give your consent to participate in the study voluntarily.
- Limited biographical information will be collected with the purpose to form a profile of the participants, but will not be used to make comparisons between groups or for further statistical analyses. If at a subsequent date, biographical data were relevant to a publication, a separate release form would be sent to you.

Please tick the following box to mark your consent

Yours faithfully

Researchers:

Jonathan Mayombo

North-West University

Research supervisor:

Prof Nelda Mouton

North-West University

Please complete every question/statement to ensure the validity and reliability of the study.

GENERAL INSTRUCTIONS

Virtually all questions should be answered by ticking X or highlighting the relevant block.

Use the following key to indicate your preference:

SCALE	TERM USED
1	Strongly disagree
2	Disagree
3	Neither agree nor disagree (Neutral)
4	Agree
5	Strongly agree

Please select the number that best describes your opinion about a specific question or statement. In the example beneath, the respondent agreed with the statement listed.

I believe that Small, micro and medium sized enterprises in South Africa can be successful	1	2	3	4	5
--	---	---	---	--------------	---

SECTION A: ENTREPRENEURIAL ORIENTATION

The following statements concern your attitude towards the entrepreneurial orientation of the business.

Please rate the extent to which you agree or disagree with the following statements by making an X over the appropriate number on the 1- to 5-point scale next to the statement.

1	=	2	=	3	=	4	=	5	=
<i>Strongly disagree</i>		<i>Disagree</i>		<i>Neutral</i>		<i>Agree</i>		<i>Strongly agree</i>	

	STATEMENT	SCALE				
A1	I have enough autonomy in my job without continual supervision to do my work.	1	2	3	4	5
A2	Our business allows me to be creative and try different methods to do my job.	1	2	3	4	5
A3	Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures.	1	2	3	4	5
A4	Employees in our business are encouraged to manage their work and have the flexibility to resolve problems.	1	2	3	4	5
A5	I seldom have to follow the same work methods or steps while performing my major tasks from day to day.	1	2	3	4	5
A6	Our business regularly introduces new services/products/processes.	1	2	3	4	5
A7	Our business places a strong emphasis on new and innovative products/services/processes.	1	2	3	4	5
A8	Our business has increased the number of services/products offered during the past two years.	1	2	3	4	5
A9	Our business is continually pursuing new opportunities.	1	2	3	4	5

A10	Over the past few years, changes in our processes, services and product lines have been quite dramatic.	1	2	3	4	5
A11	In our business, there is a strong relationship between the number of new ideas generated and the number of new ideas successfully implemented.	1	2	3	4	5
A12	Our business places a strong emphasis on continuous improvement in products/service delivery/processes.	1	2	3	4	5
A13	Our business has a widely held belief that innovation is an absolute necessity for the business' future.	1	2	3	4	5
A14	Our leaders seek to maximise value from opportunities without constraint to existing models, structures or resources.	1	2	3	4	5
A15	When confronted with uncertain decisions, our business typically adopts a bold posture to maximise the probability of exploiting opportunities.	1	2	3	4	5
A16	In general, our business has a strong inclination towards high-risk projects.	1	2	3	4	5
A17	Owing to the environment, our business believes that bold, wide-ranging acts are necessary to achieve the business' objectives.	1	2	3	4	5
A18	Employees are often encouraged to take calculated risks concerning new ideas.	1	2	3	4	5
A19	The term 'risk-taker' is considered a positive attribute for employees in our business.	1	2	3	4	5
A20	Our business is very often the first to introduce new products/services/processes.	1	2	3	4	5
A21	Our business typically initiates actions that competitors respond to.	1	2	3	4	5
A22	Our business continuously seeks out new products/processes/services.	1	2	3	4	5

A23	Our business continuously monitors market trends and identifies the future needs of customers/clients.	1	2	3	4	5
A24	In dealing with competitors, our business typically adopts a very competitive undo-the-competitor 'posture'.	1	2	3	4	5
A25	Our business is very aggressive and intensely competitive.	1	2	3	4	5
A26	Our business effectively assumes an aggressive posture to combat trends that may threaten our survival or competitive position.	1	2	3	4	5
A27	Our business knows when it is in danger of acting overly aggressive (this could lead to erosion of our business' reputation or retaliation by our competitors).	1	2	3	4	5

SECTION B: LABOUR-INTENSIVE AND BUSINESS SUCCESS

The following statements concern your attitude towards the success of the business.

Please rate the extent to which you agree or disagree with the following statements by making an X over the appropriate number on the 1- to 5-point scale next to the statement.

1	=	2	=	3	=	4	=	5	=
<i>Strongly disagree</i>		<i>Disagree</i>		<i>Neutral</i>		<i>Agree</i>		<i>Strongly agree</i>	

	STATEMENT	SCALE				
		1	2	3	4	5
B1	Our business has experienced labour-intensive methods with positive outcomes over the past few years.	1	2	3	4	5
B2	Our business has experienced growth in job creation with labour-intensive methods over the past few years.	1	2	3	4	5
B3	Our business has experienced the performance of labour-intensive methods over the past few years.	1	2	3	4	5
B4	The competitive position of our business has improved over the past few years with the implementation of the labour-intensive method	1	2	3	4	5
B5	The effectiveness (doing the right things) on the implementation of labour-intensive methods has improved over the past few years.	1	2	3	4	5
B6	The efficiency (doing things right) of our business has improved over the past few years.	1	2	3	4	5
B7	In our business, employees and labourers are viewed as the most valuable asset of the business or project.	1	2	3	4	5
B8	Our business is highly committed to labour-intensive methods, where possible.	1	2	3	4	5

B9	The morale (job satisfaction) of our employees has improved over the past few years.	1	2	3	4	5
B10	The image (stature) of our business, relative to our competitors, has grown over the past few years.	1	2	3	4	5
B11	During difficult economic periods, labour-intensive methods and development continue and no significant financial cuts are made.	1	2	3	4	5
B12	Presence of skilled and professional technical staff such as supervisor/designer/engineer/project manager, with relevant experience and knowledge to implement labour intensive methods.	1	2	3	4	5
B13	Our business monitors and measures labour productivity	1	2	3	4	5
B14	Our business looks at issues that affect labour productivity	1	2	3	4	5
B15	The jobs our business creates in the community help to alleviate poverty	1	2	3	4	5

SECTION C: DEMOGRAPHIC INFORMATION

The following information is needed to help the researchers to profile the participating owner-managers and the businesses, but will not be used to make comparisons between groups or for further statistical analyses.

If at a subsequent date, biographical data were relevant to a publication, a separate release form would be sent to you.

Mark the applicable block with an X. Complete the applicable information.

C1	Indicate your age					
< 20	20-29	30-39	40-49	50-59	60+	

C2	1 Indicate your highest academic qualification.				
	Certificate	Diploma	Bachelor's degree	Honours degree	Master's degree
	Other: (Specify):				

C3	2 Indicate your management level.				
	Supervisor	Middle management	Senior management	Director	Owner
	Other: (specify):				

C4	Indicate your years of experience.					
0-3	4-10	11-15	16-20	21-25	25+	

C5	How many permanent employees are employed by the business?						
1-4	5-10	11-25	26-50	51-100	101-200	200+	

C6	3 In which category does the business operate?				
Building construction	Civil construction	Consulting engineering	Architectural	Department	
Municipality	Agencies	Development	Supplies	Services	
Other: (specify):					

C7	4 How old is the business (years)?
Specify:	

C8	5 Indicate how many jobs were created in your latest project? (less than or equal to)				
20	50	100	150	+150	
Other: (specify):					

THANK YOU FOR YOUR TIME.

Appendix B: Descriptive statistics

1. SECTION A: ENTREPRENEURIAL ORIENTATION

Descriptive statistics										
	N	R	Min	Max	Mean	Std. dev	Skewness		Kurtosis	
							Std. error		Std. error	
I have enough autonomy in my job without continual supervision to do my work. (A1)	100	4.00	1.00	5.00	3.4300	1.12146	-.391	.241	-.341	.478
Our business allows me to be creative and try different methods to do my job. (A2)	100	4.00	1.00	5.00	3.6500	1.14040	-.483	.241	-.456	.478
Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures. (A3)	100	4.00	1.00	5.00	2.7200	1.27192	.364	.241	-.807	.478
Employees in our business are encouraged to manage their own work and have the flexibility to resolve problems. (A4)	100	3.00	2.00	5.00	3.7700	.93046	-.366	.241	-.671	.478
I seldom have to follow the same work methods or steps while performing my major tasks from day to day. (A5)	100	4.00	1.00	5.00	3.4300	1.13043	-.315	.241	-.535	.478
Our business regularly introduces new services/products/processes. (A6)	100	4.00	1.00	5.00	3.8500	1.03840	-.632	.241	-.496	.478
Our business places a strong emphasis on new and innovative products/services/processes. (A7)	100	4.00	1.00	5.00	3.7000	1.03962	-.523	.241	-.217	.478
Our business has increased the number of services/products offered during the past two years. (A8)	100	4.00	1.00	5.00	3.2300	1.17082	-.153	.241	-.628	.478
Our business is continually pursuing new opportunities. (A9)	100	4.00	1.00	5.00	4.2100	1.00800	-1.281	.241	1.077	.478

Over the past few years, changes in our processes, services and product lines have been quite dramatic. (A10)	100	4.00	1.00	5.00	3.4200	1.06534	-.452	.241	-.186	.478
In our business, there is a strong relationship between the number of new ideas generated and the number of new ideas successfully implemented. (A11)	100	4.00	1.00	5.00	3.6900	1.09816	-.521	.241	-.524	.478
Our business places a strong emphasis on continuous improvement in products/service delivery/processes. (A12)	100	4.00	1.00	5.00	3.2400	1.10206	-.446	.241	-.418	.478
Our business has a widely held belief that innovation is an absolute necessity for the business' future. (A13)	100	4.00	1.00	5.00	4.0200	1.02474	-1.075	.241	.807	.478
Our leaders seek to maximise value from opportunities without constraint to existing models, structures or resources. (A14)	100	4.00	1.00	5.00	3.6300	.94980	-.707	.241	.398	.478
When confronted with uncertain decisions, our business typically adopts a bold posture to maximise the probability of exploiting opportunities. (A15)	100	4.00	1.00	5.00	3.2700	1.03333	.219	.241	-.674	.478
In general, our business has a strong inclination towards high-risk projects. (A16)	100	4.00	1.00	5.00	3.5400	1.06761	-.310	.241	-.590	.478
Owing to the environment, our business believes that bold, wide-ranging acts are necessary to achieve the business' objectives. (A17)	100	4.00	1.00	5.00	3.6300	1.04112	-.574	.241	-.261	.478
Employees are often encouraged to take calculated risks concerning new ideas. (A18)	100	4.00	1.00	5.00	3.6000	1.04447	-.380	.241	-.401	.478
The term 'risk-taker' is considered a positive attribute for employees in our business. (A19)	100	4.00	1.00	5.00	3.1800	1.20084	-.105	.241	-.745	.478

Our business is very often the first to introduce new products/services/processes. (A20)	100	4.00	1.00	5.00	2.9200	1.16930	.042	.241	-.883	.478
Our business typically initiates actions that competitors respond to. (A21)	100	4.00	1.00	5.00	2.9100	1.23169	-.024	.241	-.975	.478
Our business continuously seeks out new products/processes/services. (A22)	100	4.00	1.00	5.00	3.4800	1.03942	-.414	.241	-.304	.478
Our business continuously monitors market trends and identifies future needs of customers/clients. (A23)	100	4.00	1.00	5.00	3.5600	1.12205	-.547	.241	-.279	.478
In dealing with competitors, our business typically adopts a very competitive 'undo-the-competitor' posture'. (A24)	100	4.00	1.00	5.00	3.2400	1.10206	-.354	.241	-.501	.478
Our business is very aggressive and intensely competitive. (A25)	100	4.00	1.00	5.00	3.5900	1.00599	-.313	.241	-.468	.478
Our business effectively assumes an aggressive posture to combat trends that may threaten our survival or competitive position. (A26)	100	4.00	1.00	5.00	3.4300	1.07548	-.337	.241	-.201	.478
Our business knows when it is in danger of acting overly aggressive (this could lead to erosion of our business' reputation or retaliation by our competitors). (A27)	100	4.00	1.00	5.00	3.7500	.96792	-.431	.241	-.135	.478

2. SECTION B: LABOUR-INTENSIVE AND BUSINESS SUCCESS

Descriptive statistics										
	N	R	Min	Max	Mean	Std. dev	Skewness		Kurtosis	
							Std. error	Std. error		
Our business has experienced labour-intensive methods with positive outcomes over the past few years. (B1)	100	4.00	1.00	5.00	3.7000	.94815	-.522	.241	.058	.478

Our business has experienced growth in job creation with labour-intensive methods over the past few years. (B2)	100	4.00	1.00	5.00	3.5200	1.05868	-.340	.241	-.563	.478
Our business has experienced the performance of labour-intensive methods over the past few years. (B3)	100	4.00	1.00	5.00	3.5000	1.02000	-.379	.241	-.384	.478
The competitive position of our business has improved over the past few years with the implementation of the labour-intensive method. (B4)	100	4.00	1.00	5.00	3.2900	1.06643	-.250	.241	-.591	.478
The effectiveness (doing the right things) on the implementation labour-intensive methods has improved over the past few years. (B5)	100	4.00	1.00	5.00	3.4300	1.04693	-.565	.241	-.061	.478
The efficiency (doing things right) of our business has improved over the past few years. (B6)	100	4.00	1.00	5.00	3.6700	.94340	-.321	.241	-.415	.478
In our business, employees and labourers are viewed as the most valuable asset of the business or a project. (B7)	100	4.00	1.00	5.00	3.9000	1.09637	-.690	.241	-.467	.478
Our business is highly committed to labour-intensive methods, where possible. (B8)	100	4.00	1.00	5.00	3.5700	1.20818	-.483	.241	-.609	.478
The morale (job satisfaction) of our employees has improved over the past few years. (B9)	100	4.00	1.00	5.00	3.4100	1.12900	-.481	.241	-.616	.478
The image (stature) of our business, relative to our competitors, has grown over the past few years. (B10)	100	4.00	1.00	5.00	3.6200	.97214	-.582	.241	.152	.478
During difficult economic periods, labour-intensive methods and development continue and no significant financial cuts are made. (B11)	100	4.00	1.00	5.00	2.8500	1.17529	.107	.241	-.806	.478

Presence of skilled and professional technical staff such as supervisor/designer/engineer/project manager, with relevant experience and knowledge to implement labour Intensive methods. (B12)	100	4.00	1.00	5.00	3.7000	1.07778	-.657	.241	.067	.478
Our business monitors and measures labour productivity. (B13)	100	4.00	1.00	5.00	3.6900	1.12542	-.835	.241	.216	.478
Our business looks at issues that affect labour productivity. (B14)	100	4.00	1.00	5.00	3.7300	1.15343	-.862	.241	.122	.478
The jobs our business creates in the community help to alleviate poverty. (B15)	100	4.00	1.00	5.00	4.2000	.96400	-1.105	.241	.568	.478

3. SECTION C: DEMOGRAPHIC INFORMATION

Descriptive statistics										
	N	R	Min	Max	Mean	Std. dev	Skewness		Kurtosis	
							Std. error	Std. error		
Age	100	4.00	2.00	6.00	3.3600	.84710	.451	.241	.674	.478
Highest academic qualification	100	5.00	1.00	6.00	3.0800	1.12528	.491	.241	-.098	.478
Management level	100	5.00	1.00	6.00	3.3200	1.33998	.086	.241	-.883	.478
Years of experience	100	5.00	1.00	6.00	2.9600	1.20538	.572	.241	.151	.478
Number of permanent employees who are employed by the business.	100	6.00	1.00	7.00	3.0400	1.63867	1.242	.241	1.013	.478
Category of the business operation	100	9.00	1.00	10.00	3.9400	2.91225	1.307	.241	.332	.478
Existence of the business (years)	100	116.00	1.00	117.00	16.2900	20.56883	3.428	.241	12.328	.478
Number of jobs that were created in the latest project (Less than or equal to)	100	4.00	1.00	5.00	1.7100	1.11278	1.766	.241	2.494	.478

Appendix C: Reliability analysis

1. SECTION A: ENTREPRENEURIAL ORIENTATION

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.883
fBartlett's Test of Sphericity	Approx. Chi-Square	3223.389
	df	861
	Sig.	.000

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.964	.964	42

Item-total statistics					
	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
I have enough autonomy in my job without continual supervision to do my work.	90.6600	331.075	.555	.614	.944
Our business allows me to be creative and try different methods to do my job.	90.4400	325.279	.691	.722	.943
Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures.	91.3700	333.751	.422	.545	.946
Employees in our business are encouraged to manage their work and have the flexibility to resolve problems.	90.3200	337.028	.500	.503	.945
I seldom have to follow the same work methods or steps while performing my major tasks from day to day.	90.6600	331.419	.542	.501	.944
Our business regularly introduces new services/products/processes.	90.2400	335.194	.492	.611	.945
Our business places a strong emphasis on new and innovative products/services/processes.	90.3900	328.867	.664	.698	.943
Our business has increased the number of services/products offered during the past two years.	90.8600	329.697	.563	.596	.944

Our business is continually pursuing new opportunities.	89.8800	331.864	.602	.583	.944
Over the past few years, changes in our processes, services and product lines have been quite dramatic.	90.6700	335.233	.477	.580	.945
In our business, there is a strong relationship between the number of new ideas generated and the number of new ideas successfully implemented.	90.4000	325.818	.705	.632	.943
Our business places a strong emphasis on continuous improvement in products/service delivery/processes.	90.8500	334.028	.490	.522	.945
Our business has a widely held belief that innovation is an absolute necessity for the business' future.	90.0700	328.308	.690	.676	.943
Our leaders seek to maximise value from opportunities without constraint to existing models, structures or resources.	90.4600	330.392	.686	.688	.943
When confronted with uncertain decisions, our business typically adopts a bold posture to maximise the probability of exploiting opportunities.	90.8200	335.705	.481	.508	.945
In general, our business has a strong inclination towards high-risk projects.	90.5500	331.725	.569	.553	.944
Owing to the environment, our business believes that bold, wide-ranging acts are necessary to achieve the business' objectives.	90.4600	328.756	.666	.607	.943
Employees are often encouraged to take calculated risks concerning new ideas.	90.4900	327.929	.687	.735	.943
The term 'risk-taker' is considered a positive attribute for employees in our business.	90.9100	325.557	.646	.673	.943
Our business is very often the first to introduce new products/services/processes.	91.1700	322.203	.749	.813	.942
Our business typically initiates actions that competitors respond to.	91.1800	324.210	.660	.784	.943
Our business continuously seeks out new products/processes/services.	90.6100	324.483	.786	.747	.942

Our business continuously monitors market trends and identifies the future needs of customers/clients.	90.5300	327.747	.640	.668	.943
In dealing with competitors, our business typically adopts a very competitive under-the-competitor 'posture'.	90.8500	323.563	.762	.734	.942
Our business is very aggressive and intensely competitive.	90.5000	330.313	.647	.700	.943
Our business effectively assumes an aggressive posture to combat trends that may threaten our survival or competitive position.	90.6600	330.105	.607	.712	.944
Our business knows when it is in danger of acting overly aggressive (this could lead to erosion of our business' reputation or retaliation by our competitors).	90.3400	336.287	.501	.470	.945

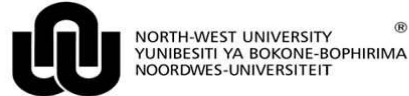
2. SECTION B: LABOUR-INTENSIVE AND BUSINESS SUCCESS

Item-total statistics					
	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Cronbach's alpha if item deleted
Our business has experienced labour-intensive methods with positive outcomes over the past few years.	50.0800	122.115	.654	.661	.934
Our business has experienced growth in job creation with labour-intensive methods over the past few years.	50.2600	119.831	.680	.810	.933
Our business has experienced the performance of labour-intensive methods over the past few years.	50.2800	119.153	.742	.822	.931
The competitive position of our business has improved over the past few years with the implementation of the labour-intensive method	50.4900	117.828	.767	.745	.931

The effectiveness (doing the right things) on the implementation of labour-intensive methods has improved over the past few years.	50.3500	119.725	.694	.633	.933
The efficiency (doing things right) of our business has improved over the past few years.	50.1100	121.089	.710	.670	.932
In our business, employees and labourers are viewed as the most valuable asset of the business or project.	49.8800	121.198	.593	.640	.935
Our business is highly committed to labour-intensive methods, where possible.	50.2100	116.188	.732	.680	.932
The morale (job satisfaction) of our employees has improved over the past few years.	50.3700	117.993	.711	.620	.932
The image (stature) of our business, relative to our competitors, has grown over the past few years.	50.1600	121.449	.669	.577	.933
During difficult economic periods, labour-intensive methods and development continue and no significant financial cuts are made.	50.9300	120.308	.583	.408	.936
Presence of skilled and professional technical staff such as supervisor/designer/engineer/project manager, with relevant experience and knowledge to implement labour Intensive methods.	50.0800	117.973	.751	.630	.931
Our business monitors and measures labour productivity	50.0900	117.962	.715	.754	.932
Our business looks at issues that affect labour productivity	50.0500	116.997	.737	.774	.931

The jobs our business creates in the community help to alleviate poverty	49.5800	124.670	.517	.515	.937
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Appendix D: Ethics clearance certificate



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Economic and Management Sciences Research
Ethics Committee (EMS-REC)

1 December 2020

Prof Nelda Mouton
Per e-mail
Dear Prof Mouton,

EMS-REC FEEDBACK: 20112020
Student: Mayombo, KJ – (31433626)(NWU-00834-20-A4)
Applicant: Prof N Mouton - MBA

Your ethics application on, *Analysing the influence of entrepreneurial orientation of SMEs and labour-intensive in the construction industry*, which served on the EMS-REC meeting of 30 October 2020, refers.

Outcome:

Approved as a minimal risk study. A number **NWU-00834-20-A4** is given for one year of ethics clearance.

Due to the Covid-19 lock down ethics clearance for applications that involve data collection or any form of contact with participants are subject to the restrictions imposed by the South African government.

Kind regards,

Mark
Rathbone

Digitally signed by Mark Rathbone
DN: cn=Mark Rathbone, o=North-
West University, ou=Business
management,
email=mark.rathbone@nwu.ac.za,
c=ZA
Date: 2020.12.01 13:28:11 +0200

Prof Mark Rathbone
Chairperson: Economic and Management Sciences Research Ethics Committee
(EMS-REC)

Appendix E: Language editing certificate

To whom it may concern

Cecile van Zyl
Language editing and translation
Cell: 072 389 3450
Email: Cecile.vanZyl@nwu.ac.za

14 April 2021

Dear Mr / Ms

Re: Language editing of dissertation (Analysing the influence of entrepreneurial orientation of SMEs and labour-intensive in the construction industry)

I hereby declare that I language edited the above-mentioned dissertation by Mr Jonathan Mayombo (student number: 31433626).

Please feel free to contact me should you have any enquiries.

Kind regards



Cecile van Zyl
Language practitioner
BA (PU for CHE); BA honours (NWU); MA (NWU)
SATI number: 1002391