UNIVERSITY OF KWAZULU -NATAL

Determinants of Effective Contract Management in South African State-Owned Enterprises: The Case of Transnet SOC Ltd

By

Lindiwe Dorcas Xaba

200100888

Supervisor: Dr Vangeli Gamede

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

School of Management, IT and Governance

College of Law and Management Studies

2025

DECLARATION

I, Lindiwe Xaba declare that:

(i) The research reported in this thesis, except where otherwise indicated, is my original research.

(ii) This thesis has not been submitted for any degree or examination at any other University.

(iii) This thesis does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.

(iv) This thesis does not contain other people's writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, then:

a) their words have been re-written, but the general information attributed to them has been referenced:
b) Where their exact words have been used, their writing has been placed inside quotation marks and referenced.

(v) This thesis does not contain text, graphics or tables copied and pasted from the Internet, unless specifically acknowledged, and the source being detailed in the thesis and in the References sections.

Signed:… [redacted] ……..

L. XABA

I certify that the above statement is correct.

Signed:……..

DR. V. GAMEDE

College of Law and Management Studies

University of KwaZulu-Natal

Durban

DEDICATION

TO MY LATE FATHER, SAMUEL “SAM” BONGINKOSI “SHUMILEZINSIZWA NEMFALAKAHLANA.”

TO MY LATE SISTER, BONISILE “BONA” MNYAMANA KABABA.

CONTINUE TO REST IN PEACE MASHWABADE AMAHLE, BONONKOSI NINA ENASHWABADELA IZINKOMO NEZIMPONDO ZAYO, NASHWABADELA IZINDLUBU NAMAKHASI.

TO MY MOTHER, THOKOZILE “MUNTU” MASOSIBO, MSHINGILA, BHULABHULA UMKHOVU NGENDUKU BATHI UFILE KANTI UYEZWA, NCOBENI, MTHUNZI WOKUPHUMULA ABAKHATHELE, FOR ALWAYS ENCOURAGING, PRAYING, AND SUPPORTING ME AT ALL TIMES.

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to the following people who made this journey possible and for their valuable contribution to this project:

Smakade, my Creator, who gave me wisdom, strength and guidance in the process of conducting this study.

My parents, my late father Samuel "Sam" Bonginkosi Xaba and my mother Agnes Thokozile “Muntu” Xaba, for making me the kind of person I am today.

My supervisor, Dr Vangeli Gamede for his support, academic guidance and leadership.

Dr Felix Chikosha, my statistician and Dr Karen Corbishley my editor. Thank you for giving this study meaning.

Dr Nobubele Potwana thank you for holding my hand throughout this journey.

Edith Carey for aligning my thesis.

My colleague, James Madihlaba from the Transnet Group, who opened doors for me to conduct the study in the Transnet Divisions.

Sue Pillay, TNPA Durban, for helping me to develop the online questionnaire.

Baba Canon Reverend Theophilus Mdaluyazi Ngubane. Thank you for the love, support and prayers, uSmakade angigcinele wena.

My sisters, Ntombifikile, Nondumiso, Zibuyile, Thembeka, Sthoko, and Xoli. Thank you for everything.

My nieces, Aphelele, Anele, Akhona, Amahle and Uyikho and my nephews Sisekelo, Philasande 1 and Philasande 2 for the support you always gave me.

Zodwa Mbatha, for the love and support. You have been my pillar of strength. Ngiyabonga Mthiya.

My friends, family and relatives who understood me during this process.

My colleagues at TNPA, Port of Durban, thank you for the support and encouragement throughout the journey.

The respondents from Transnet SOC Ltd who voluntarily took their time to complete the questionnaire and participated in interviews, which formed the backbone of this study.

ABSTRACT

Contract management is one of the most critical, sensitive, yet very important active monitoring and control tools of a contract between a procuring and disposing entity and the contractor, to ensure delivery of a cost effective and reliable service at an agreed standard, time, price and quality level of goods and services. It is the final stage in the bidding process and marks the beginning of a contractual relationship between all those involved. Contract management, workforce competence and organisational process capability becomes vital in this process. Thus, this study aimed to establish and evaluate the determinants for effective contract management using Transnet SOC Ltd as the unit of analysis.

The target population consisted of all the employees involved in contract administration within KwaZulu-Natal Divisions of Transnet SOC Ltd. To obtain data, both probability and non-probability sampling techniques were used, using a structured questionnaire and interviews. For quantitative data, a systematic sampling method was used, whereas for the qualitative data, a purposive sampling technique was employed. The study thus used a mixed methods approach. The sample size for the quantitative analysis was 192, while the qualitative analysis made use of ten interviews held with senior staff members.

Quantitative data were captured and analysed on Statistical Package of Social Sciences (SPSS) v22.0 and Analysis of Moment Structures (AMOS) v 24.0 to yield descriptive and inferential statistics. Structural Equation Modelling was then used to provide estimates of the strength of all the hypothesised relationships. The principle of technical saturation was employed to ascertain the adequacy of the sample size for the qualitative aspect of the research. The data was analysed by means of NVivo. Thematic analysis was undertaken to create themes from the interview transcripts.

The determinants of contract management that were tested were contract administration; employee competency; information technology; risk management and supplier relations. The key findings from the study were that effective contract management was significantly and positively influenced by contract administration, employee competency and risk management. The hypothesised relationships between information technology and supplier relationship with effective contract management were not supported.

It was generally agreed that although procurement policies exist in Transnet SOC Ltd, they need to be adhered to. Red tape and copious amounts of paperwork were cited as some of the key challenges. There was also a general feeling that supplier relationships were not at their best. Although employees were believed to be competent, there appeared to be a lack of adequate support in terms of resources. However, information technology was being harnessed to aid contract management activities. Workshops were recommended for sharing risk incidences and planning for their mitigation.

Based on the study findings, it was recommended that there should be clearly laid out contract administration procedures, technology policy and staff development to ensure effective implementation of contract management procedures. Furthermore, the organisation must increase the capacity of the Risk Management Unit to be able to adequately support contract management related risk processes. It was also recommended that the organisation build strong relations with suppliers to facilitate the effective management of contracts. Lastly, a model was developed to enhance effective contract management within SOEs.

Key words: contract administration; employee competency; information technology; risk management; supplier relations.

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

ACSA	Airports Company South Africa
ALC	Alliance Contract
AMOS	Analysis of Moments of Structure
AVE	Average Variance
BBBEE	Broad-Based Black Economic Empowerment
BEC	Bid Evaluation Committee
BSC	Bid Specification Committee
CE	Compensation Events
CA	Contract Administration
CBAC	Central Bid Adjudication Committee
CFA	Confirmation Factor Analysis
CFI	Comparative Fit Index
CIDB	Construction Industry Development Board
CM	Contract Manager
CO	Contract Owner
CR	Coefficient and Composite Reliability
CSD	Central Data Base
DBAC	Divisional Bid Adjudication Committee
DBO	Design Build Operate
DF	Degrees of Freedom
DOA	Delegation of Authority
DRSC	Dispute Resolution Service Contract
ECC	Engineering Construction Contract
ECS	Engineering and Construction Subcontract

ECSS	Engineering and Construction Short Subcontract
ESD	Enterprise Supplier Development
ESKOM	Electricity Supply Commission
EWN	Early Warning Notices
FC	Framework Contract
FIDIC	Federation Internationale des Ingenieurs-Conseils
FM	Facilities Management
FREC	Faculty Research Ethics Committee
GDP	Gross Domestic Product
GCC	General Conditions Contract
HDI	Historical Disadvantaged Individual
KMO	Kaiser-Meyer-Olkin
KPI	Key Performance Indicators
KZN	KwaZulu-Natal
ICE	The Institution of Civils Engineers
ICMSP	Integrated Capital Management Solutions Programme
IWFM	Institute of Workplace and Facilities Management
JBCC	Joint Building Contract Committee
NEC	New Engineering Contract
NDP	National Development Plan
NERSA	The National Energy Regulator of South Africa
OD	Organisational Division
PAIA	Promotion of Access to Information Act
PAJA	Promotion of Access to Information Act
PCCA	Prevention and Combating of Corrupt Activities Act
PFMA	Public Finance Management Act
PO	Purchase Order

PPPFA	Preferential Procurement Policy Framework
PSC	Professional Service Short Contract
PSSC	Professional Service Short Contract
PRASA	Passenger Rail Agency of South Africa
PRSA	Ports Regulator of South Africa
SAA	South African Airways
RMSEA	Root Mean Square of Approximation
RSA	Republic Public South Africa
SAP	Software Application
SAP CLM	Software Application Contract Management
SAP MM	Software Application Materials Management
SAP PS	Software Application Project Systems
SAPS	South African Police Service
SABC	South African Broadcasting
SACQSP	South African Council for the Quantity Surveying Profession
SANRAL	South African Road Agency Limited
SANS	South African National Standards
SAPO	South African Post Office
SEM	Structural Equation Modelling
SC	Supply Contract
SCM	Supply Chain Management
SME	Small and Medium Enterprise
SPSS	Statistical Package for Social Science
SRM	Supplier Relationship Management
SRMR	Standardised Root Mean Residual
SSC	Supply Short Contract
SOC	State Owned Company Limited

SOE	State-Owned Enterprise
SWOT	Strength Weakness Opportunities and Threat
TE	Transnet Engineering
TFR	Transnet Freight Rail
TNPA	Transnet National Ports Authority
TP	Transnet Property
TPL	Transnet Pipelines
TSC	Term Service Contract
TSSC	Term Service Short Contract
UMHS	University of Michigan Health System

Chapter one

Orientation and overview of the study

1.1 Introduction

One of the areas that need attention in businesses is contract management. This is because of the large sums of money that are spent on goods and services for the general public. This area of business has thus attracted a lot of attention, not only from financiers but from researchers as well. This interest is mainly due to the perceptions that contracts are poorly managed on a global scale – whether they occur in a developed or less developed country. For example, Costa and Pimentel (2009:24) report that China has faced major challenges with regards to the management of contracts which extend far beyond what would have been prescribed as a 'reasonable time'. A similar problem was reported by Suzuki and Whorlow (2017:1) who found that Japanese contractors have failed, on several occasions, to timeously complete overseas projects, facing significant contractual obligations and challenges. One example of this was a reported disputes resolution through arbitration on an over 50billion yen mega highway contract in North Africa. This study illuminated the importance of understanding the conditions of contracts on international projects. Sah and Bhattari (2021:1) revealed significant incompetence in contract management practices in Nepal, attributed to a lack of proper qualifications, knowledge, skills and experience of the contract management team; along with poor cooperation and communication between contract team members. Furthermore, a lack of monitoring and timeous evaluation and progress review meetings, exacerbated by a delay in decision making as well as inappropriate planning and poor site management during the execution of the contract.

The African continent is also not spared of this challenge. Issaka (2014: 2) reports major contract management challenges where the Ghana is experiencing overrun of contract periods resulting in increased costs. This partly ascribed to a lack of qualified staff to manage the contracts effectively, leading to a breach of terms of the contract which often in end up in the courts – a costly process. In Kenya, Kibogo and Mwangangi (2014: 2) stated that "the Kenyan government has lost hundreds of millions of taxpayer's monies through cancelled contracts, unfinished

projects, poor service or product delivery, corruption and extended contract periods in the last eight years without major improvement." In Rwanda, late deliveries for goods and services purchased also resulted in a failure to achieve the anticipated returns for the investments that had been made. This eventually goes back to the taxpayer whose money is lost through poorly managed contracts and deals (Mbonera, 2024:1345).

The South African government has faced similar challenges to those that have already been mentioned. Kim (2015:6) concurred that these challenges can also be attributed to a combination of poor management and ethical challenges. Bender and Gibson (2010:43) conducted a case study on water concession in Nelspruit, where outsourcing was deemed to be a failure due to lack of control by the respective authorities. The conclusion was that effective monitoring and contract management is one of the most critical factors to be taken into consideration for the success of any outsourced contract.

The KwaZulu-Natal Provincial instruction no. 2 (2016/17) revealed that billions of Rands in unauthorised, irregular and wasteful expenditure resulted from a failure to properly manage contracts across the province. These were the findings of the Auditor-General, who pointed out a few weak control measures in the management of contracts. Assessments established that there was a lack of uniformity when it came to the management of state contracts.

Government institutions are also experiencing huge problems particularly in state-owned enterprises (hereinafter referred to as SOEs). Businesses that are classified as SOEs are those in which the state has a significant minority, majority or entire share within the company (Kim and Ali, 2017:1). Mashamaite and Raseala (2019:124) stated that SOEs are an essential tool in assisting the government in achieving economic growth, the delivery of services, the reduction of poverty, the creation of employment opportunities and the development of the nation's strategic sectors, such as finance, energy, transportation, telecommunications, manufacturing and natural resources. Considering that state obligations require a huge financial investment, Setino (2018:1) posited that SOEs are the most significant consumers in the economy. However, SOEs are perpetually wasting billions of rands in government funds due to inadequate contract management practices. Reports are available to the public regarding the mismanagement of funds. For example, the State Capture Commission of Enquiry was established in South Africa

in 2018 to specifically investigate issues around the exploitation of public funds. (Commission of Enquiry into State Capture, 2028:1).

Setino (2018:2) drew attention to the misuse of public finances, claiming that it has resulted in poor service delivery, leading to various protests across the country and reports of fraud, corruption, fronting and bribery. Consequently, Fourie and Malan (2020:2) proposed that to effectively address issues related to maladministration, underspending, a lack of accountability, bribery and kickbacks – all of which have had a negative influence on the quality-of-service delivery and economic development in South Africa – it is necessary to implement fundamental and capacitating measures. One of these would be to manage contracts more effectively. It is therefore vital to develop a model of best practices for effective contract management. This will allow for the elimination of the challenges that SOEs face on this crucial aspect.

Surajbali (2016: 149) recommended that the management of contracts ought to be institutionalised inside the organisational structure, as well as professionalised, with a team that is solely devoted to carrying out these activities. Contract management, according to Surajbali (2016:3), is crucial to ensuring that there is control over the contractual activities that take place between the public enterprise and the authorised supplier or service provider. This is done to promote efficiency, effectiveness, and value for money.

Muzapu *et al*. (2016:89) observed that SOEs play a crucial role in the development of the nation's infrastructure, services, and goods through their contributions. Eitjies (2017:46) advised that the responsibility of management is to ensure that within the confines of the contract, all parties meet their promises and expectations to maximise the return on investment and to improve upon what has already been agreed upon.

To improving compliance with partners, clients and suppliers, it is also advantageous to get insight into the methods as to how, why and where, contract management processes and procedures were abandoned. To achieve this objective, it is necessary to investigate the roles and responsibilities of the contract team in the management of different contracts, the competencies required for contract management, the relationships with suppliers, the impact of risk management on contract management, and the impact of information technology on contract management. This is the overarching aim of this study, which would ideally culminate in recommendations that would assist in guiding the process of contract management.

1.2 Overview of Contract Management

Contract management is an essential process which bears goals of ensuring control over contractual agreements that are made between public sector organisations and designated suppliers or service providers. Good contract management should serve to advance efficacy, create value for money, and promote efficiency (Surajbali, 2016:3). Contract management is impacted by a variety of factors, including, contract administration, employee competency (EC), information technology (IT), risk management (RM), and supplier relationship management (SRM). When it comes to the management of contracts, roles and responsibilities are quite important since they decide who is liable for what. According to Enslin (2019:26), the process of "compilation, planning, and implementation of a contract" is referred to as contract administration, which is crucial to the achievement of success in contact management. employee competence, as defined by Eliah and Athumani (2020:381), is the capability, ability, or underlying quality of an individual that is directly related to exceptional or effective performance.

The information and technology component, which is responsible for developing, putting into practice, enhancing, and continuously employing methods for contract administration, has become an essential component. Tong (2017:32) posits that contracts need to be revised to cater for the rapid rate of technological advancement. In addition, the attitudes of employees towards the use of computers have an effect their responses towards technology (Myeza 2019:37). Risk management is also a continuous process throughout the duration of a contract (Yegon,2018:50).

Lastly, when a company wants to connect with its suppliers, it employs a set of processes that are collectively referred to as supplier relationship management (SRM) (Singh, Sharma, Samuel and Verma, 2017:1). Lambert and Schwieterman (2012:337) highlight the significance of these procedures in this contemporary environment of intense competition. It is crucial for efficient contract management that the parties involved communicate well with one another, and that this communication is based on mutual respect, trust, understanding, openness, and accountability.

1.3 Background to the Study

It is common practice for organisations all over the world in general, and the public sector in particular, to outsource activities and engage in contracts with suppliers and service providers for the provision of goods and services. This is done to fulfil the requirements that have been set by the company.

Businesses that are owned by the government of the Republic of South Africa, either in their entirety or in part, are referred to as SOEs. A wide range of services are provided by these organisations, which are governed by the specific mandates of each parastatal. State-owned enterprises make essential contributions towards economic development, not only locally, but also regionally and internationally (Fourie, 2014:32). A portion of the services on offer are outsourced through procurement processes. These processes involve the selection of external suppliers and service providers on a contractual basis to perform a variety of duties, including construction, maintenance, professional services, general services, and the provision of goods. When it comes to the procurement processes of SOEs, most services are farmed out to alternative providers. To managing the relationship between the contractor and the SOE during the execution of a contract, contract management systems are utilised.

The origins of contract management and the historical context in which it was developed, are sadly not clearly recorded. Contract management, which is comparable to project management, has been gaining prominence in South Africa since 1995, when the new government established a public procurement system for the purpose of obtaining goods and services (Ambe and Badenhorst-Weiss, 2012:245). Amber and Badenhorst-Weiss state that several budgetary and financial reforms on procurement were initiated by the new South African government, focusing on two main areas, the advancement of good governance principles and the implementation of a preference system to fulfil specific socio-economic goals.

Not only is it the government's primary responsibility to fulfil the economic and social demands of the nation by providing a robust infrastructure, but it is also the government's responsibility to ensure that these institutions are well-managed and that the investments they make provide the required outcomes. According to McGregor (2014:9), the obligation of the government to SOEs is to improve social and economic conditions and to provide goods and services related to

infrastructure. This responsibility is specified in the National Development Plan as well as in other policy statements.

Managing partnerships with external organisations that supply products and services should be done using contracts that are governed by procurement processes (Mutua, Waiganjo and Oteyo, 2014:26). Unfortunately, some experts have observed that SOEs have issues with handling contracts. According to Fourie (2015:35) and Transnet (2012), during the 2011/2012 fiscal year, Transnet, Eskom and South African Airways (SAA) reported several incidences of irregular, fruitless and wasteful expenditure, and delays and escalation in construction work. Surajbali (2016:17) who was involved in the investigation, advised that it was imperative that the findings of the Auditor-General be addressed. This refers to audits that were carried out over several financial periods, all revealing inadequacies in the contract management function. These deficiencies were highlighted in the conclusions of the Auditor General, who stated that the required corrective action or measures have either not taken place or have not been successful. Aluonzi, Oluka and Nduhura (2016:1) recommended that the government should reinforce the function of internal auditing by conducting frequent meetings for the management of contracts, giving clear contract specifications and implementing stringent performance controls in addition, the need for well-trained technical staff was also noted.

Some measures were taken by enacting the Preferential Procurement Policy Framework Act (PPPFA), which was introduced and implemented in the year 2000 to regulate the procurement policy and framework of organs of state. Further measures included the establishment of protocols and systems that were put in place at SOEs for the management of contracts. Legislative framework such as the Public Finance Management Act 1 of 1999 (PFMA), which was employed for the management of government finances by the National Treasury to serve as the basis for the establishment of these systems and procedures. Yegon (2018: 632) and Oluka and Basheka (2014:119) opine that there is still more work to be done to achieve good contract management.

Patel (2017:12) noted that despite all these interventions, it seems that SOEs are still having trouble in complying with the norms and have limited capacity and expertise for contract administration. This is evidenced by the number of contracts that are still not completed on schedule; within the allocated budget; or with quality that is satisfactory. Yet, to assist the government in achieving economic growth, the delivery of services, the reduction of poverty,

the creation of employment opportunities, and the development of the nation's strategic sectors, such as finance, energy, transportation, telecommunications, manufacturing, and natural resources, SOEs are essential tools (Mashamaite and Raseala, 2019: 124).

A significant number of SOEs are regularly caught in misalignment of their statutory objectives due to poor management practices. As a result of these managerial dysfunctions, many SOEs have displayed a culture of perpetual financial bailouts, a lack of accountability and responsibility, a disdain for the law, inefficient output, and poor administration (Serongoane and Ukwandu, 2021:60). Complementary findings are also presented by Sithomola (2019: 63) where notable SOEs such as the Electricity Supply Commission (ESKOM), South African Post Office (SAPO), South African Road Agency Limited (SANRAL), South African Broadcasting Corporation (SABC), Passenger Rail Agency of South Africa (PRASA), and Petro-SA are all examples of famous SOEs where bankruptcy has been evident. However, no evidence of research has been noted with regards to the effectiveness of the systems in terms of contract management, particularly with reference to South African SOEs.

Fashina *et al*. (2021:4) and Shahsavand, Marefat and Parchamijalal (2018:497) have observed that poor management of contracts often culminates in payment to contractors being delayed. Some of these delays are caused by permissions and requests for additional work that were not included in initial specifications or works information. If contracts are not appropriately managed or when there is proof of negligence, individuals may be subject to disciplinary proceedings that may result in their suspension or termination from their jobs. Fashina *et al*. (2021:4) reported that stakeholders are notified about reports of financial mismanagement related to unnecessary and inefficient spending.

1.4 Problem Statement

The personnel in charge of managing projects and contracts in organisations and governments are accountable for deliverables, which may include, but are not limited to, the quality of the product or service, the timeliness of the project, and any cost overruns (Hanak and Vitkova, 2022: 1). A significant challenge that confronts these organisations and governments is the absence of a clear description of the tasks and obligations that are shared among contractors, customers, contract administrators, and other stakeholders (Bartsiotas, 2014:8). Even though there is a wide body of knowledge on causes of disputes and resolutions thereof, time wastage

and costs overruns, there is a dearth of studies that propose measures by which to ensure efficiency and effectiveness in contract management. This study therefore aims to address this knowledge gap by investigating key determinants that influence the effectiveness of contract management and further make recommendations on the steps to be taken to improve contract management practises in general. In the context of South Africa, SOEs are particularly part of the focus.

1.5 Focus of the Study

A study focus denotes the specific area or topic that a researcher concentrates on within their broader field of study (Bryman, 2016). It is essential to narrow down the scope of research, allowing scholars to delve deeply into issues, phenomena, or populations relevant to their field of inquiry. Contemporary literature emphasises the importance of having a well-defined study focus to enhance the clarity and significance of research findings (Khan *et al*., 2023). By establishing a clear study focus, researchers can formulate precise research questions, select appropriate methodologies, and ensure that their inquiries contribute meaningfully to existing knowledge. Consequently, a well-articulated study focus not only enhances the rigour of the research but also aids in addressing gaps within the literature, thereby advancing the field of study.

This study focuses on the examination of the significant determinants that influence the effectiveness of contract management. Furthermore, the study focuses on how these determinants specifically apply to South African state-owned enterprises, with Transnet SOC Ltd serving as a case study. In the end, the study focuses on providing insights into improving contract management practices in the context of the SOEs in general, and Transnet SOC Ltd in particular.

1.6 Relevance of the Study to South Africa

State-owned enterprises (SOEs) are wholly or partly owned by the government of the Republic of South Africa. These enterprises are significant players in South Africa as they provide sizeable contributions to the GDP, creating jobs and supplying essential services to citizens such as light and power, water, healthcare and transportation. Their mandate, as articulated in the National Development Plan and other policy statements, is to provide infrastructure services, improve

social and economic conditions (McGregor, 2014:9). The South African government has a responsibility to ensure not only that they deliver on their central mandate by providing sound infrastructure for the country's economic and social needs, but also that they are well run, and the investments yield the required results. This can be achieved by appointing service providers and suppliers to provide good and services for the development of the government's infrastructure. When the institutional quality is low, the economy is impaired.

1.7 The Knowledge Gap

There are various studies conducted both globally and in South Africa relating to contract management and a substantial amount of surveyed literature, both in theoretical and conceptual contexts, emphasizes contract administration, employee competency, information technology, risk management and supplier relations as critical determinants for effective contract management. Despite the importance of effective contract management, the number of studies that have investigated the determinants of contract management are still not enough. There is a gap with regards to the information on key aspects of the determinants. There is not much researched and tested information documented addressing these aspects with reference to South African State-Owned Enterprises, specifically. Outside South Africa, Kariuki and Paul (2019:222) conducted a study on contract management practice that comprises all the activities involved in the drafting, review, revision, and analysis of contracts, and the implementation of systems and use of software that are designed to enhance accurate tracking and keeping of records relating to satisfaction of contractual terms.

Another study by Mukaani (2018:5) in Uganda, focused specifically on service delivery, using supplier opportunism and contract management as variables to provide a new viewpoint where service delivery could be explained when buying goods and services. A further discussion was also on buyer-supplier compliance contract performance. Downer (2019: i) also conducted a study in California on developing an efficient and effective metric that can be used by contracting organisations to better manage their internal operating procedures. In South Africa, Enslin (2019:21) conducted a study on effective contract management where the focus was on effects of failed projects from poor performance, poor quality, and cost and time overruns that have a huge impact on both private and public sectors in South Africa. This study specifically focused on the New Engineering Contract (NEC).

Most of the studies have undertaken research on contract management in different sectors of the economy. The limitation of the existing studies is that none of them is focused directly and specifically on the determinants of effective contract management in South African SOEs.

This study aims to fill the gap by determining the major aspects that influence the implementation of effective contract management and then develop the best practice model that can be applied to have an effective contract management process.

1.8 Operational Variables

Johnson and Jiang (2018:528) describe operational variables as what the investigator wishes to assess. Table 1.1 presents the operational variables assessed in this study:

Table 1.1: Operational Variables

No.	Variable	Source
1.	Contract administration is the process that takes place between the organisation and the contractor from the moment the contract is granted until, among other things, the items are delivered and accepted, the work is completed, the contract is cancelled, payment is received, and disagreements are resolved.	Komakech (2019:4)
2.	Contract management refers to process that assures interested parties to a contract fully satisfy their respective tasks in a skillful and effective manner while providing value for money.	Dagba and Dagba (2019: 3)
3.	Employee competence is a set of related behaviours, including commitments, knowledge, abilities, and skills that allow an individual or organisation to function effectively and efficiently in a given task or circumstance.	Matunga, Ngugi, and Odhiambo (2021:14)
4.	Information Technology is generally understood to be the pursuit of life through means that are not life, as well as the organisation of organic matter, both material and immaterial, that is produced through the application of both physical and mental effort with the intention of achieving some kind of value.	Kibogo and Mwangangi, (2014:5)
5.	Risk Management is a methodical process that begins with the planning phase and moves through the stages of detection, analysis, response, and risk control	Hayati, Latief and Jaka (2019:2).
6.	Supply Relations is viewed as SRM defined as the discipline of strategically planning and managing all interactions with third party organisations, also known as suppliers, service providers, or contractors that provide goods or services to another organisation, with the goal of maximising the value of those interactions.	Rockson, Owusu-Anane and Sey (2017:27)

Source: Authors own compilation

1.9 The Objectives of the Study

1.9.1 The primary aim of the study

To investigate the measures that can be taken to ensure effective and efficient contract management within state-owned enterprises.

1.9.2 The specific objectives of the study are as follows:

- To establish the relationship between contract administration and contract management for a South African SOE.
- To establish how employee competency affects contract management for a South African SOE.
- To determine how information technology affects contract management for a South African SOE.
- To understand the impact of risk management on contract management for a South African SOE.
- To evaluate the effect of SOE- supplier relationship on contract management for a South African SOE.
- To recommend a contract management best practice model that can be used by the South African SOE.

1.10 Overarching Research Question

The overarching research question that guided this study was: What are the determinants for effective contract management that can be used in South African SOEs?

1.10.1. Research Questions

To answer the main research question, the following secondary research questions were formulated:

- What is the relationship between contract administration and contract management for a South African SOE?
- How does employee competency affect contract management for a South African SOE?
- How does information technology affect contract management for a South African SOE?
- What is the impact of risk management on contract management for a South African SOE?
- Which factors affect supplier relationship on contract management for a South African SOE?
- Which contract management best practice model can be recommended for a South African SOE?

1.10.2 Hypotheses

The above secondary research questions gave rise to the development of hypotheses for this study, which were later depicted in a hypothesised model and tested using Structural Equation Modelling (SEM) as explained in later chapters.

Following the advice of Jackson (2014:269), hypotheses in research can be formed from objectives and research questions designed for the study and are divided into the categories of null and alternative hypotheses. The null hypothesis typifies the converse of reality and is often the kid of hypothesis put to the test. Table 1.2 outlines the hypotheses that were formulated for this study:

Table 1.2: Hypotheses for Study

No	Null Hypothesis	No	Alternate Hypothesis
$H_{01:}$	There is no significant relationship between contract administration and effective contract management for a South African SOE.	H_1	There is a significant relationship between contract administration and effective contract management for a South African SOE.
$H_{02:}$	There is no significant relationship between employee competency and effective contract management for a South African SOE.	H_2	There is a significant relationship between employee competency and effective contract management for a South African SOE.
$H_{03:}$	There is no significant relationship between information technology and effective contract management for a South African SOE.	H_3	There is a significant relationship between information technology and effective contract management for a South African SOE.
$H_{04:}$	There is no relationship between risk management and effective contract management for a South African SOE.	H_4	There is a significant relationship between risk management and effective contract management for a South African SOE.
$H_{05:}$	There is no relationship between supplier relationship and effective contract management for a South African SOE.	H_5	There is a significant relationship between supplier relationship and effective contract management for a South African SOE.

1.11 Research Methodology

Taking advice from Bergman (2010:172) and McMillan and Schumacker (2010:39), this study used a mixed-methods approach. According to these authors, the primary advantages that are attributed to the mixed methods methodology are its flexibility; its integrative and holistic nature; its capacity to overcome the drawbacks of single methods; the ability to provide more comprehensive data sets than simple methods, and the reliability of its research findings.

To gathering information for the quantitative part of the study, a structured questionnaire was developed and distributed to and responses collected from the respondents. The target population for the quantitative section consisted of four hundred individuals who were sampled using systematic sampling. A total of 200 responses were received. However, eight responses were incomplete resulting in a final sample of 192 for the quantitative analysis.

For a more thorough comprehension and explanation of the survey results, structured and audio – recorded interviews were utilised for the qualitative stage. Ten participants were selected by means of purposive sampling.

The sampling frame for the study consisted of six (6) Transnet Organisational Divisions (ODs) in KwaZulu-Natal, with the number of employees involved in Contract Management in each division indicated in brackets.

- Transnet National Ports Authority (TNPA) – 70
- Transnet Engineering (TE) – 70
- Transnet Port Terminals (TPT) - 100
- Transnet Pipeline (TPL) – 30
- Transnet Freight Rail (TFR) – 100
- Transnet Property (TP) - 30

1.12 Limitations

Confining the study to only the Operating Divisions in KZN poses a limitation to the study. Since Transnet SOC Ltd is one of the biggest state-owned enterprises in South Africa with a presence in all the nine provinces of the country, the results of the study may not be generalisable.

1.13 Ethical Considerations

It is necessary to be mindful of a few important ethical issues. These are as follows:

1.13.1 Voluntary Participation

According to Sekaran and Bougie (2013:44) participants were allowed to exercise their rights and were not forced to participate in the study. Respondents were advised that they had an option to withdraw from the exercise at any stage, should they wish to do so.

1.13.2 Confidentiality

Sekaran and Bougie (2013:44) advise that "attempts to obtain information through deceptive means should be avoided at all costs". Confidentiality on the information gathered should be maintained (Mouton, 2001:244). Therefore, researcher ensured that issues of confidentiality were maintained all the time.

1.13.3 Anonymity

According to Mouton (2001:244), the identity of individuals should remain anonymous. The researcher therefore ensured that information provided by the respondents was treated with as such at all the times.

1.13.4 Permission to Conduct the Study

Permission to conduct this study was requested from the Chief of People Management and Learning Transnet SOC Ltd. The questionnaire and questions for interviews were screened by the Universities Ethics Committee to ensure that no was harm caused to participants.

1.13.5 Storage and Dissemination of Information

The data will be stored at the University, and only Peer reviewed Journal will be used to publish the work.

1.14 Structure of the Thesis

The way in which this thesis is structured is delineated below:

Chapter One: Orientation and Overview of the Study

This chapter has provided an orientation to the study by giving the background thereof and illuminating the problem that led to the need to conduct such a study. The reasons for choosing KwaZulu-Natal as a focus have also been articulated herein. The overarching research question accompanied by its secondary questions have been delineated with the hypotheses to be tested.

Chapter Two: Literature Review and Theoretical Framework

This chapter provides an overview of the legislative framework that governs the management of contracts in Transnet as a whole. The challenges that are faced by the organisation about contracts are also outlined here. This chapter continues with a review of scholarly work on contracts and the effective management thereof.

Chapter Three: Research Methodology

This chapter outlines the methodology used in conducting this study.

Chapter Four: Data Presentation and Analysis

This chapter presents, analyses and interprets the data obtained from the respondents.

Chapter Five: Discussion and Conclusion

This chapter concludes the study and provides recommendations to stakeholders and researchers.

1.15 Concluding Summary

The chapter provides the role of contract management and determinants of effective contract management. This chapter also provides an overview of the background, problem statement, and the aim of the study. It further provided the objectives, research questions, summary of the methodology, contribution of the study and the chapter outline. The next chapter will give an overview of the literature review and theoretical framework.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter outlines the current legislative framework, policies, management guidelines and types of contracts that are being used in Transnet regarding contract management. This also includes the tendering process as it is currently done. The legislative framework that guides contract management is very wide and has thus been given special attention further down in this chapter. The policy frameworks on contract management are broad and have developed over time, with guidelines changing from time to time (National Treasury of South Africa, 2025). For example, as far back as 2006, Transnet made the New Engineering Contract (NEC), the contract of choice (Transnet Group Committee Presentation, 2009). However, after a few years, it was discovered that this chosen form of contract did not cater for all the requirements of the organisation, when different scopes of work were being considered. This has been evidenced by a few litigations with regards to NEC related contracts. In 2023 Transnet took a decision to adopt other standard forms of Construction Industry Development Board (CIDB) contracts to cater for different works, where the NEC was not deemed to be relevant. The other three forms of contracts that were introduced were the General Conditions Contract (GCC), the Federation Internationale des Ingenieurs-Conseils (FIDIC), and the Joint Building Contracts Committee (JBCC). These are all governed by the CIDB standard forms of contracts (Construction Industry Development Board, 2025). Training on the implementation of these forms of contract is on-going.

Transnet SOC Ltd (hereinafter referred to as Transnet), is one of many South African state-owned enterprises (SOEs) that are responsible for service delivery in the country and is also expected to contribute to the country's economic growth. Other SOEs in South Africa that have similar responsibilities include Eskom which is responsible for Electricity production,

transmission and distribution; the Airports Company South Africa (ACSA) which owns and operates all the South African major airports; the South African Broadcasting Corporation (SABC) which is responsible for South Africa's public service broadcasting; the South African Post Office which is responsible for the National postal services; and PetroSA, which carries the responsibilities for national oil and gas (National Government of South Africa, 2023) .

To ensure the long-term viability and self-sufficiency of a nation, SOEs were established to provide support for the state's developmental objectives (Fourie, 2014: 33). Recent years have seen SOEs come under increasing pressure to improve their operational efficiency and the quality of the services that they make available. Protests the nation's service delivery system, claims of fraud, corruption, collusion, fronting, bribery, and improper use of public funds are all factors that contribute to exacerbating these issues (National Treasury, 2015: 15).

These organs of State, through their individual Boards of Directors, all report to the Minister of Public Enterprises, who in turn, is accountable to the South African Parliament, which represents the South African people (Mayedwa, 2018:31). Contract management strategies as well as contract management best practices will be discussed in this chapter. The chapter then concludes with a discussion on the theories that underpin the management of contracts.

Transnet SOC Ltd is tasked with seeing to the country's railway, ports and pipelines with the aim of enabling the competitiveness, growth and development of the South African economy through the delivery of reliable freight transport and handling services that meet customer demands. In addition to making significant contributions to economic growth and service delivery, Transnet SOC Ltd is also responsible for making significant contributions to the nation's strategic sectors, which include manufacturing, energy, transportation, telecommunication, and logistics.

2.2 An Overview of Transnet

Transnet oversees the most critical part of the freight logistics chain that delivers goods all over South Africa. Everyday this organisation delivers thousands of tons of goods around the country, through its pipelines and both to and from different ports across the country. The organisation is responsible for moving cargo onto ships for export and unloads goods that arrive from at harbours and airports from various national and international destinations (Transnet, n.d).

Transnet is made up of six Operating Divisions, namely, Transnet Freight Rail (TFR), Transnet Engineering (TE), Transnet National Ports Authority (TNPA), and Transnet Port Terminals (TPT), Transnet Pipelines (TPL), and Transnet Properties (TP) (Transnet Corporate Report, 2018: 7).

2.2.1 Transnet Freight Rail (formerly Spoornet)

Transnet Freight Rail comprises a system of complementary sub-systems – integrated and connected operating corridors working safely and optimally. Operating Corridors are logical units of accountability that together produce results not obtainable by the elements alone – the whole being greater than the sum of its parts. The boundaries for operating corridors are defined by a set of key operating principles. The corridors are as follows: Cape Corridor, Central Corridor, Natal Corridor, North Corridor, North-East Corridor, and the Ore line.

2.2.2 Transnet Engineering (formerly Transwerk)

This division comprises a group of product-focused businesses involved in the manufacturing, upgrading, conversion, repair and maintenance of railway rolling stock, as well as providing spares and associated transport equipment. They are also in the business of maintaining the rolling stock.

2.2.3 Transnet National Ports Authority (formerly the NPA)

The Transnet National Ports Authority or NPA is responsible for the safe, effective and efficient economic functioning of the national port system, which it manages in a landlord capacity. It provides port infrastructure and marine services at the eight commercial seaports in South Africa, namely: Richards Bay, Durban, Saldanha, Cape Town, Port Elizabeth, East London, Mossel Bay and Ngqura. It fulfils a landlord function for South Africa's port system.

2.2.4 Transnet Port Terminals (formerly SAPO)

The Transnet Port Terminals manage the port and cargo terminal operations in the nation's leading ports. This division owns and operates sixteen (16) terminal operations situated across seven South African Ports. Operations are divided into major market sectors, namely containers,

bulk, break bulk and automotive and organised into three geographical regions – Eastern Cape, Western Cape and Kwa-Zulu Natal.

2.2.5 Transnet Pipelines (formerly Petronet)

Transnet Pipelines is the fuel and gas pipeline business that pumps and manages the storage of petroleum and gas products through its network of high-pressure, long-distance pipelines. The business handles an annual average throughput of some 16 billion litres of liquid fuel and more than 450 million cubic metres of gases. The liquid products include crude oil as well as diesel, leaded and unleaded petrol and aviation turbine fuels.

2.2.6 Transnet Properties

This division is responsible for all the properties of the organisation. The division's current capabilities include leasing and lease administration, day-to-day management (operations), facilities management and property administration (billing and collections) (Transnet, n.d).

For the infrastructure investment projects that Transnet is working on, it is the role of Transnet Divisional Organisations (ODs) to carry out engineering development, investigations, project life cycle research, and execution management, including mega projects. Previously mega projects were done by Transnet Group Capital (TGC previously known as Transnet Capital Projects (TCP), but this was disbanded in 2020. Transnet, as with all the other divisions, has several processes, with specific rules and guiding information applicable to each process.

The Transnet Goods and Services Procurement Manual as well as Transnet Construction Procurement Manual are used to govern most of the contracts, including engineering, supply, service and maintenance contracts. All the tenders that are advertised by SOEs, including Transnet, indicate specific goals for the allocation of preferential points for the Broad-Based Black Economic Empowerment (B-BBEE) as depicted in Figure 2.1.

Tenders are advertised on the Transnet Tenders website, which suppliers and service providers can access from the National Treasury's eTender Publication portal and the Construction Industry Development board (CIDB) public tenders site **https://registers.cidb.org.za/PublicTenders/TenderSearch** for construction works.

Regarding quotations, Transnet will normally approach a minimum of three (3) suppliers or service providers to quote for requirements or publish the requirement on this website and the eTender Publication portal. Transnet does not have its own database of prospective suppliers. It makes use of the National Treasury's Central Supplier Database (CSD). To be eligible to participate in Transnet's procurement processes, suppliers or service providers must be registered on the CSD.

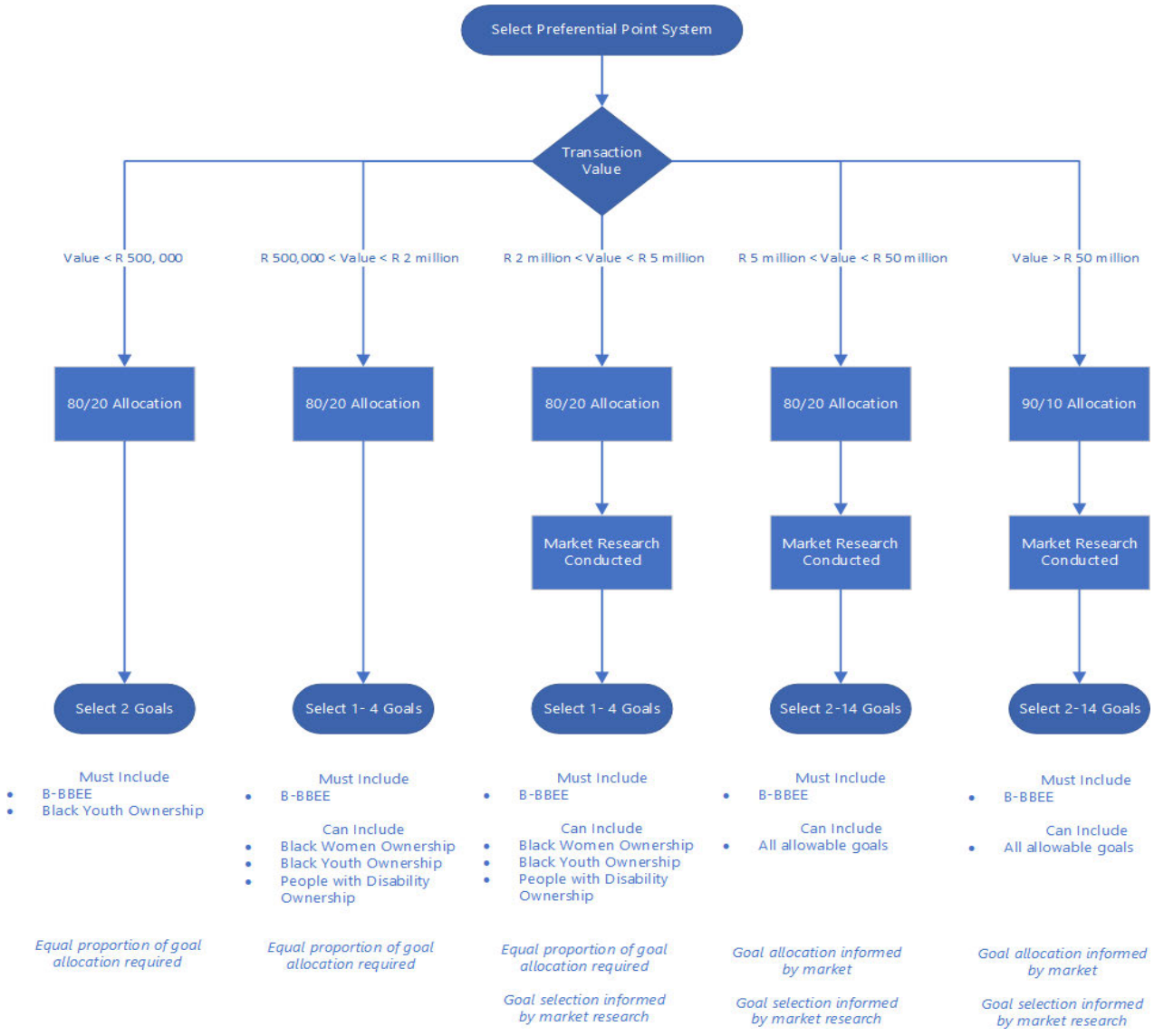


Figure 2.1: Allocation of Points for Broad-Based Black Economic Empowerment

Source: Adapted from Transnet SCM Policy- Goods and Services Manual: 2023.

The underlying principle within each process is that no supplier, service provider or contractor should receive unfair treatment. When Transnet wishes to procure goods, services or works, it does so through one of its procurement mechanisms, usually either an open tender process or quotation system. Once a tender award is made, a long-term relationship begins through the securing of contracts with various contractors and contract management becomes crucial.

2.3 Legislative Framework

To fulfil its responsibility to society, parliament is responsible for enacting laws that establish a structure within which the government, its institutions, and its employees can carry out their duties. The various statutes outline the roles and responsibilities assigned to the organs of state (Kuye *et al.,* 2002:37). According to Roux (2002:421), a policy gains administrative significance only upon its formal enactment into law.

Legislation is regarded as one of the primary foundations of law in South Africa (Du Plessis, 2011:92). The field of law known as administrative law is concerned with the laws that govern the way individuals, organisations, and government agencies carry out their responsibilities in relation to public policies. According to Wade and Bradley (1993:603), administrative law empowers agencies and organisations to effectively execute government policy (Wiechers, 1985:1), aiding the government in fulfilling its duties (Gildenhuys, 2002:94). It is a branch of public law concerned with the composition, procedures, powers, duties, rights, and liabilities of the various organs of state which are engaged in administering public policies, in other words, they have application to public procurement in South Africa (Bolton 2008:783).

South Africa, as a democratic country governed by law, embodies its democracy through a diverse body of legislation that regulates the activities of all organs of state (Surajbali, 2016:67). Therefore, it is crucial to mention that the buying of goods and services for organs of state is governed by legislation (Venter, 2013:52).

2.3.1 Constitution of the Republic of South Africa, 1996

According to Bolton (2007:33), the constitution of South Africa provides sufficient protection for the procurement practices of the organs of state. The Constitution of 1996 summarises the guiding principles of procurement, which serve as proof of the originality of the South African public sector procurement system. Section 217 of the Constitution of 1996 specifically provides

the guidelines for procurement that should be followed by organs of state are established, together with the concepts that should guide these procedures. This section further states that when an organ of state in the national, provincial or local government – or any other institution identified in national legislation on contracts for goods and services – it must do so in line with a system which is fair, equitable, transparent, competitive and cost-effective as stipulated by government. This pertains to social redress to be provided through procurement processes for the protection or advancement of persons, or categories of persons, disadvantaged by unfair discrimination, and categories of preference to be allocated during the awarding of contracts to achieve the objective of social redress. Additional measures are provided in public sector procurement environment in South Africa for the issuance of legislation that would describe the framework for executing the objectives of social redress that are outlined in Section 217 are also included in the provisions. In this regard, the laws that have been put into effect are the Preferential Procurement Policy Framework Act (5 of 2000) and the Broad-Based Black Economic Empowerment Act (53 of 2003).

The essence of Section 217 of the Constitution, 1996 is to regulate contract management activities that take place in the post-award phase ensuring that principles of fairness, transparency and cost-effectiveness are adhered to. Managers must oversee that the contractor awarded preferences for the contract executes it without outsourcing or subcontracting to other contractors who do not meet the specified preferences outlined in the contract. Unacceptable practices such as fronting will be noticed and can then be dealt with timeously as Maiketso, (2015:3) has explained. Contractors who have obtained contracts by engaging in fronting are guilty of fraud and the relevant contracts will be declared invalid and shall be terminated as soon as possible. This is a significant aspect which should be included in the contract management to ensure that the social redress objectives are achieved and to avoid unnecessary challenges, such as abuse of power and corruption during the execution of contracts. The Constitution establishes the legal framework for contract management in South Africa by guaranteeing principles such as transparency, accountability, and the rule of law (De Vos, 2016: 25). Scholars such as De Vos have explored how the Constitution influences contract management practices in the public sector, emphasising the importance of adherence to constitutional principles in procurement processes and contract execution to ensure fairness, equity, and efficiency.

2.3.2 Public Finance Management Act (1 of 1999)

The Public Finance Management Act (1 of 1999) is one of the pieces of legislation promulgated to govern the public administration. Section 195 of the Constitution, 1996, articulates the basic values and principles that should govern the public administration and provides for the promulgation of national legislation to promote the said values and principles. The values and principles that specifically apply to contract management are the promotion and maintenance of a high standard of professional ethics, accountable public administration, and promotion of efficient, economic, and effective utilisation of resources. Section 36 of the Act mandates that organs of state must have an accounting officer, with the head of the institution serving as the officer. Section 38 then assigns the head of organ of state or their delegate of the institution the constitutional obligations pertaining to procurement. It states that the head for the institution, trading entity, or constitutional institution must ensure that that the institution, trading entity, or constitutional institution has and maintains an appropriate procurement and provisioning system which is fair, equitable, transparent, competitive, and cost-effective (Republic of South Africa. PFMA, 1999: 36).

Section 38 states that the head of the institution, trading entity, or constitutional institution must settle all contractual obligations and pay all money owing, within the prescribed or agreed period, in other words, honour the conditions of the contract that were agreed upon. The accounting officer is also obligated to implement and maintain a risk management system that is effective, efficient, and transparent, as stipulated by Section 38(1) (a) (1) (Republic of South Africa. PFMA, 1999:36).

2.3.3 Treasury Regulations

Section 76 of the PFMA authorises the National Treasury to give instructions or compose regulations concerning subjects that are governed by the PFMA number one of 1999. These regulations and directives relate to a variety of topics, including the award, cancellation and modification of contracts. The Treasury Regulations under the PFMA provide detailed guidance on contract management practices, including procurement procedures, contract award criteria, and monitoring requirements (Nahem, 2019:88). Scholars have studied the Treasury Regulations' impact on contract management in the public sector, evaluating their effectiveness

in promoting transparency, competitiveness, and compliance with legislative requirements (Nombembe, 2020:45).

Treasury Regulation 16A regulates the basis for the execution of supply chain management systems. This regulation applies to organs of state, and constitutional institutions. It states that the supply chain management system must be in line with the Broad Based Black Economic Empowerment Act (53 of 2003) and the Preferential Procurement Policy Framework Act (5 of 2000). Contract management procedures must adhere to the ethical principles that are outlined in Regulation 16A to combat instances of fraud and corruption. It is the duty of the accounting officer or person with delegation of authority to monitor the behaviour of authorities and role players as well as putting an end to the exploitation of the systems. If the accounting officer discovers that the contractor, supplier, service providers, an official, or a role player has participated in dishonest or corrupt activity in connection with the specific contract, project, the accounting officer has authority to take remedial measures. Bidders or tenderers who do not follow the terms and conditions of any previous contract will be punished as well.

Treasury Regulations from 2005 outlined the processes that should be followed when dealing with payments to contractors. Regulation 8.2.3 states that all payments that are contractually obligated to be made must be made within thirty, fourteen or seven days after receiving an invoice from a contractor, depending on the agreed payments terms stipulated in the contract. However, Regulation 15.10.1.2(c) discourages payments in advance unless it is required under the terms and conditions of a contract (National Treasury, 2001:22).

2.3.4 Broad-Based Black Economic Empowerment Act (53 of 2003)

Section 217 of the Constitution of 1996 mandates the state organs to put into effect the constitutional purpose of social redress through the procurement processes through the Broad Based Black Economic Empowerment Act (53 of 2003). The mandate is that organs of state must comply with the strategy for empowering all black people of South Africa. The Broad-Based Black Economic Empowerment (B-BBEE) Act (53 of 2003) defines black people as a "generic term which means Africans, Coloureds and Indians." This includes women, workers (employees of a business enterprise), youth; people with disabilities and people living in rural areas. One of the purposes of the B-BBEE act is the establishment of a legal framework that will facilitate the movement toward the progress of black economic empowerment. Section 9(1) of

this Act grants authority to the Minister for Trade and Industry to establish codes of good practice concerning black economic empowerment, which may encompass eligibility criteria for preferences in procurement. The B-BBEE Act aims to promote economic transformation and empowerment, including within contract management processes (Qobo, 2018:72). Researchers have examined how the B-BBEE Act influences contract management practices, particularly in terms of supplier diversity, subcontracting opportunities for historically disadvantaged individuals and businesses, and the measurement of empowerment outcomes in procurement contracts (Tregenna, 2017:95). Contract management should therefore include monitoring of whether the contractor who was awarded the contract taking into consideration the preferences qualified for, is executing the contract (Huddleston, Eom and Bing (2019:74).

2.3.5 Preferential Procurement Policy Framework Act (5 of 2000)

The Preferential Procurement Policy Framework Act (PPPFA) (5 of 2000) establishes the parameters for the preferential procurement policy, outlining two preference point systems: the 80/20 and 90/10 preference points systems, where the bidder or tenderer who receives the highest total points will be awarded the contract. The PPPFA encourages preferential procurement measures to advance economic empowerment and transformation, impacting contract management practices in the public sector (Quinot, 2019:52). Scholars such as Arrowsmith (2018:78) have analysed the PPPFA's implications for contract management, including criteria for evaluating tenders (technical, financial) as well as preferences for historically disadvantaged suppliers, service providers and mechanisms for monitoring compliance with procurement objectives.

Section 2(1)(g) of this Act allows for the cancellation of a contract if it is found that the contract was awarded based on false information provided by a bidder or tenderer, without prejudice to any other remedies available to the procuring institution. Section 2(2) mandates that social redress goals must be measurable, quantifiable, and subject to monitoring for compliance. Therefore, diligent monitoring during the contract management phase is crucial to verify the accuracy and relevance of information provided in the tender documents by the contractor, as well as to ensure adherence to social redress goals and objectives. Failure to comply could lead to contract cancellation and termination due to submission of false information. Section 5(1) empowers the Minister of Finance to issue regulations aimed at achieving the objectives of the Preferential Procurement Policy Framework Act (5 of 2000) (Republic of South Africa, 2000).

2.3.6 Preferential Procurement Regulations of 2011

The Preferential Procurement Regulations provide specific guidelines for implementing preferential procurement measures, influencing contract management practices in public procurement (Shozi, 2020: 35). Quinot (2019:68) has examined how the Preferential Procurement Regulations shape contract management processes, including requirements for bid evaluation, subcontracting, and reporting on empowerment outcomes in procurement contracts. The framework deals primarily with the implementation of the 80/20 and 90/10 preference points systems and matters allied thereto. These issues pertain to the pre-award activities that precede the final awarding of a contract. They encompass planning for the procurement process, deciding on the preference points system to recognise a bidder or tenderer's B-BEEE status, evaluating bids or tenders based on predetermined functionality criteria, awarding contracts, and the process of cancelling and re-issuing bids or tenders to the market.

Regulation 19(14) specifies measures for enforcing local production and content requirements to protect locally produced goods, services, and works in specified sectors. It also addresses the administration of broad-based black economic empowerment certificates, handling of declarations, addressing abuses of the procurement system, and considerations regarding tax clearance. This aspect was previously a pre- qualification for bidder or tenderers, where bidders and tenderers who were failing to meet this requirement were disqualified at the first stage of bid or tender evaluation. The Minister of Finance revised this practice, and specific goals were introduced to measure the B-BBEE scoring. Instruction notes were circulated to all the organs of state.

While the Preferential Procurement Regulations of 2011 primarily focus on pre-award contract matters, there are provisions relevant to contract management in the post-award phase. Regulation 9 stipulates that bids in designated sectors must be advertised with specific bid conditions, ensuring that only bids meeting minimum thresholds for specified requirements are considered. The appointed contractor must adhere to local content requirements, and the organ of state is responsible for diligently monitoring the contractor's performance to ensure compliance with these thresholds. Any deviation constitutes a breach of contract, necessitating appropriate corrective action as per the regulations (Republic of South Africa, 2011).

Bidders or tenderers sometimes include conditional discounts on the rates or prices stated in their bids or tenders. Regulation 11(3) makes provision for the institutions to implement such discounts when payments are affected. In instances where discounts are offered, such must be recorded for contract management purposes and advantage should as far as is possible be taken of such discounts.

Regulation 11(9) allows for the sub-contracting of parts of a contract, even if the sub-contractor does not have an equal or higher broad-based black economic empowerment status compared to the principal contractor. However, Regulation 11(8) permits sub-contracting to an exempted micro enterprise that has the necessary capability to perform the contracted work. Contracts should clearly define the parameters and conditions governing sub-contracting to facilitate effective monitoring during contract management. Both the contractor and sub-contractor must be closely monitored, and the work performed must be accurately assessed to ensure compliance with Regulation 11(9) when sub-contracting occurs (Republic of South Africa, 2011:14).

Regulation 13 addresses remedies for cases involving fraudulent claims about B-BBEE status or failure to meet contractual obligations. According to Regulation 13(1)(b), state organs are required to act against contractors who do not fulfil their contractual conditions. Regulation 13(2)(c) allows for contract cancellation and the recovery of damages arising from less favourable arrangements due to such cancellation. However, Bolton (2008: 798), as cited in Surajbali (2016:13), suggested caution, recommending financial penalties instead of contract cancellation on

grounds of corruption to maintain cost-effectiveness. Regulation 13(2)(d) permits the restriction of contractors, their shareholders, and directors, particularly those involved in fraudulent activities. Additionally, Regulation 13(2)(e) provides for criminal prosecution as an additional remedy (Republic of South Africa, 2011).

Therefore, in accordance with Regulation 13, it is imperative to implement a robust contract management system. This system should document evidence supporting the application of remedies, assess damages to be claimed, and provide evidence should criminal prosecution be pursued. To ensure adherence to the Preferential Procurement Regulations of 2011, which cover preference allocation, subcontracting, discounts, and remedies, it is crucial to establish an

effective monitoring system for contractor performance and contract management. The organ of state is responsible for contract management because of this provision and compliance is crucial.

2.3.7 Promotion of Access to Information Act (2 of 2000)

The Promotion of Access to Information Act (2 of 2000) (PAIA) is a piece of legislation that encourages individuals to have access to information that their state or another individual possesses. Section 32(1)(a) of the Constitution of 1996 affirms that "everyone has the right of access to information held by the state." The PAIA aims to uphold this constitutional right, promoting accountability and transparency within ministries and state organs. The right to request access to a record or information places obligations on both public and private enterprises to provide access to such records or information that may be requested. The PAIA facilitates access to information relevant to contract management processes, promoting transparency and accountability (Calland, 2017:40). Duncan (2019: 55) explored how PAIA affects contract management practices by enabling stakeholders to access procurement documents, contract agreements, and performance reports; thereby enhancing oversight and public scrutiny of procurement activities.

Therefore, it is obligatory for organs of state to provide any information regarding activities related to contract management, is to the relevant contractor (as and when necessary). This is stipulated by Section 9 of the Act, which suggests that information should encompass any amendments to contracts and the rationale behind specific decisions or actions taken. If information is not provided proactively, it should be furnished promptly upon request (Republic of South Africa 2000b: Section 11). Withholding such information could adversely affect the contractor's performance and impede the timely execution and completion of the contract. The access to the necessary information should be on-going throughout the duration of a contract, with the contractor being treated in a fair and equitable manner. If this does not occur, contractors may need to resort to legal action to obtain the necessary information, which will result in them incurring unnecessary expenses.

2.3.8 Promotion of Administrative Justice Act (3 of 2000)

The Promotion of Administrative Justice Act (3 of 2000) ensures that all individuals have the right to participate in activities that are reasonable, legal, and fair in terms of the procedures involved. According to subsection 33(2), everyone whose rights have been negatively impacted by administrative action has the right to receive written reasons for that action. Everyone whose rights have been adversely affected by administrative action has the right to be given written reasons, according to subsection 33(2).

According to Section 3(1) of the Promotion of Administrative Justice Act (3 of 2000), individuals should expect that an administrative act will be procedurally fair if it has the potential to materially and adversely affect their rights or reasonable expectations. This includes the right to receive the reasons for the administrative act that applies to them (Section 5), and the opportunity to challenge the administrative act in a court of law or tribunal according to Section 6(1) of the South African Constitution (2000).

That contract management activities fall under the purview of administrative actions and that the Promotion of Administrative Justice Act (3 of 2000), gives the courts the authority to review "the lawfulness, reasonableness, procedural fairness, and the right to write down decisions." This aspect of the PAJA ensures fairness and transparency in administrative decisions, including those related to contract management (Pieterse, 2018:78). The PAJA influences contract management practices by establishing procedural requirements for contract award decisions, dispute resolution mechanisms, and remedies for aggrieved parties, thereby enhancing accountability and legal certainty in procurement processes (Quinot ,2019:91).

Devenish *et al*. (2001:500) observed that the state will be held accountable in the event of incorrect administrative behaviour. Accordingly, any actions carried out by organs of state during the contract management phase should always be fair, with reasons that can be presented or delivered upon request. Any actions should also be infallible when scrutinised by the courts. Corrupt activities are more likely to occur when behaviours that are unlawful, irrational, and procedurally unfair are employed.

2.3.9 Prevention and Combating of Corrupt Activities Act (12 of 2004)

The Prevention and Combating of Corrupt Activities Act (12 of 2004) (PCCA) was enacted with the purpose of preventing and combating corrupt actions. The goal of this Act was to establish and endorse a register to place certain restrictions on persons and enterprises convicted of corrupt activities relating to tenders and contracts, among other things. Examples of corrupt activities include taking, agreeing to receive, or offering to accept any form of reward, whether for oneself or another party, in exchange for exerting undue influence in the acquisition, evaluation, execution, or promotion of a contract. Another example is colluding to fix prices or manipulate other financial aspects associated with the contract. This Register of Tender Defaulters must be established by the Minister of Finance and be supervised by the National Treasury. Section 34 mandates that personnel from organs of state and other institutions must report any information or suspicions related to offenses involving corrupt behaviour in connection with contracts, to the South African Police Service (SAPS), as specified in Section 12.

Section 28 of the Prevention and Combating of Corrupt Activities Act (12 of 2004) empowers the courts to order that the details of any individual or organisation convicted of a crime related to corrupt activities involving contracts be entered into the Register of Tender Defaulters. There are several pieces of information that need to be approved, including the particulars of the organisation, any partners or owners, managers, directors, or any other person who was involved in the offense for which the court had issued the sentence. This recommendation will be added to the penalty that the court has decided to impose. In such a scenario, the National Treasury may decide to terminate the contract after having a conversation with the organisation that entered the contract. This decision would be made after taking into consideration a variety of pertinent criteria and factors, as well as the consequences of terminating the agreement.

An individual or organisation listed on the Register of Tender Defaulters is prohibited from participating in commercial or tendering transactions with organs of state for a period ranging from five (5) to ten (10) years. This discourages them from engaging in such transactions during this period. The National Treasury is also entitled to repayment for any losses or damages that were incurred by the individual or organisation.

The PCCA aims to prevent and prosecute corrupt activities, including those related to contract management in both the public and private sectors (Vuuren, 2017:110). Holden (2018:85) is

among those who have examined the PCCA's implications for contract management practices, including provisions for the disclosure of conflicts of interest, reporting of corrupt activities, and enforcement mechanisms to combat corruption in procurement processes.

It is therefore recommended that a component of contract management should be on the lookout for any chances of corrupt activities arising during the execution of contracts. It is essential for contract management authorities to be capable of identifying instances of corrupt activity and reporting them to the South African Police Service (SAPS). When the courts determine that details of individuals or organisations convicted of corrupt practices should be entered into the Register of Tender Defaulters, this information is forwarded to the National Treasury for endorsement. If the National Treasury decides to terminate the contract, it becomes the responsibility of contract management officials or the organ of state to accurately calculate and recover damages from the appropriate individual or organisation.

2.4 Contract Management Policy Framework

The Contract Management Framework serves as a comprehensive guide for contract management practices across South African government institutions and entities. The primary objective is to ensure compliance to principles, processes, and procedures that promote transparency, accountability, and efficiency throughout the contract lifecycle as stipulated in the constitution. This framework is aligned with other national legislations such as the Preferential Procurement Policy Framework Act (PPPFA) and the Public Finance Management Act (PFMA), the framework is used a tool to enforce compliance with legal requirements to mitigate risks and ensure equitable procurement processes within government institutions (Pillay and Maharaj, 2017:570). Section 76 of the Public Finance Management Act (1 of 1999) grants the National Treasury the authority to create rules and regulations or issue instructions to agencies and organisations on any subject relating to the Act. The provisions of Section 76(4) (c) are expressly designed to accommodate any regulations or instructions that are relevant to the supply chain management systems utilised by the organs of state.

In terms of Section 6(2) (a), the National Treasury (herein after referred to as Treasury) is empowered to create uniform norms and standards for the enforcement and promotion of transparency, as well as the efficient administration of the assets, liabilities, and revenue of

ministries and organisations. The Treasury has subsequently issued a variety of guidelines for supply chain management and contract management.

2.4.1 National Treasury Contract Management Framework

The South African National Treasury (2010) issued the Contract Management Framework to specify the general standards for the administration of contracts. These recommendations pertain to high-level organs of state that are responsible for huge contracts. The framework tackles things like accounting, recognition, measurement, and disclosure of contracts.

Furthermore, the National Treasury Contract Management Framework integrates international best practices, including standards like ISO 9001: 2015 and ISO 27001: 2013, to enhance the quality and security of contract management processes. It encourages the adoption of technology-enabled solutions for contract administration, monitoring, and reporting, thereby improving operational effectiveness and transparency (Magagula and Mhlanga, 2018:3).

The framework highlights the significance of contract management in organs of state and emphasises the necessity of effective contract management in these organisations. The responsibilities of contract managers that have been presented in this framework are:

- identification and classification of contracts
- revelation, quantification, and admission of the situation
- financial planning and budgeting for the administration of contracts
- control over the management of the administration of contracts
- resourcing the tasks of contract management
- administration of information and various documents
- monitoring of sexual relationships
- performance management and appraisal
- payment of fines, rewards, garnishments, and payments
- manage the risks involved (National Treasury, 2010:4).

These tasks are performed at one or more of the six stages of a contract life cycle. These stages are planning, the creation of the contract, collaboration during the process of drafting and negotiation, the execution or signing of the contract, administration or management, and the closing out or renewal of the contract. The framework stipulates that a register of contracts should be created and maintained by every organisation. This register should include the different categories that the contracts fall under. Policies and procedures need to be developed and implemented to ensure that each form of contract is administered in line with the appropriate guidelines. The annual financial statements should include the identification, quantification, and reporting of any contractual financial repercussions that may appear. If financial information is presented in its entirety and with complete accuracy, then the decisions that are taken regarding contracts will be of great use. Planning, budgeting and reporting are very important and distinct levels at the evaluation stage of the contracts. The need to have policies and procedures in place for all actions related to contract management is emphasised in the framework; as are relationship management, performance management, payment management, and risk management. Other aspects include the hiring, training, and paying of employees that possess the right level of expertise. A document management system, be it manual or automatic, is also an important part that is stipulated in the framework (National Treasury, 2010:10).

2.4.2 National Treasury Contract Management Guide

The National Treasury Contract Management Guide stipulates that the process of contract management involves numerous key steps including identification and classification of contracts; cycles of planning and budgeting; control over the management of the administration of contracts; tasks of contract management that are being resourced; administration of information and various documents; monitoring of performance; performance management and appraisal; payment of fines, rewards, garnishments, and payments; and risk management (National Treasury Contract Management Guide, 2010:10).

a. Identification and classification of contracts: During this stage, the focus is on identifying and classifying all contracts within the organisation. This involves compiling a comprehensive inventory of contracts that the organisation has concluded whether they are with suppliers, service providers, distributors, or other entities involved.

Identification: The identification process involves locating and documenting all contracts, regardless of their size or significance. This may involve reviewing existing contract databases, procurement records, and communication with relevant stakeholders to ensure that no contracts are overlooked.

Classification: Once contracts are identified, they are categorised or classified based on various factors such as:

- **Nature**: This includes whether the contract is for goods, services, or both.
- **Type**: Contracts can vary in type, such as procurement contracts, service level agreements, lease agreements, or partnership agreements.
- **Value**: Contracts may be classified based on their monetary value or financial significance to the organisation.
- **Duration**: Contracts may be categorised according to their duration, i.e. the contract period, such as short-term, medium-term, or long-term.
- **Complexity**: Contracts may vary in simplicity or complexity based on different factors such as the number of parties involved, scope of work, works information, description of goods, legal intricacies, or technical requirements.
- **Strategic relevance**: Contracts may be classified based on their strategic importance to the organisation's overall objectives and goals.

By classifying contracts according to these criteria, organisations can better understand the diverse range of contracts and prioritise them accordingly. This classification also helps the organisation to determine the level of management attention required, oversight, and resources required for each contract. For example, high-value, long-term contracts with strategic suppliers may require closer monitoring and more extensive management processes compared to smaller, routine or repetitive or short-term contracts.

Overall, the identification and classification of contracts lays the foundation for effective contract management by providing clarity on the scope and nature of contractual obligations and commitments within the organisation. This information serves as a basis for successive contract management activities, such as planning, monitoring, and risk management.

b. **Cycle of planning and budgeting**: This refers to the process of planning and budgeting for the contracts, including setting of objectives, determining resource allocations, and establishing timelines.

d. **Control over the management of the administration of contracts**: This involves establishing mechanisms and procedures to maintain control over the administration of contracts, ensuring compliance with terms and conditions, and managing any changes or deviations.

e. **The tasks of contract management that are being resourced:** This step involves identifying the specific tasks related to contract management and ensuring that adequate resources are allocated to perform these tasks effectively and efficiently.

f. **Administration of information and various documents:** This involves managing and organising all relevant information and documents associated with the contracts, including the contracts themselves, correspondence, reports, and other related resources.

g. **Monitoring of performance:** This involves monitoring the performance of both parties involved in the contracts, ensuring that contractual obligations are met, and addressing any issues or discrepancies that may arise during the execution of the contract.

h. **Performance management and appraisal:** This step involves evaluating the performance of the contracts and the parties involved, providing feedback, and making necessary adjustments to improve performance where necessary.

i. **Payment of fines, rewards, garnishments, and payments:** This refers to managing the financial aspects of the contracts, including the payment of fines, rewards, garnishments, and other payments as specified and stipulated in the contracts.

j. **Risk management:** This involves identifying, assessing, and mitigating risks associated with the management of contracts, including financial, operational, legal, and reputational risks.

k. **Policies and Procedures to Follow:** Establishing and adhering to clear policies and procedures is crucial for effective contract management within the organisation. This step

involves defining a set of guidelines, rules, regulations and protocols that govern the entire contract management process. These policies and procedures may include:

- **A Contract Governance Framework**: Defining the main framework for contract governance, including roles, responsibilities, and decision-making processes.
- **Contractual Compliance:** Outlining requirements for ensuring compliance with contractual terms and conditions, laws, regulations, and organisational policies and procedures.
- **Contractual Standards and Templates:** Developing standardised contract templates, formats, terms and conditions to streamline the contracting process and ensure consistency and clarity in contractual agreements.
- **Contract Review and Approval Processes:** Establishing procedures for reviewing, approving, and executing contracts, including designated authorities for contract approval at different levels within the organisation.
- **Contract Performance Monitoring**: Describing methodologies and metrics for monitoring contract performance, including Key Performance Indicators (KPIs), milestones, and reporting mechanisms.
- **Change Management Procedures:** Implementing protocols for managing changes to contracts, including procedures for initiating, assessing, approving, and implementing contract variations, amendments or modifications.
- **Dispute Resolution Mechanisms:** Defining processes for resolving disputes or conflicts that may arise during contract execution, including escalation procedures and alternative dispute resolution (ADR) mechanisms.
- **Contract Documentation and Record Keeping:** Establishing requirements for maintaining accurate and comprehensive records of all contract-related activities, communications, and transactions.

  By implementing clear policies and procedures, organisations can ensure consistency, transparency, and accountability in their contract management practices. These guidelines provide a framework for standardising processes, mitigating risks, and promoting efficiency and effectiveness in managing contracts. They serve as a reference point, providing guidelines for employees involved in contract management, guiding their actions and decision making throughout the contract lifecycle.

These steps collectively form a comprehensive approach to managing contracts effectively, ensuring that they are executed efficiently and in accordance with the organisation's objectives and requirements.

2.4.3 Government Procurement: General Conditions of Contract

The Treasury has mandated organs of state to incorporate the Government Procurement: General Conditions of Contract into the standard bidding documents that they employ to solicit bids. The intention of these conditions is to ensure that all parties involved in government contracts are aware of their rights and obligations. It is possible that conditions of contract will be necessary for some procedures including bidding or tendering. If this is the case, then they will serve as a supplement to the Government Procurement: General Conditions of Contract and supersede it if there are any inconsistencies.

Therefore, the following clauses should be incorporated into the actions that are associated with contract management whenever it is desirable to do so. The Government Procurement: General Conditions of Contract document stipulates:

- maintenance of conformity for the goods and services according to the specifications and requirements that are outlined in the bid documents.
- the utilisation, possession, disclosure, and investigation of the data and records pertaining to the contract.
- the submission, administration, and release of performance securities that are related to the tasks that the contractor is responsible for under the applicable contract; inspection, testing, and evaluation of goods and services, as well as the acceptance of financial responsibility for the costs connected with these activities and the rejection of products and services that do not conform to the standards.
- conformity with the recommendations for the packing of products for storage and transportation.
- observance of the documentation requirements that must be met to deliver the commodities.
- insurance that protects against any loss or damage that may occur.
- the manufacturing, purchasing, transporting, and storing of the products that were obtained in line with the contract.

- the provision of and payment for auxiliary services that are required for the full execution of the contract; conformance to the requirements for the availability or supply of replacement components that are manufactured or provided by the contractor; providing a commitment to, maintaining, and taking corrective action about the warranty on the given items.
- method of payment and the requirements that must be met; words used in relation to the cost; the clauses that correspond to the revision of contracts, the delegation of obligations, and the subcontracting of work.
- using outside contractors and deciding whether to apply penalties are examples of tactics that can be used to resolve delays in contractor performance; to terminate the agreement in whole or in part if the contractor fails to fulfil their obligations and the implementation of trade restrictions with the public sector.
- control over the impact that anti-dumping and countervailing charges and rights have on payments.
- the implementation of the agreement in the event of a force majeure occurrence and the impact on payments to be made.
- the insolvency of the contractor leading to the termination of the contract.
- the resolution of problems, which may include mediation prior to engaging in legal proceedings.
- the limitations attached to liability.
- implementation of the law that takes precedence over the contract; about the process of delivering alerts and identifying the appropriate time for their execution and the taxes and duties that are associated with them.

These clauses are not comprehensive, and if they are deemed necessary, they must be supplemented with one-of-a-kind contract conditions that are relevant to or applicable to the agreement that is being made.

In the instruction note of the Treasury, it is acknowledged that there are certain situations in which an organ of state would be required to modify or add to the conditions of the initial contract. Where there was a lack of thresholds that had been established in the past for these extensions or alterations, the supply chain management system was often used in a manner that was extremely inappropriate. A threshold was then created by treasury using an instruction note

to prohibit any further misuse of the supply chain management system using contract extensions, amendments or revisions.

Complementing the National Treasury Contract Management Framework and the Government Procurement are the General Conditions of Contract (GCC), which serve as a standardised template for contractual agreements within the South African public sector. Issued by the National Treasury, the GCC provides a structured set of terms and conditions governing contract formation, performance management, payment terms, and dispute resolution mechanisms ((GCC,2015). By adhering to the GCC, government entities ensure transparency and fairness in procurement processes, from tendering and evaluation to contract administration and monitoring. The GCC emphasises risk management and mitigation strategies to address potential issues such as delays, defects, and non-compliance.

It has been directed that the organ of state should not increase or change the initial values of contracts by more than twenty (20) per cent, or twenty million rand, for goods, works, and or services associated to construction, and by fifteen (15) per cent, or fifteen million rand, for goods, works, and or services that are disconnected from construction. It is imperative that the thresholds' lowest monetary values be utilised in each circumstance. It is possible to make exceptions to these limits; However, to do so, it is necessary to obtain prior written consent from the Treasury in the case of national departments and from the provincial treasuries in the case of provincial departments. To reduce the number of times that revisions are required and to ensure that contractors fulfil their duties, contracts must be managed in an appropriate manner.

To ensure that relevant authorisations are received and that contract extensions and revisions or amendments are avoided or kept to a minimum, organisations are required to manage the contracts in such a close manner. Contingencies should be provided, where there are instances in which contracts can be expanded or modified above their initial contract value. However, it is recommended that these modifications should always be below the level that has been established by the Treasury and that prior consent is required. One further critical component of the activities involved in contract management is the monitoring of additional contract revisions and expansions. In summary, the National Treasury Contract Management Framework and the Government Procurement General Conditions of Contract work in tandem to establish standardised practices, enhance compliance, and promote accountability in contract management across the South African public sector.

After 1994, the South African Government sought to transform businesses to allow participation and development of small and medium contractors, but this was not properly regulated. There was then a move to regulate this intervention through the CIDB regulations which were specifically designed to regulate buying of goods and services.

2.5 CIDB Standard Forms of Contract

According to Ntuli and Allopi (2013:90) the CIDB was established in 2000 as a statutory body to provide leadership to stakeholders and to stimulate sustainable growth, reform and improvement of the construction sector for effective delivery and the industry's enhanced role in the country's economy. Accordingly, the CIDB (hereinafter referred to as the Board) regulations were implemented after 2003 and are continuously improving the sector's growth.

A generic procurement process, used by the organs of state for construction and engineering projects as well as other goods and services, has been identified. This requires all the organs of state in South Africa to comply with the requirements of the Standard for Uniformity in Construction Procurement (Baird, 2011:3). The process is adapted from South African National Standards (SANS 294:2004), which is line with the procurement processes that are currently used by Transnet. As mentioned above, one of the pieces of legislation that has been introduced is the CIDB, which sought to standardize procurement routes for all state entities. This piece of legislation provides for only four forms of contracts to be used by organs of state.

When it comes to the acquisition of goods and services, the South African government has enacted a regulation that serves to establish uniformity in the procedures that all state institutions are required to adhere to. Several state-owned enterprises have exhibited hostility toward the CIDB, even though the primary objective of the Act was to reduce the challenges that are involved with the procurement of goods and services across the country.

There are still a few customers of CIDB who are now experiencing difficulties in linking their accounts to the contracts that they have chosen within the organs of state. Transnet is one of them. According to Besaiso (2012:25), one of the most essential strategies to improve the performance of contracts is to make use of standard contract forms.

This is because, as Oliveira (n.d.:261) notes, the Board clearly defines powers and objectives such as those that establish as well as promote uniform and ethical standards which regulate the

actions of those engaged in construction contracts and improve delivery management. Standard forms will not only make it easier to recognise and manage contractual hazards, but they will also make it clearer how these risks should be distributed and handled.

According to Zakaria, Ismail, and Yusof (2013:37), a typical contract is one that not only outlines the rights, obligations, and roles and responsibilities of the parties involved, but also specifies the parameters of the authority and responsibility and responsibilities of the contract administrators. Watermeyer (2014:9) defines a standard form of contract as a contract between two parties that is published with fixed terms and conditions that are deemed to be agreed upon and are not subject to further negotiation or amendment by an authoritative industry body. Even though most common forms of contract are written in English, it is difficult for small businesses to read and comprehend these forms of contract.

2.5.1 Standard Forms of Contract used by Organs of State

There is an established procedure for all organs of state to follow when it comes to the procurement of products and services for projects that need engineering and construction, the provision of goods, and the acquisition of professional services, including consultation appointments. When it comes to the construction industry, job procurement encompasses all the complex duties that need to be finished. These jobs include design, production, testing, supply, delivery, installation, commissioning, and maintenance.

According to van der Berg (2015:ii), the organ of state, also referred to as the Employer, is tasked with the responsibility of enforcing regulations to guarantee that contracts continue to maintain a certain level of protection. The CIDB is the entity that is responsible for handling this enforcement. Each organisation or nation takes great effort in selecting the contract forms that they will use; hence, it is essential to ensure that all parties are aware of the requirements and expectations that are associated with the contract (Suzuki and Whorlow, 2017:6). According to Dulu (2019:21), standard forms of contracts make it abundantly obvious in plain English that the contractor is obligated to carry out the numerous activities that are stated in the contract agreement.

In the end, the CIDB as an entity, is responsible for improving the delivery of South Africa's infrastructure, which serves as the foundation for the socioeconomic development of the country

as well as the transformation of the industry (Civilution, 2016:4). Even while it works closely with the Treasury and other relevant parties, the CIDB is ultimately accountable for this matter. According to Khan (2019:25), the terms and conditions that are typically included in standard contract forms are frequently non-negotiable and not difficult to comprehend.

2.5.2 CIDB Contracts

The four standard contract types that are currently being reviewed by the legislature are the only ones that the organs of state are permitted to deal with as these are ideal for a wide variety of engineering and construction projects as well as supply and delivery of goods and services. These contract types are the Federation Internationale des Ingenieurs-Conseils (FIDIC), the General Conditions Contract (GCC), and the New Engineering Contract (NEC) and the Joint Building Contracts Committee (JBCC). Awosina (2017:38) stated that different sorts of contracts are associated with a variety of different methods and procedures. Therefore, the selection of the correct contract type can contribute to the reduction of risks associated with the project, as well as the risks associated with the contract itself, the obligations and liabilities of the contractual parties, and certain procedures for the administration of contracts.

The SACQSP (2016:33) drew attention to the various variables that need to be taken into consideration when selecting the form of contract. These elements include, but are not limited to, the complexity of the design, risk management, and the ability or desirability of customers to handle various administrative procedures. The complexity of the works, the management skills and expectations of both parties (the Contractor and the Employer or Client), the compatibility of contract administrative procedures, the requirements relating to risk, time, and cost management, and the ability of skills resources are among the various factors that need to be taken into consideration when selecting the appropriate form of contract.

Contract forms should integrate administrative procedures that enable proactive management of the delivery process, as well as the appropriate allocation of contractual risks, duties, responsibilities, and obligations of the contract team, as stated by Maritz (n.d.:3). To emphasise this idea is of utmost significance. According to Bam Reports (2017:1), it is recommended that a standard form of contract be adopted so that the contract team has a better focus on the project, rather than the terms and conditions of the contract. This will allow the contract or project team to manage risks more effectively, while also ensuring that all important components are covered.

It is critical to understand the significance of standard forms of contract in directing the complexities of modern business transactions (Jones and Smith, 2019:15). Fateh and Mohammad (2021:164) noted that picking an unsuitable standard form of contract may result in an increase in the number of conflicts and litigations that may develop. This is since the project's time, money, and quality objectives may not be properly completed. When it comes to making purchases of goods and services, it is essential to take the time to select the appropriate contract when completing the transaction.

Furthermore, Fateh and Mohammad (2021:165) stated that the standard form of contract achieved certain objectives like establishing the administrative procedures that are required to effect the legal and commercial relationship between the parties, the contractor, and the employer; making it easier for all project participants to engage in contractual activities with one another; offering a tool for regulating the conduct of the commercial relationship; and establishing the influence of powers and of the contract administrators in line with the parties' agreement.

Organs of state are permitted to construct one-of-a-kind contract provisions and attach them to agreements that already exist. This is the case if the contracts contain any terms, conditions, or clauses that are not covered in the real contracts. Setino (2018:104) asserted that the Treasury and the CIDB have provided state-owned organisations with the authority to select contracts that are appropriate for the surroundings and environment in which they operate and the projects that they are working on.

Khan (2019:18) pointed out that depending on the kind of goods and services that are being procured, the parties may be required to sign a variety of different conventional types of contracts. Furthermore, according to Du Plessis (2019:130), the primary advantage of utilising a standard contract form is that it enables a more equitable distribution of risk among the parties involved; it also speeds up the process of negotiation and makes it easier to compare various tenders. However, a potential disadvantage may be that standard forms are difficult to design, complicated, and initially lacking in clarity, which is the reason why many public organisations are still having difficulty putting them into practice. It is important to discuss the four different contract types.

2.5.2.1 New Engineering Contract (NEC)

The Institution of Civil Engineers (ICE) in the United Kingdom commissioned the construction of a new form of contract known as the New Engineering Contract (NEC), which was created in collaboration with Dr. Martin Barnes (CBE), the person who is credited with being the primary creator of the NEC (Dickson, 2013: 9). Users are provided with tools to identify their abilities and apply them to the environment in which they are working (Baird, 2006:2). The NEC is a tool for international procurement, which allows for the acquisition of products and services through international channels. This strategy's primary objective was to reduce complexity and make things more understandable; to do away with the legalese that frequently characterised traditional contracts; to have the capacity to use the contract in a number of different countries and to permit a variety of contract procedures for a variety of engineering and construction professions (referred to as flexibility of usage), and also to be a catalyst for efficient project management. The agreement was designed to assist and direct project management to achieve the desired results.

The New Engineering Contract (NEC) contract was first published in 1993, and since then, it has been written in four (4) different editions as follows:

- 1st Edition: 1993.
- 2nd Edition: 1995 Engineering construction contract (ECC).
- 3rd Edition: 2005 (3rd Edition re-issued after small amendments in 2006, 2007, 2008, and 2009), in 2013 was there another amendment in NEC3 to keep up with the industry's evolution.
- 4th Edition: 2017 which is now being implemented

The NEC is the contract of choice for Transnet and is used for all capital projects across the whole organisations but has modified it from its own form of contract, the E5.

When it comes to the suite of contracts, each individual contract has the potential to be utilised for either a short-term or long-term service, the delivery of goods, or consulting services. These services may include engineering works, construction, maintenance, or the supply of commodities. December 2009 was the month that the members of the NEC panel put together the NEC3 Procurement and Contract Strategies guide. According to Besaiso (2012:50), the core clauses of the NEC conditions of contract are valid for the six ECC alternatives and cannot be changed, modified, amended, altered, or removed. This is because they are essential to the

contract. It is possible for the main clauses, options clauses, and secondary options clauses to change depending on the procurement strategy that is preferred. The utilisation of the New Engineering Contract 3 (NEC3) by Transnet was sanctioned following approval from the Institution of Civil Engineers (ICE). These agreements provide support for the utilisation of clearly defined legal relationships as well as methods for project management that are both effective and successful. According to Jenkinson (2013:7), this is sufficient for both the acquisition of additional initiatives as well as big framework projects.

One of the most basic elements of NEC3 is referred to as Compensation Events (CE), and it is defined as occurrences that influence the cost of labour. These costs are connected to missed deadlines or delays as well as additional scope of work, both of which need the project to make use of more resources, this requires the original contract to be amended due to additional costs or extension of time, depending on the nature of the occurrence. It is also possible that the events will become more severe because of unforeseen costs and other factors that may affect the project. Because of this, the expenses, the timelines, and the resources that are required to complete the project will be subject to change (Jenkinson, 2013: 30).

Dickson (2013:22) does not recommend adopting the statement that CE has the potential to result in confusion regarding roles and responsibilities. For instance, clients or employers might make it possible for contractors to exercise a greater degree of control over the innovation and performance of the project. It is possible that this will provide contractors with additional opportunities to showcase their skills; yet it may also leave clients or employers uncertain about their roles, duties, and control over the project. Kutosi, Eya and Moses (2015:5) suggested that individuals who are involved in the process of contracting, contract administration and management should have clear protocols outlined. Furthermore, according to Brooks, Spillane, Tansey, and Hendron (2016:29), NEC contracts are not only more complicated and time-consuming to administer than other types of contracts, but they are also inflexible and unforgiving to consultants.

The requirements of the NEC are that contractors are obligated to provide the NEC with notification of any incidents that have the potential to increase the costs of the project, cause delays in the completion of the project, or prevent the project from meeting its milestone agreements. To reduce or prevent the threats that are stated in early warning alerts, there is a possibility of

receiving reimbursement for activities taken. Parties, on the other hand, frequently confuse CEs with Early Warning Notices (EWN).

The NEC team received feedback and requests for more features and contract solutions after a few decades of use. These requests were made to enable the industry to cater for continuous improvement. The NEC4 was then presented with all the requested modifications and outcomes to assist the industry and offer solutions to any problems. The NEC4 provides three new versions of contracts, which were not covered by the NEC3, namely: the Dispute Resolution Service Contract (DRSC), the Design Build Operate (DBO), and the Alliance Contract (ALC). These contracts are in addition to what the NEC3 had offered. Therefore, the NEC4 contract suite provides a wider range of flexible contracts for the acquisition of works, services, and supplies. However, most organs of state continue to use the NEC3 in their contracts.

The fundamental objective of this initiative is to promote effective management of the connection that exists between the parties to a contract, as well as the work that is included in the contract. It is to develop a method for delivering contract outcomes that are not only universal but also capable of being utilised on a global scale. Additionally, the NEC4 simplifies administrative actions that are carried out between all the concerned parties. The fact that it is not bound by any technical standard or local regulation makes it universal and enables it to be utilised on a global scale. Picking the appropriate contract gives the employer the ability to decide for themselves how or what will serve as the foundation and basis of payment, as well as how risk will be spread and allocated among the many parties involved (NEC3,: n.d.)

The NEC is universal because it does not pertain to a particular project and is not subject to any local laws or technical requirements. It also simplifies administrative procedures that are carried out by all parties involved. Employers who fall under the purview of the NEC, such as the SOEs, have the liberty to choose a suitable contract from the NEC family of contracts which will serve as the foundation of payment and how risk will be distributed within the parties involved.

According to Du Plessis (2017:98), the NEC was developed with the intention of facilitating and encouraging the effective administration of projects and contracts, which, according to Mudaly (2017:7) was presenting challenges for Transnet. To expedite the completion of its rail projects and satisfy quality requirements, the organisation documented a considerable number of compensation events in its 2018 project report, which were collected from the Primavera system

(Rambau 2018:12). This was done to ensure that the organisation successfully met its quality standards. The NEC has many secondary options that are used to choose the correct pricing method and allocate the contractual risks for both parties involved in a contractual obligation. Listed below are the primary pricing mechanisms that are suggested by the NEC. The pricing methods that are available for organisations to select from during the tender stage of the primary NEC4 contracts follow:

a) Main Option Clauses

The path that the contract will select in terms of costing is determined through the usage of the major option clause. Each of the available choices prescribes the way the contractor will be compensated, whether it be for the activities, the services that are provided, or the goods that are delivered.

- **Option A: Priced Contract with Activity Schedule**

This contract is a lump sum contract which means quantities are not re-measurable; with all components of the works or services costed. It is only used in the ECC, ECS, TSC, and PSC when the scope of work or works information at tender stage is well known and most of the financial risks are carried the contractor or consultant. The employer pays the contractor for each activity only when it is completed or delivered. Choosing this alternative is useful in situations when the information regarding the work or the scope of the work is not clearly defined, and where the pricing of the supplier or service provider are determined by the activities that are given by the employer.

- **Option B: Priced Contract with Bill of Quantities**

This option is applied in the ECC and ECSC when the works information or scope of work is well stated, and the employer is aware of exactly what is being purchased, and each item is quantifiable upon completion of each activity for the payment of actual amounts.

- **Option C: Target Contract with Activity schedule**

This is a contract that is reimbursable, with the risk carried by the employer. The target price is determined by a lump sum and is utilised in the ECC, ECS, TSC, and PSC. With this option, the employer can design the project in their own way.

- **Option D: Target Contract with Bill of Quantities**

In this scenario, the contractor is the one who is responsible for bearing the risk, and the target price is established by multiplying the bills of quantities by the quantity of work that has been completed by the contractor. If the total price is lower than the amount of work that has been completed up to that point, the contractor will be entitled to his portion of the savings, which will be applied in the ECC and ECS.

- **Option E: Cost-reimbursable Contract**

This is applicable in a contract in which the scope of work or the information regarding the works is not clearly stated from the outset, and in which the degree of the possible damage to pieces of equipment is unknown. There are applications for this in the ECC, ECS, TSC, and PSC. Prior to the awarding of the contract, the contractor is responsible for bearing the expense of the markup that was agreed upon. The markup is paid for by the employer in addition to the cost.

- **Option F: Management Contract**

If the employer has resources but is lacking in knowledge, abilities and competence in the specific industry, this option is applied in the ECC. There is a markup and cost that is withheld by the contractor. When it comes to successfully managing complex and demanding contracts, the employer only hires contractors with extensive experience.

Allocation of contractual risk can be done by selecting the correct secondary options that are relevant to the works as well as goods and services procured.

b) Secondary Option Clauses

- **Engineering and Construction Contract (ECC)**

It is possible for the contractor to complete projects on time, within budget, and to the highest standards when using this type of contract, which has been established and is utilised for significant infrastructure projects including highway construction. When it comes to the employment of a contractor for engineering and construction activities, as well as any level of design responsibility, the NEC4 Engineering and Construction Contract (ECC) is the document that should be utilised. In addition to providing additional flexibility, improved clarity, and higher ease of use, it also contributes to the delivery of real value in the process of acquiring works.

- **Engineering and Construction Subcontract (ECS)**

If a contractor has been nominated in line with the NEC4 Engineering and Construction choices, the Engineering and Construction Subcontract (ECS) is utilised to choose a subcontractor. As is the case with all NEC4 Contracts, the NEC4 Engineering and Construction Subcontract makes use of language that is professionally written and easy to understand to encourage fair dealing and increased certainty. The NEC Engineering and Construction Short Contract (ECSC) is utilised for projects that are not as complicated. It is accompanied by 'how-to' instructions, guidance notes, and flow charts that are designed to assist users in getting the most out of the contract.

- **Engineering and Construction Short Subcontract (ECSS)**

Both the NEC4 ECC and the NEC4 ECSC have the potential to be subcontracted to the ECSS.

- **Term Service Contract (TSC)**

The NEC4 suite of contracts allows for the simplification of operations, the reduction of the likelihood of encountering obstacles, and the encouragement of the most effective methods for

service acquisition. To administer and supply a service for a predetermined amount of time, the NEC4 Term Service Contract (TSC) is utilised for the appointment of a contractor for a particular period.

- **Term Service Short Contract (TSSC)**

The NEC4 also offers the Term Service Short Contract (TSSC), which is a contract, together with guide notes and flow charts that are designed to aid users in improving the setup and administration of the TSC. This contract is particularly useful for projects that are less complicated. This type of contract is utilised for the provision of fundamental services that do not call for intricate management.

- **Professional Service Contract (PSC)**

New Engineering Contract4 contracts are utilised for a variety of purposes, including the appointment of contractors for projects that are not related to construction, the simplification of processes, the reduction of the likelihood of issues, and the promotion of best practices in the acquisition of services. To appointing contractors to perform professional services, the NEC4 Professional Service Contract (PSC) is taken into consideration. The appointment of project managers, supervisors, designers, consultants, and other contractors who are working under NEC contracts is another application for this tool.

- **Professional Service Short Contract (PSSC)**

As an alternative to the full contract, the NEC4 Professional Service Short Contract (PSSC) is utilised for projects that involve a lower level of risk and do not require such extensive management methods.

- **Supply Contract (SC)**

The NEC4 Supply Contract (SC) is used to acquire and supply high-value items and related services, such as transformers, turbine rotors, rolling stock, loading bridges, transmission plant, cable, and process plant, as well as related services like design. These things and services are bought and supplied both domestically and worldwide.

- **Supply Short Contract (SSC)**

The Supply Short Contract (SSC), which is designed for use with contracts that do not require complicated management procedures, is designed for use with commodities that are easy to describe. It is recommended that the SSC be utilised for the procurement of goods on a batch order basis or for both domestic and international purchases of goods.

- **Framework Contract (FC)**

In the process of acquiring products and services, the NEC4 Suite of Contracts contributes to the streamlining of procedures, the reduction of the likelihood of encountering difficulties, and the promotion of best practices. The NEC4 Framework Contract (FC) is utilised for the purpose of appointing one or more contractors to carry out construction works or to provide design or advisory services on an 'as instructed' basis throughout the course of a predetermined period.

- **Dispute Resolution Service Contract (DRSC)**

The NEC3 Adjudicator's Contract will be replaced by the newly established Dispute Resolution Service Contract (DRSC). An improved provision for dispute resolution procedures is presented in NEC4. This provision includes additional processes that are designed to assist parties involved on a contractual basis in avoiding the time and expenses associated with formal disputes that may arise during the execution of the contract.

- **Design Build Operate (DBO)**

Since the introduction of the new NEC4 Design Build Operate contract (DBO), clients are purchasing an increasing number of contracts that extend into the operational phase. This is because the DBO combines the responsibilities for design, construction, operation, and maintenance into a single contract that can be obtained from a single contractor. Following this this, the DBO contract can incorporate a wide range of services during the construction process, and their respective works are finished.

- **Alliance Contract (ALC)**

In the context of procurement, allying is an attractive path for many clients, particularly when a highly complex project with a growing scope is being considered. The utilisation of this contract may result in a significantly more profound collaboration between all the project partners, which would be bonded by shared interests and reduce the possibility of a disagreement occurring. The fact that this contract is a multi-party agreement with an integrated risk and reward model sets it apart from the other contracts in the NEC4 suite. It adheres to the same fundamental principles as the other NEC4 contracts, including well-known provisions, management methods, and language.

The NEC4 Alliance Contract (ALC) is the next phase of NEC cooperation; it establishes a true alliance arrangement wherein the client and all-important supply chain participants, referred to as partners in the ALC, are engaged under a single contract; each alliance member has an equal voice and is responsible for the alliance's overall performance rather than just their own individual performance.

- **NEC4: Facilities Management Contract**

The new suite of NEC4 Facilities Management Contracts has been released in its final form by the Institute of Workplace and Facilities Management (IWFM), which is responsible for managing its facilities. To accommodate a variety of approaches, the new suite of FM contracts has been designed. These approaches include total FM or integrated services FM contracts, managing contractor FM contracts, and single and / or multiple supplier FM contracts. The FM Contract is a brand-new contract that has been included in the NEC family suites of contracts, which are the most popular procurement contract suites for enterprises in the construction industry. It will be necessary to discuss the other three CIDB standard forms of contract, as mentioned above. The discussion that follows will cover the contracts that were recently approved by Transnet, to be used as additional contracts to address the challenges that were not covered by NEC, as the organisation’s contract of choice.

2.5.2.2 Federation Internationale des Ingenieurs-Conseils (FIDIC)

The FIDIC was created with the intention of promoting reasonable contract systems and avoiding unreasonable contracts known to have been practiced during the colonial period. The first FIDIC Conditions of Contract for Works of Civil Engineering were published in 1957 (Rameezdeen and Rajapakse, 2007:733). Subsequent versions were published in 1969, 1977 and 1987, with a much-improved version arriving in 1999. This latest version resulted in a lot of changes in the construction industry.

However, users have expressed their dissatisfaction with the language used in the FIDIC, stating that it is very difficult to comprehend; therefore, creating a risk that the contents of the agreement could be misconstrued, leading to unnecessary debates during finalising the agreement. This confusion, according to Koksal (2011:113) and Mchopa (2015:133), can arise in the application of the law, technical specifications, standards, patent rights, performance security, payment, delivery or completion dates, defects liability, contract period, insurance, inspections and tests, contract amendments, subcontractors, delays in the performance, liquidated damages, disputes resolutions, settlement of variations claims, contract termination, and force majeure. However, as Choi and Kim (2016: 2125) note, the aim of this type of contract is to precisely specify the rights and obligations of the parties engaged in the construction project, as well as to split the contractual risks between the contractor and the employer in a manner that is reasonable. As a result, an effort has been made to improve the language to avoid any ambiguity.

Bodea and Purnus (2016:167) noted that the FIDIC also offered a framework for the creation of unique contract conditions that restrict parties from changing the fair distribution of risks that are associated with the particular contract. The different types of contracts that the FIDIC proposes are as follows:

- Conditions of contract for construction (red book).
- Conditions contract for plant and design –build (yellow book).
- Conditions of construction (EPC) or Turnkey Contract (silver book).
- Short form of contract (green book).
- The design-build – operate contract (gold book).

Bodea and Purnus (2016:180) advised that the FIDIC conditions of contract should be taken extremely seriously by construction companies from the very beginning of a project and urged that this process should begin immediately. When determining the best course of action, the people involved should take into consideration the length of time that has passed since the beginning of the project, the amount of time that it takes to pay bills, and the amount of time that it takes to generate and issue work circumstances that are associated with the amount of financing that is available. Ghahraman and Sahrayi (2017:167) stated that even though the FIDIC was initially utilised by a small number of countries, many countries, including South Africa, are now using it.

Omran (2019:2) suggested that the FIDIC objectives are to increase the effectiveness of the engineering consulting industry to become universal and to represent the global engineering consulting industry. it also aims to improve the image of the consultant's engineers; increase commitment to sustainable development; to increase compliance with the Code of Ethics and Business Integrity and to provide the authority for jurisdiction over matters related to the relevant work.

According to Kostovska (2020:174), significant financial institutions and donor organisations usually choose to use contracts of the FIDIC type as their preferred method of doing business. Moreover, these contracts are associated with key infrastructure projects currently under construction.

2.5.2.3 General Conditions of Contract (GCC)

The primary purpose of the General Conditions of Contract (GCC) is to execute administrative procedures that are equitable, just, efficient, inexpensive, and transparent. Van der Berg (2015: ii) describes the GCC as one of the standard forms of contract that is also approved by the CIDB and published by the South African Institution of Civil Engineering (SAICE). Dickson (2013:1) explains that it has clauses that place the duty for risk on the contractor rather than the client.

This first edition, which was given the title GCC 2010, was released in the year 2010 with the next edition published in 2014, titled GCC 2014. The third edition came in 2015, titled GCC 2015. 5 (nd:268) asserts that despite the fact that the most recent GCC has been revised, and the roles of the parties have been clarified, the contract was still highly subjective to the extent that

the engineer has retained all of his or her authority and the contractor has not been granted the rights and protections that are outlined in the agreement. According to Dulu (2019:34), the GCC agreement ought to include provisions for the incorporation of the services of the engineer who is appointed to manage a specific contract. Delport (2016:41) adds that during the process, if there are any disagreements that arise, it would be the responsibility of the engineer to address any adjustments that may need to be made to the contract and to act as a facilitator for communication between the client and the contractor.

2.5.2.4 Joint Building Contracts Committee (JBCC)

Du Plessis (2017:44) posits that the JBCC was established in South Africa specifically for the purpose of obtaining building contracts. The JBCC suite of agreements has been developed to guarantee a fair distribution of contractual risk, and clients from the private sector, national sector, provincial sector, and local municipal sector are advised to consider entering contracts of this type (South African Institute of Architects, 2020:2).

The JBCC was legally established in 1997, with the first edition published in 2000; the second in 2007 and the third in 2015. Smit (2015:4) notes that it was a much-needed version of its standard form of contract suite was made accessible to the public and approved by the CIDB (Sithole, 2016:40) for use by the public sector. The JBCC Adjudication Rules (2014:2) observed that the JBCC form of contract is frequently modified whenever it is thought to be necessary to achieve the

desired results. Among the key documents that are open to alteration are the Principal Building Agreement, the subcontract agreement that has been nominated or selected, and the Minor Works Agreement.

2.6 Managing CIDB Standard Forms of Contract

There are three distinct pillars that are required by the standard forms of NEC, FIDIC, GCC, and JBCC to properly manage a contract in line with their respective standards. These pillars are programme management, contract communication management and disputes management.

2.6.1 Programme Management

To fulfil the requirements of all CIDB contracts, the contractor is obliged to develop a programme that explains how the works will be carried out. These contracts include those with NEC, FIDIC, GCC, and JBCC construction businesses. Both the drawings and the specifications of the project are receiving a greater level of attention than they were previously (Van Vuuren, 2013:35).

The contractor is responsible for providing the programme, as well as the technique and the order in which the works are to be performed. It is also necessary for the contract document to contain the pertinent contractual dates, which include the commencement date, the date of site access, the dates of segmental completion, and the date of the final completion of the contract. Federation Internationale des Ingenieurs-Conseils provides the contractor with a timeframe of twenty (28) days to submit the programme to the employer for the work, in contrast to the JBCC, which requires the contractor to design and submit the plan and timetable for the works. Additionally, it is the responsibility of the contractor to supply the programme.

2.6.2 Contract Communication

Cerff (2015:15) posited that creating rapport and motivating one another, resolving issues, negotiating, running meetings, and delivering presentations in line with their contractual responsibilities are all things that members of a contract team can accomplish using the technique of communicating with one another. According to Du Plessis (2017:113), communication may include, but is not limited to, instructions, certificates, submissions, approvals, records, acceptances, and answers. Communication may also include additional potential notifications or alerts.

If it is necessary, the contractor, project manager, or supervisor is responsible to submit a response within the time range that has been set. According to Moustafa and Dief (2017:7), the FIDIC mandates that all correspondence between the employer, contractor, and engineer must be documented in writing and kept on file for the duration of the time that the contract is being carried out for a particular project. The ability to effectively communicate with all the parties involved is one of the most significant components of risk management, as required in the NEC. This skill is one of the most important aspects of risk management.

One of the new choices that NEC4 has included stipulates the way communication must be supplied. Maintaining open lines of communication with contractors regarding delivery dates and payment terms is necessary to guarantee that deliveries are carried out in line with the established schedule and that the budget that was agreed upon is not exceeded. It is necessary for the contract to have a record of each one of the requirements that were mentioned (Kafile and Fore, 2018:13).

The Council of the European Union (2016:8) emphasised that any notices, information, or documents relevant to a contract must be supplied in writing, either on paper or electronically, and in the language that is defined in the contract. This requirement applies to all notices, information, and forms of documentation, a requirement that is contained in the GCC. The incorporation of the contract number, the utilisation of the pertinent contact information that is included in the contract, and the delivery of the papers through either the postal service or email are additional requirements that must be implemented.

If one of the parties demands written confirmation of communication within a reasonable length of time, the other party is expected to send an original signed paper copy of the communication as soon as it is realistically practicable to do so. This obligation remains in effect until the other party fulfils the request. When the parties have established an agreement, the GCC provides that every email contact bears full legal effect and can be offered as evidence in court. This is the case even if the parties have not reached a formal agreement.

The JBCC is responsible for a substantial number of emerging contractors, and a significant number of these contractors have weak technical capabilities, limited application of labour-saving technologies, and inadequate communication and administrative duties. This has a bearing on the expectations of the employer who is affected when the goods and services are not supplied on time, in the appropriate quality, or within the budget that has been allotted. Furthermore, the requirements of the JBCC are that once a JBCC agreement has been established for a construction project, all parties involved, including the principal agent, subcontractors, and others, are required to strictly adhere to the provisions of the agreement within the time frames that have been given to avoid any conflicts. This is done to ensure that there are no disagreements.

Communication is therefore crucial in all the engagements of the parties to an agreement. Due to the fact that the majority of these parties consider contract administration to be time-consuming and consider compliance with statutory and contractual provisions to be an annoyance and a serious threat to their company's productivity, significant contractual requirements, such as on-site inspections, record keeping, and the issuance of instructions and various certificates, have a tendency to be neglected throughout the duration of the contract.

2.6.3 Dispute Management

A party can express their discontent or bring up a disagreement if they are dissatisfied with the decision that was made during the process of carrying out the contract. This is the exact protocol that should be followed in line with the terms and circumstances of the contract. Either party will try to mediate the issue, approach arbitration, approach the courts, or utilise any other mechanism that is stipulated by the contract.

The JBCC stipulated that "when a dispute arises, the party declaring the dispute must notify the other party of the dispute and call on that party to resolve the dispute within ten working days," (Solomons, 2013:3). In circumstances in which a disagreement cannot be settled through negotiation, it is recommended to seek the assistance of arbitration or adjudication at the earliest possible opportunity. For this reason, the JBCC Adjudication Rules, which describe and clarify the rules and regulations that regulate the appointment of the adjudicator and the powers that are vested in the adjudicator, as well as the procedures that must be followed in declaring and determining a dispute, shall govern conflicts that are submitted to adjudication.

Levin (2016:1) found that the key reasons for disagreements are not the provisions of the contract itself; rather, it is the lack of experience in processing claims, ignorance of claim circumstances, and misunderstanding of legal and contractual rights. Conventional forms of contracts are utilised in most projects. These contracts provide a full description of the rights and procedures that are involved in the project. Sithole (2016:3) states that to avoid disagreements of this sort, those who are involved in contractual partnerships ought to place a particular premium on creating and sustaining healthy relationships that are established on mutual trust. This would be done to avoid disagreements of this kind. It is of the utmost importance for businesses to find solutions to conflicts and ensure that the connection between the parties is managed in an acceptable manner (Khan, 2019:42). Sikunyana (2018:41) concurred, by advising that the

language that parties use when they design and put a contract in paper should not be confusing and vague. If there should be disagreements between the parties over what they intended to accomplish through the contract, it is necessary to offer evidence that proves what it was that the parties intended to achieve through the contract.

Dulu (2019:13) in Chan and Seun (2005) stated that conflicts that are not managed properly can lead to delays in projects and contracts, lower the morale of the team, increase the expenses associated with the project and the contract, and most importantly, sabotage ongoing business ties. The most common reason for disagreements, according to Khan (2019:19), is that SOEs may make mistakes when they disregard legal requirements, principles of contract law, and notably those that pertain to the interpretation and comprehension of contracts. Should this be the case, the author then suggests that the courts ought to oversee interpreting the agreement. To enhancing the contractual connection between the parties and ensuring that the goods and services that were intended to be delivered are delivered, it is essential that the parties have a proper understanding of the contents of the contract instrument.

Moloi (2018:3) suggested that in line with the FIDIC rules, it is also essential to make certain that construction contracts contain constructive conflict avoidance mechanisms. Burgess and Davis (2019:34) contended that any problems that occur during the execution of the contract should be remedied at the earliest opportunity. If the contract has ended, and the parties are no longer able to recollect the particulars of the agreement, these issues should not be brought up again until after the contract has expired. The reason for this action is to enhance the overall quality of the construction contracts that are being implemented. To avoid and settle a dispute or disagreement, the rules of the FIDIC provide the parties with an alternative route to avoid and settle the dispute or disagreement without having to engage in arbitration, which is both expensive and time-consuming.

The resolution of any issues that may arise during the construction contract must be finished as promptly as possible, and any advice or recommendations that are made must be legally binding regarding the construction contract. This helps in the maintenance of cash flows.

According to the GCC (2008:4), "the Contractor or the Employer may dispute the ruling within 28 days of the Engineer giving his ruling." If the dispute is not resolved within the allotted time frame, it will be subjected to either mediation or adjudication, depending on what is stated in the

Contract Data. If the situation is not resolved after mediation or adjudication, it will be brought to a definite conclusion through arbitration or court proceedings.

It is logical to conclude that standard contract forms acknowledge the necessity of incorporating dispute resolution methods (Moloi, 2018:1). If the contract does not address claims, there is a risk that issues will arise later. Therefore, Hayati, Latief and Jaka (2019:6) suggested that for an organisation to reduce the likelihood of claims evolving into disputes, a preventive strategy needs to be in place and put into practice prior to the execution of the claim.

Elshaikh and Mahmoud (2019:71) indicated that variation or amendment of orders are one of the most frequent causes of disputes and claims. While all the other work is described in the contract, there are still revisions that necessitate appraisal, estimation, and negotiations, which strain and stress the relationship between the parties. In the case that these disagreements cannot be resolved peacefully through direct talks and arbitration, they wind up in court, and the project may be placed on hold while legal processes are ongoing. The general provisions of a fair and balanced contract are crucial for both service providers or contractors and end users (Hardjomuljadi and Sulistio, 2021:81). In summary, the general provisions of an equitable and balanced contract may also give rise to disagreements between contractors or service providers and end users, with the latter party coming out on top. If the contractor triumphs, the end user is compelled to reimburse the contractor.

Anil, Kassim and Varghese (2021:72) also noted that disagreements may arise between the contractor and the parties, or the authorised representative of the client, at any point in time during the execution of a contract. The author emphasises that both partners should make a concerted effort to steer clear of situations or actions that have the potential to result in disagreements. Civilution (2016:72) has assisted with price methodologies and approved contract forms that are pertinent to the commodities and services that are acquired for the delivery of infrastructure that is to be delivered.

Table 2.1 presents the many contract types that are recognised for the purpose of acquiring goods and services for the purpose of providing maintenance for infrastructure. It shows the accepted standard forms of contracts for engineering and construction works, which are JBCC, FIDIC, and NEC (ECC and ECSC). For the service contract, which is for labour and consulting. NEC (PCS and PSSC, TCS, TSSC), as well as GCC, may be applied. Since supply contracts are used

to provide commodities, they can be chosen as preferred contracts combined with general terms of purchase, contracts for the supply and delivery of items, NEC supply contracts, and NEC supply short contracts.

The CIDB approved standard forms of contracts and categorised them according to contract type. Choosing the correct form of contract is critical. Siddique and Hussein (2016:59) advised that the kind and scope of the project are crucial considerations when picking the type of contract. The choice of contract also depends on how complicated or straightforward the specifications, works information, or commodities description is. The choice of contract form is also determined by contract risks, duration, and value.

Therefore, it is proposed that in choosing which type of contract to use, project managers and contract management teams should take this into consideration. To eliminate unneeded issues, the right contract selection is still recognised as the most crucial stage in the pre-project phase (Faraji, Rashidi., Khadir and Perera, 2021:2). An erroneous contract form selection may lead to additional expenses, delays, and arguments when the contract is being carried out. Formats of infrastructure project contracts that have been accepted are presented in Table 2.1.

Table 2.1: Approved Forms of contract Related to the Goods and Services that are Purchased for the Delivery of Maintenance of Infrastructure.

Contract type and SANS 10845-2 definition	National Treasury approved standard forms of contract
Engineering and construction contract: contract for the provision of a combination of goods and services arranged for the development, extension, refurbishment, rehabilitation or demolition of a fixed asset, including building and engineering infrastructure	FIDIC Short Form of Contract FIDIC Conditions of Contract for Construction for Building and Engineering Works designed by the Employer FIDIC Conditions of Contract for Plant and Design-build for Electrical and Mechanical Plant, and for Building and Engineering Works, designed by the Contractor FIDIC Conditions of Contract for EPC Turnkey Projects FIDIC Conditions of Contract for Design, Build and Operate Projects
	JBCC Principal Building Agreement JBCC Minor Works Agreement
	NEC3 Engineering and Construction Contract NEC3 Engineering and Construction Short Contract
	SAICE General Conditions of Contract for Construction Works
Service contract: contract for the provision of labour or work, including knowledge-based expertise, carried out by hand or with the assistance of equipment and plant	CIDB Standard Professional Service Contract
	NEC3 Professional Services Contract NEC3 Professional Services Short Contract
	CIDB General Conditions of Service
	NEC3 Term Service Contract NEC3 Term Service Short Contract
Supply contract: contract for the provision of goods, including materials or commodities made available for purchase and, where relevant, associated services	CIDB General Conditions of Purchase CIDB Contract for the Supply and Delivery of Goods
	NEC3 Supply Contract NEC3 Supply Short Contract

Source: Adapted from Civilution (2016:72)

To improve long-term partnerships, good contract management involves open communication, trust, and cooperation (Islam, 2023:3). This is highlighted in table 2.2, which demonstrates that one of the most essential things that must be taken into consideration for efficient contract management is knowledge, skills, and competence. This is done to prevent issues that can generate misunderstandings between the parties involved in a contractual relationship.

Table 2.2 Approved Forms of Contract for Infrastructure Projects

Standard forms of contract	Pricing strategies provided for	
Engineering and construction contract		
FIDIC Short Form of Contract	Lump sum, bill of quantities or cost reimbursable	
FIDIC Conditions of Contract for Construction for Building and Engineering Works designed by the Employer (Red book)	Bill of Quantities	
FIDIC Conditions of Contract for plant and design-build for electrical and mechanical plant, and for building and engineering works, designed by the contractor (Yellow book)	Bill of Quantities	
FIDIC Conditions of Contract for EPC Turnkey Projects (Silver book)	Lump sum	
FIDIC Conditions of Contract for Design, Build and Operate Projects (Gold book)	Lump sum	
JBCC Principal Building Agreement (PBA)	Lump sum, schedule of rates or Bill of Quantities	
JBCC Minor Works Agreement (MWA)	Lump sum, schedule of rates or Bill of Quantities	
NEC3 Engineering and Construction Contract (ECC)	**Priced-based options** A: Priced contract with Activity Schedule B: Priced contract with Bill of Quantities	**Cost-based options** C: Target contract with Activity Schedule D: Target contract with Bill of Quantities E: Cost reimbursable contract F: Management contract
NEC3 Engineering and Construction Short Contract (ECSC)	Priced contract with Price List	
SAICE General Conditions of Contract for Construction Works (GCC)	Bill of Quantities or lump sum	
Service contract		
CIDB Standard Professional Service Contract	No fixed pricing strategy	
NEC3 Professional Services Contract (PSC)	**Priced-based options** A: Priced contract with Activity Schedule	**Cost-based options** C: Target contract E: Time-based contract
	G: Term contract (time-based and lump sum prices)	
NEC3 Professional Services Short Contract (PSSC)	Priced contract with Price List	
CIDB General Conditions of Service	No fixed pricing strategy	
NEC3 Term Service Contract (TSC)	Priced-based options A: Priced contract with Price List	
NEC3 Term Service Short Contract (TSSC)	Priced contract with Price List	
Supply contract		
CIDB General Conditions of Purchase	No fixed pricing strategy	
CIDB Contract for the Supply and Delivery of Goods	No fixed pricing strategy	
NEC3 Supply Contract (SC)	Priced contract with Price Schedule	
NEC3 Supply Short Contract (SSC)	Priced contract with Price Schedule	

Source: Adapted from Civilution (2016:72)

On 01 June 2023, Transnet developed the Transnet Procurement Policy. This policy provides all the necessary guidelines for the procurement of goods and services were procured. The policy should be read in conjunction with other supporting internal policies and documents, such as supply chain management policy, delegation of authority framework, procurement manual, construction procurement manual, procurement working instruction, contract management policy, terms of reference for the Bid Specification Committee (BSC), terms of reference for the Bid Evaluation Committee (BEC), terms of reference for the Divisional Bid Adjudication Committee (DBAC), terms of reference for the Central Bid Adjudication Committee (CBAC)' transformation policy,

preferential procurement policy guidelines, the Enterprise Supplier Development (ESD) policy and the Group Compliance policy.

2.7 Overview of Contract Management

This section reviews scholarly work to identify what scholarly discourse has proffered on contract management, particularly with regards to having an effective system to manage the process and indeed what best practice should be to advance an organisation's goals. The approach of this review thus leans on illuminating factors that determine the effectiveness of a contract and showing the importance thereof. Several authors have dealt with contracts and contract management because these enable an organisation to engage positively in a country's economic activity (Ji and Ji, 2018:20). It is thus important to ascertain what a contract is as it is a foundation for the contractual relationship between the parties concerned. It is also an essential tool that provides an equitable distribution of risks across all the parties involved, enabling resolution of disagreements that may arise between the concerned parties (Hayati, Latief and Jaka, 2019:1). It is a legal agreement that is formed between two or more parties for the delivery of goods and/or services in exchange for monetary compensation or any other form of value (Gaikwad and Sarode 2017:485; Sikunyana 2018:10; Omran 2019:2; Basazinew 2020:1). It is a mechanism that connects organisations together to develop and build projects (Shash and Habash, 2020:162), and it also outlines the rights and obligations of each person involved in the project, meaning these are legally binding (Vo, Nguyen and Nguyen, 2020:162; Namakula, Matsiliza, Manga and Kibwami, 2022:187). Specifically, the contract should clearly state what will be done, that is, along with a description of goods and services, specification or works information; how long it will take to complete (i.e. the contract period) contract price, payment terms and conditions; and what will be done if either party defaults. This will be managed by means of penalties and disputes resolution to the extent in which common law would usually apply (Bowans, 2022).

Meki (2019:12900) stated that this contractual engagement should thus provide a comprehensive method for managing the formal requirements and knowledge prerequisites during the process of carrying out the contract. A comprehensive record of the various terms and conditions of each contract is essential to effectively manage each one (Mcphee 2006 cited in Lifard, 2020:202). Furthermore, management needs to establish and implement enhanced systems for inspection, dispute resolution and contract adherence.

The emphasis on the management of contracts is on understanding the purpose of the contract and the capability of the supplier or service provider (Maina and Osoro, 2020:80), the contractual duties of all the parties concerned (Gamage, 2023:58) and ensuring that managers play their role in cost control throughout the project lifecycle. This assists to accurately analyse and anticipate costs, create proper budgets that minimise cost overruns and maximise cost efficiencies (Islam, 2023:2). In this regard, Lucian (2013:234) stated that contract management is "the process by which operations are performed by a third party who fulfils all the necessary managerial functions in exchange for a specified management fee." Shiwa (2014:10), added that it is a process that enables both parties to a contract to meet their contractual duties to provide the goals that are mentioned in the framework of the contract agreement.

In addition to this, a contract should involve cultivating a constructive working relationship between the company and the contractor. Managing it includes being proactive to predict future demands as well as reactive to respond to events that occur. This should be done throughout the whole lifecycle of a contract. The implementation of good contract management should be guided by a focus on the future and should include explicit words that define quality, costs, duration, as well as the terms and conditions of the contract. In the process of managing contracts, the objective is to establish a connection that is both long-lasting and trustworthy between the two parties involved. It as a process that ensures that a contract is carried out in a manner that satisfies the objectives and expectations of all parties involved in the agreement. To provide value for money, it is of utmost importance to achieve efficiency and effectiveness while simultaneously preserving a balance between costs, delivery, quality, and risks. Inadequate management of a contract will lead to arguments between the parties, requests for deadline extensions, and financial repercussions. The objective is to standardise each phase of the contractual process.

Waigwa and Njeru (2016:22) viewed contract management as a process that ensures that all parties to a contract fully fulfil their respective requirements in the most effective and efficient manner possible. The primary objective of this process is to achieve the operational and organisational goals that are stipulated in the contract, with a particular emphasis on providing value for money. According to Sacklen (2018:57), contract management requires the use of contractual skills as well as a framework that aids the organisation in the process of creating

commitments that are in accordance with the objectives that have been defined for the organisation.

Enslin (2019:7) emphasised that a contract between parties acts as a tool for control, the fulfilment of expectations, and the timely execution of tasks that are outlined in the contract. Contract management is an essential component of project management for both the employer and the contractor. This is because the contract describes the understanding, use, and participation duties and obligations for both parties. Similarly, Dagba and Dagba (2019:3), described contract management as a process that ensures that interested parties to a contract fully satisfy their respective tasks in a skilful and effective manner while still providing value for money. This definition mirrors the previous one. In addition, Mwendwa and Ochiri (2019:52) mentioned that the process of ensuring that the parties to a contract are carrying out their obligations in line with the provisions of the agreement is understood to be the process of contract management.

Basazinew (2020:1) and Ling *et al.* (2021:24) viewed contract management as the process of supervising the formulation, implementation, and analysis of contracts with the goal of maximising financial and operational performance while simultaneously minimising risk. These authors posited that the administration of contracts is one of the most essential effects that contribute to the success of an organisation. Furthermore, it acts as a platform for the maintenance of long-term collaborations with other suppliers and service providers. This process, according to Maina and Osoro (2020:80), encompasses the negotiation of the terms and conditions of the agreement, the assuring of compliance, the recording of any adjustments or revisions that may be required as the contract is being carried out, and the simultaneous agreement on any modifications and revisions.

The above discussion has introduced contract and contract management from various viewpoints, all of which converge on the fact that a contract is a legal agreement between two parties, the organisation or agent and the supplier. This agreement should be managed in such a way that goals are achieved timeously and cost effectively. The personnel that are involved in the process must be highly competent and be able to foresee risks and circumvent them before they jeopardise the contractual agreement.

2.8 Responsibilities of the Principal

From the principal's side, the main participants in drawing up and managing a contract are the Contract Manager together with his team. The following section outlines the roles and responsibilities of these participants.

2.8.1 Responsibilities of the Contract Manager

The Government Gazette of South Africa (2016:6) clearly sets out the responsibilities of the Contract Manager which makes these a legal requirement. The Contract Manager is required to establish a contract management plan for all the projects within the organisation. This involves reviewing the entire process on a regular basis; providing liaison between internal managers, end users, and the contractor, so that any issues that might arise during the execution of the contract are identified and resolved. The contractor's performance should be monitored against contract obligations and the terms and conditions of the contract. In addition, the contractor should be provided with advice and information about any developments within the organisation, especially where such developments are likely to affect the goods or services provided. Finally, they should be prepared to undertake a procurement process, should there be a need for any additional stages. These should meet the principle of obtaining value for money; facilitate and negotiate contract variations and amendments in line with the approved delegation of authority and procurement processes; and provide accurate and timely reporting to senior management responsible for the project. Any such reports should highlight significant performance issues or challenges faced by the cross functional contract team during the execution of the specific contract; ensure that agreed insurance policy's terms and conditions provide adequate protection for the organisation and that such policies are maintained throughout the contract period. Furthermore, evidence of key documentation and administration, including the supplier's insurance certificates and any licencing requirements that are relevant for the project should be safely filed. Contractors should be reminded of their obligations in any sub-contracting arrangements in relation to compliance with relevant industry standards and requirements including, but not limited to payments with award rates and the requirement to have up to date organisational clearances, insurance and licencing; along with ensuring that all goods and services provided are certified and meet the specifications, descriptions or works information before the contractor is paid. Adequate records should be maintained (both paper and electronic), by following the proper contract administration requirements and sufficient

detailed information to provide a proper audit trail; manage contract changes, variations and amendment procedures; resolve disputes when they arise; initiate remedial action in the event of breach of contract and conduct post contract reviews as well as documenting lessons learnt during the execution of the project or contract. The above legal requirements place the contract manager at the heart of the contract. This accentuates the fact that the contract manager needs to be a highly competent person. The contract manager is required to be proactive rather than reactive, in other words to be able to anticipate, concentrate on and respond to future demands that may be placed on the organisation (Ngetich and Gichuh, 2017: 65). Kirk and Ball (2017: 3) concurred by stating that successful contract management ensures that the team managing the contract maximises savings and service delivery quality while also ensuring that each party to the contract is fully aware of their duties.

Considering the aforementioned, the contract manager plays a significant role in guaranteeing the overall success of the outsourcing engagement. The contract manager should be informed of the terms of the agreement and work in conjunction with the client's internal legal department to guarantee that the client will be able to make use of the resources that are offered by the contract. The contract manager should adhere to the formalities of the contract and exercise the discipline to keep a comprehensive record of any discussions (eSupport KPO, 2025). This will preserve the rights of the client and prevent the needless renegotiating of issues that have already been resolved.

2.8.2 Roles of the Contract Manager

The first role or function of the contract manager is to establish and monitor internal controls in each department of a company that engages in contracting. These controls are designed to ensure that contracts are managed in a manner that ensures the delivery of products or services, maximises efficiencies, and minimises risk.

A rigorous governance system should be maintained to reap the benefits of a well-defined process. Even though the temptation may be to keep the governance organisation as lean as possible to maximise the cost savings from outsourcing, a customer can only realise significant benefits from a strong governance organisation that correctly begins the outsourcing process by maintaining strict discipline in communications. Maintaining the formalities of a contract may prove to be especially challenging in situations where the initial organisation, prior to

outsourcing, was very informal. As a result of outsourcing, these formalities take on a new level of significance, and it is the responsibility of the principal to take the initiative and impose the formalities for that relationship. Before the firm began outsourcing, it may have made the decision to forgo formal policies and written communications because they were deemed to be an unnecessary burden. Alternatively, the corporation may have considered such measures to be a goal for the future. In the early stages of engagement, a governance organisation that has a low staffing level runs the danger of not being able to accomplish these fundamental aims and therefore, not providing the client with the essential background information (eSupport, KPO, 2025).

2.8.3 Roles and Responsibilities of the Contract Team

The Department of Trade, Business and Innovation (2017: 9) proposed that a contract team has its own roles and responsibilities. In addition to the contract manager, a team should also consist of a Contract Owner and a Contract administrator. The specified roles and responsibilities of the said team follow:

a. The Contract Owner

The contract owner oversees a contract, which includes any crucial contractual changes and contract strategies, and is accountable for the budget or cost centre that funds or sponsors. They hold the contract delegation of authority which requires them approve contract payments and variation orders. Assigned contract management roles and responsibilities to the contract team, as well as being the final arbiter and decision maker about contractual matters.

b. The Contract Manager

The contract manager is the single point of contact for the contractor on all contractual matters; monitoring contract performance and compliance and ensuring that final delivery reflects the contract's requirements as specified on the contract. Contracts are managed throughout their lifecycle post-award by the contract manager, who is also responsible for identifying and managing contractual risk.

c. The Contract Administrator

The contract administrator performs administrative activities over the lifecycle of the contract. They keep records; manage information, and control costs, while making regular checks of key milestones and deliverables to ensure that these occur in accordance with the contract requirements and ensured payment is made timeously in accordance with contractual requirements to avoid interest charges.

2.9 Contract Strategy

Gaikwad and Sarode (2017: 486) stated that contract strategy "determines the level of integration of design, construction, and on-going maintenance for a given project," and that it, "should support the main project objectives in terms of risk allocation, delivery, and incentivisation and selecting the appropriate organisational contractual policies and procedures that are required for the completion of a specific project." The process of formulating a contract strategy ought to include a comprehensive analysis of the many alternatives that are available for the management of design and construction. This is done with the intention of maximising the possibility of successfully achieving the project objectives that have been stated. Contract strategy, according to Ding, Wang, and Hu (2018:6), can also be viewed as a "supporting means for successful implementation of the project delivery approach."

Du Plessis and Oosthuizen (2018: 158) argued that it is essential for businesses to adopt a contract strategy in which the project team is aware of the characteristics and differences of the key contracts from which to choose and implement. The directing and facilitating of the implementation of an organisation's plan using contracts is the responsibility of the management of contract strategies. There must be regulations governing the process of entering contracts and that the content of the contracts would be the primary focus of attention.

If contracts are created with the proper information, adhering to comprehensive norms and best practices, they will encourage the development of the business (Sacklén, 2018:27). To ensure that a contract strategy is carried out in an appropriate manner, it is necessary to communicate with all the involved contractual parties, ensuring that they are fully aware of the process.

Contract strategy regulations are contained in the Contract Management Framework (2019: 6) which prescribes that the planning process for contract management should start before the

actual signing of a contract. Activities taking place prior to the contract award have a significant impact on the process of contract management. The first step in effective contract management is to ensure that all the necessary requirements are satisfied before the contract begins. Requirements include all contract terms and conditions to be developed and agreed upon by all parties, including performance management activities and reporting processes. Following that the contract owner should be appointed and the contract management plan implemented.

Gelderman and Weele (2002:5) stated that the foundation of contract management is the acceptance of a contractor who understands the importance of management and believes in monitoring. To realise a contract management pathway that ensures successful completion of a contract, a contractor should prioritise the action plan, organise and work together with the contract team, and develop coping strategies to achieve the goals and objectives for which the contract is intended. This is necessary to realise the contract strategy which is also referred to as the management pathway.

De Boer, Harink and Heijboer (2002: 25), claimed that contract management includes a process by which a contractor creates and maintains a prime supplier base for a line of products. This is a tactic that a contractor employs to maintain their relationship with the employer. To accomplish this, a contractor must demonstrate the ability to take the initiative and establish a solid relationship with his team that is founded on mutual trust and dependence to one another.

According to Cullen (2015:6), the major objective of contract management is to assess, plan, supervise, and carry out contract projects. while simultaneously aiming to maximise an organisation's operational and financial performance so that financial risk is limited and controlled. To properly execute a contract, the plan should be executed with great care, using all the resources that are available to them. Resources include items such as financial, human, and intellectual resources. Additionally, they need to be adaptable enough to accommodate shifting delivery conditions during the process. In the case that there is a breach of the contract, Cullen (2015: 6) argued that the parties to an agreement could be held liable for the breach. Contract strategy therefore encompasses a wide range of different methods of control.

Rendon (2016:12) argued that one of the objectives of devising a strategy that produces a contract management standard is to include and govern the common terms, processes, procedures, competencies, and contract duties being utilised in the field of contract management.

Contract management is a process that involves managing contract planning, execution, and investigation (Wafula and Makokha, 2017:4). The goal of this method is to maximise the operational and financial performance activities of the organisation while simultaneously decreasing the financial risk as businesses are under constant pressure to reduce their expenses while simultaneously increasing their production.

According to Kanchana, Niranjan, and Karthick (2018:25), for contract management to be successful, it is necessary to recruit employees with the relevant skills and to provide training and development programmes should there be any gaps in those skills. Monitoring plans or checklists should be in place, and it should be ensured that all employees understand their roles and responsibilities in relation to performance management. A sound relationship should be established and maintained with the contractor. One of the ways in which this can be done is to hold regular meetings with the contractor to discuss progress and any challenges that may occur; identifying any contractual challenges at an early stage; and only making payments for satisfactory performance. Should any breaches of conditions or non-performance, advice should be sought on whether a contract variation is necessary. Finally, in the case of non-performance a review should take place to establish whether there is a need to terminate the contract.

A successful contract strategy is defined by Tapiwa (2019:8) as the continuation of service delivery activities that are acceptable to both the employer (the customer) and the contractor (the supplier or service provider). This occurs when the anticipated business advantages and value for money are accomplished. According to Maina and Osoro (2020: 80), the control of resources, time, quality, and costs are the primary focuses of comprehensive contract management for a project. In the context of this discussion, quality control refers to the process of carrying out the project in accordance with the technical specifications, works information, and requirements. Cost control refers to the process of carrying out and completing the project within the time limit that was agreed upon. On the other hand, resource control refers to the management of assets such as personnel, machinery, and acquisitions. For this reason, it is essential for effective and successful contract management to ensure that the upstream or pre-award activities are carried out in a manner that is attentive, comprehensive, and comprehensive (Maina and Osoro, 2020: 80). Furthermore, according to Klijn, Metselaar, and Warsen (2023:1), tight contract management "secures performance and innovation due to the use of clear performance indicators but also ensures the collaboration of both partners by punishing opportunistic behaviour."

2.9.1 Contract Management Strategy

Contract management strategy refers to a broad plan or approach developed by organisations to successfully manage contracts during the lifecycle, ensuring best value and reducing risks. Agarwal (2023: 2) defines this strategy as a set of systematic, practical frameworks intended to ensure that contracts are created, executed, monitored, and enforced in a way that increases value, mitigates risks, and drives desired outcomes. A well-structured contract management strategy is critical for organisations to effectively direct the challenges of contractual relationships and ensure long-term achievement.

Agarwal (2023: 3) designed an eight-step process for the development of a strong contract management strategy, associated with best practices in the field. These steps serve as important guidelines for organisations looking to create effective and efficient contract management systems. The steps are as follows:

Step 1: Evaluate the Organisation's Contract Management Needs

The first step in developing a contract management strategy includes a complete assessment of the organisation's contract management requirements. This consists of identifying challenges that may be related to the contract administration. One way of doing this is by reviewing historical contracts and highlighting any previous issues that arose. By doing this, potential problems and areas for improvement can be highlighted and planned for in advance.

Step 2: Identify Key Stakeholders to Establish Clear Communication

Effective contract management needs clear communication between stakeholders. This step includes identifying individuals whose roles are key to the successful execution of contracts. Hence, distinct roles and responsibilities are recognised and associated with the organisational objectives.

Step 3: Develop Standardised Processes and Workflows for Consistent Procedures

Standardisation is significant to ensure consistency and efficiency in contract management. By establishing structured procedures and systems, organisations can reduce mistakes, reduce

redundancies, and promote uniform practices across several contracts within the organisation. This step contributes to smoother contract administration and improved oversight.

Step 4: Establish a Central Repository for Contract Documents for Easy Access

Storing contracts in a centralised source improves accessibility and rationalises contract management. Through consolidating contract documents in one location, organisations can ensure easy access, enable better following, and make it easier to implement contract management strategies.

Step 5: Implement Automation Mechanisms for Faster Processes

Automation is an essential element of modern contract management. The dependence on manual processes can delay the effectiveness of contract administration. By integrating automation tools, organisations can accelerate contract execution, monitor performance in real-time, and decrease the probability of human error.

Step 6: Identify and Mitigate Risks to Avoid Hefty Costs

Proactively identifying and mitigating risks is an important part of contract management. This includes acknowledging possible risks during the contract lifecycle and developing procedures to reduce or eliminate those risks, thereby avoiding costly disputes or problems.

Step 7: Provide Access to Training Resources

A well-implemented contract management strategy needs all employees that are involved in the contracting process to have the required knowledge and skills. Organisations should provide training programmes to ensure that employees are prepared to handle contracts effectively and efficiently.

Step 8: Ensure Continuous Evaluation and Improvement

A contract management strategy should not be static. Continuous evaluation and improvement are critical to ensure the strategy remains appropriate for a changing business, regulatory, or

industry landscape. Consistent assessment allows for modifications to be made in response to new challenges or opportunities.

In addition to Agarwal's framework, the Enfield Council (2020:6) outlined various considerations that organisations should consider when developing a contract strategy. These considerations included identifying the specific needs the contract aims to meet, determining the procurement path, evaluating the anticipated value of the procurement, and identifying both internal and external stakeholders who may need to be engaged during the contract process. Through addressing these factors, organisations can ensure that their contract strategy is complete and well-associated with broader organisational goals.

To conclude, a comprehensive contract management strategy is essential to the success of organisations in managing the contractual obligations. By following an organised approach that includes stakeholder engagement, process standardisation, risk management, and continuous improvement, organisations can increase the value derived from the contracts and ensure that contracts are managed efficiently throughout the lifecycle.

2.10 Contract Management Best Practices

Effective contract management increases company performance, guarantees compliance, and promotes productive relationships. As businesses involve more external vendors, suppliers, and service providers, contract management becomes more exposed to risk management, value optimisation, and operational efficiency issues. Three significant works outline the best practices in contract management, organised under themes of performance monitoring, financial oversight, risk management, standardisation, technological integration, and dispute resolution (Cullen, 2015 and Gopal, 2023).

a) Performance Monitoring

Cullen (2015) and Gopal (2023) emphasised the need for complete contract performance monitoring and assessment. Cullen (2015:7) advocates evaluating inputs, processes, and outcomes rather than just the output. Organisations can guarantee contract and organisational compliance by analysing their resources and procedures. Key Performance Indicators (KPIs) are crucial to contract accomplishment because they ensure that requirements are met and identify any performance complications at an early stage (Gopal 2023:1). A proactive

approach supports organisations in reducing cost outflows, inadequacies, and service disruptions while improving supplier relationships and operational performance.

b) Financial Oversight: Managing Contract Costs

Cullen (2015) emphasised the necessity of managing billable and concealed costs, such as mobilisation, internal management, and termination of the contract financial monitoring permits organisations to make more informed decisions, reduce inefficiencies, and maintain constructive contractual relationships (Cullen, 2015:8).

c) Standardise Contract Processes

Standardisation is one of the finest practices for contract management since it promotes efficiency, consistency, and risk reduction. Gopal (2023:1) advocates for centralised sources that record contracts in standardised formats for ease of retrieval, monitoring, and compliance verification. Standardisation streamlines contract lifecycles, assures legal compliance, and reduces administrative costs.

d) Proactive Risk and Issue Management

Gopal (2023) and Cullen (2015) underlined the importance of doing consistent risk assessments to eliminate regulatory, financial, and operational risks. Gopal (2023:1) advises that organisations should regularly review risks and change contract terms and conditions to be aligned with the organisational goals, whereas Cullen (2015:13) emphasised the importance of a systematic procedure for detecting, recording, and addressing complications. Both authors noted the obligation of proactive risk management in preventing conflicts and operational interruptions. Organisations can ensure that contracts are supportive and purposeful by implementing positive risk management.

e) Integrate Technology: Use Digital Solutions.

Gopal (2023:1) recommended the necessity of contract management software that works properly to facilitate data flow and decision-making. Technology improves contract management by decreasing human mistake, administrative problem, and inefficiency.

f) Relationship Management: Long-term Partnerships

Cullen (2015) emphasised the importance of relationship management in contract success. for a collaborative partnership approach that highlighted contracting organisations' shared interests and mutually valuable interactions.

g) Effective Conflict Resolution

Gopal (2023: 1) highlighted the importance of formal dispute resolution processes. Gopal (2023:1) advised including conflict resolution clauses in contracts, these best practices address issues swiftly and methodically, preserving organisation connections and avoiding disruptions.

h) Continuous Improvement

Cullen (2015) and Gopal (2023) emphasised the need for on-going improvement of contract management and flexibility. Cullen (2015:15) argued that contracts should clearly support innovation and value creation by outlining specific enhancement goals. Organisations that encouraged constant improvement and flexibility can ensure that their contract management systems adjust to changing business conditions.

Contract management is complex and demands strategic oversight, proactive involvement, and continuous improvement. Cullen (2015) and Gopal (2023) discussed the best methods for contract management. Performance monitoring, financial control, standardisation, risk management, and relationship investment were all seen as contributing to improved contract efficiency, cost, and success. Technology, proactive conflict resolution, and continual development allowed businesses to optimise contract value. These best practices are all identified as assisting the organisation to manage contracts better, reduce risks, and improve operational and financial performance.

2.11 Conceptualising Effective Contract Management

The preceding discussion has viewed the contract from different perspectives, which led to identifying the roles and responsibilities of the different stakeholders in the process of contract management. The major objective of contract management is to ensure that the items or services

promised in the contract are delivered in accordance with the terms of the contract. This means that they must be delivered on time, without exceeding the budget and in line with the specifications that have been established. Service delivery management means ensuring that the service is being delivered as agreed and stated in the contract as well as to the required level of performance and quality. Relationship management refers to keeping the relationship between the two parties involved in a contractual agreement open and productive, aiming to resolve challenges, tensions, early identification of problems, and focus on continual improvement. Contract administration involves the handling of formal governance of the contract and changes to the contract documentation, performance management and accountability through tracking and recording delivery. Information technology plays a pivotal role in this function and so is adherence to the budget. All these three activities must be managed properly to ensure effective contract management underpinned by proper planning (Charles Kendall Australia, 2025).

Effective contract management techniques should adapt to the demands of the organisation's stakeholders to get the best value for money, meaning ideal conditions and value for the allocation of the limited resources that taxpayers have. By doing so, finances will be made available, valuable competition will be encouraged, risks and potential liabilities for the purchaser will be managed, and ultimately, service delivery will be improved (Oluka and Basheka, 2014:104).

It has become common practice for SOEs to place a greater emphasis on the process of awarding contracts and less emphasis on the post-award phase, which is where most challenges arise during the execution of contracts. This pattern is observable in the number of projects that experience budget overruns as well as the extension of the duration of the contract that was previously agreed upon. This assertion is supported by Rammezdeen and Rodrigo (2013:1), who highlighted how difficult it is to interpret contracts. In the process of carrying out the project, this may result in an increase in the number of disagreements. Therefore, it is essential to keep in mind that experienced contract managers should be appointed both in the department of project management and in the department of procurement before and after the contract is awarded. This is done to avoid unnecessary challenges, order variations, disputes that arise from non-performance, contract extensions, misinterpretations of the conditions of the contract, and other similar issues.

Parnham (2010) stated that contracts ought to be managed through a central management system. Procedures and documents ought to be developed, and businesses ought to employ full-time contract managers who possess the required training and experience, in addition to employing internal lawyers who will oversee contract management until the completion of the project. Mchopa *et al*. (2014:0856) stated that inefficient contract administration has led to the squandering of public funds and has made it more difficult to obtain value for the money that is spent. Sarkar (2015:22) then suggested that the process of contract management should include the following steps: negotiating the terms and conditions of the contract; ensuring that technical requirements such as specifications, a description of the goods and services, or information regarding the work, are satisfied; and recording and agreeing that any changes or amendments that may arise as the contract is being implemented are done.

McCann, Aranda-Mena and Edwards (2014:115) pointed out that prior to making any changes to any terms and conditions in a contract, it is necessary to seek approval from all the parties involved in the process of contract management. Kutosi, Eya and Moses (2015:3) reported that it is vital to carefully arrange contracts to minimise the possibilities of opportunistic behaviour as well as any risks associated with the contract itself. This assists in lowering unforeseen transaction expenses. Therefore, to facilitate efficient contract administration, Narh, Owusu and Oduru-Apeatu (2015:62) recommend that the documentation pertaining to the contract be uncomplicated, precise, and entirely transparent. In addition to this, the documents should be drafted in a manner that is appropriate, consistent and adequate, with no ambiguities that could lead to disagreement between the parties concerned.

Mutual understanding, openness, and excellent communication between key stakeholders in contract management and monitoring are more important to the success of an arrangement than the fulfilment of the formal contract terms and conditions (Muhwezi and Ahimbisibwe, 2015:76). These key stakeholders include the user department, the contractor, the contract manager, the procurement and disposal unit, and the accounting officer.

Oliveira (n.d.) explained that contract management assists SOEs in easing and resolving problems thus enabling them to cultivate a relationship that is mutually beneficial and results in a situation in which all parties involved emerge victorious. This assists both parties involved in the contract to meet their contractual obligations so that they can accomplish the goals that are stipulated in the contract (Mchopa, 2015:131). In addition to this, they should set criteria that

will work as a guide for the contract team and these criteria should not be unduly complicated as Kutosi, Eya and Moses (2015:5) posited. In line with these guidelines, SOEs must establish transparent protocols for all parties involved in the process of contracting.

The goal of contract management is to ensure control over contractual agreements that are made between a public sector organisation and the designated supplier or service provider, as well as advancing efficacy, value for money, and efficiency (Surajbali, 2016:3). It must also guarantee that end users are satisfied by integrating the processes that are used to manage contracts over the entirety of their life cycle (Downer, 2019:7). The evaluation of the effectiveness of the management of a contract, as Basazinew (2020:28) states, ought to be carried out by a management team that possesses the appropriate levels of education, experience, and expertise for the role. For the process of contract management to be successful, it is necessary to properly identify the roles, responsibilities, and competencies involved. An adaptable and flexible contract should be the hallmark of a good contract because it is possible that the terms and conditions, requirements, or scope of the work could be subject to modification.

The relationship that exists between the parties involved also needs to be robust and flexible enough to accommodate any modifications that may take place during the process of carrying out the contract. Good contract management must thus try to foresee and solve the future needs of the organisation, rather than being reactive.

This is something that is done to fulfil the requirements of the contract in terms of both business and operational results, while still providing value for the money. Considering this, contract management not only ensures that the necessary performance will be carried out if the circumstances change, but it also protects the interests of the parties involved. Jolly (2022:1) emphasised that contract management procedures are understood to be those that guarantee the parties to a contract fulfil their respective responsibilities to the greatest extent that is feasible to accomplish the operational and business goals that are both necessary and specified in the contract. Kingoto and Ismail (2021:188) added to the discussion by stating that the objectives of contract management are to actively manage the relationship between the parties involved, to strike a balance between the costs and the risks involved and to maximise the efficiency, effectiveness, and economy of service within a contractual relationship.

The only way for contract management to be successful, as stated by Mughal, Shahzad and Hashim (2021:5), is for pre-and post-contract activities to be carried out with the full support of all parties concerned. These parties include engineering, procurement, legal, financial, operations, and health and safety. The nature of the project that is being carried out will determine this decision. Mughal, Shahzad and Hashim (2021:16) claimed that successful contract management procedures are a sign of success and that it is vital for suppliers, clients, and service providers to collaborate with one another. To extract the most amount of benefit from the concept of good practice contract management, it is essential to effectively manage all the stakeholders. It will be a good idea to highlight the roles and responsibilities of the contract manager as well as roles and responsibilities of the contract team during the execution of the contract.

Management of the Contract Lifecycle

The preceding discussion places emphasis on the administration of contracts as an important part of contract management. The cultivation and maintenance of robust and flexible supplier relations is also a key component of the process and so is the ability to foresee events that may occur in the future, which may put the contract and the organisation at risk. This ability to anticipate things requires a high level of skill for the personnel that are involved in contract management.

Figure 2.2 Ten Stages of Contract lifecycle management (CLM)

Source: Adapted from Stinson (2021)

Pivotal to contract management is the use of information technology which should be a thread that links all the stages of management of the contract life cycle management. Figure 2.2 provides an outline of the contract life cycle. A brief discussion of each stage follows.

a. **Pre-award Stage**

During the pre-award stage, various cross-functional activities take place within different departments across the organisation to initiate and prepare for the tender documents, prior to ion until the contract is awarded. These activities include:

- **Contract Initiation**

The contract initiation marks the beginning of the contract lifecycle. It is the stage at which the organisation identifies the need to secure a contract for goods or services to fill specific objectives or requirements. According to Smith *et al*. (2020:25), this stage is critical in aligning organisational objectives with contractual obligations, ensuring clarity and purpose from the outset. However, Johnson and Thompson (2019:14) argued that inadequate initial scope of work or description of goods and requirements gathering can lead to poorly defined contracts, resulting in disputes and delays later, that can have costs implications in the contract.

- **Authoring**

Another critical part of the pre-award stage is contract authoring. Through this phase, the contract is drafted and prepared, outlining the terms, conditions, contract period and obligations of both parties involved in the agreement (Jones, 2018:42). Jones emphasised the importance of creating a strong contractual framework that includes all relevant aspects of the intended agreement. Conversely, Brown and Green (2019:67) suggested that very complex contracts may delay collaboration and innovation, supporting simpler, more agile contract structures.

- **Negotiation**

Negotiation is one of the critical roles in confirming the alignment of interests between the contracting parties. Both parties review the proposed contract terms, conditions, contractual obligations, contract period and necessary modifications and then discuss how

to reach a mutually beneficial agreement. Brown and Green (2019:67) emphasised the importance of effective negotiation strategies to achieve constructive outcomes while maintaining positive relationships between contracting parties. However, White and Black (2020:56) cautioned that overly argumentative negotiation tactics can strain relationships and lead to breakdowns in communication, recommending a collaborative approach to negotiation whenever possible.

- **Editing**

Post negotiations, the contract should be edited to include agreed-upon amendments or adjustments. This step ensures that the final contract accurately reflects the final mutually agreed-upon terms and conditions. Johnson (2021:38) concurred with the involvement of various stakeholders and subject matter experts to ensure thorough review and improvement of the contract document before proceeding to the next stage.

- **Approval**

The final step in the pre-award stage is contract approval. Once all negotiations and editing are complete, the contract is submitted for approval by the authorised individual with delegation of authority within the organisation. White (2017:55) stated that there was a need for careful analysis of the contract terms and conditions to ensure alignment with organisational policies, procedures and objectives, mitigating potential risks, and ensuring legal compliance. However, Roberts and Miller (2020:72) cautioned that quick approvals without suitable legal review can expose organisations to significant liabilities and unforeseen consequences. This function should be perfectly carried out by the legal team to mitigate all the possible contractual risks, that may occur.

b. Post-award Stage

The post-award stage takes place after tender evaluations and award of the business. It focuses on the execution, tracking, and auditing of the contract. The post-award process is outlined as follows:

- **Execution**

After the signing of the contract, the execution phase commences and access to the site is given, where the parties involved can carry out the activities to deliver goods or services as identified and stipulated in the contract according to the agreed contractual terms and conditions (Roberts and Miller, 2020:72).

- **Tracking**

Tracking performance throughout the lifecycle of the contract is very important to ensure compliance and assess whether the organisation is deriving maximum value from the contract. Vital metrics and milestones are closely monitored (Johnson, 2019:91).

- **Auditing**

Conducting audits of both open and closed contracts provides an in-depth evaluation of contract performance against agreed terms and conditions. Audits help identify gaps as well as areas of improvement and ensure adherence to contractual obligations (Davis *et al*., 2018:105).

2.11.1 Contract Administration

Patel, Patel and Mavarvadi (2015:232) stated that contract administration refers to the management of the contract that takes place between the client and the contractor during the duration of the contract for the purpose of delivering or providing products and services that meet the standards that were agreed upon. Because of this, contract administration can also be the methodical approach that the employer takes to carrying out job information. Each phase of the project includes information about the activities, such as a comprehensive planning process, and an evaluation of the feasibility of the project. The fundamental objective of contract administration is to enhance the relationship between the organisation and the contractor by eliminating potential sources of conflict and arbitration during the execution of the contract.

Contract administration is concerned with the day-to-day operations of the repetitive administrative activities as well as the practical aspects of the connection between the contractor

and the client (Eitjes, 2017:34). According to Mwangi (2018:16), the administration of contracts includes several critical components, including the management of contract alterations and amendments, the observance of the terms of the agreement, the timely tracking of invoices and payments, and the resolution of claims and disputes.

Komakech (2019:4) indicated that the process of contract administration takes place between the organisation and the contractor from the moment the contract is granted until, among other things, the items are delivered and accepted, the work is completed, the contract is cancelled, payment is received, and disagreements are resolved. This is what Enslin (2019:26) described as "the compilation, planning, and implementation of a contract". In a definition that is more all-encompassing, Oppong (2019:138) explained that contract administration included all the operations that are carried out once a contract has been awarded to the appropriate service provider or supplier. As such repeated duties associated with contract administration ought to be goal-oriented and planned to guarantee that the terms and conditions of the contract are satisfied. Furthermore, Mishra (2020:iii) identified the administration of contracts as a crucial stage in the process of project management whose primary objective is to bring to light the components of a project or contract that are not readily apparent. Teferi (2022:16) viewed contract administration as one of the responsibilities that included the management of the customer-provider relationship, the execution of the protocols that defined their interface, and the efficient running of routine administrative and clerical tasks.

The administration of a contract needs to be proportional to the value of the contract, the risk involved, and the degree of risk or complexity involved. Patel, Patel, and Mavarvadi (2015:232) stated that the idea was to provide direction and information concerning the management of contracts from the moment they are drafted, the handling of unresolved contractual issues, the administration of contracts in an effective and efficient manner, the implementation of performance management, and the management of contractual disputes.

Two of the most significant roles of the contract administration function were to deal with the day-to-day difficulties that arose pertaining to the relationship between the contractor and the client, as well as to carry out the repetitive administrative chores that were described in the contract (Eitjies, 2017:34). Kamble, Bhatt and Ghadge (2019:7) recommended that contract administrators receive training on legal doctrine and recognition of the requirements of the contract, as well as the importance of maintaining accurate records throughout the duration of

the contract. It is necessary to build a comprehensive transaction history that requires the contract administrator to be accountable, thereby guaranteeing that the paperwork for each contract or purchase order file is acceptable. The Contract Management Guide (2017:18) indicated that the administration of contracts comprises four components: financial administration, contract modifications, and contract extensions and renewals and records management.

Saarekas (2018:18) advised that management ought to distinctly identify and elaborate upon the process of contract administration to guarantee continuous contract monitoring and auditing. Failure to accomplish this will result in the failure of the initial contract approach. The author further advises that it is essential for the organisation to have constant control over the implementation and observance of contractual terms to ensure that the organisation is operating effectively. Therefore, it is necessary for all contracts to explicitly specify the obligations attached to the contract, which may include performance standards, rebates linked to pricing, service standard criteria, performance marks, or other revisions that demand the correct implementation of systems. Thus, as Adjabeng (2018:10) postulated, contract management encompasses not only the formal governance of the contract but also any alterations to the paperwork that are permitted during the life cycle of the contract. There are also allowable of a contract, which include things like progress and cash-flow reports and minutes. These can be utilised to supplement the fundamental contract administration that is explicitly mentioned in the contract conditions (du Plessis, 2019:143).

It should be noted that the administration of the contract is the responsibility of both the employer and the contractor. The employer is largely responsible for the administration, execution, and supervision of the contract, facilitating communication between the employer and the contractor, although the contractor is also responsible for the development of connections and trust between the parties involved as well as minimising or eliminating potential claims, conflicts, and barriers (Enslin, 2019:7).

The view of Maina and Osoro (2020:87) is that contract administrators are required to possess the ability to comprehend the requirements of the purchase document, explain the obligations of the contract to all parties concerned, and effectively exercise control over the fulfilment of the contract. Contract administrators are also responsible for participating in the creation of the contract and monitoring performance to ensure that the products and services provided are in line with the requirements. The identification and reporting of violations of contracts, as well as

the pursuit of remedies, is yet another essential obligation and so is the management of contract revisions whilst ensuring that the monies provided by taxpayers for contracts are used carefully. Insufficient contract management results in the failure of parties to a contract fail to meet their contractual obligations and commitments (Namakula *et al.,* 2022:188). The State Procurement Office offered a guideline on the process of managing and administering contracts. This is presented in Figure 2.3.

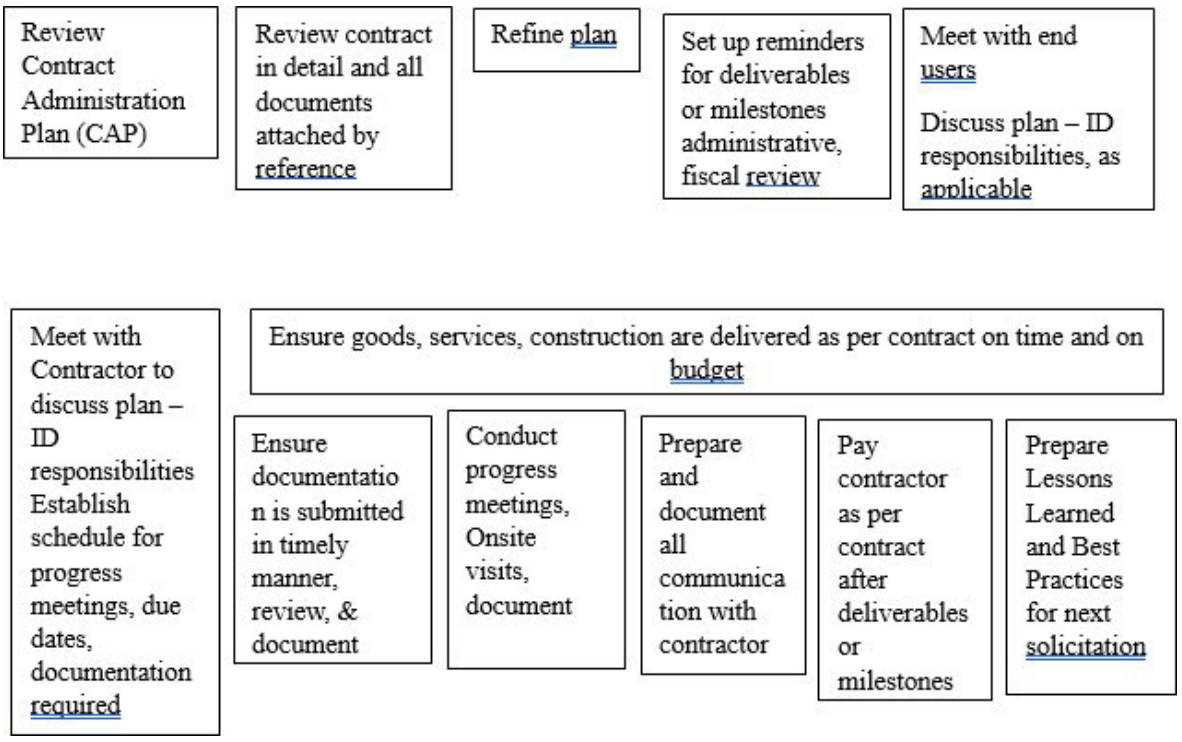


Figure 2.3: The Process of Managing and Administering Contracts

Source: Adapted from Hawaii Government State Procurement Office Contract Management & Administration. (n.d).

2.11.2 Competence

Competence, according to Sandberg (2000:9), refers to the intellectual resources (knowledge and skills) possessed by an employee, a manager or an entrepreneur in performing the tasks in an organisation. In the author's view, the resources in this context spread beyond the use of knowledge and skills in getting work done. It involves the ability of an employee or manager to

know what to do, how to do it and the strategy to employ to make it accomplishable. In throwing more light on competence through an interpretative approach, Sandberg concluded that employees, managers or entrepreneurs must be sufficiently experienced to effectively carry out tasks in an organisation, most specifically for work that needs a professional touch.

Garavan and McGuire (2001:23) posited that "competence is generally viewed as the minimum level of achievement that is necessary to perform that job effectively," While Schroeter (2002:2) viewed it as the capacity to carry out a particular task, action, or function successfully. It is also used to establish distinct standards among fields and specialisations. Gibb (2008:56) posited that competence is a state where an individual takes responsibility by applying knowledge and skills in their work performance by means of their acquired education and training. This should significantly reveal an individual's behavioural capacity and experience on task performance with the ability to successfully deliver good result without having any doubt about their judgement.

Hellriegel *et al.* (2008:98) agreed that the competence of an individual would be demonstrated by means of their: (a) knowledge, which can be divided into explicit and tacit types; (b) skills, which give an indication on how best the knowledge acquired is practised; (c) experience, which shows how often knowledge is repeatedly utilised; and (d) value judgements, which consist of emotions, values and beliefs. These components display the degree of passion and ethical conduct employed in the business to determine the ability to discover and ensure the retention of the best staff; the proficiency to improve the quality of employee performance; and to ensure that business activities are of a good and quality standard.

Sajgalikova Bajzikova, Polakova, and Wojcak. (2012:945) opined that the competence of a manager is based on the trust, credibility and the accessibility of information that enables them to produce prolific ideas and innovations. Hence, the manager is committed to a convincing comment for the purpose of attending to technical issues on which decisions are made through the application of knowledge, skills and experience.

The University of Michigan Health System UMHS (2012:3) developed a financial competence model which states that many organisations see the term 'competence' as the parameter for assessing task accomplishment with knowledge, skills and abilities. The model is aimed at aiding the performance level of work activities to reveal specialisation in managers, employees or

entrepreneurs through finance-specific competencies, finance core competencies and core competencies. However, the University of Michigan Health System UMHS (2012:3) posited that the proficiency of managers depends on how they can utilise their knowledge and skills to handle problematic issues within the organisation.

Dash, Pothal and Tripathy (2018:3) characterised competence as the capacity to carry out tasks precisely and accurately, effectively handling supply and demand by integrating lead time and other industrial management concepts to reduce costs and boost output. Eliah and Athumani (2020:375) concurred that employee competency refers to the applied knowledge, abilities, performance delivery, and behaviour needed to do tasks within the organisation with excellence. Matunga, Ngugi and Odhiambo (2021:14) contributed to this discourse by stating that competence is a set of related behaviours, including commitments, knowledge, abilities, and skills that allow an individual or organisation to function effectively and efficiently in each task or circumstance.

Mlinga (2008:11) found that insufficiently skilled employees are the primary cause of ineffective contract management. Yadollahi, Mirghasemi, Zin and Singh (2014:4) suggested that inadequate knowledge and skills led to poor communication, which in turn, could damage the relationship between the contractor, contract manager, project manager, and the client. Organisations require managers to be knowledgeable, skilled, and possessing the necessary communication and project management abilities. Cullen (2015:2) stated that managers should be able to manage outputs rather than inputs with the ability to ensure periodic oversight of contract planning and reviews. They should possess the ability to negotiate effectively.

Pecherskaya *et al.* (2016:3074) recommended that project and contract competencies be established to assess quality, capability, and individual styles. Additionally, problem-oriented tactics based on the professional competencies of contract managers should be implemented to form a knowledgeable ability to apply acquired knowledge and skills in specific environments independently, as well as the ability for contract managers and administrators to self-educate and self-develop.

Saunders (1999) in Hamza and Ali (2016:23) recommended that multiskilling should be widely implemented as it provides workers with a variety of skills. All workers require intensive and ongoing education and training to adapt to the rapidly changing contract management industry.

Thus, for organisations to determine the best course of action for bridging their skills gaps, they must first determine the extent of the acknowledged gaps in each employee's skills before determining whether to hire new talent or upskill current staff members through learning initiatives or on-the-job training (Mkhonza and Letsoalo, 2017:33). This practice of analysing the current skill set within the organisation will help it to match the skills needed for the accomplishment of its strategic objectives. When the exercise is fully carried out, it will notify the organisation of any skills gaps in their workforce. The state or quality of being suitably or well-qualified and having the capacity to carry out a specific role or duty is known as a competency. A competency encompasses a combination of knowledge, skills, and behaviour that is utilised to improve performance (Mesa, Kwasira and Waweru, 2017:313).

The Federal Ministry of Health National Medical Supplies Fund (2017:7) in Sudan proposed seven definitions of workplace competencies and behaviours that were required from employees to manage daily tasks as are also required from those who are involved in contract management. Definitions are outlined in Table 2.3.

A comprehensive review of workplace competencies and behaviours important for effective contract management within the Federal Ministry of Health National Medical Supplies Fund in Sudan (2017:7) revealed a structured framework encompassing seven key areas. The main competency areas are instilled with nuanced dimensions crucial for navigating the complicated landscape of effective contract management and these are:

C**omputing and data skills** underscored the imperative for employees to possess not merely a basic familiarity but a strong expertise in leveraging computer systems and associated technologies (Jones *et al*., 2018:5). Mastery in this realm not only improves operational efficiency but also empowers employees to connect the potential of data analytics and digital platforms to inform decision-making processes.

Communication and interpersonal skills appeared as initial pillars underpinning effective contract management (Sias and Jablin, 2020:3). Beyond the mere transmission of information, adept communication entails the strategic selection of communication channels and styles tailored to diverse stakeholders and contexts. Accordingly, proficiency in interpersonal dynamics fosters rapport-building and facilitates collaborative endeavours essential for negotiating contracts and resolving disputes.

Kepner and Tregoe (2016:78) observed that for effective contract management, **problem solving and decision making** were competencies that were of paramount importance. Contractual engagements often present complex challenges and uncertainties, demanding the capacity to direct complexities and arrive at well-informed decisions aligned with organisational objectives. Competence in this field entails the ability to produce information, analyse contractual risks, and develop strategic solutions that improve outcomes while mitigating potential risks.

Table 2.3: Definitions Linked to Behaviour and Workplace Competencies

No.	Competency Area	Definition
1.	Computing and Data Skills	The competencies required to use computers and related technology efficiently and effectively.
2.	Communication and Interpersonal Skills	Competency requires conveying information to others effectively and efficiently while selecting a communication style that is both suitable and effective for a given situation.
3.	Problem Solving and Decision Making	The competencies required to resolve challenging or complex challenges and make appropriate, informed decisions that consider the facts, goals, constraints, and risks.
4.	Teamwork	The competencies required to work and engage conveniently with internal stakeholders.
5.	Accountability and Responsibility	The competencies required to ensure the quality and timeliness of work and achieve results with little oversight. Attends to detail and follows quality outputs in completing task.
6.	Initiative and Creativity	The competencies required to manage ambiguity and complexity and participate in proactive behaviour, developing new ideas, grabbing opportunities, and acting.
7.	Conflict Management	The competencies required to resolve complex or sensitive differences and conflicts in a sensible, fair, and efficient manner.

Source: Federal Ministry of Health National Medical Supplies Fund Sudan (2016:7)

Teamwork is positioned as a cornerstone competency for effective contract management within the organisation (Katzenbach and Smith, 2015:112). Collective engagement with internal stakeholders encourages a synergistic environment where various viewpoints converge to propel

projects forward and collectively overcome difficulties. Harnessing the collective intelligence and expertise of team members fosters innovation and enhances the quality of contract deliverables.

Accountability and responsibility created basic principles governing the conduct of employees engaged in contract management (Zepeda, 2017:92). Maintaining high standards of accountability entails a thorough commitment to the quality and timeliness of work deliverables, tied with a positive nature towards problem-solving and continuous improvement. This competency underscores the importance of independence tempered by a strong attention to detail and adherence to established protocols.

Amabile and Pratt (2016:162) stated that **initiative and creativity** emerge as promoters for driving **innovation and adaptability** within the evolving landscape of effective contract management in an era characterised by rapid change and uncertainty, the ability to embrace ambiguity and proactively identify opportunities assumes heightened significance. Competence in this domain permitted employees to exceed conventional boundaries, explore novel solutions, and capitalise on developing trends to optimise contract outcomes.

Finally, **conflict management** characterised the art of directing differences and disputes in a constructive manner conducive to preserving productive working relationships (Fisher, Ury and Patton, 2015:87). Effective conflict resolution stresses a judicious blend of empathy, tact, and assertiveness, guided by a commitment to fairness and mutual respect. Competence in this field equips employees with the skills necessary to de-escalate tensions, facilitate dialogue, and negotiate mutually beneficial resolutions.

In creating these diverse competencies and behaviours, a complete framework emerges to guide the cultivation and assessment of employee competences essential for effective contract management within the organisation. By nurturing a culture of continuous learning and development, organisations can empower their employees to navigate the complexities of contract management with confidence and agility, thereby evolving their mission of delivering quality services.

Kepner and Tregoe (2016:78) observed that for effective contract management, **problem solving and decision making** were competencies that were of paramount importance.

Contractual engagements often present complex challenges and uncertainties, demanding the capacity to direct complexities and arrive at well-informed decisions aligned with organisational objectives. Competence in this field entails the ability to produce information, analyse contractual risks, and develop strategic solutions that improve outcomes while mitigating potential risks.

Teamwork is positioned as a cornerstone competency for effective contract management within the organisation (Katzenbach and Smith, 2015:112). Collective engagement with internal stakeholders encourages a synergistic environment where various viewpoints converge to propel projects forward and collectively overcome difficulties. Harnessing the collective intelligence and expertise of team members fosters innovation and enhances the quality of contract deliverables.

Accountability and responsibility created basic principles governing the conduct of employees engaged in contract management (Zepeda, 2017:92). Maintaining high standards of accountability entails a thorough commitment to the quality and timeliness of work deliverables, tied with a positive nature towards problem-solving and continuous improvement. This competency underscores the importance of independence tempered by a strong attention to detail and adherence to established protocols.

Amabile and Pratt (2016:162) stated that **initiative and creativity** emerge as promoters for driving **innovation and adaptability** within the evolving landscape of effective contract management in an era characterised by rapid change and uncertainty, the ability to embrace ambiguity and proactively identify opportunities assumes heightened significance. Competence in this domain permitted employees to exceed conventional boundaries, explore novel solutions, and capitalise on developing trends to optimise contract outcomes.

Finally, **conflict management** characterised the art of directing differences and disputes in a constructive manner conducive to preserving productive working relationships (Fisher, Ury and Patton, 2015:87). Effective conflict resolution stresses a judicious blend of empathy, tact, and assertiveness, guided by a commitment to fairness and mutual respect. Competence in this field equips employees with the skills necessary to de-escalate tensions, facilitate dialogue, and negotiate mutually beneficial resolutions.

In creating these diverse competencies and behaviours, a complete framework emerges to guide the cultivation and assessment of employee competences essential for effective contract management within the organisation. By nurturing a culture of continuous learning and development, organisations can empower their employees to navigate the complexities of contract management with confidence and agility, thereby evolving their mission of delivering quality services.

There was therefore consensus in the literature that competence was a general concept that encompassed knowledge, experiences, attitudes, and behaviours that were causally linked to advanced process completion and that organisations were required to provide training programmes that are tailored to their goals and needs (Salome, 2018:12; Makhanya, 2018:51). The contract management training programmes for senior management must keep up with the most recent technological advancements and senior management must consistently take action to ensure that their staff members uphold the values of the organisation. Contract management called for contractual expertise and a framework that enables businesses to make commitments in line with predetermined business goals (Sacklen, 2018:57). There was a need for a specific level of readiness and skill to do an assignment or piece of work (Katidjan, Pawirosumarto and Yuliani, 2018:283). Kafile and Fore (2018:11) emphasised that if a project's contract was not carried out by employees possessing the necessary skills, the hiring manager should bring on new team members who could bridge the skill gap. This was because the lack of skills necessary for a project can result in the project failing entirely.

Makhanya (2018:41) issued a warning, stating that when an organisation decided whether to invest in employee training, it should consider the psychological factor that could prove to be decisive. Specifically, if an employee decided to change jobs after completing the training programme, the organisation risked losing its investment to competitors. Businesses were turning to alternative methods of employing workers who have previously received training from other businesses.

Henkel and Bourdeau (2018:9) stated that the interpersonal skills of a project manager or contract manager were typically linked to maturity and readiness, which was a combination of competence in task-relevant knowledge and skills as well as transferable skills, commitment to include motivation, self-conference, and attitude toward others. According to Chang (2019:19), considering a worker's professional registration certificates with the appropriate board

authorities, is another way to gauge their ability as it relates to contract management execution of works. Mwendwa and Ochiri (2019:52) recommended that it was imperative that organisations designated a contract manager with sufficient training and expertise in the area they are overseeing. A contract management team must have the abilities and know-how to oversee contracts as well as maintain good working relationships with their contractors.

Putra and Riyanto (2020:57) suggested that training and education were two important components of competency. Through the transfer of specific knowledge, attitudes, and abilities to meet the requirements and competence in carrying out their activities, education and training activities are viewed as a key method of developing the apparatus of competency. It is evident that education and training are essential tactics for enhancing human resources. These techniques encompass expanding knowledge, developing skills and abilities, altering attitudes and behaviours, and fixing whole performance deficiencies. The emphasis here is on the person's capacity or influence to satisfy organisationally specified standards for work. Setino (2018:127) advises and Okereke, Zakariyau and Eze (2021:23) concurs that SOEs should make ongoing investments in the professional development of the contract teams.

Effective contract management therefore hinges on employees who possess the necessary knowledge, skills and abilities for the position, in other words, competent employees. (Mihungo and Mwagike, 2021:49). To guarantee that the staff members assigned the duty of managing contracts possess the necessary technical expertise as well as soft qualities like cooperation, negotiation, and communication, they should be chosen using objective standards. The personnel in charge of the contracts must contribute significantly and meaningfully to making sure that the organisation's contractual goals are fulfilled in full and at the lowest feasible cost.

2.11.3 Information Technology

Technology is generally understood to be the pursuit of life through organisation of organic matter, both material and immaterial, that is produced through the application of both physical and mental effort with the intention of achieving some kind of value (Kibogo and Mwangangi, 2014:5). Castagna and Bigelow (2021:3) posited that information technology (IT) is the use of any computers, storage, networking and other physical devices, infrastructure and processes to create, process, store, secure and exchange all forms of electronic data. Typically, IT is used in

the context of business operations as opposed to technology used for personal or entertainment purposes.

Muzapu *et al*. (2016:96) advised that significant changes in the workplace over the past few decades have necessitated the acquisition of new skills due to technology advancements. Managers are faced with multiple activities which can be tedious and time consuming and this serves to adversely slow down job performance and progress in the workplace. In attempting to reduce the workload and tension in meeting the organisation's goals, managers need to incorporate IT to lessen the stress and to tighten operational security against fraud and pilfering. This also helps with good record keeping.

Within the context of contract management, Wafula and Makokha (2017:4) observed that IT directly and favourably affects efficient contract management procedures. Seeing that contract administration has been placed at the centre of contract management, Mwangi (2018:19) proposed that digital contract register systems or archives would be helpful for providing an overview and important details when keeping an eye on contracts. Such a system ought to include up-to-date data on contract modifications, delivered goods and services, costs, duration of the contract, and the contract manager. A good contract management system can realise paperless and automatic management in addition to the scientific management of contracts (Ji and Ji, 2018:506). This system may effectively assist enterprise management to make decisions by integrating historical data as well as dynamically recognising changes in the data. Technological advancements happen quickly, necessitating contract modifications to stay up to date. Businesses thus need to keep up to date on the latest business practices of the digital economy. Ben-Shahar and Porat (2019:322) advised that contracts should therefore be flexible to allow organisations to adapt to the rapid advancements in technology and the various business models. Employees' attitudes regarding computer use will determine how they react and adapt to technological changes (Myeza, 2019:37).

Contract management involves a great deal of data and information on contract award, modification, and payment related to various projects; this necessitates knowledge integration, storage, and communication (Chen, Wang and Li, 2019:2). All contract documentation can be stored in the contract management system, which will replace the conventional paper-based method and enable easy access to information instead of requiring a laborious manual search through a sizable amount of paperwork to find the information needed.

Two aspects of the contract that should be adaptable are the services provided and the procurement procedure, to keep up with the quick changes in technology and business practices. Contract management software, according to Basazinew (2020:32), enables the company to bring in new business faster so that the team could rapidly create new contracts by using the software's standard contract templates collection because ensuring that the contract is tailored to the interests of both parties takes up more time than adopting the former practice. Contract management software aids in the organisation's contract monitoring for potential future improvements as well. Information technology integration can improve an organisation's management effectiveness while reducing the inadequacies brought about by unsatisfactory supplier performance, erratic buyer demand, and an uneven market environment (Manandhar and Chatterjee, 2021:18).

Benefits of contract management software that bring value in the contract management space, can be summed up as cost savings and revenue gains, reduced risks and liability, increased productivity and agility and increased scalability.

2.11.4 Risk Management

Risk management includes organisational policies and processes for recognising, evaluating, responding to, and controlling possible risks as well as tracking and regulating the effectiveness and financial success of the organisation's risk management initiatives. There is a great arrangement of variance in the risk management process, and different employees within the organisation may interpret it in different ways. As a result, risk management activities could be distributed and lack high-level oversight and visibility (Cooper *et al.;* 2014:35; de Oliveira *et al*., 2017:616).

The process of risk management has been broken down into smaller steps or categories. Dziadosz and Rejment (2015:258) and de Oliveira *et al.* (2017:616) have broken down the risk management process into four categories which are risk identification, risk classification, risk analysis and risk response. Wang *et al. (*2016:203) proposed a further split, which is focus, identify, structure, ownership, estimate, assess, plan, and manage. The Project Management Institute (PMI) (2017:10) proposed five steps as risk planning, risk identification, risk analysis, risk response, and risk monitoring and control. Lalonde and Boiral (2012:881) and Purdy (2010:272) also confirmed risk identification, risk analysis and evaluation, and risk response and

management as the required steps. It is therefore safe to argue that all these categories converge into four focus areas in the process of managing risks and these are risk identification, risk analysis, response and monitoring.

2.11.4.1 Risk Identification

The first step in the risk identification process is to establish the goals of the project. The next one is to determine, categorise, and evaluate the risks. Checklists, flow charts, systems analysis, brainstorming sessions, stakeholder engagements and discussions, reviewing previous records of related project matters, and SWOT analysis (strengths, weaknesses, opportunities and threats) are all useful tools and techniques in this process. Meng and Boyd (2017:720) advised that these methods must be appropriate for the given project, its unique risk categories, the organisational setting, and the goals of the risk management analysis. The risk identification procedure, as Ziyu *et al*. (2017:850) posited, results in the compilation of a risk register that contained the risk description, estimated impacts, risk probability and risk score. The origin of each risk source and impact is crucial during this procedure (Altoryman, 2014:23). To anticipate and hopefully avoid potential claims or disputes, it may also be vital to highlight the potential internal and external risks to the client, contractor, and project team as well.

2.11.4.2 Risk Analysis

Risk analysis or assessment can be described as an evaluation of the level and importance of risk. This is undertaken by conducting an examination of the qualitative and quantitative data that is currently available regarding the risk description, including effects and probabilities, and measurement of the risk's influence on project outcomes. This assessment requires an expert (de Oliveira *et al*. 2017:617; Dziadosz and Rejment, 2015:258). Examples of qualitative tools and procedures that are used are descriptive analysis, ranking, comparing, and direct judgment. To improve accuracy, quantitative tools and instruments that can be used are scenario analysis, correlation analysis, probability analysis, sensitivity analysis and simulation analysis (Minassian and Jergeas, 2009:25).

2.11.4.3 Risk Response

The goal of the risk response process is to assess the potential effects of the hazards that have been discovered and come up with strategies to minimise any negative effects and maximise any

positive effects. Like the risk identification process, there are numerous ways to segment the risk response process according to different projects and organisations. Dziadosz and Rejment (2015:259) as well as de Oliveira *et al*. (2017:617) have divided risk responses into four categories: avoidance, reduction, retention, and transfer. However, Figueiredo and Kitson (2009) proposed six categories, avoidance, mitigation, acceptance, research, transfer and monitoring. Finally, the Association for Project Management's (APM)s Project Risk Analysis and Management (PRAM) guide (2004:16) divided risk responses into a slightly different group of four categories: remove, reduce, avoid, transfer, and acceptance. All the above categories are centred on negative impact. However, a few authors have focused on the advantages, or the potential benefits that a risk may present, citing that these may present an excellent management opportunity (Cooper *et al.,* 2005:44) and Hillson and Murray-Webster (2004:7). These authors maintained that risk could result in both loss and gain, including profitable opportunities. Examples of opportunities for management include:

- Enhancement: Taking steps to raise the possibility that an event (opportunity) will occur or to raise its favourable impact.
- Exploitation: Ensuring that an opportunity will arise and that its beneficial impact will be realised.
- Rejection: Choosing not to seize or improve the chance.
- Sharing: When the cost of sharing is lower than the cost plan, the parties agree to share the gain but up to predetermined limits.

Risk response can thus be approached in several ways:

a. Avoiding Risk

Although it is never possible to eliminate risks, it is possible to do so in part by avoiding them before the project is started and in part by modifying the project plan (Larson and Gray, 2017:179). Altoryman (2014:24) stated that a risk avoidance strategy was an ongoing process of decision-making aimed at totally avoiding a specific danger. Oliva (2016:66) offered several risk-avoidance strategies, including simplification of the project, decreasing the standards of quality for project deliverables, and getting rid of dangerous operations.

b. Mitigating Risk

Two ways to mitigate risk have been identified and these are:

- Reducing of the chance that the risk will materialise and
- Reducing the effect that the risk would have on the project if it does. Since reducing a risk's impact usually entails greater costs, risk teams typically prefer to reduce the possibility that the risk will materialise (Larson and Gray, 2017:180).

d. Transferring Risk

Transferring a risk to a different party does not alter the risk itself, but it can alter the impact the risk has on the project by going to the party with the most influence over it. Insurance appears to be one method, but it does not truly transfer the risk. Instead, it transforms the initial risk into a credit risk, which may be costly for a big enterprise. Due to this, modern terminology uses “risk sharing" rather than "risk transfer." In situations with financial risk components, the contract bid price is another tool for risk transfer (Larson and Gray, 2017:180).

e. Sharing Risk

Contractors and clients may work together to draft a contract that divides up the risk. According to Altoryman (2014:24), there are several forms of contractual agreements for risk sharing. For example, in a fixed-price agreement, the contractor bears almost all of the risk; in a fixed-price agreement with incentive fees, the contractor bears up to 60% of the risk and the client bears the remaining 40%; however, in a cost plus incentive fee agreement, the contractor bears up to 40% of the risk and the client bears the remaining 60%; while in a cost plus fixed fee agreement, the client bears all of the risk.

f. Retaining Risk

Risks such as an act of God cannot be shifted or avoided. They can still be kept by implementing a contingency plan, which is a backup plan that will be implemented to reduce the contract's potential negative effects should that specific risk happen (Hwang, Zhao and Chin, 2017:209). For example, with insurance, retaining risk can also mean formally transferring the expense of such risk from one party to another (Torp *et al*., 2016:1177).

2.11.4.4 Risk Monitoring and Control

The objective of the monitoring and control process is accepting that risk identification, analysis, and response processes are ongoing. This process requires monitoring the risks listed in the risk register on a regular basis; evaluating the project assumptions; assessing whether the risk state has changed through trend analysis; confirming that appropriate risk management policies and procedures are being followed; adjusting the contingency reserves such as cost and schedule in line with project risks; evaluating the effectiveness of risk responses; and identifying, evaluating, and developing responses to new risks (De Oliveira *et al*. 2017). This sub process involves noticing new risks not only if the project and its surroundings alter, and new hazards arise, but also if a risk response is put into action and a new danger known as a secondary risk is created (Cooper *et al*., 2014:36). Each person involved in a project carries some risk at some time and every project entails both risk and uncertainty. Therefore, during the project's life cycle, contracts should divide up the risk-taking parties among themselves (Al Mousli and El-Sayegh, 2016:354).

2.11.5 Relationship Management

Relationship management, according to the QAHE Association. (n.d.:7), is an organisational strategy that involves upholding a constant state of duty between the organisation and its audience. In the context of this study the relationship to be managed is a business relationship that exists between an organisation that purchases goods or services and a contractor, the supplier and service provider that supplies goods or renders services. This type of relationship-building is known as supplier relationship management (SRM). Lambert and Schwieterman (2012:337) described SRM as the "business process that provides the structure for how relationships with suppliers are developed and maintained." Rockson, Owusu-Anane and Sey (2017:27) viewed SRM as the discipline of strategically planning and managing all interactions with third party organisations, also known as suppliers, service providers, or contractors that provide goods or services to another organisation, with the goal of maximising the value of those interactions. Opaleye, Ojelade, and Aremu (2020:13) and Wahyudi, Bangu and Muda (2021:436) supported the above statements, emphasising that they represented a comprehensive method for managing interactions between organisations that supplied goods and services and those that purchased those goods and services.

Hilsdorf and Romano (2012:9) advised that SRM strategies should be considered as important for managing industrial corporations that wanted to achieve expressive results when supplying goods and services, which ultimately led to the achievement of the business's stakeholders' goals. Good communication between parties that is founded on mutual respect, trust, understanding, openness, and accountability is essential to effective relationship management. This practice aids in maintaining a positive and amicable relationship between the contractor and supplier, easing tensions, and spotting problems quite early. Additionally, the Handbook for Government agencies (2011:22) revealed that not all contracts require a relationship manager in addition to a contract manager. However, for big, expensive, complicated, or high-risk relationships – the contracting parties, the agency, and the supplier may all require a relationship manager.

It is the responsibility of relationship managers to foster an atmosphere of mutual respect, open communication, and a team-oriented mind-set. Peer-to-peer communications at all levels is a crucial responsibility for relationship managers. The managers are also in charge of handling disagreement resolutions, settling conflicts between the agency and the supplier, and managing upward to make sure top management is aware of problems before they get out of hand and can take appropriate action. Finally, setting up regular reporting procedures and planning forums, seminars, training sessions, and other information-sharing are also crucial.

One of the goals of relationship management, according to Sarkar (2015:22), is to maintain an open and positive relationship between the economic operator and the contracting authority to identify potential issues early on, ease tensions, and find opportunities for improvement. A professional attitude to handling problems and disputes must always be a part of relationships.

Another important goal of SRM is to streamline and improve the processes that an organisation and its suppliers use to handle contracts (Nyamasege and Biraori, 2015:27). Prempeh (2015:34) elaborated that relationships could exist from the outset of a contract due to the intricacy or importance of the job involved, which called for the originator to support the supplier or service provider. A poor choice could result in a difficult relationship between the contractor and the client in addition to the project failing (Elsayah, 2016:65). For this reason, Waigwa and Njeru (2016:25) noted that a bad principal-agent relationship would also negatively impact the procuring organisation's connection with its suppliers, which could lead to performance delays or even lower-quality service delivery.

Panontongan (2017:52) further emphasised that the primary objective of supplier relationship management was to maintain and strengthen ties with suppliers. Additionally, it sought to manage conflicts and the breakdown of business relationships, both of which managers should be prepared to deal with when they occurred. Rockson, Owuse-Anane and Sey (2017:27) warned that SRM was generally regarded as a complex business process that required resource allocation from both the buyer and the supplier to produce a set of complex outcomes.

For this reason, contracts should be used to manage connections with outside organisations (Mutua, Waiganjo and Oteyo, 2014:26). Supplier relationship activities are important because they need role players to voluntarily share risks and rewards to sustain the connection over time. (Nyamasege and Biraori, 2015:30).

Go Shared Services (2015:4) asserted that good management of contracts and relationships with contractors was essential to guaranteeing the timely and cost-effective delivery of the strategic priorities agreed upon at the outset of the contract. It is imperative to promptly identify instances of non-compliance or modifications in orders to facilitate appropriate escalation and resolution. To maintain ongoing improvement, managing relationships is also essential for managing risks and costs, initiating reviews, and using lessons learned to inform commissions when products and services are purchased.

Developing positive relationships with suppliers was essential for generating flexibility, according to Senzu and Ndebugri (2017:80). This enabled suppliers to readily assist if a sudden increase in the volume of goods to be purchased is needed. With the goal of optimising value, SRM is therefore understood to include the strategic planning and management of all interactions with suppliers (Singh *et al.,* 2017:2). According to Singh *et al.* (2017:2), supplier development, supplier integration, supplier monitoring, and supplier selection and evaluation are the main management tasks of supplier management.

Rucha and Abdallah (2017:251) highlighted the significant role that SRM plays in the reduction of costs and the optimisation of performance in organisations. Emmanuel and Haruna (2017:8) supported for this statement by stating that the establishment of positive and healthy relationships with suppliers enabled them to be accommodating and supportive if their customers demanded an unexpected increase in the quantity of goods or services.

Sandybayev (2017:8) suggested that to maintain long-term relationships with suppliers or contractors, the organisation should sign contractual agreements that clearly defined each party's roles and obligations during the execution of the project. It became difficult for the organisation that was contracting with the contractor to build a strong working relationship with the contractor if the contract did not address the appropriate concerns that were required in the agreement, such as word ambiguities (Wafula and Makokha, 2017:4).

Mesa, Kwasira and Waweru (2017:318) advised that the presence of a suboptimal principal-agent connection leads to a reduced degree of commitment from top management, which in turn impacts the relationship between suppliers and organisations. Supplier relationship management compelled businesses to adopt a new perspective on openness and enabled the development and maintenance of strategic relationships with important suppliers (Rucha and Abdallah, 2017:252). It should be highlighted that long-term relationships can only be sustained by local objective alignment, communication, trust, commitment, value addition, and buyer and seller satisfaction. These factors can turn basic suppliers into strategic partners (Dash, Pothal and Tripathy, 2018:3). The use of SRM strategies is crucial for industrial organisations seeking to achieve strategic goals and expressive outcomes in the provision of their goods and services, as well as to methodically meet the needs of interested parties (Hilsdorf and Romano, n.d.:9).

Yegon and Mbeche (2018:634) posited that contract agreements should serve as a project's references and guidelines for the contractual parties' interactions with one another. Therefore, to obtain successful outputs during the contract's execution, parties must comprehend the needs of the agreement as well as the information contained in the documents and the spirit of the contractual connections. Effective communication between the parties is of utmost importance as this develops good relationships (Klobučar and Erjav (2019:92), cooperative problem solving and mutual trust (Lifard, 2020:23).

a. Strategy

The business needs to design a strategy with precise, quantitative and attainable goals and objectives for its supplier relationships, which are well communicated to all the stakeholders. These should be evaluated every quarter, and any necessary adjustments need to be made.

b. Power-leverage

A market analysis should be carried out that compares annual spend to supplier turnover and buyer expertise. This analysis should be carried out from the perspective of the provider. For a partnership to be successful, an organisation and its supplier should be on equal footing and must be able to take appropriate action quickly.

c. Segmenting

The process of segmentation makes it feasible for a company to effectively allocate its resources. This process also assists the organisation in selecting which suppliers they should build commercial partnerships with.

Figure 2.7 depicts a framework for the value creating supplier relationships as proposed by Mäntylä (2021:61).

Figure 2.7 Proposed Framework for Value Creating Supplier Relationships.

Source. Adapted from Mäntylä (2021:61)

2.11.3 Theoretical Framework

There are six theories that underpin this study. These have been identified as the relational contract theory, game theory, incomplete, stakeholder, property rights theory, principal-agency theory and the transaction theory. Each of these are outlined in the following sections.

2.12.1 Relational Contract Theory

Michler and Wu (2020:119) stated that even if a relational contract has been established, the formal contract can still be chosen if the relational contract has been discontinued. However, whether formal contracts complement relational contracts is still not theoretically clear cut. Therefore, at this stage, "relational contracts are only second-best outcomes as compared with what formal contracts can achieve in a world of perfect information and costless enforcement" (Michler and Wu, 2020:119).

In a study conducted in Hong Kong, it was revealed that this theory was adopted as the way forward to address regular conflicts in projects and to promote sustainable development. There was a need to improve collaborative attitudes and behaviour among project team members in relational contract projects, but there is still a lack of understanding of factors that can promote this inter-organisational collaboration (Memon *et al*., 2021:1).

Dagba and Dagba (2019:5) suggested that relational contract theory is about social associations and the effect of behaviour activities, that cause interpersonal authority to work to improve the specific interchange risks steered by formal contracts, such as risks connected to exchange associations, for example: insecurity, investments and challenging performance dimensions.

2.12.2 Game Theory

Game theory has stored significant attention for its application across various fields, including economics, political science, and strategic decision-making. Tvarnø and Schleimann (2019:2) characterised game theory as a mechanism for clarifying the outcomes of contract negotiations and guiding behaviour to achieve mutual value within contractual relationships. This conceptualisation emphasised the value of game theory in examining interactions among parties within a contractual framework, especially when the goal was to improve outcomes that were advantageous for all stakeholders involved.

The application of game theory in construction contracts has been insufficiently examined. Grzyl, Apollo, and Kristowski (2019:1) noted that there had been limited research on the application of game theory by general contractors in construction disputes, especially regarding strategies that could result in favourable results in legal conflicts with investors. The existing gap in the literature highlights the obligation for additional research on the application of game theory in informing decision-making and conflict resolution strategies within construction contract disputes.

Huynh (2021:3) provided a formal definition of game theory, symbolising it as a mathematical model applicable across various fields. This mathematical framework created the basis for analysing strategic interactions, wherein the outcome was reliant upon the decisions of multiple participants, not solely one player's choice. Ullah *et al.* (2024:14) described game theory as a method for analysing multiple rational agents with shared interests to optimise their strategies. The author asserted that game theory is especially valuable in situations involving multiple decision-making organisations, each possessing different capabilities and objectives. Interactions may vary from cooperative to adversarial, with game theory offering a framework for modelling and forecasting outcomes based on the decisions of each participant.

Jain, Kumar and Bhat (2024:9999) elaborated on the expectations of game theory, indicating that players are expected to be rational and self-interested. This premise indicates that each player seeks to make decisions that maximises their individual benefit, considering both their own options and the potential actions of others. The characteristics of game theory make it a valuable tool for analysing situations in which parties have competing or conflicting interests while still needing to make strategic choices that affect the overall result.

2.12.3 Incomplete Theory

Incomplete contracts theory has reaped delicate interest in organisational studies as it clarifies how parties' direct uncertainty and make decisions when the complete range of potential consequences is not foreseeable at the time of contracting. Christensen, Nikolaev and Wittenberg-Moerman (2016:4) provided an important explanation of incomplete contracts, declaring that their existence arose from the failure of parties to anticipate every potential event (Christensen, Nikolaev and Wittenberg-Moerman, 2016:4). Due to this intrinsic unpredictability, renegotiations are often required as unforeseen changing conditions demanded

amendments to the contract's terms and conditions. Their study indicated that contract renegotiation was a critical component of the incomplete contract theory, rather than only a possibility. From this viewpoint, renegotiation was perceived as a balance process that corrected ex post inadequacies and was regarded as a natural and crucial reaction to the restrictions of an original contract (Christensen Nikolaev and Wittenberg-Moerman, 2016:23).

While renegotiation is a critical section of the theory, Tong (2017) observed that, in practice, flawed contracts may not always be apparent. In the absence of disputes throughout contract execution or when informal, verbal agreements were used to resolve potential conflicts, with issues resulting from incomplete contracts remaining invisible (Tong, 2017: 2). This suggests that the nature of the transaction and the connection between the contracting parties may impact the visibility and importance of incomplete contracts.

Wang (2017) elaborated on the concept of incomplete contracts by focusing on two fundamental components: the value-sharing plan and activity specification. Wang asserted that if any of these elements was ineffectively expressed, the contract was believed to be incomplete. The parties engaged in such situations generally understand the actions and outcomes that should emerge ex post, allowing them to make decisions established on this shared information, despite certain elements potentially being misplaced from the contract. Conversely, despite a strong contract addressing all criteria, the parties may still want to revise the terms and conditions if unexpected incidences arise (Wang, 2017:4-13).

Oosthuizen (2019) offered a more thorough perspective on the theory, emphasising the transaction cost challenges inherent in incomplete contracts. They argued that when the expenses linked with managing contingencies such as monitoring or implementing specific actions were supposed to exceed the possible benefits of such oversight, contracts were often ineffectively defined (Oosthuizen, 2019:1). This perspective highlights that incomplete contracts do not just stem from carelessness or oversight, but rather from the careful choice of contracting parties who carefully weigh the benefits of flexibility in addressing future uncertainties, against the expenses of describing every possible contingency.

2.12.4 Stakeholder Theory

Muhwezi and Ahimbisibwe (2015:79) advised that for any contract to be fully executed, numerous challenges including conflict among stakeholders, allocated resources, changes in original terms and conditions of the contract were anticipated. This improves problem solving capabilities and responsiveness to any challenge that may occur during the execution of the contract.

The stakeholder's theory was established to support organisations on how relationship management affected supply chain performance through supporting different stakeholders such as suppliers, service providers, contractors, government, civil society and several user departments in ensuring appropriate contract management is followed (Lesere, 2018:43).

Stakeholder theories recommended that managers in organisations have a network of relationships to help, including suppliers, employees and business partners (Lesere, 2018:43). According to Langrafe *et al.* (2020:298), this theory was established in the 1980s as a response to the growing dynamism and complexity of the environment in which organisations operate.

2.12.5 Property Rights Theory

The theory of property rights significantly impacted on contract management by managing the changing aspects of ownership, application and allocation of resources in trade agreements. He, Tong and Xu (2022) suggested that the importance of clear property rights to encourage business investment in resources, indicated that a well-defined property efficiently created organisations to participate in resource allocation.

Contractual agreements are often based on enforceable conditions, designed to minimise unprincipled behavior among stakeholders. Zhao, Gu and Wang (2022) described how contractual governance outlined relations between the contracting parties, reducing the possible for opportunism, which could demoralise relationships with stakeholders. The application of contracts not only protects the interests of the parties involved but also supports the stability necessary for helpful engagement. Legal frameworks surrounding property rights, as highlighted by Moringiello and Odinet (2022), can enable or delay the strategic placement of resources within the organisations.

2.12.6 Principal Agency Theory

Yegon and Mbeche (2018:632) explained that the objective of this theory is to provide an explanation for, and a solution to, the issues that arise when one organisation (the agent) is responsible for making decisions on behalf of another organisation (the principal).The primary focus of agency theory is on the competing aspirations that the principal and the agent have when they are working toward their different goals and objectives (Kibogo and Mwangangi, 2014:4).

Agency theory seeks to explain the relationships between principals and agents, focusing on the challenges that result from when one party (the principal) delegates authority to another party (the agent). In a business context, the principal naturally refers to the acquisition party or buyer, while the agent represents the supplier or service provider. This theory stresses the necessity for mutual understanding between both parties concerning their respective desires and expectations to ensure effective relationship and optimal outcomes (Adjabeng, 2018:15).

The central principle of agency theory lies in the principal-agent relationship, where the principal involves the agent to execute certain duties on their behalf. This framework is mainly important in environments where the agent has specialised knowledge that the principal lacks, such as in procurement or project management contexts (Yegon, 2018:10).

The theory focuses on information-gathering tactics, such as information on the contractor, the market, the supply of goods or services, or both, as well as selecting an agent and keeping track of their performance. It emphasises the importance of both the contractor and the market. Specifically, as Amour (2014:12) stated, when a project contract is well-defined, well-planned, and explicit, the principal and agents will find it simple to satisfy one another's criteria in an efficient manner, which would ultimately result in the appropriate execution of the projects at the pre-arranged service level.

Principal-agent interactions are often utilised for the purpose of supervising and managing outsourced projects, which may include the management of goods and services (Mutua, Waiganjo and Oteyo, 2014:26). Ceric (n.d.:3) provided a fine example of good principal-agent interaction as applied to construction contracts and other areas where project management is vital, and the roles, duties, and KPIs of the contract management team are specified. The principal and the agents have an easy time satisfying one another's requirements in a way that is

both effective and this results in the timely execution of the contract at the level of performance that was previously determined (Yegon and Mbeche, 2018:632).

The agency theory is a helpful tool for managers to employ to describe and differentiate the relationships that they have with group members (Letshaba,2019:16). It can capture all the risks that are associated with an agency relationship during the contract's duration. The customer and the principal contractor can plan with the assistance of this information, which enabled the project to be finished on time and in line with the parameters that were set in the contract according to Letshaba (2019:9). Kimundu and Moronge (2019:109) added that when the requirements of the contract, the roles and responsibilities of the contract management team, and the KPIs are clearly defined, it becomes easier for the principal and the agents to fulfil each other's requirements in a manner that is both efficient and effective, which will ultimately result in the appropriate execution of the contract.

Matsiliza (2017:37) stated that the agency theory operates with a premise that man is routed on economic rationality with low value commitment. It thus has a controversial connotation in South Africa as it implies that the government and the SOEs must simply align themselves with resourceful private individuals from the private sector to make decisions and work on their behalf. One of the issues about agency theory is when the aims of the agents are not aligned with those of the principals, or when it is either too difficult or expensive to check whether the agents have correctly performed the work that has been allocated to them. In addition, this issue arises when it is too costly or complicated to verify whether agents possess the essential abilities to execute the work that they claim to have been assigned (Mesa, Kwasira and Waweru, 2017:318). Mbuga (2018:17), on the other hand, indicated that when a contract is well-planned and expressed, it will be simple for the principal and agents to satisfy one another's requirements in an effective manner, which should ultimately lead to the timely execution of the contract.

The principal-agency theory is therefore appropriate for this study because it guides the establishment of one of the objectives of the study, which is to establish how relationships with suppliers or agents impact effective contract management. It also guided stakeholders on how to anticipate risks that could occur between a principal and an agent. Gitahi and Tumuti (2019:109) have also alluded to this.

One crucial principle of agency theory is the concept of "moral hazard," which refers to the risk that an agent may not act in the best interests of the principal. This issue arises when there is a disagreement between the goals of the two parties, often due to incomplete information, irregular risks, or unsuccessful monitoring (Maina and Osoro, 2020:82). To mitigate these risks, the principal can create clear contracts that outline expectations, performance indicators, and roles. As noted by Yegon (2018:15), when the contract management team's roles and responsibilities are well-defined, the probability of successful project execution increases, leading to better alignment of goals and advanced contract performance.

Additionally, according to Maina and Osoro (2020:82), principals could limit the disagreement of interests by designing suitable incentive mechanisms for the agent and executing monitoring systems to minimise opportunistic behaviour. This approach suggests that well-designed contracts and incentivisation not only align the interests of both parties but also reduce the agency costs related to monitoring and implementation.

Agency theory is also applicable for understanding the changing aspects of public procurement, where the principal-agent relationship can spread to government and public institutions. In such contexts, the principal-agent relationship includes government organisations or citizens (the principals) and public officials or contractors (the agents) liable for executing public sector projects. Usengumuremyi, Iravo and Namusonge (2024:118) elaborated on the relationship between shareholders (principals) and managers (agents), where managers make decisions on behalf of shareholders. This framework applies similarly in public procurement, where government officials, as agents, are expected to act in the best interests of the public.

In cases of public procurement, agency theory plays a critical role in addressing the risks of corruption and inefficiency. Suardi *et al*. (2024:4) explored the application of agency theory to investigate corruption in the Indonesian public procurement process. At this point, the government acted not only as a representative of the people but also as the principal in the procurement process. Agents, such as suppliers and service providers, are expected to serve the public's best interests. However, issues like bribery, favouritism, and mismanagement often arise, resulting to a misalignment of interests, a key problem in agency relationships.

Agency theory, therefore, stipulates understanding into how public officials, as agents, may exploit their positions for personal advantage, undermining public trust. Effective contract

design and monitoring mechanisms become important tools in mitigating such risks, ensuring that agents stay accountable. As Yegon (2018:20) noted, well-structured contract management systems and clear KPIs are crucial in reducing principal-agent conflicts and increasing transparency in public procurement.

The use of agency theory extends beyond public sector procurement to private-sector purchasing decisions, where the relationship between purchasing organisations (principals) and suppliers (agents) is similarly classified. Tapiwa (2019:7) asserted that agency theory is especially relevant in situations where contracting problems were complex, such as in procurement processes where the purchasing organisation acted as the principal and suppliers, or service providers assumed the role of the agent. In these relationships, it is critical for the principal to establish clear contracts, monitor agent performance, and align incentives to ensure that the agent acts in the principal's best interest. The agency theory is most appropriate in situations where contracting challenges are difficult. (Tapiwa, 2019:7).

2.12.7 Transaction Theory

Maina and Osoro (2020:83) posited that transaction cost economics were concerned with business transactions that took place when an end user purchased items and services through a technologically separated interface from a provider. These transactions take place in the digital realm. The manifestation of expenses within a contractual arrangement can occur either because of the execution of the terms and conditions of the agreement or as a component of the formulation of the terms of the agreement (Miller, Packham and Williams, 1999: 658). The charge that was incurred during an economic exchange in addition to the cost of the goods or services that were purchased was referred to as the transaction cost, according to (Boudreau *et al*., 2007: 1126).

Osei (2013:13) observed that, "There are certain goods and services that have higher contracting transaction costs, and as a result, they require higher levels of contract management capacity". Provost and Esteve (2016:231), whose study were on SOEs, observed that it was more difficult to foresee transaction costs when one was not familiar with contract management. This is something that should be kept in mind when participating in negotiations for a new contract. As a result, the absence of information regarding the development process may influence the ultimate expenses incurred by the SOE if the SOE decides to contract out the activity to an

operator from the private sector. It is thus recommended that SOEs maintain a close check on the behaviour of contractors to lessen the risks and potential losses that are brought about by these unequal information distributions. This study found that the problem of incomplete contracting became more severe when SOEs began to engage in complex contracts.

Tong (2017:12) noted that it might be challenging to ascertain the costs of transactions, which was why certain contracts intentionally allowed room for interpretation by containing a limited number of definitions and clauses. Too many definitions resulted in a greater variety of different interpretations, assumptions and conclusions than would otherwise be the case. Then the cost of having a contingency for unanticipated events or distributing profits became a very delicate problem. Yet the degree to which the parties agreed on the distribution of profits was a significant factor in determining how difficult the issue was to resolve.

Examples of transaction costs that occurred within an organisation included the management and supervision of staff, as well as the acquisition of concepts and significant pieces of capital equipment. Therefore, the costs of source selection, contract administration, performance measurement, and dispute resolution could all be included in the transaction costs of obtaining the same goods and services from an outside service provider or supplier (Maina and Osoro, 2020:83). This was because the transaction costs are included in the total cost of the transaction. This theory takes into consideration the total cost of conducting information searches, negotiating contracts, entering contracts, ensuring management compliance, and dealing with management violations of contracts. Additionally, it can coordinate the conduct of organisations in the direction of enhancing the security, justice, and order of the organisation (Lu and Wung, 2021:4).

Kingoto and Ismail (2021:183) proposed that to enhance the performance of an organisation, the management of the organisation should ensure that enhanced contract terms and contract discussions are incorporated into the design of the contracts. A further requirement for management is the development and implementation of enhanced procedures for the examination of contracts, the resolution of disputes about contracts, and the adherence to contracts. This theory thus also talks to mitigation of risks in the process of managing contracts.

2.13 Concluding Summary

This chapter has provided context for contract management in SOEs and Transnet SOC Ltd. It has given the framework for legislative compliance, management policies, and contract types, offering essential guidance for efficient operations. By detailing the tendering process and outlining risk management strategies, it ensures transparency, accountability, and resource optimisation within the organisation's contractual activities, ultimately fostering trust among stakeholders while maximising value and minimising inefficiencies. Including the section on contract management in Transnet SOC Ltd adds substantial value by providing a comprehensive understanding of the organisation's contractual framework. By examining these aspects, the study gains credibility, demonstrates thorough research, and provides practical insights for readers interested in contract management, procurement practices, or organisational governance within Transnet or similar contexts. This chapter has further reviewed literature on effective contract management, contract management strategies as well as contract management best practices are discussed.

Scholarly discourse has shown that effective contract management is impacted by a variety of critical factors such as contract administration that must be carried out by competent staff, the ability to foresee and manage risks, access to and use of information technology and strategic management of supplier relationships. Contract administration encompasses compilation, planning, and implementation of a contract and this makes it a crucial component of contract management. Employee competence is the capability, ability or underlying quality of an individual that is tangentially related to exceptional or effective performance. Technological advancement requires that contracts be revised to be in line with the rate of advancement, taking into consideration the views of employees who operate these systems. This makes the IT component pivotal to contract management.

When a company wants to connect with its suppliers, it employs a set of processes that are collectively referred to as SRM. In the contemporary environment of intense competition, these procedures have become highly significant. It is crucial to efficient contract management that the parties involved communicate well with one another, and that this communication is predicated on mutual respect, trust, understanding, openness, and accountability. This technique helps to maintain a healthy and amiable connection between the contractor and the supplier, which in turn helps to ease tensions and identify potential issues at an early stage and has shown

that this concept is based on six key theories, the relational contract theory, game theory, incomplete theory, stakeholder theory, property theory principal agent theory and the transaction theory. The next chapter outlines the research methodology followed in carrying out this study.

Chapter Three

Research Methodology

3.1 Introduction

This chapter presents a detailed discussion of the research methods that were applied in this research. The relevant aspects of the methodology discussed include the research philosophy; research strategy; research design; data collection and data analysis methods. The use of all these is justified and guided by the research onion developed by Saunders, Lewis and Thornhill (2009:103). The combined use of both the quantitative and qualitative strategies is also explained in this chapter. The chapter ends by outlining the ethical issues that were observed during the process of conducting the study.

3.2 Overarching Research Question

The overarching research question that guided this study was:

What are the determinants for effective contract management at Transnet SOC Ltd?

To answer this main research question and with the backing of literature, the following research questions were formulated:

- What is the relationship between contract administration and contract management for a South African SOE?
- How does employee competency affect contract management for a South African SOE?
- How does information technology affect contract management for a South African SOE?
- What is the impact of risk management on contract management for a South African SOE?
- Which factors affect supplier relationship on contract management for a South African SOE?
- Which contract management best practice model can be recommended for a South African SOE?

3.3 The Hypothesised Model

The following hypotheses were developed based on the research problem as outlined in Chapter One as well as the secondary research questions that flowed from there. These are then depicted in a hypothesised model in Figure 3.1.

H1: There is a significant relationship between contract administration and effective contract management for a South African SOE.

H2: There is a significant relationship between employee competency and effective contract management for a South African SOE.

H3: There is a significant relationship between information technology and effective contract management for a South African SOE.

H4: There is a significant relationship between risk management and effective contract management for a South African SOE.

H5: There is a significant relationship between relationship management and effective contract management for a South African SOE

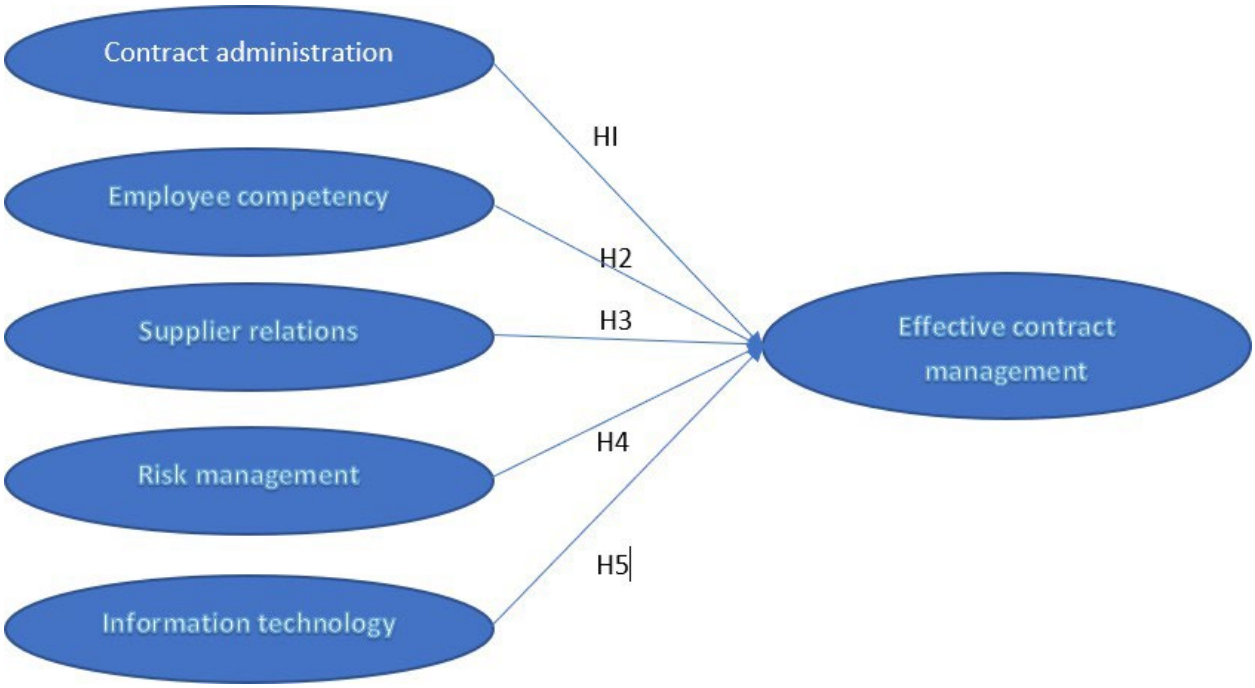


Figure 3.1: The Hypothesised Model: Researcher's Own Compilation

3.4 The Research Design

Research design is a blueprint that outlines the procedures and methods that are utilised in an investigation for the purpose of data collection and analysis. It offers a comprehensive sense of direction (Gupta, 2010:39). This position is consistent with the assertion made by Welman, Kruger and Mitchell (2011:52) that the study design directs the researcher in selecting appropriate methods for the collection of data and the analysis thereof. Silver *et al*. (2013:71) observed that there are three primary classifications of research designs, and these are exploratory research, descriptive research, and causal research.

Wiid and Diggins (2011:55) posited that the primary objective of an exploratory research design is to offer insights into the study issue with the intention of producing new knowledge. This is the case to the extent that exploratory research is suitable for a new research challenge. It is common practice for the research design to serve as a foundation for a following design that will be utilised for the primary study being

conducted. To conduct exploratory research, one must first collect secondary or primary sources of information and then evaluate this information in an informal manner. This study design, according to Shiu *et al.* (2009:62) is suitable for innovative research problems or themes for which there is a scarcity of literature or information.

Hair *et al*. (2013:36) pointed out that the objective of a descriptive research design is to provide a description of phenomena, such as characteristics of the market. In addition to being useful for predicting the relationship between variables, descriptive research is also a great method for determining the frequency with which marketing incidents take place.

The primary objective of causal research, on the other hand, is to collect data that assists the researcher in determining the causes and effects of any relationship that exists between two or more choice elements. This design calls for the possibility of conducting some experiments with the variables that are being investigated. In the view of Silver *et al.* (2013:76), the purpose of the causal study design was to determine, through the testing of hypotheses, whether two or more variables relate to one another in a causal manner. This research design was not considered for this study because it does not seek to establish causal relationship, but to describe phenomena.

3.4.1 The research design for the study

This study adopted a descriptive research design, as its primary aim was to identify and analyse the key determinants of effective contract management within South African state-owned enterprises, specifically Transnet SOC Ltd. Descriptive research is particularly suitable for this type of inquiry because it seeks to provide a detailed account of the variables involved, addressing questions such as who, what, why, when, and how (Silver *et al*., 2013:71; Zikmund and Babin, 2013:49). This design allows the researcher to capture a comprehensive overview of the current practices and challenges related to contract management at Transnet, offering both qualitative and quantitative insights into the phenomenon.

While exploratory research is useful for generating hypotheses, descriptive research design is ideal for testing and validating these hypotheses. It enables the researcher to examine existing conditions and relationships systematically, without manipulating variables, thus providing a clearer understanding of the factors that influence contract management practices in the context of state-

owned enterprises (Silver *et al*, 2013:71). By using this approach, the study aims to offer concrete, evidence-based recommendations for enhancing contract management at Transnet SOC Ltd.

3.5 The Research Onion

The research onion developed by Saunders, Lewis and Thornhill (2009:108) was used to facilitate the discussion on research methodology.

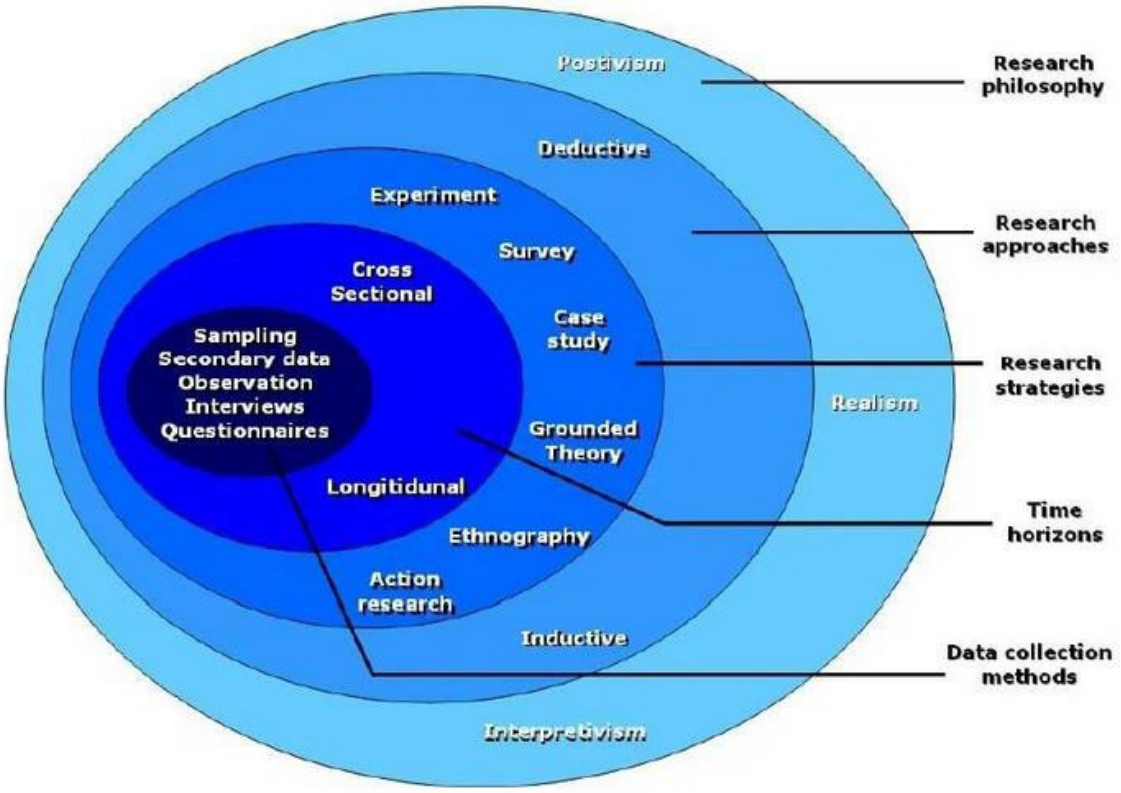


Figure 3.2: Research Onion

Source: Saunders, Lewis and Thornhill (2009: 108)

3.5.1 The Research Philosophy

A research philosophy is a conceptual framework that describes the way researchers explore and perceive the universe (Saunders, Lewis and Thornhill, 2009:107). The way knowledge is constructed and the nature of the knowledge that exists in relation to study are both relevant to this issue. According to Saunders, Lewis and Thornhill (2009:119), a research philosophy serves to lead the researcher by providing an outline of the parameters of the upcoming investigation. The research philosophy is sometimes referred to as research paradigm. According to Jonker and Pennink (2010:29), a research paradigm is a set of philosophic presumptions and convictions that serve as a guide for the process of conducting research. It brings to light a person's position in the world as well as the interactions that take place there, thereby defining the nature of the environment in which they are situated. A distinction can be made between research paradigms based on two different sets of philosophical assumptions which are epistemology and ontology. In the process of assisting the researcher in selecting the research instrumentation and methodology, they play a significant role (Easterby-Smith, Thorpe and Jackson, 2012:17).

Epistemology focusses primarily on the view of the researcher regarding the validity of the knowledge that is beyond the confines of the inquiry. It is a belief system that governs the production of what constitutes legitimate and acceptable knowledge in research (Wahyuni, 2012:69) This viewpoint is in line with the assertions made by Bryman (2012:625) who states that positivism, realism, and interpretivism are all concepts that fall within the umbrella of epistemology. The only two schools of thought that are relevant to this examination are positivism and interpretivism.

Positivism is the application of the principles of natural science. The foundation for academics to take this perspective is objective analysis, which is the process of collecting, examining, and processing evidence in an environment that is free of any bias. The researcher is not affected in any way by the people who are participating in the research (Saunders, Lewis and Thornhill, 2009:113). Bryman and Bell (2011:15) claimed that positivism restricts knowledge to things that can be verified by the senses, and that knowledge is formed by the process of gathering facts and testing hypotheses. In positivism, objectivity is an essential component that must be present. In addition, Easterby-Smith, Thorpe and Jackson (2012:22) pointed out that positivism can measure the social environment in an objective manner since it considers it to be external. It is generally accepted that the nature of reality is not dependent on human conceptions and that the

nature of reality may be comprehended through the conduct of an objective investigation of human objects.

Interpretivism lays a significant emphasis on understanding and clarifying human behaviour. People, rather than things, are given priority under interpretivism. According to Bryman and Bell (2007:17), a significant portion of how data is analysed is subjective, which is why human activities are an essential component of interpretivism (Saunders, Lewis and Thornhill (2009:115). Furthermore, humans are social variables that contribute to the construction of reality. As a result, interpretivism considers the various ways in which humans function as social agents.

This research was conducted in accordance with the pragmatic paradigm, which was a combination of the constructivist and positivist paradigms. Constructionism is an approach that is based on the ontological principle that social actors are responsible for the formation of social phenomena and the meanings associated with them. The purpose of bringing people to this place is to shape reality into what it is (Bryman and Bell, 2007:22). According to Wahyuni (2012:70), knowledge is formed through social contact. Wahyuni also emphasised that the production of knowledge is contingent upon the interactions that take place between the researcher, the research objects, and the natural environment in which the study is being conducted. Schulze and Kamper (2014:132) described constructionism as a methodology that engages the researcher in the role of an active participant who is completely immersed in the research process as it develops in an organic manner. To generate new knowledge, it is necessary for individuals and researchers to communicate their thoughts and ideas to one another.

There was a congruence between the objectives of the current inquiry and the pragmatic paradigm. From an ontological point of view, the pragmatic paradigm was founded on the concepts that reality is both complicated and formed from the outside, and that the most effective research approach is the one that offers solutions to the research questions that are being investigated in the study (Wahyuni, 2012:70). The pragmatic paradigm asserts that knowledge is a product of social construction and is rooted in the lived reality of research objects (Schulze and Kamper, 2014:132). To arrive at explanations for the phenomenon that is being examined, this paradigm makes sense because it employs both deductive and inductive procedures (Creswell, 2009:11). The ability of the pragmatic paradigm to mix objective and subjective data

sets to answer the research questions posed by the study is the source of the paradigm's strength (Johnson and Onwuegbuzie, 2010:18).

3.5.2 Research Approach

Saunders, Lewis and Thornhill (2009:124) pointed out that the selection of a research methodology is often determined by either the intention to construct a theory and put hypotheses to the test through the examination of data or the research study itself. The quantitative and qualitative approaches have traditionally been the two basic strategies that researchers have utilised in the past for the purpose of data collection (Bryman and Bell, 2011:26). A deductive approach was utilised in the quantitative investigation, in contrast to the inductive approach that was utilised in the qualitative study.

The objective of the deductive approach, according to Borrego, Douglas and Amelink (2009:53), was to generalise the conclusions of a study by making use of empirical evidence that has been statistically confirmed. Researchers use the deductive approach, which is founded on a theory that is pertinent to their area of research (Bryman, 2012:24). This method is utilised to arrive at findings after conducting research. The first phase in this research was to investigate several theories regarding the management of contracts. The purpose of developing hypotheses and putting them to the test is to gain an understanding of the influence that certain circumstances have.

Based on the objectives that have been stated for the study, a hypothesis can be developed further. Hypotheses can be broken down into two categories: the null hypothesis and the alternative hypothesis. These are the two categories that individuals commonly recognise. Muijs (2004:16) asserts that the null hypothesis is the one that is tested and is the opposite of the truth. To this investigation, hypotheses were developed based on established objectives concerning the administration of contracts, the competency of staff, information technology, risk management, and connections with suppliers.

The inductive approach is a qualitative approach which is founded on the constructivist paradigm and has as its foundation on the description of the connection that exists between the research objects and the setting in which the study is carried out. In contrast to quantitative approaches, the qualitative methodology uses the inductive approach to ascribe meaning to data collected from study objects (McCusker and Gunaydin, 2014:5). This is done to determine the significance

of the data. According to Bryman (2008:11), the principle behind the inductive approach is to develop new information by drawing conclusions from the facts that have been generated via the use of in-depth intuitive analysis with the aim of providing significance to the information that is obtained from the objects of investigation.

Given the nature of this inquiry, it is believed that the abductive methodology or the mixed method would be satisfactory. Using this approach, it is possible to collect a wide range of data to acquire a comprehensive understanding of a problematic study issue. After permitting a broad survey for the aim of generalisation, the abductive approach tries to obtain responses from participants by means of qualitative questions that are not organised (Creswell, 2011:173). The abductive approach is consistent with the practical viewpoint because the purpose of the study is to quantify the characteristics that influence efficient contract management in the Operating Divisions of Transnet Ltd. The successful completion of this objective would provide a contribution to the conceptual framework that was developed by the Operating Division (OD) of Transnet Ltd. to present the elements that influence effective contract management in South African state-owned firms. The collection and analysis of measurable data was done with the purpose of putting theories to the test and developing a conceptual framework for the education of entrepreneurs. Through the utilisation of statistical software, specifically AMOS version 24 and SPSS version 25, the quantitative data was evaluated to ascertain the factors that contribute to the successful administration of contracts by Transnet. To establish a conceptual framework for entrepreneurship education that would lead to entrepreneurial preparedness, the goal of gathering qualitative data was to uncover patterns, themes, and sub-themes that would assist in the development of the framework. To conduct the analysis of the qualitative data, NVivo 12 was utilised.

3.5.3 The Research Strategy

As indicated above, this study is positivist in nature. Therefore, it used the strategies which are in line with this philosophy. The strategies that stem from the positivist philosophical stance tend to use science techniques to collect data. These include surveys, personal interviews and experiments, where survey research analyses a representative sample of a population to generate a numerical account of the population's patterns, attitudes, and opinions. Through the utilisation of survey methodology, it is possible to generate a frequency pattern of the occurrence of the phenomenon.

There is a wide variety of survey methods, including computer-assisted surveys, door-to-door surveys, telephone surveys, and mail surveys, among others. McDaniel and Gates (2010:129) noted that a questionnaire is the research instrument that is utilised the most frequently in terms of most survey approaches.

The interview strategy, as seen by Martelli and Greener (2018:68), is implemented in qualitative studies, where the researcher directly extracts questions from respondents, based on one-on-one dialogues. This data collection strategy enables the researcher to understand how learned participants are about the subject of investigation. It also exposes the likings or loathes of the participants and what they think. This strategy differs though from daily conversation, in the sense that the researcher is the one who decides the list of things to do and asks the questions. In this strategy, the researcher envisages obtaining specific information from the respondents and has formulated certain questions to be answered. In addition, the researcher utilises an exclusive interview agenda, that is, the set questions in a pre-set order. The researcher is present with respondents when exercising this strategy, to make the questions transparent and understood. One advantage of this strategy is the investigator may ask additional questions, to have more in-depth information when the respondent has not truly offered satisfactory replies.

Experimental research aims to determine if an applied treatment determines an outcome. The impact is determined by providing the treatment to one group and comparing the outcome with that of a control group for which treatment was not given. Experiments include true experiments with the random exposure of subjects to treatment conditions and quasi experiments that use non-randomised designs (Creswell, 2009:12).

3.6 Choice of Research Methodology for the Study

The research methodology refers to the systematic strategies employed for data collection, aimed at answering the research questions and objectives (Creswell, 2009:15). In this study, a combination of quantitative and qualitative approaches was utilised to ensure a comprehensive exploration of the determinants of effective contract management within Transnet SOC Ltd, a South African state-owned enterprise. These two approaches offer complementary strengths, with qualitative research providing a deeper understanding of context and experiences, while quantitative research facilitates the measurement and analysis of relationships among variables

(Bryman and Bell, 2011:26). Table 3.1 presents a discussion of the differences between qualitative and quantitative research.

Table 3.1 Differences between Qualitative and Quantitative Research

Qualitative	Quantitative
Focuses on exploring ideas and formulating a theory or hypotheses.	Focuses on testing theories and hypotheses.
Analysed by summarising, categorising and interpreting.	Analysed through mathematical and statistical analysis.
Mainly expressed in words.	Mainly expressed in numbers, graphs and tables.
Requires few respondents.	Requires many respondents.
Open-ended questions.	Closed questions.
Key terms are: Understanding Context.	Key terms are Testing, Measurement.

Source: Streefkerk (2019)

3.6.1 Quantitative Research

Quantitative research, rooted in the post-positivist paradigm, employs statistical tools and techniques to quantify relationships between variables and provide measurable insights into the phenomenon under study (Bryman and Bell, 2011:152). In the context of this study, the quantitative method was used to analyse the factors influencing contract management at Transnet SOC Ltd and establish how these factors are interrelated. The major strength of quantitative research is its objectivity, providing the ability to generalise findings to a broader population of state-owned enterprises, and ensuring that conclusions drawn are statistically valid and reliable (Wiid and Diggines, 2011:4). This is particularly beneficial for informing policy and operational improvements at Transnet, as the study's results can be extrapolated to other similar entities in the South African public sector.

3.6.2 Qualitative Research

Qualitative research, aligned with the constructivist paradigm, seeks to understand phenomena through the lens of the lived experiences and perceptions of participants (McCusker and Gunaydin, 2014:1). In the context of this study, qualitative research was used to explore the underlying factors and organisational dynamics that affect contract management practices at Transnet. By focusing on how contract management is experienced by key stakeholders, the qualitative approach provides a rich, "thick" description of the phenomenon, shedding light on the complexities of managing contracts in an SOE (Patton, 2001:39; Borrego, Douglas and Amelink, 2009:56). This approach allows the researcher to capture nuances that are difficult to quantify, such as stakeholder perceptions, organisational culture, and operational challenges in the contract management process (Golafshani, 2003:595).

3.6.3 Mixed Methods Approach

In this study, a mixed-methods approach was adopted, specifically the sequential transformative mixed-methods design, which integrates both qualitative and quantitative approaches to provide a comprehensive understanding of the research problem. According to Creswell (2009:14), mixed methods can be classified into sequential, concurrent, and transformative types. For this study, the sequential transformative design was chosen, as it allows for the initial qualitative phase to inform the design of the subsequent quantitative phase. This approach not only facilitates a deeper understanding of the determinants of effective contract management but also ensures that the quantitative data collection is grounded in the real-world context of Transnet's operations.

3.6.4 Research method adopted for the Study

This study utilised a sequential transformative mixed-methods approach, which combined both qualitative and quantitative methodologies to address the research problem comprehensively. The primary advantage of this approach lies in its flexibility and the ability to overcome the limitations of relying on a single research method. The mixed-methods approach enabled the researcher to triangulate findings from both methods, thereby enhancing the credibility and depth of the results (Bergman, 2010:172; McMillan and Schumacker, 2010:39). It also provided

a broader and more holistic data set that enriches the understanding of the factors influencing contract management at Transnet SOC Ltd.

The use of this mixed-methods approach was particularly beneficial for this study as it allowed for the generalisation of findings through quantitative analysis while simultaneously providing the nuanced, context-specific insights afforded by qualitative research. This was essential for understanding the complexities of contract management in state-owned enterprises, where factors such as governance structures, stakeholder relationships, and institutional culture played a significant role. Moreover, the sequential nature of the approach enabled the researcher to design a quantitative survey that was informed by the qualitative findings, thus ensuring that the data collected was relevant and targeted (Delport and Fouche, 2011:441).

Overall, the adoption of a mixed-methods approach enhanced the validity and robustness of the study's findings, providing both a detailed exploration of the determinants of contract management and statistically reliable insights that could inform practice and policy at Transnet and similar organisations.

3.6.5 Research Instruments

3.6.5.1 Survey

For the quantitative aspect of the study, an electronically administered structured questionnaire was used to gather the necessary data from respondents. The structured self-administered questionnaire is advantageous because it saves time and reduces researcher bias, as respondents answer questions independently without direct assistance from the researcher (Salkind, 2012:147; Wiid and Diggines 2011:176). The respondents were given three (3) weeks to complete the questionnaire, and due to the researcher's employment at Transnet, the process was facilitated with ease. A reminder was sent after two (2) weeks through emails, telephone calls, and Microsoft Teams calls to encourage timely completion of the questionnaire.

The estimated time to complete the questionnaire was twenty (20) minutes, which was reasonable enough to ensure respondent engagement without overwhelming them. A cover letter was attached to explain the nature and purpose of the study and to provide instructions on how to complete the questionnaire. A letter from Transnet SOC Ltd authorising the data collection

was also provided. Additionally, respondents were asked to complete a written consent form before participating in the study.

The responses were rated on a 5-point Likert Scale, ranging from "strongly disagree" (1) to "strongly agree" (5), to capture the degree of agreement or disagreement with the statements. This scale was chosen based on the advice of Sullivan and Artino Jr. (2013:541), who suggested that the Likert Scale offers respondents a simple and non-stressful way to express their views. Hartley (2014:84) further supported the use of the 5-point Likert Scale, noting that it is commonly used and easy to analyse mathematically.

The questionnaire comprised seven sections:

Section A requested the biographical and demographic information such as gender, age, position, education level and experience. The demographic variables were incorporated to obtain insights into the profile of respondents.

Section B comprised questions on contract administration.

Section C requested information on employee competence.

Section D sought to assess the influence of information technology on contract management.

Section E looked at the role of risk management in contract management.

Section F assessed how supplier relationships impact on contract management.

Section G appraised the effectiveness of contract management.

3.6.5.2 Interviews

The study also utilised semi-structured in-depth interviews to explore the determinants of contract management at Transnet SOC Ltd. The use of in-depth interviews was deemed appropriate because of their flexibility, which allows the researcher to explore deeper meanings and nuances that might not emerge through other methods of inquiry (Wiid and Diggines, 2011:112). Additionally, in-depth interviews offer richer data in terms of knowledge and understanding, making them an ideal choice for this study (Englander, 2012:27). Interviews

were conducted after the quantitative data had been analysed to enrich the study by specifically targeting senior personnel with extensive experience in contract administration and management.

A total of ten (10) participants, including Special Project Managers, Contract Managers, Contract Administrators, Contract Specialists, and Procurement Officers from various Transnet ODs in KwaZulu-Natal, were selected for the interviews. These participants were chosen for their extensive knowledge and experience, making them key informants for the study. Their experience in contract management positioned them well to provide insights into the policies, challenges, and best practices related to contract administration.

The participants selected for the interviews were not part of the two hundred (200) respondents who completed the quantitative survey, ensuring that the data from the interviews would enrich the quantitative findings. The interview guide was structured to align with the sections in the questionnaire, ensuring consistency and relevance to the research objectives.

An invitation letter was sent to prospective participants, in line with the concept of informed consent. Upon acceptance of the invitation, interview questions were sent in advance to give participants sufficient time to review and prepare. Interviews were scheduled at the participants' convenience, ensuring that they could contribute meaningfully to the study.

Face-to-face interviews were conducted, and the participants were informed of the study's aim before the interviews commenced. Anonymity was guaranteed, and participants were assured that they could withdraw from the study at any time without penalty. Each interview lasted approximately thirty (30) minutes, and semi-structured, open-ended questions were used, ensuring alignment with the research questions and objectives of the study. The interviews were audio-recorded, and notes were taken simultaneously to ensure that all responses were accurately captured. For the audio recorded information, transcription was done using Microsoft 365.

3.7 Data Collection

This section discusses the research instruments that were employed to collect both the quantitative and qualitative data; how the data was analysed; what the target population was; the sampling procedure and the sample size.

3.7.1 The Target Population

In research, the target population refers to the specific elements or entities that possess the data required to address and investigate the research problem (Malhotra 2010:372; McDaniel and Gates, 2010:326). Similarly, Wiid and Diggines (2011:193) defined the target population as those elements that are examined based on the research problem. To this study, a total of 400 skilled employees from different Transnet Organisational Divisions (ODs) in KwaZulu-Natal, who are responsible for contract administration and management, were selected as the target group. The information was sourced from the Human Resources database.

The selection of these employees was based on specific criteria related to their experience, skills, and in-depth knowledge of contract administration and management, which were directly linked to the research objective of determining the factors for effective contract management at Transnet. The employees included in the study hold roles such as Contract Officers, Project Managers, Project Administrators, Project Officers, Contract Managers, Contract Administrators, and Contract Specialists, all of whom participated in managing contracts of varying complexity within the organisation. These individuals were chosen from different departments across all Transnet ODs in KwaZulu-Natal, including Procurement, Projects Delivery Unit, Facilities Management, Engineering and Infrastructure, and the Contracts Management Section.

The diverse experience of these employees, ranging from less than one year to over ten years, allowed the study to capture insights from both less experienced staff, who could offer fresh perspectives, and more seasoned professionals, who bring extensive practical knowledge. These employees are responsible for managing contracts related to small, medium, and mega projects, where they oversee the development and management of various contract packages. By selecting individuals from a range of departments and projects, the study ensured that the data collected

reflected the full scope of contract management practices across Transnet, encompassing different project types and organisational functions.

This targeted population was therefore selected based on their direct involvement and expertise in contract administration and management, making them the most appropriate group to provide insights into the determinants of effective contract management at Transnet SOC Ltd.

3.7.2 The Sampling Frame

A sample is a sub-group of the population that is selected for participation in a study (Salkind, 2012:95). Thus, a sampling frame is a set list of elements or entities drawn from the target population (Wiid and Diggines, 2011:196). The sample is then selected from this list and may come in various forms such as class lists, a telephone directory, registered voters, maps and so on (Feinberg *et al*. 2013:302; Zikmund and Babin, 2013:317).

The sampling frame for the study consisted of the following six (6) Transnet Organisational Divisions (ODs) in KwaZulu-Natal.

Table 3.2: Sampling Frame

	Transnet Division in KZN	**Employees in Contract Admin**
1.	Transnet Port Authority	70
2.	Transnet Engineering	70
3.	Transnet Port Terminal	100
4.	Transnet Pipelines	30
5.	Transnet Freight Rail	100
6.	Transnet Properties	30
	TOTAL	**400**

3.7.3 The Sampling Procedure

According to Guba (2010:73), the two (2) primary categories of sampling techniques are known as probability sampling and non-probability sampling. The use of sampling with probability ensures that every individual or element in the population has a known probability that is greater

than zero of being included in the study sample (Zikmund and Babin, 2013:322). Non-probability sampling involves the researcher using their own discretion to choose the things that will be included in the sample (Malhotra, 2007:340). McDaniel and Gates (2010:335) stated that there are four different types of procedures that are used for probability sampling.

Welman and Kruger (2001:47) advised that the use of non-probability sampling techniques is frequently implemented when time and financial restrictions prevail. According to Malhotra (2010:376), the problem of accessibility to sampling units is another factor that lends support to the implementation of non-probability sampling approaches.

Probability sampling is associated with survey and experimental research. With probability sampling the probability of each case being selected from the population is equal. Saunders, Lewis and Thornhill (2009:214) identified several stages that should be followed in the process of probability sampling, namely:

- the decision on the sample size of the study
- representation of the population
- selection of the appropriate sampling technique
- identification of the suitable sampling frame in line with the research question or the objectives of the study.

Probability sampling techniques are characterised by random selection, ensuring that every element in the population has a known and non-zero chance of being included in the sample (Creswell and Creswell, 2017: 45). For this study systematic sampling was chosen and discussed as follows:

3.7.3.1 The Sampling Techniques for Study

For this study, a combination of systematic sampling and purposive sampling was employed to ensure both a representative sample for the questionnaire survey and a targeted selection of key informants for the in-depth interviews.

a) Systematic Sampling for Questionnaire Survey

Systematic sampling was used to select respondents for the questionnaire survey, which aimed to collect data from a broad segment of employees involved in contract administration and management at Transnet SOC Ltd. This technique is a more efficient alternative to simple random sampling, as it involves selecting every *k-th* element in the population, starting with a randomly selected point (Lavrakas, 2008:87). By utilising this approach, the study ensured that a wide and representative cross-section of employees from various organisational divisions were included in the sample. To implement systematic sampling, the following steps were taken:

1. A comprehensive list of employees involved in contract administration and management
   a. was obtained from the Human Resources department.
2. Each employee was numbered sequentially from 1 to *N*, where *N* represented the total
   b. number of employees (400 in this case).
3. The sampling interval (*k*) was then calculated by dividing the total population (400) by the
   c. desired sample size (200), resulting in an interval of 2.
4. From the randomly chosen starting point, every second employee was selected for inclusion
   d. in the sample.

This method was effective in ensuring that the sample was drawn in an unbiased and systematic manner, while also maintaining an appropriate sample size for data analysis. Moreover, the process included ongoing monitoring of response rates and follow-ups with non-respondents, which is crucial to minimizing nonresponse bias and ensuring the representativeness of the sample (Dillman, Smyth and Christian, 2014:208).

b) Purposive Sampling for In-Depth Interviews

For the in-depth interviews, purposive sampling (also known as judgmental sampling) was employed to target specific individuals who possess key knowledge and experience relevant to the study's focus on contract management at Transnet. Purposive sampling is particularly useful when the research requires specific insights from individuals who are well-versed in the subject matter (Creswell and Creswell, 2017:45). This approach allowed the researcher to select participants who could provide the most relevant, rich, and detailed data regarding the determinants of effective contract management.

In this study, purposive sampling was used to identify key informants from various Transnet Organisational Divisions (ODs), such as Procurement, Projects Delivery, Facilities Management, and Contracts Management. These individuals were chosen based on their professional roles and their direct involvement in managing contracts. By selecting participants with a broad range of expertise and varying years of experience, the study ensured that the data captured reflected the diversity of perspectives on contract management practices.

The primary advantage of purposive sampling is that it enables the researcher to focus on participants who have the most relevant knowledge and can provide valuable insights that address the research questions (Bell, Bryman and Harley, 2018:7). This approach is especially beneficial when working with small sample sizes and when the aim is to gain an in-depth understanding of specific issues, such as the challenges and practices surrounding contract management at Transnet.

In summary, the combination of systematic sampling for the questionnaire survey and purposive sampling for the in-depth interviews enabled this study to capture both a broad and representative perspective of Transnet employees involved in contract management and a deep, contextualised understanding of the factors influencing effective contract management. These sampling techniques were strategically chosen to maximize the validity and relevance of the study's findings, aligning with the research objectives of identifying key determinants and offering actionable recommendations.

3.7.4 The Sample Size

Sample size refers to the number of elements selected from the population to participate in a study (Gupta, 2011:196; Malhotra 2007:338). Determining the appropriate sample size is influenced by several factors, including financial constraints, statistical considerations, and the research design (McDaniel and Gates, 2010:353). Furthermore, Malhotra (2010:374) notes that other important considerations when determining the sample size include the sample sizes used in similar studies, the number of items related to the constructs being measured, and the overall research methodology. The justification for the sample sizes used for the quantitative and qualitative components of this study is as follows:

3.7.4.1. The Sample for the Quantitative Analysis

For the quantitative component, a sample size of two hundred (200) respondents was determined using the following formula from Wiid and Diggines (2013:200):

$n = N/ 1 + N \alpha^2$ where

n = Sample size

N = Total Population

α = The Degree of Confidence level

Substituting the values into the formula:

n = 400/ 1 + 400 x 0.0025

n = 400/ 1 + 1

n = 400/2 Therefore n **= 200**

Thus, the sample size for the questionnaire survey was calculated to be two hundred (200). This sample size was deemed appropriate based on the recommendations from Wiid and Diggines (2013:200) and was consistent with standard sample size calculations in similar studies.

The questionnaire was distributed electronically to two hundred (200) employees, and their contact information and email addresses were obtained from the Organisation's Human Resources internal address book. A total of two hundred (200) responses were received, which exceeds the minimum threshold required for statistical significance. Of these two hundred (200) one hundred and ninety-two (192) questionnaires were completed and deemed suitable for analysis, while eight (8) were excluded due to significant incompleteness. According to Krejcie and Morgan (1970:607), this response rate was adequate for the study's objectives. Additionally, experts such as Nunnaly (1967:218); Bollen (1989:272), and Bentler and Chou (1987:90) all confirmed that a sample size of two hundred (200) was sufficient for conducting Structural Equation Modelling (SEM), further supporting the validity of the chosen sample size for this study.

3.7.4.2. Sample for Qualitative Analysis

For the qualitative component of this study, purposive sampling was utilised to select participants who could provide in-depth, relevant insights into the determinants of effective contract management at Transnet. Purposive sampling, a non-probability technique, allowed the researcher to intentionally select participants based on their expertise, experience, and their direct involvement in contract administration and management (Creswell and Creswell, 2018). This method is particularly effective for qualitative research, as it enables the researcher to focus on participants who are most likely to offer valuable and informative data relevant to the research questions.

As Fellows and Liu (2021:100) noted, the success of purposive sampling hinges on the researcher's ability to use their judgment in selecting the most appropriate participants. In this study, participants were selected based on their roles within Transnet's organisational divisions, such as Procurement, Project Management, and Contracts Management and Administration, ensuring that those chosen had substantial experience and knowledge in contract administration and management.

A total of ten (10) participants were interviewed. This number is consistent with the recommendations of Teddlie and Tashakkori (2009:286), who suggest that a sample size between six (6) and twenty-four (24) is adequate for qualitative interviews. This sample size was chosen to ensure that the study would capture a range of perspectives, while maintaining a manageable number of interviews that could provide rich, detailed data for analysis. The selected participants included Contract Managers, Contract Specialists, Contract Administrators, Special Projects Managers, Procurement Officers who were able to provide in-depth accounts of contract management practices within Transnet.

The decision to interview ten (10) participants aligned with the qualitative research goal of obtaining deep insights rather than generalising to a larger population. It also strikes a balance between achieving thematic saturation and ensuring that the study remains focused and feasible. The experiences and insights shared by these participants were crucial for understanding the factors that contribute to effective contract management within Transnet, thereby enhancing the depth and credibility of the study's findings.

3.7.5 Pre -testing

Sekaran and Bougie (2009:271) stated that pre-testing is a process of subjecting the study variables to a prior test to assess their performance against any ambiguity and improve on reliability of the set instrument or on the instructions or information that may hinder data collection when the final version will be applied. It is the earliest assessment of the survey instrument carried out on fewer selected participants to establish validity, flaws of the study questions (Hazzi and Maldaon, 2015:54).

The pre-test of this study was carried out on ten selected employees from the researcher's Organisational Division using convenience method. The ten that were available gathered in a Boardroom during lunchtime. They were interviewed as a focus group so that the questionnaire could be discussed and its weaknesses corrected. This proved to be a valuable exercise as both the instruments were thereafter fine-tuned.

3.8 Elimination of Bias

Nardi (2018: 49) noted that bias is "any propensity that inhibits fair understanding of a question." In research, bias ensues when a methodical fault is initiated into sampling. When researcher bias happens, the survey results show an incomplete viewpoint, and this can affect the outcome, thus, misleading other people or experts that may desire to use data for decision-making. To reduce the possibility of this in the study, a pilot test was conducted by the researcher to test the organisation of the questionnaire and the obtained data, before the main study was carried out, to improve the quality and efficiency of the study. Moreover, simple expression of ideas was used to provide participants with a better understanding of the study questions and to eliminate every element of bias.

3.9 Data Analysis

The methods of data analysis involve various statistical tools used in analysing the quantitative and qualitative data gathered from the structured questionnaire and detailed interviews.

3.9.1 Quantitative Analysis

The structured questionnaire was helpful to generate quantitative data, which was captured and analysed using the Statistical Package for Social Sciences (SPSS Version 25). To test the hypotheses, data was subjected to Structural Equation Modelling (SEM). According to Hox and Bechger (1998:354), SEM is a statistical modelling method that is used to perform fact finding studies that involve behavioural matters, especially on a set of compound inter-relationships variables. Structural Equation Modelling was preferred because it is a linear cross sectional statistical modelling technique, largely confirmatory, rather than exploratory (Aalirezaei, Esfandi and Noorbakhsh, 2018: 59).

3.9.1.1 Descriptive Statistics

Descriptive statistics are defined as techniques that allow the researcher to tabulate and summarise the profile of research objects in each study (Lomax and Hahs-Vaughn, 2012:6). The study reported on the demographic profile of the sample in terms of gender, age, income, education level, and departments. Descriptive statistics utilised in this study included frequencies, means and standard deviations.

3.9.1.2 Inferential Statistics

Wilson (2014:189) noted that inferential statistics are used to extract inferences concerning a sample in each population. Further, it is subdivided into parametric and non-parametric. A parametric statistical test is appropriate when the following conditions are met:

a. When the data is made up of interval or ratio data.

b. When the sample is randomly selected from the sample frame, and

c. When the sample is from a population that is normally distributed (Wilson, 2014:189).

If the abovementioned conditions are not met, non-parametric tests should be applied. Saunders, Lewis and Thornhill (2009:449) stated that a non-parametric test owes more to categorical data and skewedness of data in a normality test while a parametric test applies to numerical data. The parametric tests adopted in this study provided the basis for the quantitative analysis in responding to the research questions, and testing of hypotheses.

3.9.1.3 Pearson's Product-Moment Correlation Coefficient

Correlation analysis is a method that is utilised for the purpose of measuring the relationships that exist between variables (Silver *et al.,* 2013:204). Even though there are numerous correlation techniques, such as the point-biserial correlation coefficient, Spearman's rho, and the phi coefficient, the Pearson's Product-Movement correlation coefficient (r) is the most appropriate coefficient to determine the degree of association between two metric variables (Struwig and Stead, 2001:140). This is because the Pearson's R is the coefficient that best represents the relationship between the two variables. It is possible to determine the degree of correlation between two variables by calculating the value of Pearson's Product-Movement, which ranges from +1 to -1. According to Pallant (2010:134), a value between 0.10 and 0.29 suggests a little link, a value between 0.30 and 0.49 indicates a medium association, and a value between 0.5 and 1.0 indicates a high relationship between the variables. In other words, a modest link is indicated by a value between 0.10 and 0.29.

3.9.1.4 Exploratory Factor Analysis

The primary objective of factor analysis is to reduce or condense large sets of variables into smaller sets of factors (Feinburg *et al.,* 2013:480; Pallant, 2010:181). During this investigation, exploratory factor analysis was utilised to determine the variables that lie beneath the measuring scale. With exploratory factor analysis, one can discover the links that exist between the observed variables and the latent variables that are unknown or uncertain. Accordingly, the purpose of exploratory factor analysis is to ascertain the type and depth of the link that exists between observable variables and the factors that provide the foundation for the relationship (Byrne, 2010:5-6). To conduct the analysis of the factors, this study made use of the principal component analysis approach.

3.9.1.5 Structural Equation Modelling

Structural equation modelling is a multivariate statistical technique that takes into consideration and estimates the linear and/or causal relationships between independent and dependent variables (Babin and Svensson, 2012:321). This technique is accomplished through the utilisation of a simultaneous, multiple equation estimating method. According to Ullman (2006:35), structural equation modelling is a method that has been utilised to investigate the

fundamental connections that exist between one or more independent variables and one or more dependent variables. To carry out structural equation modelling for this inquiry, AMOS version 24 was utilised.

3.9.2 Qualitative Analysis

The purpose of this study was to uncover key themes related to the determinants of effective contract management at Transnet SOC Ltd. To achieve this, the interview transcripts were subjected to thematic analysis. Thematic analysis is a systematic process of identifying, analysing, and summarising themes within qualitative data (Braun and Clarke, 2006:79). This approach allows for the thorough exploration of interview transcripts, enabling the researcher to extract and analyse all relevant themes, as highlighted by Glesne (2011:187).

One of the primary advantages of thematic analysis is its ability to capture a comprehensive understanding of the data. In this study, thematic analysis was particularly suitable because it allowed for flexibility and depth in identifying patterns and themes that directly relate to the research questions. The themes identified through this process were closely aligned with the questions posed during the interviews, providing a clear link between the data and the conclusions that can be drawn from the research.

By employing thematic analysis, this study was able to not only categorise emerging themes but also interpret their significance in relation to the determinants of effective contract management at Transnet. The process involved multiple stages of coding and theme development, ensuring that the analysis was rigorous and comprehensive.

3.10 Testing for Reliability

According to Yusoff (2011:24), the term "reliability" referred to the capability of a measurement technique to produce consistent results when it is repeated under the same conditions. When a study accurately portrays the experiences of its participants, it has the potential to be regarded as trustworthy (Krefting, 1991:214). It was necessary to investigate the authenticity of the transcription procedure to determine the dependability of the interview. In accordance with the recommendations made by Bryman and Bell (2011:398), the verification process was improved by applying peer auditing to each interview transcript that was prepared during the study. Following the completion of the data analysis phase, the themes that were discovered were

appraised in line with the objectives of the researcher. In addition, the issues that emerged from the in-depth interviews were cross-checked to establish a consensus on the content of the transcripts that were derived from the in-depth interviews as well as the themes that came from the analysis. The importance of this cannot be overstated in terms of reducing subjectivity and bias in the processing of data.

During the quantitative study, the Cronbach's alpha coefficient and composite reliability (CR) were applied to evaluate the internal consistency of the measuring items. Tavakol and Dennick (2011:53) viewed internal consistency as a method that is used to examine the degree of interrelatedness that exists across assessment items that are designed to test the same concept. Blunch (2008:157) indicates that a value of alpha that is more than or equal to 0.7 indicates that the test has a high level of internal consistency. On the other hand, a number that is less than 0.7 indicates that the items being measured are not dependable.

3.11 Testing for Validity

Validity refers to the capability of a measuring equipment to accurately measure the objects that are intended to be measured (Gupta, 2011:133). The dependability of the data is evaluated in a qualitative study from the perspectives of the investigator, the participants, and the audience for the study (Creswell 2009:191). Validity is important in qualitative research. On the advice of Creswell (2009:191), the study utilised member checking and bracketing procedures to enhance its validity. According to Bryman and Bell (2011:396) and Yoshida and James (2011:17), member checks involve giving interpretations and findings to the participants so that they can verify their own perspectives of the matter. To validate and confirm the researcher's interpretations of the opinions expressed by the participants, the researcher mailed the summarised transcripts to five individuals who were conveniently accessible. The participants attested to the fact that the themes that followed accurately reflected their perspectives during the interviews, and that the summarised transcripts accurately reflected those beliefs themselves.

The idea of bracketing was utilised to enhance the level of objectivity that was present in the process of data collection and analysis. Bracketing is the method by which the researcher finds the underlying prejudice that can put the principles of impartiality in jeopardy (Creswell, 2009:192). In reflection, bracketing is the process. The act of bracketing was observed throughout the entirety of the interview and data processing processes. According to Polit, Beck

and Hungler (2001:215), the researcher tried to infer (to the best of her ability) the experiences that the participants had lived through.

The quantitative study was reviewed about its content validity, convergent validity, discriminant validity, and predictive validity. The term "content validity" refers to the extent to which the measuring scales are consistent with the theoretical framework of the underlying notion that is being investigated (Malhotra, 2007:287). To guarantee that the content of the interview guide and questionnaire was accurate, they were subjected to preliminary testing and evaluation, and any necessary modifications were made with the assistance of two academics. Furthermore, in accordance with the approach proposed by Synodinos, Bevan-Dye and De-Klerk (2013:20), the questionnaire was put through a pilot test with ten employees by means of a convenience sample that was chosen from the target group.

The concept of convergent validity refers to the extent to which one assessment item has a positive correlation with succeeding items that assess the same construct (Malhotra, 2007:287). Convergent validity was examined by computing the inter-construct correlation matrix between the various constructs, which included contract administration, staff competence, information technology, risk management, and supplier linkages, amongst others. Bagozzi and Yi (1988:80) suggested that the researcher should ensure that all item loadings for all constructs were more than 0.5 to guarantee convergent validity and this was done. To determine the discriminant validity of the measurement model, the research utilised the average variance extracted (AVE) metric that was created by Fornell and Larcher (1981:46). According to Fornell and Larcher (1981:46), discriminant validity is established when the square root of AVE is greater than the correlation between the model's construct and the construct. This is the example that is used to demonstrate discriminant validity. Member checking was the technique used for quality assurance for qualitative research study. Guest, Bunce and Johnson (2006:598) presented member checking as a technique to ensure the quality of qualitative research findings. The authors emphasised that presenting preliminary findings to participants for validation assisted in verifying the accuracy and interpretation of the data, to improve the credibility and quality assurance of the research study (Guest, Bunce and Johnson, 2006:598).

3.12 Ethical Considerations

In research, the moral ideals that direct the manner under which people treat their fellow individuals in conditions where they can create real or prospective impairment, whether in a fiscal state, physically or perceptually, can be referred to as ethics morals (Yang 2014:514). In research, the investigator must be sincere when interacting with respondents and when relaying the outcomes of the study (Yeh 2016:38). In carrying out this study, the following ethical considerations were made. Firstly, to certify that respondents gave their informed consent. Secondly, assuring the respondents that no distress would befall the participants for participating in the study. Thirdly, a guarantee of anonymity and confidentiality; and lastly, ensuring that permission is taken. These attentions were dealt with in the following ways:

a. Ensuring that Participants give Informed Consent

In this segment, the researcher is mandated to transparently furnish the latent respondents with information about the type of study to be carried out. In securing the consent, the respondents must be granted sufficient time to determine their input in the research study. Preferably, realities must be presented before the beginning of research (Jensen and Laurie, 2016:137). The aim of the research was expressed to the participants and described at length in the covering consent letter.

b. Guaranteeing that no Distress Befalls the Respondents

Miller (2017:186) noted that distress to the respondents can consist of bodily or psychological damage. There was no prospect of trouble as the research was set in ethics level two which indicates that the study caused the smallest risk to people, animals, and the natural environment.

c. Ensuring Confidentiality and Anonymity

Defending the privacy of participants is very vital if data were to be assembled from the participants (Bjørn, 2017:20). Anonymity denotes the process of making sure that research respondents cannot be recognised by anybody (Privitera and Ahlgrim-Delzell, 2018:139). In the view of Jennings and Reingle (2019:43), the research information should not disclose the details of the participants. Moreover, the data ascertained should be employed exclusively for the research and not exposed for other people to use. To guarantee the confidentiality and anonymity of the respondents, the information accumulated was simply exploited for the study and the data about the respondents were not revealed.

d. Ensuring that Permission is Received

The contribution of each participant was completely voluntary, and nobody was compelled to partake in it. In addition, the research proposal, as well as the questionnaire implemented for the study, was assessed by the University of KwaZulu-Natal's Ethics Committee to certify that the survey was done according to the expected ethical criteria. The questionnaire effectively went through the Faculty Research Ethics Committee (FREC) guidelines and ethical clearance was obtained.

3.13 Concluding Summary

This chapter has detailed the comprehensive research method carried out in this study. It explained the underlying philosophy of the study, the research strategy, sampling strategy, target population and research instrument. The justification for using a mixed methods strategy was explicated. Both senior and lower levels of Transnet employees who are involved in managing contracts covered the target population of this research. The information and responses needed for this research were ascertained through a structured questionnaire and interviews for Managers. The Statistical Package for Social Sciences IBM (SPSS) AMOS version 25 was used to assess the qualitative data of the study. This chapter likewise enunciated the procedures for increasing reliability and validity.

The following chapter presents and discusses the data presentation and analysis of the study.

Chapter Four

Data Presentation and Analysis

4.1 Introduction

The previous chapter discussed the methodology of the study. This chapter presents the results of the study and the analysis thereof. The findings of the study are presented in line with the sequential mixed-methods methodology outlined in the preceding chapter. The first section of this chapter provides the results of the quantitative study. The Statistical Package for the Social Sciences (SPSS) 22.0 was used to compute descriptive statistics, correlations, validities and reliabilities of all the constructs under study. With the aid of the Analysis of Moment Structures (AMOS) 22.0, Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) were conducted to assess the fitness of the measurement and structural model as well as to verify the hypothesised relationships in the study. For the qualitative study, content and thematic analyses were employed to interpret qualitative data.

4.2 Quantitative Results

The data that was collected from respondents through electronically distributed questionnaires was analysed using descriptive and inferential statistics. The procedures for quantitative data analysis were as follows: firstly, assessment of the normality of data was done; secondly, the study described the demographic profile of the sample; thirdly, descriptive statistics were presented and discussed, using validity and reliability measures to assess the accuracy of the measurement instrument; fourthly, the measurement model was evaluated using CFA; thereafter, the fitness of the structural model was ascertained by employing SEM; and finally, path analysis was conducted to explain the hypothesised relationships in the study.

4.2.1 Pilot Study

A Pilot study is one of the critical stages in a research project that is conducted to identify challenges and deficiencies in the research instruments used for the study (Anil, Kassim and Varghese, 2021:71). For this study, a pilot study was conducted to assess the clarity and reliability of the questionnaire. The pilot involved a convenience sample of ten employees at Transnet SOC Ltd, who

were not part of the main study. The primary purpose of the pilot study was to evaluate the internal consistency of the scales used in the questionnaire.

The pilot data was cleaned, and eight out of ten completed questionnaires were found to be viable for analysis. The Cronbach's alpha (CA) values for each section were calculated to test reliability, with results falling within acceptable range (See Table 4.1).

Table 4.1: Cronbach's Alpha Test for Reliability

Items	Number of variables	Cronbach's Alpha
Contract Administration	4	0.987
Employee competency	4	0.951
Information Technology	4	0.990
Supplier Relationship	4	0.942
Risk Management	4	0.987
Effective Contract Management	4	0.965

The results indicate satisfactory reliability for all constructors, with the CA falling within the acceptable range of 0.6 to 0.9 for all items, indicating good internal consistency. This confirms that the scales used in the questionnaire are internally consistent and suitable for further analysis.

4.2.2 Data Collection and Cleaning Process

A total of 200 self-administered questionnaires were distributed, with all 200 returned. Of these, 192 questionnaires were complete and deemed suitable for analysis, while eight were excluded due to being incomplete. This process aligns with standard data cleaning practices, ensuring that only fully completed responses were used to maintain the reliability and validity of the findings. Incomplete questionnaires were discarded using listwise deletion, a common method for handling missing data when the percentage of incomplete responses is minimal, and their exclusion is unlikely to introduce bias.

The data was collected via Microsoft Forms, which facilitated real-time data entry, validation, and ensured secure storage. This approach minimised data entry errors and maximised response

rate due to the convenience of online access. Furthermore, the tool's automatic flagging of incomplete entries contributed to the accuracy of the dataset.

Following data collection, the dataset underwent thorough cleaning. Missing values, less than 10% of the responses, were addressed through imputation, using the mode to replace missing values. This approach preserved the integrity of the data while avoiding significant bias. The data cleaning process ensured that the dataset met the required standards for analysis.

4.2.3 Normality Test

The fulfilment of the assumption of normalcy was deemed a pre-condition for the application of inferential statistical techniques, as proposed by Pallant (2011:59). The normality of the data set was ascertained by estimating the skewness and kurtosis statistics, using SPSS 22.0. The skewness values of all constructs ranged from -0.827 to -0.283, while the values for kurtosis were between -.456 to 0.717, as shown in Table 4.2.

Table 4.2 Skewness and Kurtosis Values

	CA	EC	SR	RM	IT	ECM
Valid cases	192	192	192	192	192	192
Missing cases	0	0	0	0	0	0
Skewness	-.657	-.345	-.314	-.283	-.602	-.827
Kurtosis	.066	-.456	-.183	.063	.220	.717
Std. Error of Skewness	.175	.175	.175	.175	.175	.175
Std. Error of Kurtosis	.349	.349	.349	.349	.349	.349

Notes: CA=Contract administration; EC= Employee competency; SR=Supplier relations; RM=Risk management; IT=Information technology; ECM= Effective contract management

The values for skewness and kurtosis that fall within the range of -2 to +2 are generally considered to be evidence of a normal univariate distribution, as stated by George and Mallery (2010:113). The central limit theorem lends support to the study's confidence assertion that the data satisfies the normalcy assumption, as the table above demonstrates that the result s are

respectable in general. In addition to the skewness and kurtosis data, the normality test (Shapiro-Wilk) was calculated, and the results are displayed in Table 4.3.

Table 4.3 Tests of Normality

	Shapiro-Wilk		
	Statistic	df	Sig.
CA	.812	192	.077
EC	.871	192	.088
IT	.817	192	.034
SR	.847	192	.061
RM	.851	192	.059
ECM	.806	192	.091

a. Lilliefors Significance Correction

The p-values as reported for all the variables are larger than 0.05. This means that at a 5 percent significant level, critical values are more than their respective Z statistics. The Shapiro Wilk null hypothesis, being that the variables are normally distributed, was applied.

4.2.4 Demographic Analysis

This section provides a detailed overview of the demographic characteristics of the study's sample, specifically in the context of factors influencing effective contract management. Understanding the demographics of the respondents helps to contextualise the findings and provides a clearer picture of the diverse backgrounds and experiences that may shape the effectiveness of contract management practices. By analysing gender, educational level, age, and experience, it is possible to gain insights into how these factors may contribute to or influence the strategies, challenges, and successes in contract management. Below, each of these demographic attributes is explored in relation to their potential impact on the determinants of effective contract management.

a. Gender

Figure 4.1 reflects the gender of the respondents for this study. Even though the question of this study had nothing to do with gender, it is heartening to realise that there is a growing proportion of women in the workplace. This may point the success of the South African government gender equality policy that has ended segregation against women as a way of correcting historical imbalances in the workplace.

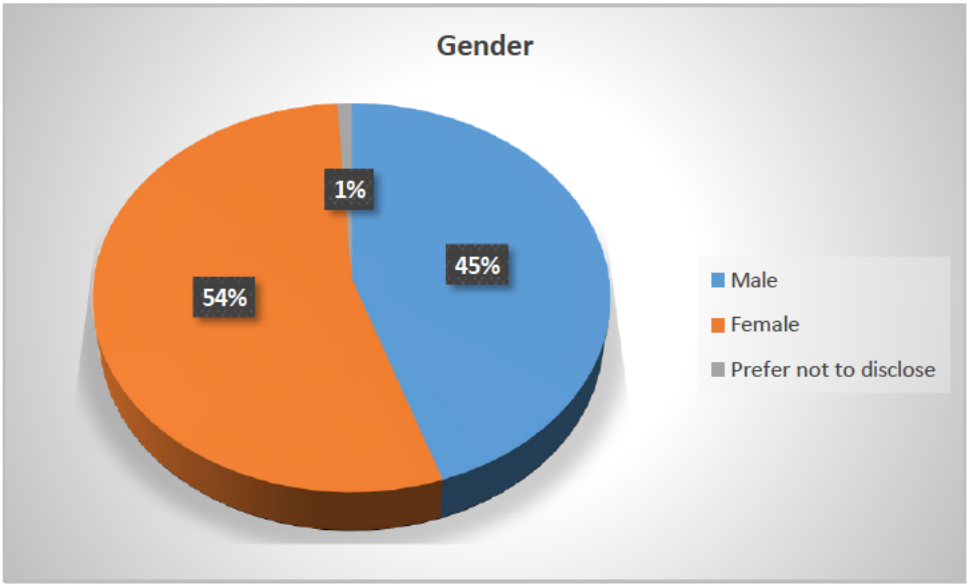


Figure 4.1 Gender

Mavin and Grandy (2016:379) noted that women in business in contemporary times have shown they are no less competent than men. Their ability to undertake risk, with their dedication, hard work and skills, have helped them exceed men in their endeavours (Martin 2018:799). Creativity, innovative thinking, passion, and business knowledge in women has resulted in many of them becoming entrepreneurs (Zgheib, 2018:768). Women's honesty and diligence is another cause for strength and progress in business (Dvouletý and Orel, 2020).

b. Educational Level

The findings shown in Figure 4.2 reveal that all the respondents were all literate, which means they could understand the questionnaire and provide informed responses.

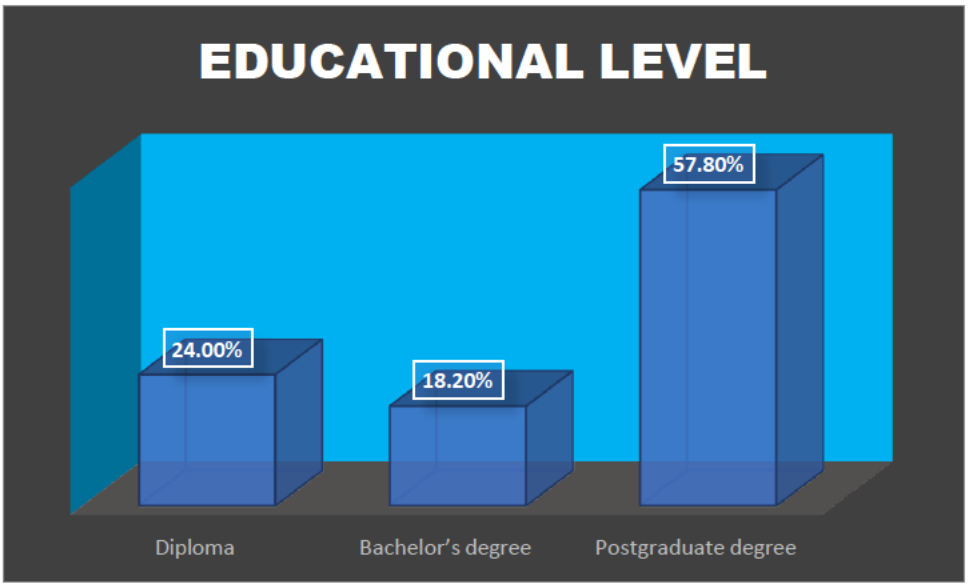


Figure 4.2 Educational level

Hyder and Lussier (2016:83) noted that education is incredibly valuable in every part of business operation, as it offers an opening under which to refine operational skills, as well as knowledge for effective business planning, innovation development, and book-keeping. Basazinew (2020:28) also added that effective contract management should be measured by a management team that has the required relevant qualifications, skills, knowledge and experience for the job.

c. Age

As reflected in Figure 4.3, many the respondents are younger than 40 years, an active age of employment, which assumes that respondents are actively and diligently engaged in their jobs relating to contract management and can bring in fresh ideas into their jobs.

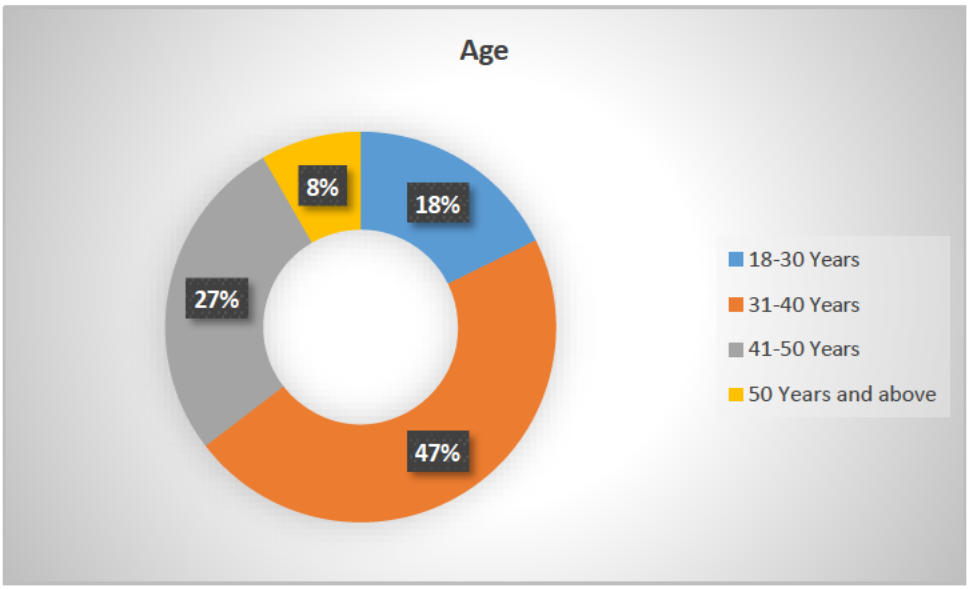


Figure 4.3 Age

d. Experience

The amount of work experience (in years) of respondents is displayed in Figure 4.4.

Figure 4.4 Experience

As much as 46% of the respondents have work experience of at least ten years, which gives the confidence that quite a few respondents are knowledgeable on issues around contract management.

4.3 Descriptive Results for the Study Variables

The study variables were contract administration, employee competency, information technology, supplier relations, risk management and effective contract management as the dependent variable.

The descriptive statistics are presented and discussed below:

4.3.1 The Influence of Contract Administration on Contract Management

The following results related to the questions that were aimed at establishing the respondents' views on how contract administration influences contract management. The findings are represented in Table 4.4:

Table 4.4: Contract Administration

Contract Administration	SD	D	NS	A	SA	Mean	Standard deviation
Administrators of contracts maintain a documentation system of every correspondence that arise before, during and after contracts	12.0	9.4	10.4	35.9	32.2	3.6719	1.33485
Contract monitoring ensure mutual satisfaction to Transnet SOC Ltd and its suppliers	12.0	11.5	12.5	33.3	30.7	3.5938	1.34653
Transnet SOC Ltd conduct periodic contract assessments	9.4	12.0	12.5	35.4	30.7	3.6615	1.28421
The Contract management procedures help to increase the efficiency in procurement	10.9	9.4	10.4	34.9	34.4	3.7240	1.31915
Transnet SOC Ltd maintain a contract budgeting register to avoid over expenditure in contract management	13.5	10.4	12.0	35.4	28.6	3.5521	1.36040

The results from the survey highlighted the importance of contract administration in ensuring effective contract management. A high majority of the respondents agreed that administrators of contracts maintained a documentation system of every correspondence that arises before, during and after contracts. However, there was a minority that disagreed with these opinions. The item had a mean of 3.6719 and a standard deviation of 1.33485, a clear indication that there is a proper documentation system at Transnet SOC Ltd.

These findings are in line with Maina and Osoro (2020:33), who suggested that contract administration should start with the development of clear, concise performance-based statements of work. Accordingly, it can be stated that effective contract administration minimises or eliminates complications and potential claims and disputes.

Respondents also felt that contract monitoring ensures mutual satisfaction to Transnet SOC Ltd and its suppliers, with 64%. agreeing as against 23.5% who disagree. The item had a mean of 3.5938 and a standard deviation of 1.34653. This finding concurs with those of Lifard (2020:24), who found that for any organisation to have a good relationship when involved in contract management, there must be mutual trust between the parties on what is required and to be delivered.

Transnet SOC Ltd does conduct periodic contract assessments with 66% of the respondents agreeing that this is indeed so. This showed a commitment to evaluating contract effectiveness. This was also confirmed by a mean of 3.6615 and a standard deviation of 1.28421. This is confirmed by the assessments through audits that are conducted by the organisation every financial year, an improvement from what Surajbali (2016:17) had previously found.

On whether contract management procedures help to increase the efficiency in procurement, a majority of 69.3% felt that contract management procedures were efficient. The item revealed a mean of 3.7240 and a standard deviation of 1.31915. The results are in sync with the findings of Kutosi, Eya and Moses (2015:5), who recommended that to maintain and increase efficiency, clear procedures should be defined for those who are involved in contracting process and contract management.

As least 64% of respondents agreed that Transnet SOC Ltd maintained a contract budgeting register to avoid over expenditure in contract management. This was confirmed by a mean of

3.5521 and a standard deviation of 1.36040. The results are consistent with the findings of Kafil and Fore, (2018:13), who highlighted that the organisation should ensure that deliveries for goods and services were received on time and that the budget should not be exceeded as agreed, along with all the conditions being documented in the contract.

4.3.2 The influence of Employee Competency on Contract Management

The next set of results relate to questions that aimed at establishing the respondents' views on how employee competency influences contract management. The findings are represented in Table 4.5.

Table 4.5: Employee Competency

Employee Competency	SD	D	NS	A	SA	Mean	Standard deviation
Employees are knowledgeable of contract management processes	10.4	16.7	10.4	24.0	38.5	3.6354	1.40396
Employees are experienced in ensuring effective contract management	8.3	18.2	10.9	23.4	39.1	3.6667	1.37034
Employees have technical skills to do things right the first time	12.0	18.8	9.9	21.9	37.5	3.5417	1.45016
Employees are aware of how to interpret contract document	10.4	15.6	9.9	23.4	40.6	3.6823	1.40608
Employees are motivated to attain organizational goals	8.9	16.7	9.4	24.5	40.6	3.7135	1.37526

These findings revealed that 62.5% of the respondents agreed that employees are knowledgeable on contract management processes. The mean of 3.6354 and standard deviation of 1.40396 supports the assertion. Setino (2018:127) concurred by stating that a contract team should have the right skills, and SOEs should invest in the continuous development of their skills.

Whilst there is a high number of respondents who feel that employees are experienced enough to ensure effective contract management, some employees still feel that they lack the necessary experience. The mean of 3.6667 and standard deviation of 1.37034 are confirmatory.

About technical skills, the results show that most employees (59.4%) do have the relevant technical skills to do things right the first time. However, there are a few who believe that this is not the case. The item had a mean of 3.5417 and a standard deviation of 1.45016. Okereke, Zakariyau and Eze (2021:24) maintained that regular training and continuous professional development is essential to improve the skills and knowledge of contract administrators as well as contract managers for effective contract administration and management.

Employees at Transnet SOC Ltd are aware on how to interpret contract documents with 64% in agreement. However, 26% had divergent views, feeling that some employees still experienced difficulties in comprehending contract information. This finding emphasised the importance of employees understanding when it came to minimising disputes and ensuring smooth contract management. These results were confirmed by a mean of 3.6823 and a standard deviation of 1.40608. Narh, Owusu, Oduru-Apeatu and Narh (2015:62) added that contract documents should be simple, clear, complete, precise, consistent, and adequately prepared. They should be checked for any ambiguities which may result in conflict between parties to allow effective contract management.

Responding to how motivated the employees are, a majority of 65.1% agreed that employees are motivated to attain organisational goals. The results summed up to a mean of 3.7135 and standard deviation of 1.37526, indicating that respondents are highly motivated. The findings are consistent with those of Henkel and Bourdeau (2018:9), who posited that maturity and readiness are determined by combination of competence of task-relevant knowledge and skills.

4.3.3 The Influence of Supplier Relations on Contract Management

The following results relate to questions that aimed at establishing the respondents' views on how supplier relations influence contract management. The findings are represented in Table 4.6.

The results confirmed that **supplier relations** was a critical factor influencing contract management. For example, 56.7% of the respondents affirmed that contract relationships facilitated supplier efficiency. The mean of 3.3646 and standard deviation of 1.44077 confirm this. These findings are consistent with those of Batetah and Wabala (2021:212) who stated that effective contract management requires good contract relationship management between both

parties, which is then simulated in the general organisation performance.

Regarding whether Transnet SOC Ltd has harmonised and openly discussed contract objectives, goals and planning with suppliers, 56.7% of the respondents agreed, 33.8% disagreed, while 9.4% were neutral. The results were supported by a mean of 3.3333 and a standard deviation of 1.43382 – a clear indication that there needs to be some opening of the channels of communication with suppliers. Reinforcement of communication and ensuring transparency in goals and planning were seen to be crucial steps in fostering better supplier relations and improved contract management.

Table 4.6: Supplier Relations

Supplier Relations	SD	D	NS	A	SA	Mean	Standard deviation
Contract relationships have facilitated supplier efficiency	14.1	20.8	8.3	28.1	28.6	3.3646	1.44077
Transnet SOC Ltd has harmonised and openly discussed contract objectives, goals, and planning with suppliers	15.6	18.2	9.4	30.7	26.0	3.3333	1.43382
Transnet SOC Ltd maintains collaborative management structures/ teams that aid a joint approach to sustainable supply	13.5	22.4	9.9	26.6	27.6	3.3229	1.42891
Transnet SOC Ltd maintains open and excellent communications with its suppliers	15.1	21.4	8.9	27.1	27.6	3.3073	1.45233
Transnet SOC Ltd has built mutual trust and understanding with suppliers	15.6	19.8	9.9	26.0	28.6	3.3229	1.46151

The respondents were also asked if Transnet SOC Ltd maintains collaborative management structures/teams that aid a joint approach to sustainable supply. It showed that 54.2% of the respondents agreed, while 35.9% of them disagreed and 9.9% were undecided. The results were corroborated by a mean of 3.3229 and standard deviation of 1.4289, an indication that more collaborative initiatives with suppliers are required.

When asked if Transnet SOC Ltd maintains open and excellent communications with its suppliers, 54.7% of the respondents agreed, and 36.5% of them disagreed, while 8.9% of the respondents were undecided. These results were corroborated by a mean of 3.3073 and a

standard deviation of 1.45233 which pointed to the need to strengthen communications with its suppliers. This is supported by Muhwezi and Ahimbisibwe (2015:76), who stated that in contract management, mutual understanding, openness, and excellent communications between key stakeholders in contract management and monitoring and end user department plays an important role to the success of an arrangement as and the fulfilment of the formal contract terms and conditions.

Finally, 54.6% of the respondents agreed that Transnet SOC Ltd has built mutual trust and understanding with their suppliers, while 35.4% of them disagreed, and 9.9% of them were undecided. This is supported by a mean of 3.3229 and a standard deviation 1.46151. The results suggested that the company has moderate trust from its suppliers. The findings are in line with Basazinew (2020:10) who asserted that contract management involves managing the contractor relationship. This refers to the arrangements and initiatives of the contracting organisation to create and maintain a constructive relationship with the contractor. The author further advised that this is subject to the mutual trust, understanding, consistent communication and timely management of possible challenges in the contract.

4.3.4 The Influence of Information Technology on Contact Management

The following results relate to questions that aimed at establishing the respondents' views on how information technology influences contract management. The findings are represented in Table 4.7

Table 4.7: Information Technology

Information Technology	SD	D	NS	A	SA	Mean	Standard deviation
Supporting procurement contract management by information technology increase effectiveness	16.1	17.7	5.7	25.0	35.4	3.4583	1.51375
Information technology increases the speed of doing things regarding contract management	16.1	16.7	8.9	28.1	30.2	3.3958	1.46855
Information technology help to improve contract management by reducing costs	18.8	15.1	7.3	29.7	29.2	3.3542	1.50029
Information technology support increases productivity	18.8	19.3	6.8	26.6	28.8	3.2708	1.51419
Internet connections enhance effective communication with suppliers	16.7	16.1	10.9	28.6	27.6	3.3438	1.45313

Responding to questions on whether the use of information technology enhances contract management effectiveness, a majority of 60% agreed whilst the rest either disagreed or were not sure. The item revealed a mean of 3.4583 and standard deviation of 1.51375 confirming the result. Basazinew (2020:32) also observed that contract management software allows the organisation to generate new business more quickly.

Information technology increases the speed of doing things regarding contract management with 58.3% in agreement. This has been confirmed by a mean of 3.3958 and a standard deviation of 1.46855. Chen, Wang and Li (2019:2) asserted that extensive data and information involving contract award, changes and payment about different projects exist in contract management and this requires knowledge storage, communication, and integration to increase the speed of conducting work.

The general view of employees is that information technology helps to improve contract management by reducing costs as indicated by the 58.9% who answered positively to this. On the other hand, 33.9% felt that information technology has minimal impact in reducing costs.

The item had a mean of 3.3542 and a standard deviation of 1.50029. Kaula (2022:45) contended that the adoption of automation through IT was found to be useful for effective contract administration, as opposed to manual contract administration, which is prone to human errors, resulting in increased costs.

About whether information technology increases productivity, a low majority of 55.4% agreed. However, the 44.9% who were not in agreement cannot be overlooked. The mean of 3.2708 and standard deviation of 1.51419 also shows that respondents were not entirely in agreement. Nevertheless, Basazinew (2020:32) supported the majority view by stating that contract management software helps the organisation to monitor contracts for future improvement.

Adding to the above, a further 56.2% of the respondents agreed that internet connections enhanced effective communication with suppliers, although a good 43.7% disagreed that connections enhanced communication with suppliers. The mean of 3.3438 and standard deviation of 1.45313 has confirmed the result. These results are in line with Manandhar and Chatterjee (2021:18) who observed that incorporation of information technology may increase an organisation's management efficiency and decrease the deficiencies created by weak supplier results, unstable purchaser demand, and unbalanced market climate.

4.3.5 The Influence of Risk Management on Contract Management

The following results relate to questions that aimed at establishing the respondents' views on how risk management influences contract management. The findings are represented in Table 4.8.

Table 4.8: Risk Management

Risk Management	SD	D	NS	A	SA	Mean	Standard deviation
Transnet SOC Ltd involves suppliers for strategic risk management initiatives	17.2	15.6	8.3	32.8	26.0	3.3490	1.45008
Transnet SOC Ltd monitors patterns of supply chain disruptions	19.8	14.6	8.3	31.8	25.5	3.2865	1.48508
Transnet SOC Ltd has diversified global sourcing options	16.1	16.7	9.4	32.3	25.5	3.3438	1.43135
Transnet SOC Ltd implements lean management in the extended supply base	17.7	16.7	7.8	31.3	26.6	3.3229	1.46866
Transnet SOC Ltd has clauses in its contracts to protect it from price unpredictability	17.7	14.6	8.9	31.8	27.1	3.3594	1.46191

Table 4.8 reveals that Transnet SOC Ltd involves suppliers for strategic risk management initiatives. The results further reveal that **risk management** plays a vital role in influencing contract management at Transnet SOC Ltd. This is affirmed by 58.8% of the respondents. However, 32.8% indicated that they are not knowledgeable about strategic risk management initiatives. The results summed up to a mean of 3.3490 and standard deviation of 1.45008. The results are supported by Nsanzimana and Mulyungi (2018:1735) who preferred contract management to be an issue of strategic significance for both organisations and the project's environment, where organisations can increase control, effectiveness and cost reduction.

On monitoring patterns of supply chain disruptions, most of the respondents (57.3%) alluded to the fact that supply chains were monitored. The item revealed a mean of 3.2865 and standard deviation of 1.48508 indicating that Transnet SOC Ltd should improve their monitoring of supply chain disruptions.

The results also indicated that Transnet SOC Ltd has diversified global sourcing options with 57.8% agreeing. The item had a confirmatory mean of 3.3438 and a standard deviation of 1.43135. These findings are consistent with those of Fourie (2014:32), who posited that SOEs make crucial contributions towards economic development, not only locally, but also regionally and internationally.

A total of 54.2% agreed that Transnet SOC Ltd maintains collaborative management structures/ teams that aid a joint approach to sustainable supply. The results were corroborated by a mean of 3.3229 and standard deviation of 1.46866 which indicate that there is a joint approach to ensure sustainable supply.

Transnet SOC Ltd contracts have clauses that protect the entity from price unpredictability as 58.9% of the respondents opined. 32.3% were sceptical though. With a mean of 3.3594 and a standard deviation of 1.46191, the result is confirmed.

4.3.6 Effective Contract Management

The following results relate to questions that aimed at establishing the respondents' views on the effectiveness of contract management at Transnet SOC Ltd. The results thereof are represented in Table 4.9.

Table 4.9 Effective Contract Management

Effective Contract Management	SD	D	NS	A	SA	Mean	Standard deviation
There is a clear description of contract processes	14.1	17.7	14.1	22.4	31.8	3.4010	1.44374
There is good communication and relationship between contracting parties	12.0	11.5	17.2	27.6	31.8	3.5573	1.35633
Contracts are completed with the required specifications	10.9	13.0	13.5	26.6	35.9	3.6354	1.36998
There are quick resolutions of issues and disputes	13.0	16.1	14.1	26.6	30.2	3.4479	1.40209
There is active risk mitigations, management and resolution of issues and disputes	12.5	13.0	13.5	26.6	34.4	3.5729	1.39742

From Table 4.9, it's evident that there is a clear description of contract processes as alluded to by 68.1% of the respondents. There were divergent opinions between the 31.8% who feel contract processes at Transnet SOC Ltd are not clearly pronounced, and the 14.1% who could not take a position. The mean of 3.4010 and a standard deviation of 1.44374 indicate that there is a clear description of contract processes. This view was also observed by Jacobs (2021:38), who stated that the basis of an effective contract management system is dependent on the

adoption and maintenance of good governance principles, processes and procedures within the organisation.

59.4% are comfortable with the level of communication and relationships between contracting parties. The item had a mean of 3.5573 and a standard deviation of 1.35633. The results are in line with the position of the Guide for Government Agencies (2011:5) that effective contract management relies on good communication between parties based on mutual respect, trust, understanding, openness and accountability.

Regarding whether contracts are completed to the required specifications at Transnet SOC Ltd, 56.7% of the respondents agreed while 43% did not. The results were supported by a mean of 3.6354 and a standard deviation of 1.36998. Jacobs (2021:19) concurred with these results, stating that "effective contract management ensures that value for money and outcomes of the contract are achieved."

When asked if there are quick resolutions of issues and disputes at Transnet SOC Ltd, 56.8% of the respondents agreed, 29.1% of them disagreed while 14.1% of the respondents were undecided. The results were corroborated by a mean of 3.4479 and standard deviation of 1.40209 which signified that issues and disputes are quickly resolved in the organisation. Therefore, the findings agree with the recommendations on the study conducted by Hayati, Latief and Jaka (2019:6) who posited that for an organisation to be able minimise claims and conflicts developing into disputes, it is essential to have preventive guidelines, which must be applied before the claims and conflicts occur.

61% of the respondents agreed that there is active risk mitigations, management and resolution of issues and disputes at Transnet SOC Ltd. This is supported by a mean of 3.5729 and a standard deviation of 1.39742. With the existence of the guidelines, the possibility of claims and conflicts that develop into disputes will be eliminated.

The above results were subjected to exploratory factor analysis to establish possible relationships of the multivariate relationships. These findings suggest that Transnet SOC Ltd has a system in place for effective contract management, focusing on clear processes, communication, dispute resolution, and risk management.

4.4. Exploratory Factor Analysis

An exploratory factor analysis was performed on the items that were associated with the scale. To evaluate the factorability of the data, the KMO test and the Bartlett's Test of Sphericity were carried out. According to Pallant (2010:183), sample adequacy is demonstrated by a significant Barlett's Test of Sphericity and a KMO test score of 0.6 or higher.

Table 4.10 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.879
Bartlett's Test of Sphericity	Approx. Chi-Square	2951.267
	df	351
	Sig.	.000

In Table 4.10, both tests returned satisfactory values with a KMO=0.879, Chi square Bartlett test=2951.267 (df =351), p=0.000<0.05. Once the factorability of the data was established, principal component analysis, using promax rotation was performed. Based on the literature six factors were specified for extraction. These six factors, which had eigenvalues greater than one, explained 75.508 percent of the total variance. The rotated factors from the pattern matrix are presented below:

Table 4.11 Pattern Matrix

	Component					
	1	2	3	4	5	6
IT2	.906					
IT4	.865					
IT3	.796					
IT1	.730					
IT5	.660					
SC2		.914				
SC1		.842				
SC3		.801				
SC4		.787				
RM3			.938			
RM4			.872			
RM2			.672			
RM5			.612			
RM1			.521			
CA2				.808		
CA3				.768		
CA1				.723		
CA4				.707		
CA5				.690		
SR5					.905	
SR4					.825	
SR2					.802	
SR3					.723	
ECM2						.874
ECM5						.825
ECM4						.728
ECM3						.658

Extraction Method: Principal Component Analysis.
Rotation Method: Promax with Kaiser Normalization.
a. Rotation converged in 7 iterations.

All six factors aligned well with the specified scales. There was no cross loading as items fell into their related constructs. The table shows that the factor loadings of all constructs are all above the recommended threshold of 0.5 (Antwi and Meyaw, 2020:100). The following section discusses the internal-consistency reliability of the scales used in the main survey.

4.5 Internal-Consistency Reliability of the Main Study

Table 4.12 provides a summary of the internal-consistency reliability measures of the research instrument utilised within this study.

Table 4.12 Internal-consistency Reliability Values of the Scales in the Main Study

Construct	Number of items	Cronbach alpha
Contract administration	5	0.980
Employee Competency	5	0.865
Risk management	5	0.973
Information technology	5	0.867
Supplier relations	5	0.885
Effective contract management	5	0.865

As indicated in Table 4.12, all Cronbach alpha values exceeded the recommended level of 0.60, thereby indicating satisfactory internal-consistency reliability.

Prior to conducting structural equation modelling, a correlation analysis was carried out for the purpose of determining if the relationships between the hypothesised determinants of contract management were significant.

4.6 Correlation Analysis

According to Hair *et al.* (2010:710), constructing a correlation matrix is a useful tool in assessing the nomological validity of a proposed measurement model. To this study, Pearson's Product-Movement correlation coefficients were computed and as shown below in Table 4.13.

Table 4.13 Correlations

	IT	SC	RM	CA	SR	ECM
IT	**0.760**					
EC	0.222**	**0.804**				
RM	0.210*	0.430***	**0.729**			
CA	0.370***	0.491***	0.510***	**0.684**		
SR	0.356***	0.565***	0.655***	0.511***	**0.788**	
ECM	0.342***	0.605***	0.652***	0.603***	0.647***	**0.779**

The above table shows that there was significant positive correlation at a significance level of a=0.01 between each of the pairs of constructs, which infers nomological validity. The table shows that the relationships among the constructs are strong, where r rated from 0.760 to 0.779. The five constructs in the model measured different aspects of contract management determination and subsequent contract management effectiveness; hence a high degree of inter-correlation was expected. To establish cause and effect relationship between variables, it is necessary that the variables correlate. The resulting correlation statistics indicate that there is a significant linear relationship between any two constructs in the model.

4.7. Structural Equation Modelling

The following step was to test the proposed model (H_o1 to H_o5) of the determinants of effective contract management in state-owned enterprises by means of SEM.

4.7.1 Measurement Model Specification

In accordance with the model proposed in Chapter 4, the measurement model to be tested is a six-factor structure that includes six latent or unobserved factors, namely contract administration (CA), Employee Competency (EC), supplier relations (SR), risk management (RM), information technology (IT) and effective contract management (ECM).

The hypothesised measurement model was specified in Chapter 4 – Figure 4.5. The specified model is depicted in Figure 4.5.

For model identification purposes, the first loading of each of the six factors were fixed at 1.0. Accordingly, there are 465 distinct sample moments, and 75 parameters to estimate, leaving 390 degrees of freedom (df) based on the over-identified model, and a Chi-square value of 650.692 with a probability level equal to p=0.000.

The model was assessed for any problematic estimates, such as negative error variances, also known as Heywood cases, and any standardised factor loadings below -1.0 or above 1.0 (Hair *et al.,* 2010:706). There were no problematic estimates in the model as all item loadings were above the 0.5 level. As such, no factor loadings above 1.0 or below -1.0 were recorded. Furthermore, no negative error variances were observed.

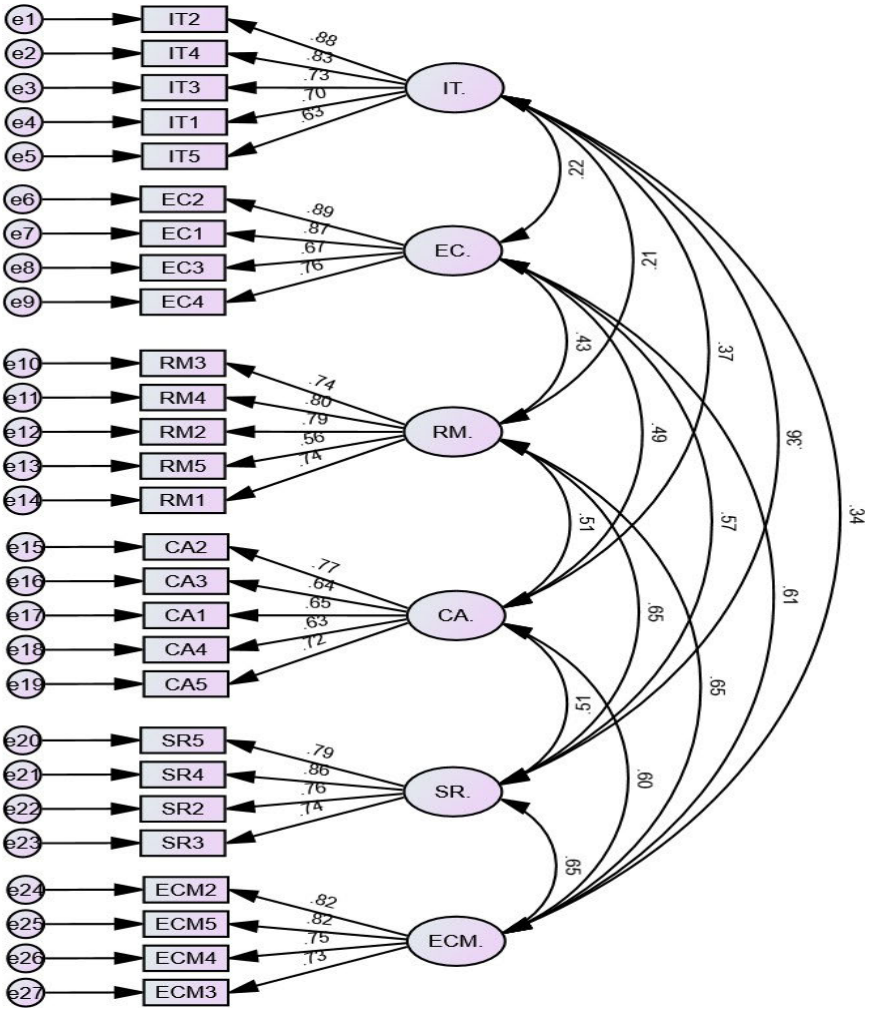


Figure 4.5 Specified Measurement Model

4.7.2 Model Fit Measures

The model fit was assessed using the following indices produced by AMOS, namely the absolute fit indices of the Chi-square, the Standardised Root Mean Residual (SRMR), and the Root Mean Square of Approximation (RMSEA), the Comparative Fit Index (CFI), and the PClose index. All the fit indices showed an excellent degree of fit between the measurement model and the data, as shown in Table 4.14.

Table 4.14 Model Fit Measures

Measure	Estimate	Threshold	Interpretation
CMIN	535.446	--	--
DF	309	--	--
CMIN/DF	1.733	Between 1 and 3	Excellent
CFI	0.918	>0.95	Acceptable
SRMR	0.062	<0.08	Excellent
RMSEA	0.062	<0.06	Acceptable
PClose	0.015	>0.05	Acceptable

Following these results the reliability and validity of the model was computed and assessed.

4.7.3 Reliability and Validity of the Measurement Model

An important component of this study was to validate utilised scales in the South African context. As such, the Composite Reliability (CR), Average Variance Extracted (AVE) and the correlation coefficients were computed to determine the reliability and construct validity of the scale. Table 4.15 reports on the CR, AVE, the square root of the AVE and the correlation coefficients.

Table 4.15 Model Validity Measures

	CR	AVE	MSV	MaxR(H)	IT.	EC.	RM.	CA.	SR.	ECM.
IT.	0.871	0.578	0.137	0.894	**0.760**					
EC.	0.878	0.646	0.366	0.902	0.222**	**0.804**				
RM.	0.849	0.532	0.429	0.862	0.210*	0.430***	**0.729**			
CA.	0.814	0.468	0.363	0.821	0.370***	0.491***	0.510***	**0.684**		
SR.	0.867	0.621	0.429	0.875	0.356***	0.565***	0.655***	0.511***	**0.788**	
ECM.	0.860	0.607	0.426	0.865	0.342***	0.605***	0.652***	0.603***	0.647***	**0.779**

As Table 4.15 shows, all CR values exceeded the recommended 0.70 cut off level, thus indicating the reliability of the constructs. This also satisfies the recommended criterion of above 0.6, (Bagozzi and Yi, 1988:91). In addition to the CR values, all factor loadings exceeded the 0.50 level and AVE values were computed at 0.50, thereby indicating convergent validity (Hair *et al*., 2010:709). Only CA had an AVE below the usual cut-off of 0.5 (AVE= 0.468) However this is still marginally acceptable especially given the fact that the factor loadings of all the manifest variables (items) were above 0.6 (Chang *et al.,* 1997:434).

There is evidence of discriminant validity in that all the correlation coefficients were smaller than the square root of the AVE (√0.5=0.71) (Malhotra 2010:734). Since the six dimensioned model measures different aspects of contract management, some degree of inter-correlation was to be anticipated.

As such, the specified measurement model demonstrates acceptable reliability, convergent validity and discriminant validity. The overall measurement model is not only valid and reliable but also exhibits acceptable fit making it a suitable structural model for testing.

5.7.4 The Structural Model

The structural model is an essential part of the modelling process that specifies how the latent variables are related to each other. In this study, the latent variables were contract administration (CA), employee competency (EC), supplier relations (SR), information technology (IT) and risk management (RM) have a direct positive influence on contract management (ECM). Unlike with the measurement model, the structural model enables the researcher to empirically test the hypotheses postulated in the study as well as testing the conceptual model. Thus, in this section,

research hypotheses are tested. As with the measurement model, the structural model was subjected to model fit indices.

The assessment results obtained from the postulated structural model generated various indices of model fit by means in AMOS program. The table 4.16 below shows the results for the various indices computed.

Table 4.16: Structural Model Fit Indices

Fit index	Acceptable threshold (Hair et al., 2014)	Modified Model fit index value	Comment
χ^2/DF	< 3.000	1.733	Excellent
CFI	>0.950	0.918	Acceptable
RMSEA	< 0.060	0.062	Acceptable
SRMR	<0.080	0.062	Excellent
PClose	>0.050	0.015	Acceptable

The structural model had a good fit as informed by the acceptable thresholds (Hair *et al.* 2014:22). This set the way for full hypothesis testing and interpretation of the model. The figure below presents the resulting structural model of the present study retrieved from AMOS version 21.

In the structural model path diagram (see Figure 4.6), unidirectional arrows represent causal relationship between variables and its direction. The bidirectional arrows represent a correlational relationship between variables without a clearly defined causal direction. Circles and ovals represent latent variables, while squares or rectangles signify measured variables. Residuals to each variable are always unobserved and so are denoted by small ovals or circles. It is instructive to also highlight that all constructs in the current study were not measured directly and are thus latent variables in the model. From the path diagram, it is immediately evident that effective contract management is determined by Contract Administration (CA), Employee Competency (EC), Supplier Relations (SR), Information Technology (IT) and Risk Management (RM). However, only Contract Administration (CA), Employee Competency (EC), Supplier Relations (SR), Information Technology (IT) and Risk Management (RM) have a

statistically significant causal impact on contract administration. This is made even more apparent in the table below showing the statistical significance.

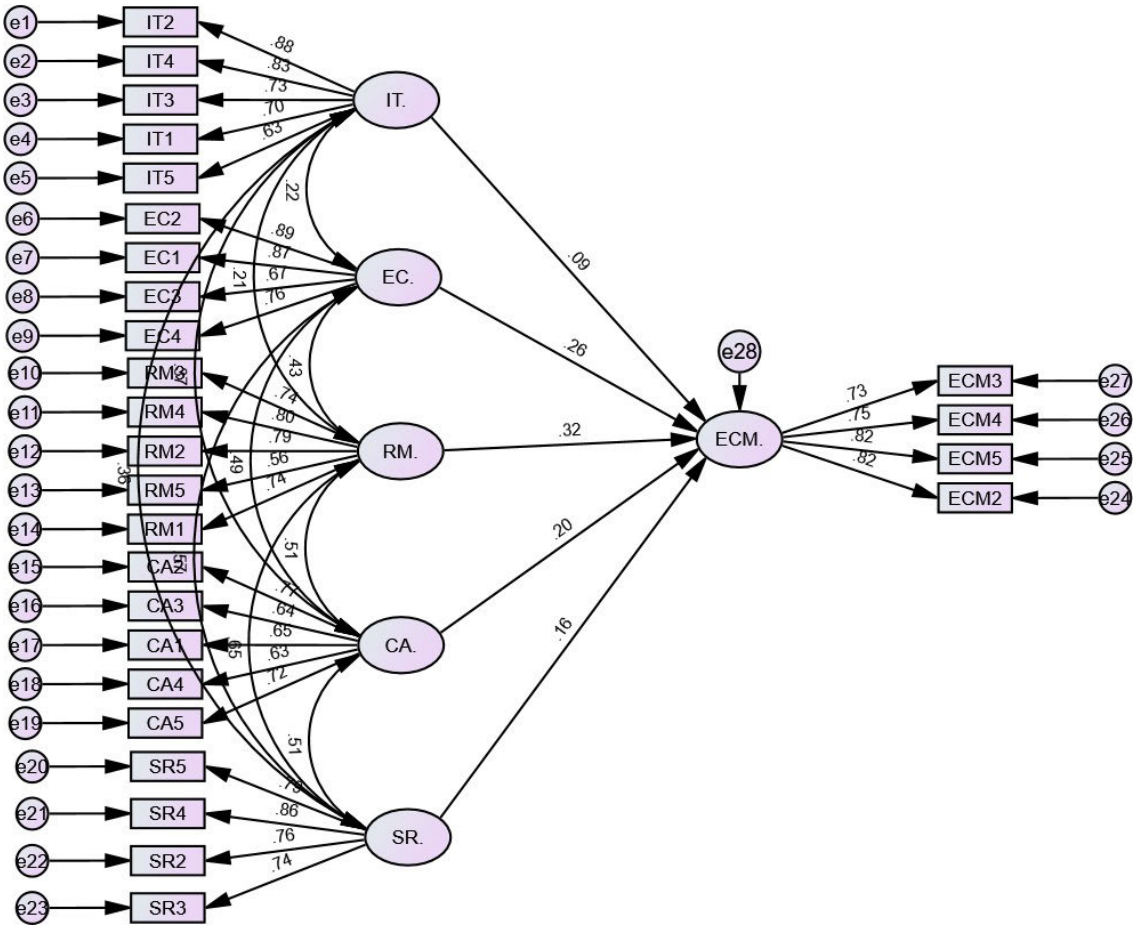


Figure 4.6 Structural Equation Model Path Diagram

4.8 Revised Model Confirming Hypotheses

Following the path diagram that has been presented and discussed, Table 4.17 summarises the results of the structural model of this study.

Table 4.17 Paths of Relationships among Constructs and Confirmation of Hypotheses

IV		DV	Standardised Estimates (β values)	*p values*	S.E.	Decision on Hypotheses
CA	--->	ECM	0.200	.020	0.103	Accepted
EC	--->		0.263	***	0.062	Accepted
SR	--->		0.158	.114	0.094	Rejected
RM	--->		0.316	***	0.103	Accepted
IT	--->		0.087	.192	0.060	Rejected

Notes: IV= Independent variables; DV= Dependent variable; SE: Standard Error

Standardised estimates are the regression weights for the model. These values may be understood to represent the strength of the predictive influence of the IV on the DV. From this column, it is apparent that RM is the strongest predictor of ECM (β = 0.316; p-value=0.000). This shows that risk management may be the leading determinant of effective contract management, followed by contract administration and then employee competency. Whilst they have positive coefficient values information technology and supplier relations turned out to have minimal impact on contract management which was deemed not important. Figure 4.7 depicts the revised model which confirms the hypotheses.

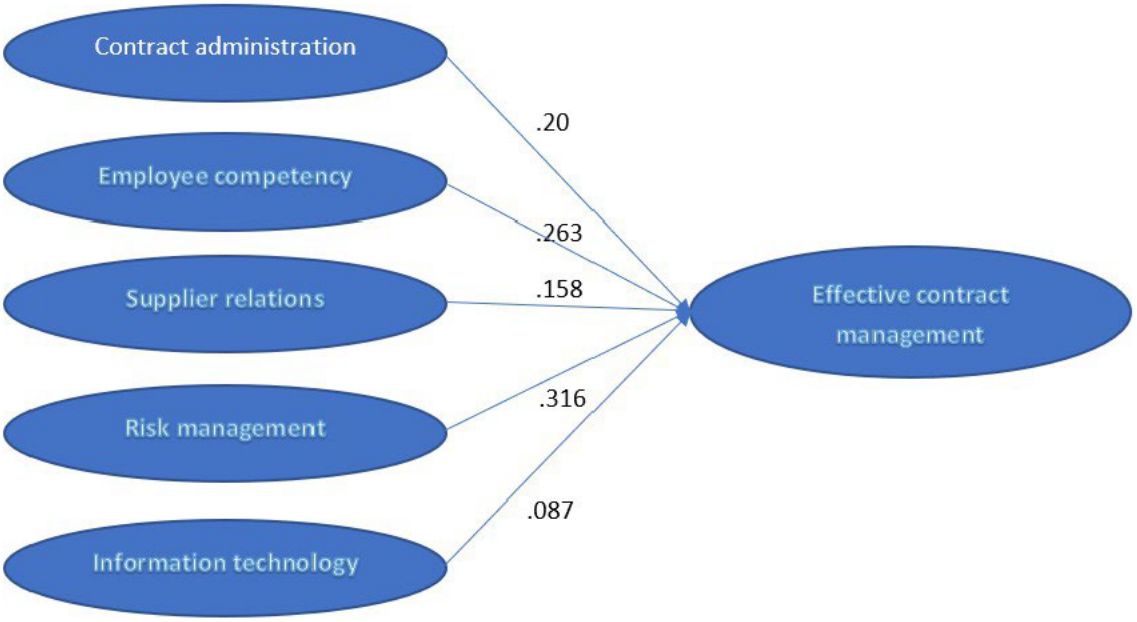


Figure 4.7 Revised Model – Determinants of Effective Contract Administration

4.8.1 Confirming Hypothesis One

Hypothesis H1 conjectured that contract administration (CA) positively impacts contract management. This is in line with the contention of Muheesi, Kasenge, Ssebagala and Namuli (2023:107) who emphasised that contract administration plays a central role in enhancing effective contract management. This aspect was identified as crucial for achieving successful project outcomes. Given the analysis result ($\beta = 0.200$; p-value=0.020), the hypothesis is therefore accepted, and the conclusion is that contract administration is a vital determinant of effective contract management.

4.8.2 Confirming Hypothesis Two

After contract administration another strong determinant of effective contract management is employee competency (EC) ($\beta = 0.263$; p-value=0.000). This is a statistically significant causal relationship. Kaazara (2023:232) highlighted that employee competency is critical for contract management within the organisation. The author further states that the competencies that are crucial for contract management are staff capabilities, knowledge, and skills. Therefore, organisations that have staff with high capabilities, knowledge and skills easily implement and execute their contracts.

4.8.3 Confirming Hypothesis Three

Hypothesis H3 speculated that information technology (IT) positively influences contract management. This is supported by the assertion of Kaula (2022:48) who stated that the use of computerised and automated systems obviates the need for paperwork, therefore eliminating transaction costs, thus helping to provide effective contract administration. Accordingly, manual contract administration was revealed to be an ineffective method of doing things. However, the results still point out that information technology has a minimal and insignificant influence on contract management ($\beta = 0.087$; p-value=0.192). Considering the above result, the hypothesis is thus not accepted, and it is resolutely held that information technology adoption is not a key requirement for effective contract management.

4.8.4 Confirming Hypothesis Four

The model also confirmed that risk management (RM) had a statistically significant positive causal relationship with effective contract management (β = 0.316; p-value=0.000). This is in line with the study conducted by Ochola and Kitheka (2019:1096), who recommended that the appropriate method of risk management should be an ongoing throughout the duration of a contract. The authors also suggested that to effectively deliver a service, work or goods, risk administration should be improved, mainly in terms of a timely settlement of contractors' payment. This is supported Basheka (2014:107) who advised that successful and efficient contract management practices – such as managing the possible risks and liabilities – must meet stakeholders' needs, to achieve the best value for money and service delivery.

4.8.5 Confirming Hypothesis Five

Supplier Relations (SR) however, had a negative effect on effective contract management (β =0.158; p-value=0.114) and the beta was not statistically significant. This rather contradictory result may be due to uniqueness between individuals in their readiness to accommodate and promote supplier relations. Poku (2022:31) highlighted the importance of SR by finding that, in the event of no goods coming to an organisation or being distributed out from it, the result was business failure. The benefit of good SR allows buyers to manage supplier relationships by offering visibility on all critical processes. This effect, however, is of little consequence because of the non-significant regression weight.

Through **hypothesis H5**, it had been predicted that SR had a positive and significant impact on the effective contract management. In view of the above result, the hypothesis is thus rejected, and the conclusion was that supplier relations are not a critical determinant of effective contract management. This is in sharp contrast to other authorities like Muheesi *et al*. (2023:107), who established that relationship management was significant to effective service delivery, enabling information flow amongst the parties to a contract and accelerated timely delivery of goods thereby convincing the concerned parties to expedite the entire process and ensure service gets to the people.

4.9 Qualitative Results

These results are presented in line with the interview questionnaire. The responses to the interview questions have been summed up. However, some of the responses that were interesting have been recorded here verbatim.

4.9.1 Demographic Profile

Before embarking on an analysis of the interviews, the demographic profile of the interviewees is provided in Table 5.18. The results reveal that the aim of targeting key informants in contract management was achieved as all participants were revealed to be senior officers. This has a positive bearing on the validity of the results as knowledgeable people were interviewed on contract management. The level of qualifications of the sample is also significant as the respondents were expected to understand the policies and procedures well and be well versed with ethical issues. Their level of experience within the SOE provided confidence in their knowledge. The demographic details are followed by more detailed analysis and discussions on the information gained in the interviews.

Table 4.18: Participants Demographics

Designation	Contract Specialist	6	60%
	Special Project Manager	1	10%
	Procurement Officer	1	10%
	Contract Manager	2	20%
Total		**10**	**100%**
Work experience	Less than 10 years	1	10%
	10 to 20 years	8	80%
	More than 20 years	1	10%
Total		**10**	**100%**
Educational level	Diploma	3	30%
	Degree	6	60%
	Postgraduate	1	10%
Total		**10**	**100%**

4.9.2 Contract Management Policies

About whether there are clear contract management policies at Transnet SOC Ltd, the respondents were in the affirmative. They cited the procurement and standard operating manual as examples of some policies. There was also mention of the expansion of contracts and variation

of contracts policies. Table 4.19 details the themes that were addressed about contract management policies. Further details with regards to responses given on each of these themes follow:

Table 4.19 Contract Management Policies

Theme and codes	Files	References
Contract management policies		
Contract management policy exists	10	10
Expansion of contracts policy	1	1
Procurement construction manual	1	1
Standard operating manual	1	1
Variation of contracts policy	1	1

i. Contract Management Policy Exists.

The responses quoted below indicate that participants are aware of the organisation's contract management policy.

R 10	There are contract management policies that are developed by Transnet Group, and they are used by all the Organisational Divisions (ODs) across Transnet SOC Ltd, we have the contract management policy. It is a couple of years old, but there is a policy in place."
R 3	Yes, they are, we have a couple, but the ones that are more pertinent to my daily tasks, the procurement working instructions, the contract management policy as well as the Delegation of Authority (DOA) framework."
R 4	Yes, we are guided by the policies in terms of doing our work so that we adhere to the procurement policies. So that we adhere to policies that govern us together with also have National Treasury, that also guide us in terms of how we should conduct our work and contract management.'

ii. Procurement Construction Manual

There is a procurement construction manual which is used in conjunction with other policies. These results revealed that there was agreement that following appropriate guidelines as stipulated in the contract management manual could help the organisation to mitigate the risk of unpredicted costs and project delays, aligning with effective risk management strategies.

R 7	‘‘there are procurement working instructions, construction manuals, contract management policy and the DOA framework as the policies that we use.’

iii. Standard Operating Manual

Over and above other policies used in contract management, mention was made of the standard operation manual which is also used to govern contract management.

R 6	“We do have standardised documents for our day-to-day management of contracts ……the standard operating procedure and we have the procurement construction manual.’’

iv. Variation of Contracts Policy

Policies form the basis of contract management. However, variations of contracts are experienced, especially on construction contracts. Policies are therefore available that provide guidance on what processes to follow in such circumstances.

R 5	‘‘There is a guideline in terms of expansion and variation of contracts. We are guided by certain clauses where there is control in terms of how one amends the contract depends on the DOA. There are also punitive measures when one utilises the contract when it is expired.’’

Figure 5.8 provides a visual depiction of the policies that were mentioned in the discussion of contract management policies.

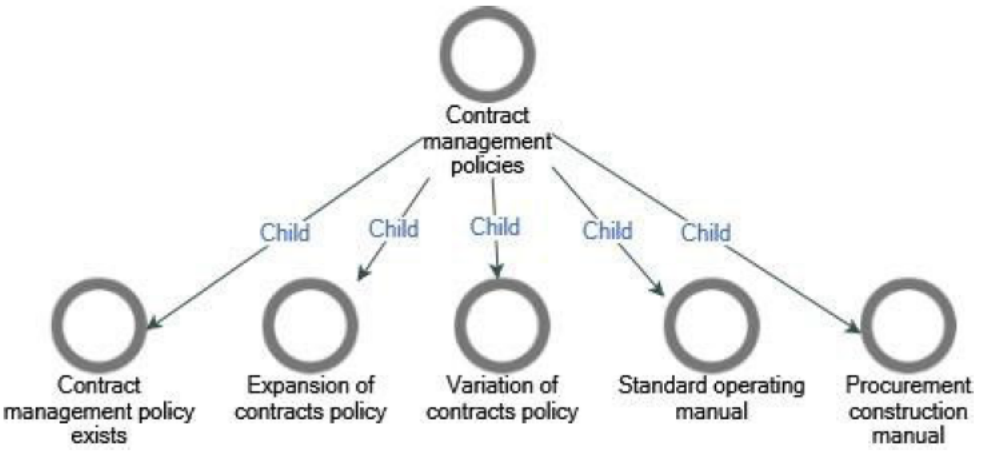


Figure 4.8: Contract Management Policies

4.9.3 Challenges in Contract Management

Table 4.20 details the various themes that came to light when discussing the challenges experienced when undertaking contract management.

Table 4.20 Challenges in Contract Management

Theme	Files	References
Challenges in contract management		
Frequent changes in processes	1	1
Lack of communication between project and contract teams	2	2
Lack of contract management skills	1	1
Lack of understanding of contract management	2	2
Lack of uniformity across departments	2	2
Long processes due to reviews	1	1
Lot of paperwork	1	1
Overspending	1	1
Policies not addressing operational issues	1	1
Rigid policies	1	1
Senior management not abiding to policy	1	1
Unclear procedures	1	1

When it came to challenges in contract management, the majority of those polled complained of frequent changes in processes; lack of communication between project and contract teams; lack of contract management skills; lack of understanding of contract management; lack of uniformity across departments; long processes due to reviews; lots of paperwork; overspending; policies not addressing operational issues; rigid policies; senior management not adhering to policy and unclear procedures in contact management. Figure 4.9 provides a visual outline of the challenges that arose in the process of conducting the interviews. Further details with regards to each of these challenges follow:

i. **Lack of Communication Between Project and Contract Teams**

A lack of communication between teams involved in a contract has been identified problematic. Information sharing came out as one of the critical components when contracts are executed, it was discovered that project managers may not be experienced with the relevant skills to manage relationships.

R 8	'Project Managers are expected to have regular meetings regular with suppliers or contractors to check the progress of the project, but there is nothing that is happening. They do not know if the suppliers or contractors has challenges, there are no progress review meetings….''
R 6	No one is willing from Transnet side to address whatever challenges the suppliers experience in doing business with us. For example, if the supplier has financial constraints, Transnet may propose to give that supplier an advance payment if that is a possibility, or maybe even change payment terms to early payments, as compared to 30 days after receiving statement or invoice.'

ii. Lack of Uniformity Across Departments

The participants reported that there is lack of a uniform way of doing things across departments. There was a concern with regards to the interpretation of policies and procedures within Transnet, where different operational divisions and departments interpret policies and procedures differently, resulting to inconsistencies in how contracts are administered and managed. This lack of uniformity can have negative impacts between all the parties involved in contract administration and management.

R 2	‘‘…we have different Operational Divisions, and each one is operating in a different way. I would say policies are not yet aligned….’’

iii. Lack of Understanding of Contract Management

The participants also identified a problem of lack of understanding of contract management.

R 6	‘‘…sometimes the interpretation of the information provided by these documents, especially when it comes to things such as the DOA framework someone else…interprets it in a certain way, another person interprets a certain clause in a certain way…’’
R 10	“The people in power, the responsible senior people within contract management are saying here is the policy, but they are not saying this is how you will implement this policy.”
R 8	The policies are good on paper they are not workshopped. People are not trained, people are not mentored so, like a person is hired, like a Project Manager are hired, but they are expected to work, but they are not trained on what exactly it is they are supposed to be doing.’

iv. Frequent Changes in Processes

There was a concern for frequent changes in processes, resulting in confusion on understanding how they should be implemented. Participants revealed that changes in processes and procedures, particularly those that are influenced by legislation, could increase the risks associated with contract management.

R 1	Processes can be a bit confusing to understand. Some often change every time there are changes in legislation.’

v. A lot of Paperwork

Even with access to technology, people found that there was still a lot of reliance on paperwork in the different Divisions. Information technology could play a vital role in eliminating the use of paper-based systems for contract management. This was seen to be more efficient, reliable and provide quicker turnaround time.

R 10	‘‘...there is a lot of paperwork, so, that alone makes life to be a little bit difficult for us in terms of speed and concluding our request on time. As I have mentioned, one of the challenges that we experience before we even go out to market, there are so many signatures that are being required to sign the contract documents, and somehow some of the information gets stuck on the way and we also have so many, other parties or signatures that will require before you go out and advertise the tender for a specific contract.’’ ” when I worked for Hitachi before re-joining to Transnet again, there was nothing that we did on paper. Everything was running smoothly by contract management systems, so the contracts and modules will get loaded on it and all the dates will get loaded all the terms and conditions get loaded so when the contract is ready for filing.”
R 4	There is quite a lot of paperwork and working with paper is a tedious exercise’’.

vi. Rigid Polices.

Rigid policies created a lot of red tape. Senior officers were not allowed to use discretion in performing their duties. Participants revealed that flexibility on policies could eliminate some barriers that might be experienced during the execution of the contract, therefore, the ability to make appropriate decisions was crucial for responding to changing situations in contract management.

R 5	‘‘I think the challenges will come from the red tape that we have in terms of, because that one the boxes that need to be ticked, we are very controlled. We are a controlled organisation.’’

vii. Long Processes Due to Reviews

Reviews conducted by different governance structures created a lot of bureaucratic challenges. Extensive reviews of contract management processes conducted by relevant stakeholders have always been seen as a challenge that caused delays in the process, exposing the organisation to the risks of high-cost overruns and missed completion dates for projects, which are critical areas of concern in risk management.

R 4	the process takes longer, because we have so many reviews conducted by different governance structures, which need to take place so that becomes a bottleneck in some of our work that we do."

viii. Senior Management not Abiding to Policy.

Another challenge noted was that some senior managers did not adhere to policy. The best practice on compliance was highlighted where senior managers were required to lead by example in following organisational policies and procedures to create a culture of compliance and consistency in contract management.

R 10	"…. people in senior positions that are responsible for contract management are not necessarily implementing the contract management policy according to what is stated in the policy framework".

ix. Unclear Procedures

It has been found that some procedures lacked clarity. It was discovered that unclear procedures caused confusion and affected supplier relationships, which is why suppliers might not understand what is expected of them resulting in delays and frustration during the execution of the contracts.

R 10	"Having worked with a number of different ODs, procedures are not clearly defined".

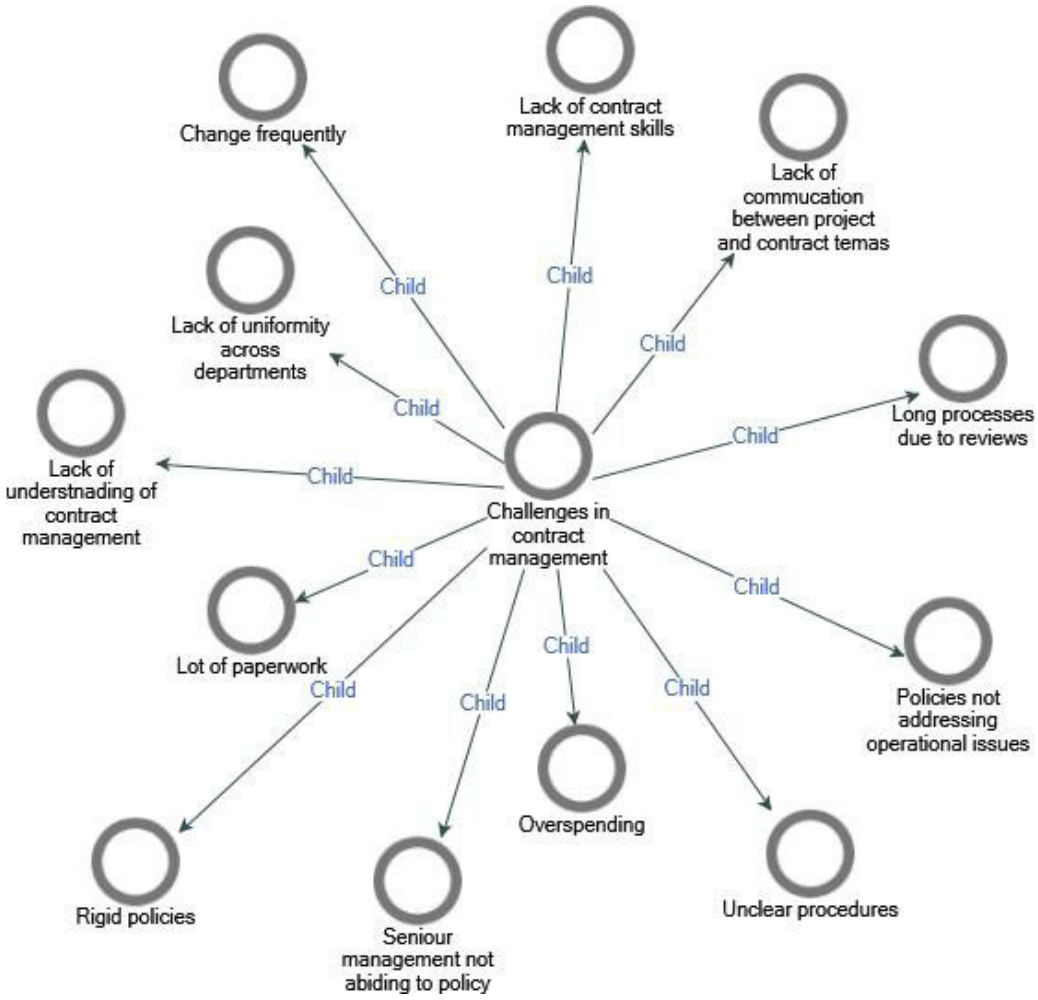


Figure 4:9 Challenges in Contract Management

5.9.4 Employee Competency

Employees working with contracts are generally competent. The challenge here has been that there are sections that are understaffed or lack resources. Otherwise there exist healthy relationships among the parties involved in contract management. Table 4.20 presents the themes that arose during the interviews when employee competency was discussed. Figure 4.10 provides a visual depiction of the issues that arose during the interviews under the topic of competency.

Table 4.21 Employee Competency

Theme and codes	Files	References
Employee competency		
Employees are competent	6	6
Employees competent but lack resources	1	1
Employees competent but understaffed	2	2
Healthy relationship	2	2

i. Employees are Competent but Lack Resources.

One participant explained the issue of competence and lack of recourse. They viewed appropriate resource allocation and role clarity as critical components that can been used to improve relationships between Transnet and their suppliers, this should help employees to be more efficient and effective in their roles.

R 9	''I think we have very competent people. But the way the roles and responsibilities have been segregated in terms of who manages the contract is very poor. …for example, you have an employee who is qualified to be an Engineer to do project management and requires that person to manage the contracts within specific projects. Yes, there are competent people, but I do not think the roles are clearly defined enough for us to execute adequately or effectively.'
R 5	I do believe we have more than enough competent people.''

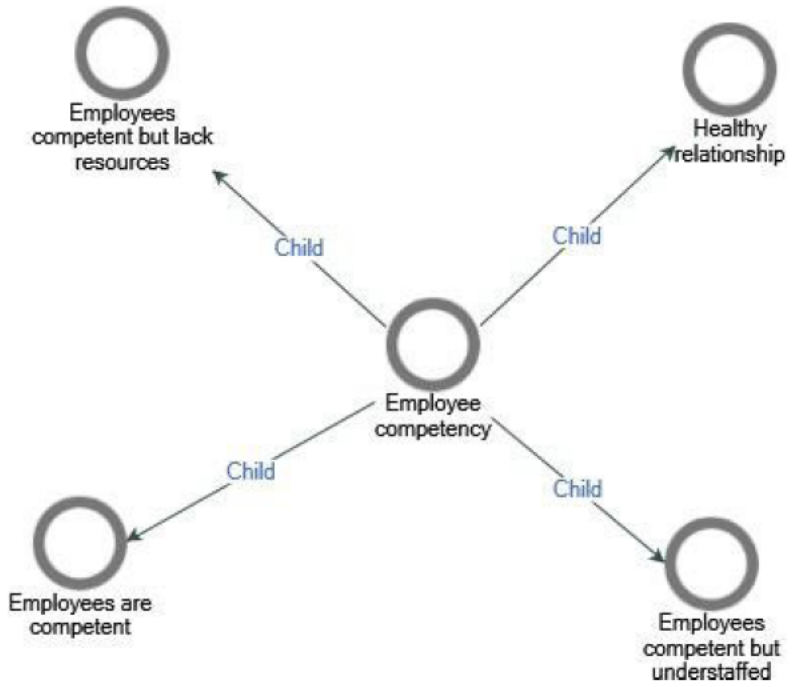


Figure 4.10 Employee Competency

4.9.5 Supplier Relations

The following are responses obtained when ascertaining the kind of relationship that the Divisions had with their suppliers. Provision for the essential resources for contract management was seen to be necessary in improving Transnet's ability to manage relationships with suppliers effectively.

Table 4.22 outlines the themes that arose when interviewing respondents on the topic of supplier relations. Crucial parts of the discussions that took place are expanded in the following section.

Table 4.22 Supplier Relations

Theme and codes	Files	References
Supplier relations		
Contractor's lack of relevant knowledge	1	1
Cordial relationship	1	1
Good communication with suppliers	2	2
No strong relations with black owned firms	2	2
No strong relations with small firms	1	1

i. Cordial Relationship

Although a cordial and transparent relationship with suppliers which is built on integrity exists, there is room for improvement. It was shown that a strong supplier relationship is developed on transparency and cooperation, demonstrating that effective contract management depended on the building of robust communication and trust between Transnet and its suppliers.

R 3	"Overall, we have a healthy relationship with our suppliers, with just a few isolated cases where there are problems".
R 7	…" the relationship between Transnet and suppliers is a very transparent one which encourages integrity and cooperation and being able to work together''.

ii. Good Communication with Suppliers

Even though one respondent refuted this, most respondents stated that there was frequent engagement with suppliers. Good communication was seen to be essential to building and maintaining strong relationships with suppliers.

R 5	''We do have an engagement with our stakeholders, and I do believe yes there is engagement with the suppliers normally, sometimes it becomes a once a year event where we engage in and try and see if there are any bottlenecks with the potential suppliers when goods and services are purchased by Transnet SOC Ltd
R 6	''I would say yes, well, based on my experience with the contractors that I have, we have meetings biweekly, especially for projects and contracts progress review meetings as well as risk reduction meetings.''
R 9	''The relationship with the suppliers is not communal, so that means we do not develop our relationship further…''

i. No Strong Relations with Small Firms

There was a feeling that while there was an effort to build relationships with suppliers, this was not the case with Small Business which are predominantly Black. Developing and maintaining

strong supplier relationships came out as a significant practice for effective contract management, especially small and medium black-owned enterprises.

R 9	‘‘I feel there is some relationship with those specific contractors, but for the smaller ones, mostly black-owned. The relationship is not that great.’’

Figure 4.11 provides a visual depiction of the supplier relations themes that have been discussed.

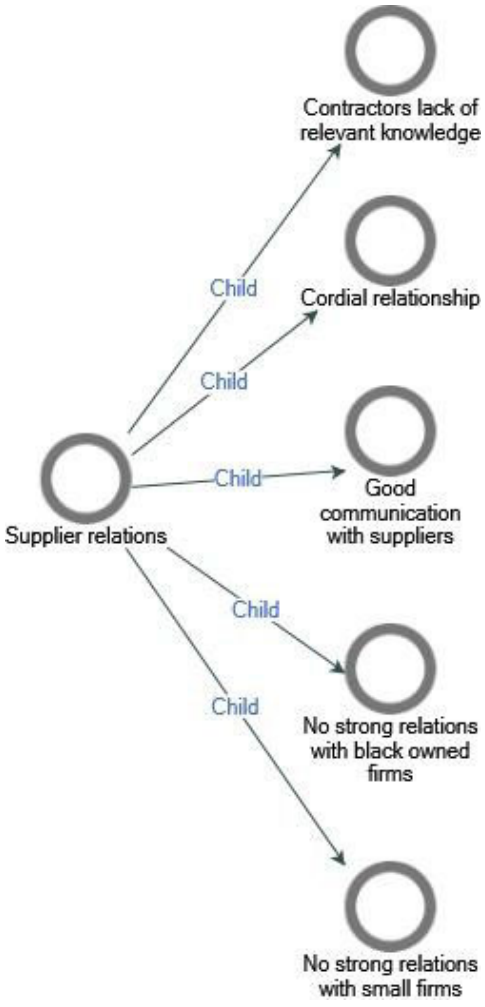


Figure 4.11 Supplier Relations

4.9.6 Information Technology Adoption

Access and use of technology came under the spotlight in the interviews. Table 4.23 provides the themes that arose during the interviews, while Figure 4.12 provides a visual depiction of the same themes.

Table 4.23 Information Technology Adoption

Theme and codes	Files	References
Information technology adoption		
Currently adopting some software	3	3
Increased use of information technology	1	1
Lag behind in harnessing information technology	2	2
SAP CLM software	6	6
Use of Primavera	1	1

i. Increased use of Information Technology

There is no hesitation that information technology is a major driver of business globally. The respondents acknowledged the importance of introducing and implementing systems for contract management. It was suggested that the implementation of more innovative electronic systems would improve efficiency and decrease the risks associated with manual processes.

R 7	The introduction of SAP of being used for the organisation, any contract has an expiry date, and those things need to be tracked well. Using this software makes it easy and even for reporting it makes it easy to report and be able to stay on track.''

ii. Use of Primavera

In addition to the suggested systems, the use of Primavera was also mentioned as an appropriate tool to be used in contract management, in addition to SAP. Primavera is a specialised tool that enhances contract tracking and management processes for the contracts.

R 7	"… the use of Primavera to manage the contracts also assists, most of the time, it also helps in tracking the expiry date of the contract"

i. Lag behind in harnessing Information Technology.

A concern was raised about how the organisation was still lagging in fully harnessing information technology. There is a significant need for Transnet to speed up the process in advancing technology to assist in the implementation of more complete IT solutions to modernise contract management and improve data usage.

R 6	Currently I would not say we do have much for contracts in terms of information technology use….. but I know that there is a program now that some of the representatives from each ODs are busy with ICMSP, which in a way is a tool that we will be used for contract management, although its main focus is on the NEC.''
R 9	''… in my view, we have not really harnessed information technology effectively because, there is also a big void … we have the system that has been designed to capture information but does not necessarily manage the information that is captured on it.''

ii. SAP CLM Software

The SAP CLM Software was hailed as being useful. The SAP CLM system plays an essential role in contract lifecycle management. Respondents rated it as imperative in ensuring that critical completion dates and milestones of the contracts are met efficiently and effectively.

R 3	''Currently the one program that we use mostly is SAP, so the integration of the SAP modules like for example the SAP MM, the SAP CLM and the SAP PS, so it assists in managing the contracts and the information that is there.''
R 10	''Well, we do have SAP CLM which will give us an alert if the contract is about to expire.''
R 4	So far, a system has been developed I mean, it's been quite some time when we have used contract management system and it is called the SAP CLM contract life management where it is as a repository where all the information needs to be there as alluded earlier on, it is done mainly so that the information is easily available.''
R 8	''We got SAP CLM, which helps us manage their contracts as well, reminds us of how much is there, the SAP which tells us how much has been used.''

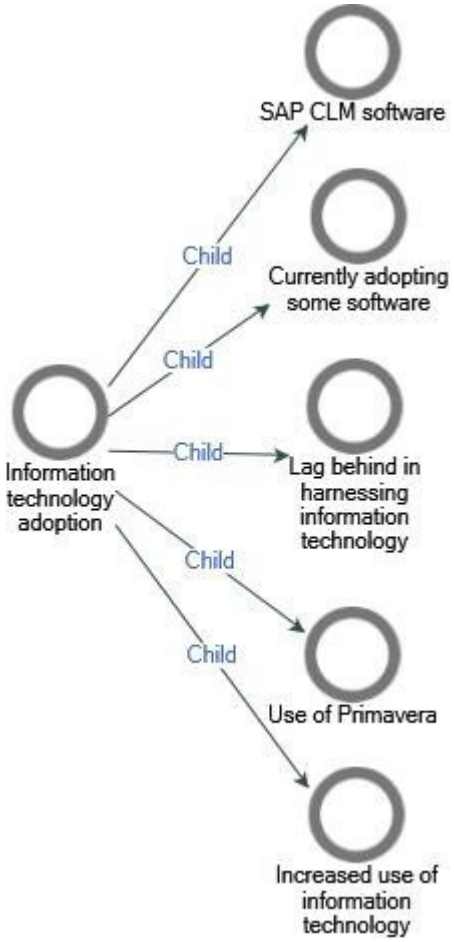


Figure 4.12 Information Technology Adoption

4.9.7 Prevalent Contract Management Risks

Table 4.24 presents the risks associated with contract management as the respondents saw them.

Table 4.24 Prevalent Contract Management Risks

Theme and codes	Files	References
Prevalent contract management risks		
Changes in law	1	1
Delays in issuing the purchase order	1	1
Funding delays	2	2
Inadequate specifications	1	1
Lack of NEC knowledge	1	1
Limited number of suppliers	1	1
Misinterpretation of roles	1	1
Not checking contract expiry date	1	1
Poor contract performance	3	3
Slow decision making by top management	1	1

i. Funding Delays

Securing finance is one of the most critical areas for suppliers. There are sometimes delays in paying the contractors and this poses a risk to the smooth running of the contract. Financial challenges and the lack of meaningful experience expected from the contractors were found to be contributing factors which contributed to delays in the funding of projects. All these factors could create a significant impact on the execution of contracts.

R 3	Another challenge that we have been faced with, is the financial responsiveness of the tenderers because as a policy Transnet, the lowest bidder who has been technically responsive gets the work done so in some cases one case that I am dealing with is we are having problems with such a bidder in terms of them funding the projects and it delays the projects in a sense not that they don't have capacity or capability, but it's just the financials that they are struggling with."
R 9	''we have the other risk where delays in terms of payments having an impact on contractors."

ii. Inadequate Specifications

Ambiguity should be avoided at all costs when drawing up contract specifications. This component, where the deliverables are articulated, forms the basis of the contract and is one of the most critical components in a contract. Clear and accurate specifications, descriptions and scope of work were all viewed as essential components for reducing the risk associated with contractual disputes.

R 4	The risk that I would think of at the moment is when we go out and our specifications are not clear and then we find that, maybe there has been some ambiguity in terms of our specification then that leads to a risk where suppliers do not understand and maybe later on they come back and challenge us if our specifications are not clear and that in return will affect our contract management''.

iii. Limited Number of Suppliers

One of the challenges identified by the participants was that Transnet had a limited number of suppliers and service providers in the local market – especially those for the provision of specialised goods and services to the organisation. Results confirmed that the limited pool of suppliers had a negative impact on Transnet's search for experienced suppliers, resulting in them paying higher prices for some of the critical commodities including railway materials.

R 8	''The wagons that are used for TFR, are made with specific measurements and cannot be sourced locally, you find that in South Africa we do not have suppliers who can supply Transnet with such goods…'' ''I think the risk is there where spares or parts for certain equipment are not availability locally, then we end up succumbing to whatever the international markets are offering us…''

i. Not checking Contract Expiry Date

Expiry date for the contract is very important and must be monitored.

R 2	‘‘The common risks would be failing to monitor and check the contract when it expires or bringing certain POs and invoices to be paid after the contract has already expired.’’

ii. Poor Contract Performance

Contract conditions play a crucial role in managing the contracts as they stipulate what will happen for each step of the project. Consistent monitoring and clear performance criteria were referred to as critical issues in managing contract performance. Addressing these issues early can help to avoid inflated errors in the contract’s costs at a later stage.

R 6	“…we sometimes have oversight on certain things, especially when it comes to the formation of the contract, including conditions of the contract …we end up paying more than what we are supposed to pay.’’
R 7	‘’Contract poor performance is one key concern.’’

Figure 4.13 provides a visual depiction of the prevalent risks that were discussed.

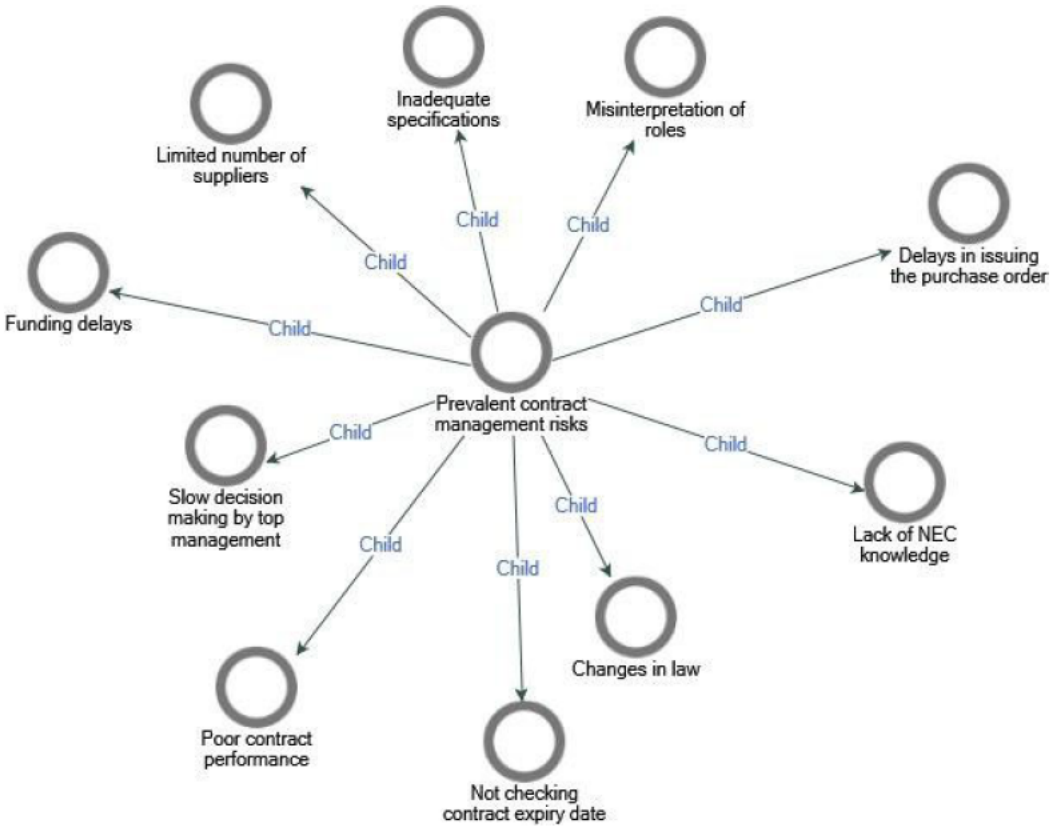


Figure 4.13 Prevalent Contract Management Risks

4.9.8 Risk Mitigation Strategies

Potential risks should be identified and prevented right at the inception of the contract. Table 4.25 presents the suggested mitigation strategies.

Table 4.25 Risk Mitigation Strategies

Theme and codes	Files	References
Risk mitigation strategies		
Clear role definition	1	1
Clear specifications	2	2
Effective communication	1	1
Increased use of electronic systems	1	1
Refresher training for project teams	3	3
Research more on costing	2	2
Supplier training	2	2

i. Clear Role Definition

One of the most critical components in the contract is definitions of the scope of work and the roles for the different parties. These should be clearly stated in unambiguous terms. It was shown that Transnet should strive to work on role clarity to ensure that all parties involved understand their roles and responsibilities, eliminating ambiguity and the potential risks associated with disputes.

R 5	‘‘A good understanding of the scope of work helps minimise risk involved. So first and foremost, make use of your service level agreement, make use of your contractual monthly meetings or quarterly meetings. But the key to everything is your scope of work. If your scope of work is written clearly and understood by both parties, the chances are very minimal that there can be any risk.’’

ii. Effective Communication

Lack of information sharing is one of the most significant problems in contract management. Effective communication measures were identified to promote collaboration and provide a resolution to any potential contractual issues before they escalate.

R 3	‘‘I think regular workshops and sharing lessons learnt experienced from other contracts that have been dealt with, minimises problems faced in contract management.’’
R 6	Sharing or cascading of information on lessons learnt as one way to deal with inherent risk.’’

iii. Increased use of Electronic Systems

Most organisations are moving ahead with technological advancement and Transnet should follow suit. The use of IT systems was a vital tool for managing contracts more efficiently to meet modern contract management demands.

R 9	‘‘Increased use of a proper electronic system eliminates errors.’’

iv. Research More on Costing

Research was found to be a critical area in mitigating the risks in contract management. Understanding accurate costs associated with contracts as well as possible risks was seen as a solution that could prevent errors that create high contractual costs being paid by the organisation because of a lack of knowledge.

R 4	"We need to do more research together with our costing leads so that we know exactly what is it that we are buying to avoid those risks and maybe sometimes if we see that there is a potential risk on the quotation we have received, we do not award based on the market research that we have done. I think that is the risk mitigation that we could put in place.''

v. Supplier Training

The organisation needs to ensure that suppliers can do what they claim they can do. If their skills are incomplete, consideration needs to be given as to whether further training is possible to bring them up to standard. Provision of proper training for suppliers was identified as a factor that could benefit Transnet in building stronger relationships and hence improve contract management.

R 3	''I think on boarding training for the suppliers, so that you are in the same picture in terms of the templates that are used, the communication that you need to have within the contract is the same language that you speak with the supplier.''
R 7	''We could hold workshops to share any lessons learnt on issues that we face in these contracts and train suppliers on internal processes that are utilized in the management of these contracts.'
R 8	''If we can develop our suppliers and build competition locally or even propose and invite international suppliers, to build their workshops or their factories in South Africa to expand the market.''

i. Refresher Training for Project Teams

Another challenging matter noted by participants was the lack of refresher courses for teams executing contracts within projects. It was recommended that the implementation of constant training was necessary to equip employees with the proper skills required to manage current contract management tools effectively.

R 1	"Frequent refresher NEC training for the entire project team.''
R 6	''…… if maybe we can have workshops….say after the completion of certain projects everyone is informed about what went wrong or right in the project''

Figure 4.14 provides a visual conception of proposed effective risk mitigation strategies.

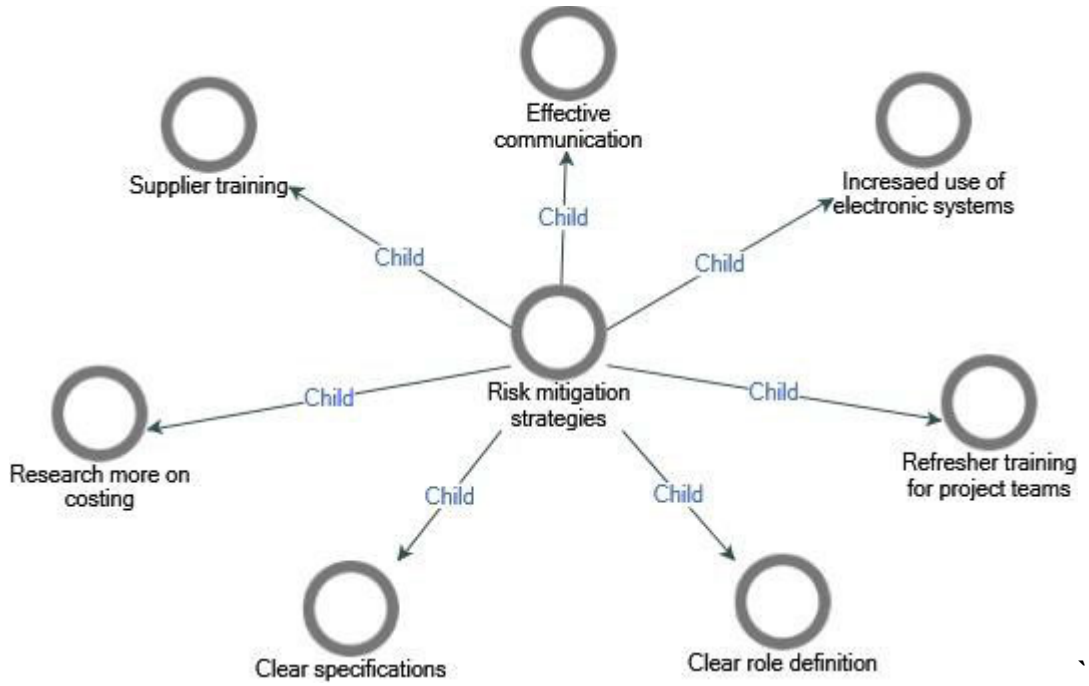


Figure 4.14: Risk Mitigation Strategies

4.9.10 Suggested Improvements.

In response to the request, respondents came up with suggestions on how to make improvements when undertaking contract management. Suggestions in response to this request are presented in Table 4.26.

Table 4.26 Suggested Improvements

Theme and codes	Files	References
Suggested improvements		
Adequate provision of resources	3	3
Hiring experienced project managers	1	1
Improve communication	1	1
Increase human resources in NEC	2	2
Refresher NEC training	2	2
Stakeholder engagement	1	1
Training in contract management	4	4

i. Improve Communication.

Communication is key and can always be improved. Communication between parties was presented as the most effective tool for an effective contract management process.

R 2	''I think it could be more communication. I do not know if you know communication is very key because a lot of people seem to be working in silos and only get involved when the contract is handed over contract management section.''
R 9	''there is a need to make certain meetings mandatory, you know, for instance, project steering committee meetings, project progress meetings with the contractor.''

ii. Increase Human Resources in NEC

The NEC is the type of contract that was viewed by one of the participants as the most critical one that requires competent and adequate human capital for effective and efficient management. It was concluded that this tool required competent and experienced employees that could contribute to an acceptable contract management standard.

R 5	'You have to have competent and enough human capital around contract management.''

iii. Stakeholder Engagement

Aggressive and consistent stakeholder engagement was viewed as necessary. Effective and role clarity, as well as clearly defined and integrated management systems were identified for successful contract management.

R 9	''… there needs to be an aggressive stakeholder engagement. That is from the onset before you start developing policies and procedures, we need to have an integrated stakeholder management system, where the end users supply chain and the contractors get involved. We identify exactly what needs to be done to manage contracts properly and what systems need to be put in place; by doing so, we will be able to know exactly how we are going to manage and create a system that works.''

iv. Training in Contract Management

Participants stated that training is a major component in contract management that should be taken into consideration. This was also identified as one of the important areas of concern within the organisation that requires full attention.

R 6	""I think training even just merely on the contract management aspect of contracts itself, to know what is done within the industry and what other people are doing, how they are doing… For example, you may need to know how other companies like Sasol, how they are doing it. How is the municipality doing it? How is the private sector doing it?''

R 7	It could be training in contract management staff resources and getting more experienced Project Managers who understand the contract management, framework or processes, and., adding more contract administration resources could also be an improvement area.''
R 8	I believe that people should go for training. Experts can be sourced from other companies to come for mentoring and coaching, even if it is just for a specific period…''

v. Refresher NEC Training

The NEC is one of the tools used to procure construction works which requires critical skills and knowledge. Respondents felt that there was too much administration involved which required sufficient resources. Continuous training sessions were identified as necessary to equip employees with the proper skills required to handle this type of tool and current contract management tools effectively.

R 1	I would recommend frequent refresher NEC training and of course, additional resources.''

A visual depiction of the improvements that were recommended by respondents is depicted in Figure 4.15.

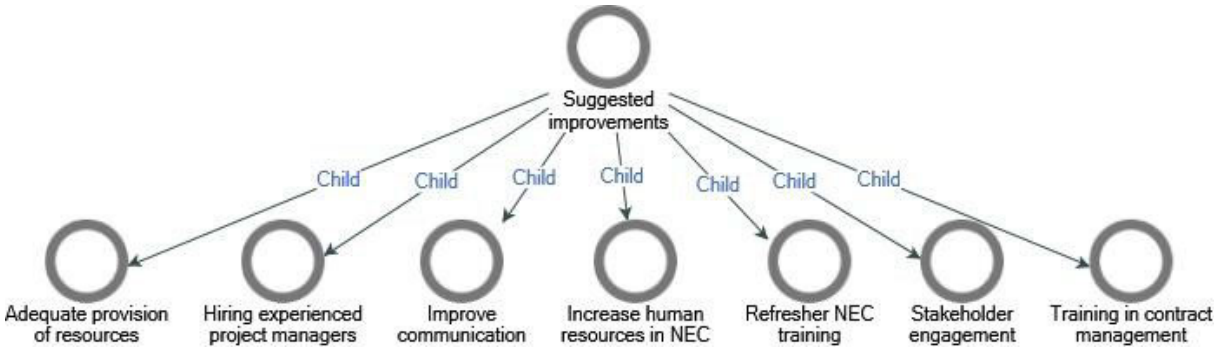


Figure 4.15 Suggested Improvements

4.10 Concluding Summary

The overarching research question for this study was: What are the determinants for effective contract management that can be used in the South African SOEs? To answer this question a mixed methods research approach was adopted where quantitative data was obtained from a total of 192 respondents from Transnet's KZN Operating Divisions. For the qualitative aspect of the study, a total of ten employees were interviewed.

All the results were presented in this chapter. The quantitative data was analysed using the SPSS 22.0 and AMOS 22.0. The data was assessed for reliability and validity. Descriptive statistics, including the means and standard deviations were then computed. In order to assess the factorability of the data, exploratory factor analysis (principal component factor analysis) was executed. The Pearson correlations were computed to assess the relationship between variables under study. Prior to evaluating the hypothesised relationships, confirmatory factor analysis and structural equation modelling were conducted to assess the fitness of the measurement and structural models. The measurement and structural model fitted well with the data. Thereafter, the study proceeded with hypothesis testing.

The following chapter provides the conclusions drawn from the research findings, makes recommendations for effective contract management, identifies the limitations of the study, and suggests possible directions for future studies.

Chapter Five

Conclusions and Recommendations

5.1 Introduction

This thesis is positioned to make a very important contribution to the management of contracts in South African SOEs. It undertakes timely research on elements critical to this area that impact very heavily on the country's economy. In addition to applying current theory to new contexts, the research examined the determinants of effective contract management by examining the relationships inherent to effective contract management and sought to propose a new mode theoretical best practice model.

A comprehensive review of literature was conducted, with mixed methods research methodology employed to evaluate the earlier hypothesised model. The closing discussion in this chapter centres on the main constructs of this study, which were contract administration; staff competence; information technology; risk management, and supplier relations to determine what the personnel involved with contract management felt was most important in effective contract management thereby leading to a best practice model that could be applied in state-owned enterprises.

The empirical findings in the previous chapter have produced many themes, most of which bear relevance to the theoretical discourse of effective management of contracts. These can serve as a vehicle towards a better economy. Pertinent observations that have emerged from these findings will be discussed in the following sections.

5.2 Determinants of Effective Contract Management

The aim of this study was to ascertain the determinants of effective contract management in SOEs, and the Transnet SOC Ltd Operating Divisions. To achieve this the following objectives and hypotheses were put forth and tested.

5.2.1 Discussion in relation to objective one.

Objective one set out to establish the relationship between contract administration and contract management for South African SOE. The following hypothesis was stated in relation to objective one.

Hypothesis 1

Null Hypothesis: There is no significant relationship between contract administration and effective contract management for a South African SOE.

Alternative Hypothesis: There is a significant relationship between contract administration and effective contract management for a South African SOE.

Quantitative Results: Through **objective one** it was conjectured that CA positively impacts contract management. Given the analysis result ($\beta = 0.200$; p-value=0.020), the results are therefore accepted, and the conclusion is that CA is a vital determinant of effective contract management.

Qualitative Results: The main challenges in CA emerged as frequent changes in processes, lack of communication between project and contract teams, lack of contract management skills, lack of understanding of contract management, lack of uniformity across departments, long processes due to reviews, lots of paperwork, overspending, policies not addressing operational issues, rigid policies, senior management not abiding to policy, and unclear procedures in contact management at Transnet SOC Ltd.

This is in line with the contention of Wambui (2017:4) who maintained that organisations need to invest in practical and interactive skills of their employees. According to Muhammad *et al*. (2019:1289), the "idea of contract management also known through contract administration, covers the concept of bidding and reward of the contract." In support, Maina and Osoro (2020:83) emphasised that effective contract administration reduces or eliminates challenges, potential claims, and disputes that may occur. Gunduz and Elsherbeny (2020:2) added that organisations face several risks when CA practices are not effective. Furthermore, poor CA plays a negative role in the organisation's sustainability.

The results show that CA and management calls for multi-stakeholder involvement to achieve the intended goals and objectives set by organisations (Njagi, Namusonge and Shale, 2020:74). Muheesi *et al.* (2023:107) emphasised that CA plays a central role in enhancing effective contract management. This aspect was identified as crucial for the achievement of successful project outcomes. Ochola and Kitheka (2019:1095) concur by stating that the understanding of contract documents is very significant with regards to the sustainability of the desired costs, time and quality in contract implementation.

5.2.2 Discussion in relation to objective two

Objective two set out to establish how employee competency (EC) affected contract management for a South African SOE. The following hypothesis was generated in response to this objective.

Hypothesis 2

Null Hypothesis: There is no significant relationship between employee competency and effective contract management for a South African SOE.

Alternative Hypothesis: There is a significant relationship between employee competency and effective contract management for a South African SOE.

Quantitative Results: Another strong determinant of effective contract management was EC with ($\beta = 0.263$; p-value=0.000). This statistically significant causal relationship was since EC facilitated effective implementation of contract management processes.

Qualitative Results: About employee competency, most respondents felt that employees in Transnet SOC Ltd were competent when it came to contract management, but the drawback was that employees lacked resources and were also understaffed.

The results are in line with the view of Noor, Tobi and Salim (2020:2) who stated that competency is as a "set of individual skills comprising of personal attributes, abilities, applied knowledge and skills that are gained from individual high-level education which help them to provide services and performing in a profession with ethics and high value of standards". Saragih *et al*. (2020:386) noted that the focus for most of the organisations had shifted to core competencies in this competitive and intense global market competition.

These results are also supported by Sah and Bhattarai (2021:1) who postulated that to overcome inefficiencies it was recommended that organisations focus on appointing contract team members with proper qualifications, knowledge, skills, and experience in the contract management. Rumba *et al*. (2023:232) asserted that employees with high capabilities, knowledge and skills easily implement and execute their contracts. This was also alluded to by Kiromo (2015:143), who stated that management of the procurement and supplies process should be administered by qualified, competent and experienced procurement professionals.

5.2.3 Discussion in relation to objective three.

Objective three set out to determine how information technology (IT) affects contract management for a South African SOE. The following hypothesis was generated in response to objective three.

Hypothesis 3

Null Hypothesis: There is no significant relationship between information technology and effective contract management for a South African SOE.

Alternative Hypothesis: There is a significant relationship between information technology and effective contract management for a South African SOE.

Quantitative Results: Through **objective three** it was speculated that IT positively influences contract management. However, the results point out that information technology had a minimal and insignificant influence on contract management ($\beta = 0.087$; p-value=0.192). This indicated that IT adoption was not a key requirement for effective contract management.

Qualitative Results: There were conflicting views on the usefulness of IT in contract management. The most identified software for aiding contract management processes, specifically in tracking contract expiry dates and storing contract documents, was SAP CLM. On the downside IT systems were not found to do much towards the management of the information it captured.

These results contradicted the idea suggested by Wambui (2017:43), who stated that technology positively affected the management of contracts in an organisation, further stating that the

management of technology is viewed as an area of the organisation where substantial improvements and cost savings can be achieved. However, they added that it may be necessary to acquire a specialist to deal with contract management policy. Chen, Wang and Li (2019:4) believed that IT can help small and medium sized enterprise (SMEs) to manage contracts more efficiently and effectively, providing a multi-view capability in which contractors can update tailored information related to their organisation's operation.

The results are also contrary to the assertion of Kaula (2022:48), who posited that the use of computerised and automated systems obviated the need for paperwork and therefore eliminated transaction costs, thus contributing towards more effective CA. Accordingly, manual CA is seen as an ineffective way of doing things.

5.2.4 Discussion in relation to objective four.

Objective four set out to understand the impact of risk management (RM) on contract management for a South African SOE. Hypothesis four was generated from this objective.

Hypothesis 4

Null Hypothesis: There is no significant relationship between risk management and effective contract management for a South African SOE.

Alternative Hypothesis: There is no significant relationship between risk management and effective contract management for a South African SOE.

Quantitative Results: The quantitative results indicated that RM had a statistically significant positive causal relationship with CA ($\beta = 0.316$; p-value=0.000). These results point to the importance of contract RM in promoting reduced lead times, encouraging cost avoidance, reducing defect rates, and ensuring supplier availability.

Qualitative Results: The results showed a strong relationship between RM and effective contract management. Prevalent contract management risks have been identified as changes in law, delays in issuing the purchase order, inadequate budget, inadequate specifications, lack of NEC knowledge, limited number of competent suppliers, misinterpretation of contract conditions, not checking contract expiry dates, misunderstanding roles and responsibilities, poor

contractor performance and slow decision making by top management. Risk mitigation strategies included clear role definition, clear specifications, effective communication, increased use of electronic systems, refresher training for project teams, research more on costing and supplier training.

These results are in line with the findings of Ochola and Kitheka (2019:1096), who recommended that the method of RM must be an ongoing technique throughout the duration of the contract. To effectively deliver a service, work or goods, risk administration must be improved, mainly in terms of the timely settlement of contractors' payments. This idea is supported by Basheka (2014:107) who advised that successful and efficient contract management practices must meet stakeholders' needs, to achieve best value for money, manage the possible risks, liabilities and improve service delivery. To this regard, El Khatib *et al.* (2022:6307) warned that since risks can be man-made or natural, with very disturbing effects, there is a need to put measures in place to overcome such risks.

5.2.5 Discussion in relation to objective five.:

Objective five set out to evaluate the effect of SOE supplier relationship (SR) on contract management for a South African SOE. In response to this objective, the following hypothesis was generated.

Hypothesis 5

Null Hypothesis: There is no significant relationship between supplier and effective contract management for a South African.

Alternative Hypothesis: There is a significant relationship between supplier and effective contract management for a South African.

Quantitative Results: Supplier Relation (SR) had a negative effect on effective contract management (β =0.158; p-value=0.114) and the beta was not statistically significant. This contradictory result may be due to uniqueness between individuals in their readiness to accommodate and promote supplier relations.

Through **objective 5**, it had been predicted that SR had a positive and significant impact on effective contract management. In view of the above result, the alternate hypothesis was rejected, and the null hypothesis was accepted, with the conclusion drawn that SR are not a critical determinant of contract management.

Qualitative Results: However, the result here is that healthy SR enhanced effective contract management at Transnet. There were, however, subtle concern over the weak relations with Black owned businesses, and small to medium enterprises. These concerns buttressed earlier findings from the quantitative results which found that SR were not a critical for effective contract management.

These results raised a concern with regards to issues pertaining to the importance of relationships with small and medium sized organisations, and contradicting with what is stated in the Contract Management Pactice (2018:17), namely that each contract is different, so careful consideration to the parties involved, the nature of the contract, value of the contract, scope of work, simplicity and complexity need to be taken into account when developing a relationship management strategy, as part of the contract management plan. It is further stated that good relationships should include commitment to the relationship, honesty, trust, goodwill, effective two-way communications, common understanding, mutual respect, openness and accountability.

Saragih *et al.* (2020:387) observed that for most organisations, specific competencies have been replaced by managing suppliers' relationships effectively. This idea includes the development of strategic relations with suppliers and ensures the achievement of goals and objectives by emphasising the involvement of suppliers.

These results are in contrast to other authorities like Muheesi *et al*. (2023:107) who established that relationship management was significant for effective service delivery, as it enabled the information flow amongst the parties to a contract, and accelerated the timely delivery of goods, thereby convincing the concerned parties to expedite the entire process and ensure that the required service gets to the people.

The difference in opinions between the interview and questionnaire results can be rationalised by the demographic composition of the study participants. The qualitative research focused on

non-technical personnel actively engaged in the pre-tender phases of contract management, portraying their perspectives and experiences.

5.3 Implications for Stakeholders

The study has important implications for SOEs, suppliers and government.

5.3.1 Implications for State- Owned Enterprises

State-owned enterprises should make CA and contracts documents its top priorities to improve their competencies in contract management. It is imperative that the organisation ensures that contractors are paid on time to both improve the overall quality of the services that are rendered and goods delivered to avoid any deviations from the budget.

All the parties that are going to be engaged in the implementation of a project need to make certain that all the required agreements have been made regarding the project's scope, specifications, and finances before the project gets started. At all times and during the duration of the project, it is the responsibility of the project managers and contract managers to ensure that there is adequate communication between all the stakeholders in the project. They should ensure that all parties engaged in the project have a complete understanding of all the contracts for specific projects before any work has begun. This will help avoid any potential conflicts of interest or arguments as well as disputes.

It is necessary to define future career path requirements for contract managers, contract experts, contract administrators, contract specialists and contract officers employed by Transnet SOC Ltd. This is in addition to the responsibilities of hiring and training the existing staff members. Because it was clear from an analysis of the company's current contract management that training for contract managers, contract specialists, and contract administrators is essential, Transnet SOC Ltd must begin taking training seriously. This is because the company's current contract management system is being evaluated. To increase the likelihood of success, Transnet SOC Ltd must provide the opportunity for contract managers, contract experts, and contract administrators to cultivate the necessary skills and personality traits.

5.3.2 Implications to Suppliers

Transnet SOC Ltd should make it a priority to retain a limited number of supplier partnerships that have actual significance and defined aims that extend beyond the product or service itself (for example, sponsoring the next generation of technology). This will allow the company to reach a pace of continual progress. Contract managers should monitor the performance of their suppliers so that they may successfully manage their relationships to reduce costs that do not add value and encourage continuous development. When it comes to managing the connection with suppliers, it is essential to take into consideration the cultural norms of both Transnet SOC Ltd and the provider. This will make it possible for both parties to participate in their partnership using different strategies. In addition, it is the responsibility of suppliers to aid contract managers in the development of solutions that maximise efficiency and total cost of ownership.

When it comes to determining the level of success achieved by supplier agreements, contract managers should make certain that a higher emphasis is placed on trust, collaboration, and risk sharing. In addition, the performance monitoring system necessitates larger reliance on the supplier to self-monitor the levels of service delivery that they provide. To encourage self-compliance, contract managers may use financial incentives; but they will also need to convince the supplier that appropriate quality standards are in place to monitor the work that is being completed.

5.3.3 Implications for Government

The government will be aware of the difficulties and essential components of success that are required to increase project completion rates and enhance service delivery. The study recommends that state businesses prioritise contract monitoring and contract documentation to enhance their contract management practices. For the period of the agreement, risk management must be a continuous process. To efficiently execute work, service, or product, risk administration must be strengthened, especially regarding paying contractors on time.

State corporations should obtain recommendations from their past clients regarding a contractor's capacity to deliver goods or services before awarding a contract; Before the contract is awarded, a physical site visit to the selected potential bidders should be conducted to confirm the information provided in the bidding documents; In the event that bids' total contract amounts

differ significantly, it is necessary to confirm that the lowest technically compliant bidder's rates are within the market range.

5.4 Conclusion and Recommendations

Several conclusions and recommendations that have relevance to this research have been noted and should be taken into consideration.

5.4.1 Contract Administration and Effective Contract Management

The first objective of the study was to establish the relationship between CA and contract management for a South African SOE.

- It was established that CA positively influences effective contract management. The study concluded that the organisation complied with both general and specific contract conditions regarding contract documentation. The research concluded that failure to understand the contract documents potentially led to mistakes in the implementation of the contract which caused unnecessary re-work, disputes and increases in project cost.
- Understanding of contract documents was relevant in sustaining the desired cost, time and quality in contract implementation and administration. For effective implementation of a contract the contractor must have the ability to understand the contract document thoroughly.
- Finally, it was concluded that CA and monitoring ensured quality of services or goods offered. Contract administration guarantees timely expenditure in contract execution and enhances relationships between the parties.
- This finding also corresponded to the views of many researchers, which were reviewed in the literature. For example, Muheesi *et al*. (2023:107) stated that the success of a project was contingent upon the effective management of contracts, which encompassed aspects such as contract administration. Gamage (2023:59), added that the overall performance of the project could be negatively impacted if the duties and responsibilities of the contract administration team were misunderstood or there was inadequate planning, lack of systems and procedures, lack of awareness of the procurement process, and skill shortages in the teams.
- Based on the results of the study in relation to this first objective and the observations by various scholars, it is recommended that there should be sufficient focus by the SOEs in general and Transnet SOC Ltd in particular, to establish effective monitoring mechanisms so that quality is maintained over the contract period. This may help and elevate the effective

management of the contracts, yielding good oversight that can translate into meeting spending within agreed costs, timelines resulting to healthy relationships with contractors.

5.4.2 Employee Competency and Effective Contract Management

The second objective of the study was to establish how employee competency affects contract management for a South African SOE. There was a positive relationship noted between EC and effective contract management.

- The study concluded that knowledge, skills, experience, competency and training of contract management staff have a significant effect on effective contract management. The more the contract management staff become well-skilled and competent in managing contracts, the more contract management is improved. This showed that staff are the key factors that will allow the organisation to achieve its contractual obligations and organisation's objectives.
- Sacklen (2018:57) emphasised that efficient contract management requires the presence of contractual skills as well as a framework that enables firms to make promises that are in line with predefined business objectives. To enabling staff members to make full use of their capabilities in the process of contract management cycle, Batetah and Wabala (2021:24) recommended that continual training be offered in the form of workshops, official training sessions, and seminars. It would be beneficial for the people to be aware of the modifications that are being made to the procedures for contract management that are taking place on a global basis currently.
- In the light of the results of the study in relation to this second objective, it is recommended that SOEs in general and Transnet SOC Ltd in particular adopt a competency-based performance review of the employees involved in contract management and administration, so that gaps that require training are identified and addressed accordingly.

5.4.3 Supplier Relations and Effective Contract Management

The third objective of the study was to determine how supplier relations (SR) affect contract management for a South African SOE.

- It was confirmed that SR did not really have an important bearing on effective contract management. The study revealed that supplier relation (SR) had a negligible effect on effective contract management (β =0.158; p-value=0.114) with a statistically insignificant beta.

- This finding contradicted a study conducted by Mihungo and Mwagike (2021:49) that suggested that proper SR factors had a significant impact on building and maintaining relationship with suppliers. The scholars further held the view that to minimise the costs involved, an organisation should be able to identify cost drivers, including environmental fears, which could hinder the performance of contract management. Supplier relationship management should focus on how to create and maintain a long-term strategic relationship with suppliers (Poku, 2022:16), which is why Lifard (2020:22) maintained that relationship management is crucial in contract management to accomplish value for money.
- Regarding the third objective and considering the results of the study, it is therefore recommended that SOEs in general and Transnet SOC Ltd in particular continue to focus on building long-term, strategic relationships with suppliers.

5.4.4 Information Technology and Effective Contract Management

The fourth objective of the study was to determine how information technology (IT) affected contract management for a South African SOE.

- The study found that IT has been given little attention at Transnet SOC Ltd. It was determined that IT did not significantly influence effective contract management. Therefore, the hypothesis was not accepted, and it was resolutely held that information technology adoption is not a key requirement for effective contract management as was indicate by its Beta ($\beta = 0.087$; p-value=0.192).

- Such a position is inconsistent with Mwangi (2018:19) though because the author emphasised that, when it comes to contract monitoring, a digital contract register system, or archive might be beneficial in providing an overview and essential information. A system like this ought to incorporate up-to-date information regarding the modifications to the contract, the goods and services that have been supplied, the expenses, the term of the contract, and the contract management. This is also supported Wang, Li *et al.* (2019:2) who advise that extensive data and information involving contract award, change, and payment regarding different projects exist in contract management, which requires knowledge storage, communication, and integration.

- In line with the results of the study in relation to the fifth objective, it is recommended that SOEs in general and Transnet SOC Ltd in particular invest in IT solutions for knowledge storage and communication that will offer the opportunity to integrate and store data, better communicate internally and externally while providing an information management database for contract management functions.

5.4.5 Risk Management and Effective Contract Management

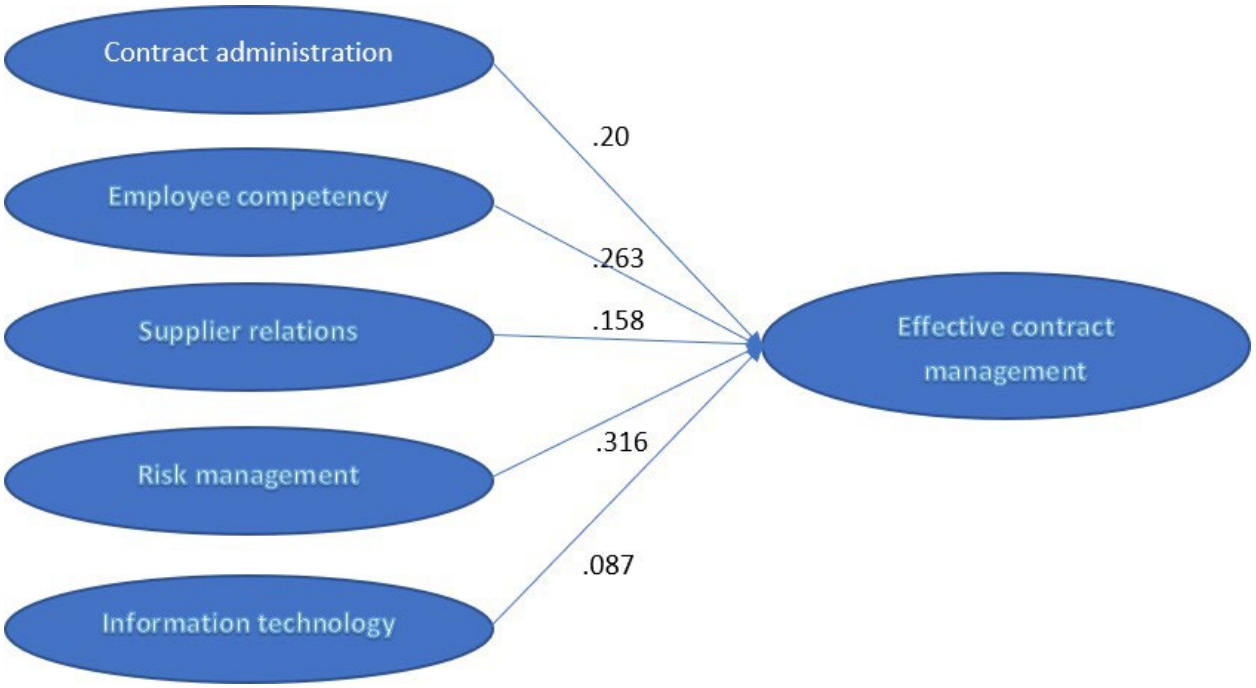
The fifth objective of the study was to evaluate the effect of risk management (RM) on contract management for a South African SOE.

- Since RM is the strongest determinant of effective contract management, this study concluded that proper RM policies have a positive influence on contract management. The results shows that RM has a statistically significant positive causal relationship with effective contract management ($\beta = 0.316$; p-value=0.000).
- The findings lend credence to the findings by Ochola and Kitheka (2019:1097) who stated that risk management must be an ongoing activity throughout the duration of the contract. This is in line with the assertion made by du Plessis (2019:130), who stated that risk allocation ought to be regarded as a core component of any contract, and that one of the primary objectives of a contract is to either minimise or allocate those risks.
- Based on the results of the study in relation to objective five, it is recommended that SOEs in general and Transnet SOC Ltd in particular, enforce risk awareness workshops for both parties involved in the execution of the contract. This will help the project and contract team in providing the knowledge in identifying and reducing contractual risks for future projects.
- It is further recommended that SOEs in general and Transnet in particular, enforce the use of a risk register for each project to eliminate contractual risk during the duration of the contract. This should include regular risk assessments, and the updating of the risk register, to ensure that emerging risks are addressed timeously.

5.4.6 Proposed Contract Management Best Practice Model for a South African SOE

The sixth objective of the study was to recommend a contract management best practice model that can be used by South African SOEs.

- Figure 5.1 illustrates the proposed contract management best practice model, which has been developed through a combination of insights from the literature review and the findings from the research results.



Researcher's own compilation.

Figure 5.1: Best Practice Model for Effective Contract Management

This study identified five key determinants that influence effective contract management within South African SOEs. These determinants are namely CA, EC, IT, RM and SR.

As depicted in Figure 5.1, the model implies that CA, EC, and RM are key elements for successful contract management. Although IT and SR are still acknowledged as having impact, they are much less influential determinants of contract management effectiveness than the alluded three. These factors though, should not be simply overlooked fully, as they add on to the meaning of the entire contract management process.

5.5 Contribution to Knowledge

This study has made profound contributions to theory and to practice.

5.5.1 Contribution to Theory

The study has provided a situational analysis of effective contract management in SOEs and developed managerial recommendations for consideration by the managers of the organisation and other executive managers. Most importantly, the study has also identified important factors that influence effective contract management. This provides empirical research that contributes to the existing body of knowledge. The study also assessed the theories on effective contract management within the South African context.

In this study a best practice model that identified strong determinants of effective contract management in South African state-owned enterprises was developed. These are mainly contract administration, competence of employees and management of risks. This is an eye opener to state owned-enterprises managers that they should be aware of what matters most in the process of administering contracts. This knowledge will also strengthen the formulation and improvement of frameworks, policies and procedures.

5.5.2 Contribution to Practice

Developing a best practice model for effective contract management could be the panacea that SOEs needed. There suggests that there should be no excuse for any SOE not to develop practices and procedures that are aligned with this model. The expectation from SOEs would be to reduce the amount of time and money wasted, as well as the risks associated with contractual obligations. It is expected that the senior management of SOEs would have a comprehensive grasp of the significance of contracts, and that they would also build and maintain an organisational culture that placed a priority on compliance, accountability, responsibility, and integrity. The model is a strong guide warranting the necessity to employ capable personnel as this has been found to have direct impact on the effectiveness of the process.

In addition, top management will work to build a culture of support for the contract team to reduce the number of unnecessary risks and additional expenses that are typically incurred during the post-award tender phase. All the roles and responsibilities that are associated with the contract

team, the contractor, and the supplier have been clarified with the importance of communication also illuminated.

5.6 Delimitations

This study was subjected to the following delimitations:

5.6.1 Content Scope

- The study focused on and restricted its scope to how determinants such as contract administration, employee competency, information technology, and risk management and supplier relations influence effective contract management.
- The research study focused on only one organisation due to financial restrictions of the researcher.

5.6.2. Geographical Scope

This study was conducted in KwaZulu-Natal (KZN) with the focus on Transnet State Owned Company Ltd.'s Operating Divisions in this Province. The Headquarters of the Operating Divisions were easily accessible to the researcher.

5.6.3 Time Scope

The research focused on contractual issues implemented from 1999, where Legislative frameworks such as the Public Finance Management Act 1 of 1999 (PFMA) were introduced and implemented to regulate the management of finances in Government and its Institutions.

5.7 Avenues for Further Research

i. Since the study was only done on one SOE, future studies could replicate it in other SOEs.

ii. In subsequent research, it may be necessary to increase the size of the sample to determine the degree of reliability of the findings.

iii. The current investigation was devoted to the opinions of respondents. Subsequent research should also rely on data that is supported by evidence. This evidence can be found by examining secondary data that was obtained from Transnet SOC Ltd and other state-owned businesses that dealt with the subject matter of the investigation.

iv. A longitudinal approach could also be utilised in future studies to ascertain how the determinants change over the course of time.

REFERENCES

Aalirezaei, A., Esfandi, N. and Noorbakhsh, A. (2018). Evaluation of relationships between GSCM practices and SCP using SEM approach: *An Empirical Investigation on Iranian Automobile Industry. Journal of Remanufacturing*, 8: 51-80.

A Guide for Government Agencies (2011). Contract and relationship management. Driving results and maximizing outcomes. *New Zealand Government*. Available at: https://www.procurement.govt.nz/assets/procurement [Accessed 25 December 2018].

Adjabeng, J.T. (2018). *Examining factors that contribute to successful contract management practices in project delivery: a case study of ministry of local government and rural development*. Master's Thesis. Kwame Nkrumah University of science and technology, Kumasi Ghana.

AL Mousli, M. H. and El-Sayegh, S. M. (2016). Assessment of the design–construction interface problems in the UAE. *Architectural Engineering and Design Management*, 12(5): 353-366.

Altoryman, A. (2014). *Identification and assessment of risk factors affecting construction projects in the Gulf region: Kuwait and Bahrain*. PhD thesis, The University of Manchester, Manchester, UK. Available at: https://www.escholar.manchester.ac.uk/uk-ac-man-scw:221966. [Accessed 27 July 2022].

Aluonzi, G., Oluka N. P. and Nduhura, A. (2016). Contract management and performance of road maintenance projects: The case of Arua municipality. *Universal Journal of Management*, 4(10): 550-558.

Amabile, T. M. and Pratt, M. G. (2016). The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning. *Research in Organizational Behavior*, 36: 157-183.

Ambe, I. M. and Badenhorst-Weiss, J. A. (2012). Procurement challenges in the South African public sector. *Journal of Transport and Supply Chain Management*, 6(1): 242-261.

Amos, T., Hellriegel, D., Jackson, E., Klopper, H., Louw, L., Oosthuizen, T. & Staude, G. (2008). *Management*. 3rd South African edition. Cape Town, Oxford University Press Southern Africa.

Amour, M. K. (2014). The role of procurement contract management in the effectiveness of project management for The telecommunication companies: A case of tigo Tanzania. Doctoral dissertation, Mzumbe University.

Anil, N. E., Kassim, R. and Varghese, S. P. (2021). Analysis of compensation for delay and settlement of disputes clauses in CPWD contract guidelines. *AIJR Proceedings*, 69-75.

Antwi, S. and Ameyw, M. (2020). What drives online shopping among tertiary students in Ghana: The role of attitude and subjective norm. *Journal of Applied Management and Advanced Research*, 2(2): 94-108.

Argarwal, K. (2023). *Development an effective contract management strategy: An Essential Guide*. Available at: https:// Available at: www.spotdraft.com/blog/contract-management-strategy. [Accessed 21 January 2025].

Arrowsmith, S. (2018). *Public procurement regulation in Africa*. Cambridge University Press

Association for project management (APM). (2004). *Project risk analysis and management (PRAM) guide.* High Wycombe: APM Publishing.

Awosina, A. E. (2017). *Causes and effects of cost underestimation on construction projects in South Africa.* Doctoral dissertation, Cape Peninsula University of Technology.

Babin, J.B. and Svensson, G. (2012). Structural equation modelling in social science research: Issues of validity and reliability in the research process. *European Business Review*, 24(4): 320-330.

Bagozzi, R.P. & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1): 74-94.

Baird, A. (2006). *Applying the NEC3 Family and the NEC Engineering and Construction Contract.* ECS. South Africa. Available at: https://www.ecs.co.za/our-company/. [Accessed 30 March 2022].

Baird, A. (2011). *Introduction to the NEC3 Family. NEC Engineering and Construction Contract* ECS. South Africa. Available at: https://www.ecs.co.za/our-company/. [Accessed 10 March 2022].

BAM Reports. (2017). *BAM Clough completes marine services contract for Karratha Gas Plant Life Extension*. Available: https://www.bam.com/en/press/press-releases/2017. [Accessed 29 March 2022].

Bartsiotas, G. A. (2014). Contract management and administration in the United Nations system. *United Nations General Assembly Joint Inspection Unit, Geneva* 14 January 2016, *9* (1): 1-85

Bartsiotas, G.A. (2014), Contract management and administration in the United Nations System, *United Nations, Joint Inspection Unit, Geneva,* 1-71.

Basazinew, A. (2020). *Practice and challenges of grant and contract management system in the casese of Pact Ethiopia.* Doctoral Dissertation, St. Mary's University.

Basheka, B. C. (2014). What constrains a transformed public service in Uganda? *Journal of Public Administration,* 49(1): 653-671.

Batetah, R. K. and Wabala, S. (2021). Effect of procurement contract management on performance of select county governments in Kenya. *The Strategic Journal of Business and Change Management*, 8(2): 208-227.

Bell E., Bryman A. and Harley B. (2018). *Business research methods* 5th ed. Oxford UK: Oxford University Press.

Bender, P. and Gibson, S. (2010). Case study for the 10 Years of the Mbombela (Nelspruit) water and sanitation concession: South Africa, PPP Unit, National Treasury. Available at : https://www.gtac.gov.za/resource/case-study-for-ten-years-of-the-mbombela-nelspruit-water-and-sanitation-concession-south-africa/. [Accessed 30 June 2023].

Ben-Shahar, O., & Porat, A. (2019). Personalizing mandatory rules in contract law. *University of Chicago Law Review*, 86: 255-282. [https://chicagounbound.uchicago.edu/public_law_and_legal_theory [Accessed 25 August 2023].

Bentler, P. M. and Chou, C. P. (1987). Practical issues in structural modeling. *Sociological methods and research*, 16(1): 78-117.

Bergman, M. M. (2010). On concepts and paradigms in mixed methods. *Journal of Mixed Methods*, 4(3): 171-175.

Besaiso, H. (2012). *Comparing the suitability and NEC conditions of contract in Palestine*. M.Sc. Management of projects (Engineering), Faculty of Engineering and Physical Sciences, University of Manchester.

Blunch, N. J. (2008). *Introduction to structural equation modeling Using SPSS and AMOS*. New Delhi: Sage Publications. Available at: https://www.torrossa.com/en/resources/an/5019197 [Accessed 25 April 2023].

Bodea, C. N. and Purnus, A. (2016). FIDIC contracts: analysis of the impact of general and particular conditions on the financial risk management in Romanian infrastructure projects. *Juridical Tribune Journal Tribuna Juridica*, 6(2): 167.

Bjorn. H. (2017). *Assurance of Anonymity Respondents Insensitive Online Survey*. Master of informatics, University of Oslo.

Bollen. K.A. (1989). *Structural Equations with Latent Variables*. Chichester: John Wiley & Sons, Inc.

Bolton, P. (2007). *The law of government procurement in South Africa.* Durban: LexisNexis Butterworths. https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Bolton [Accessed 15 January 2022].

Bolton, P. (2008). The public procurement system in South Africa: Main characteristics. *Public Contract Law Journal*, 37(4): 781-802.

Borrego, M., Douglas, E. P. and Amelink, C. T. (2009). Quantitative, qualitative and mixed research methods in engineering education. *Journal of Engineering Education,* 98(1): 53-66.

Boudreau, M. C., Watson, R., Chen, A. J., Greiner, M. and Sclavos, P. (2007). *The benefits of transaction cost economics: The beginning of a new direction.* ECIS 2007 Proceedings, 34. Available at: https://aisel.aisnet.org/ecis2007/34. [Accessed 30 July 2024].

Bowans. 2022. Available at: www.bownslaw.com [Accessed 20 May 2022].

Broad-based black economic empowerment Act (53 of 20023). Available at: https://www.gov.za/documents/broad-based-black-economic-empowerment-act. [Accessed 10 August 2023].

Braun, V. and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2): 77-101.

Brooks, T., Spillane, J., Tansey, P. and Hendron, C. (2016). The impact of the recent economic recession on the operation of the NEC contract in Northern Ireland. *Construction Management and Eonomics*, 34(6): 393-417.

Brown, A. and Green, B. (2019). *Negotiation strategies for contract management*. New York, NY: Harper Business.

Burgess, A. and Davis, P. (2019). *Project management and contract administration for outsourcing projects*, London and New York: Routledge Taylor & Francis Group.

Bryman, A. (2008). *Social research methods*. 3rd ed. Oxford: Oxford University Press

Bryman, A. (2012). Social research methods. 4th ed. Oxford: Oxford University Press.

Bryman A. (2016). Social research methods. London: Oxford University Press.

Bryman, A. (2017). *Quantitative and qualitative research: Further Reflections on their integration*. 2nd ed. London: Oxford University Press.

Bryman, A. and Bell, E. (2007). *Business research methods*. 2nd ed. Oxford University Press.

Bryman, A. & Bell, E. (2011). *Business research methods*. 3rd ed. Oxford University Press, United Kingdom.

Calland, R. (2017). The new South African constitution. Hart Publishing. South Africa.

Castagna, R. and Bigelow, S. J. (2021). *Information technology (IT)*. Available at: Techtarget: https://searchdatacenter.techtarget.com/definition/IT. [Accessed 30 September 2023].

Cerff, W. D. (2015). *Risk management in the construction environment: the effects of decision making and communication*. Doctoral dissertation, University of the Free State.

Ceric, A. (2012). The principal-agent theory and the role of project managers in construction: guidelines for future research. *In proceedings of the joint CIB international conference*, 766-776.

Chang E.C., Maydeu-Olivares A. and D'Zurilla T.J. (1997) Optimism and pessimism as partially independent constructs: Relationship to positive and negative affectivity and psychological well-being. *Personality and Individual Differences,* 23(3): 433-440.

Chang'a, A.M. (2019). Factors affecting performance of procurement contract management for works in Tanzania: A case of Iringa district council. Master's degree. Umzumbe University. https://api.semanticscholar.org/CorpusID:234723621 [Accessed on 20 March 2023].

Charles Kendall. 2025. *Global Supply Chain Solutions.* Available at: www.charleskendall.com.au [Accessed 25 February 2023].

Chen, Y., Wang, M., and Li, L. (2019). A framework for the contract management system in cloud-based ERP for SMEs in the construction industry. *International conference on construction and real estate management*, 1-11.

Chiang, C. A. 2019. *Research methods in psychology*. 4th ed. Canadian Edition.

Christensen, H.B., Nikolaev, V.V. & Wittenberg-Moerman, R. (2016). Accounting Information in financial contracting: The incomplete contract theory perspective, *Journal of Accounting Research,* 54(2): 397-435.

Choi, S. H. & Kim, Y. S. (2016). Priority analysis of dispute factors in overseas construction based on FIDIC contract conditions. *KSCE Journal of Civil Engineering*, 20: 2124-2133.

Civilution. (2016*). Focus on: National treasury standard for infrastructure procurement and contract management framework*. (2017). Department of National Treasury. Republic of South Africa. https://ag.treasury.gov.za/org. [Accessed 30 August 2022].

Commission of Inquiry into State Capture. *The Judicial Commission of Inquiry into allegations of state capture: Corruption and fraud in the public sector including organs of state.* (2018). Available at: https://www.statecapture.org.za/site/information/reports. [Accessed 22 June 2022].

Construction Industry Development Board (CIDB). 2025. Available at: www.cidb.org.za.

Contract management guide (2017). Avaialble at: https://www.google.com/search?q=guide+to+contract+management+%282017%29+south+africa. [Accessed on 25 November 2022].

Contract management framework (2019) https://www.google.com/search?q=contract+management+framework+(2019)+pdf [Accessed 20 February 2023].

Consitution of Republic of South Africa 1996. Avaialble at: https://www.google.com/search?q=constitution+of+republic+of+south+africa+1996&rlz [Accessed 25 February 2023].

Consitution of Republic of South Africa 2000. Available at: https://www.google.com/search?q=constitution+of+republic+of+south+africa+2000&rlz [Accessed 25 February 2023].

Cooper, D.F., Grey, S. J., Raymond, G. A. and Walker, P. R. (2005). *Project risk management guidelines: Managing risk in large projects and complex procurements.* Southern Gate, Chichester, UK: John Willey and Sons, Ltd.

Cooper, D. F., Bosnich, P. M., Grey, S. J., Purdy, G., Raymond, G. A., Walker, P. R., and Wood, M. J. (2014). *Project risk management guidelines: Managing risk with ISO 31000 and IEC 62198*. 2nd ed. New York, US: John Willey and Sons, Ltd.

Costa, K. & Pimintel, C. 2009. Contract management for international EPC projects. Southeast University, China.

Council of the European Union (2016). https://www.consilium.europa.eu/media/29529/general-conditions-june-2016-en.pdf. [Accessed 30 March 2024].

Cullen. S. (2015). *The evolution of procurement: managing contracts womb to tomb*. University of Melbourne.

Creswell, J. W. (2009). *Research design, qualitative, quantitative and mixed methods approaches*.3rd ed. Thousand Oaks: Sage Publications.

Creswell J. W. (2011). Controversies in mixed methods research. In Denzing N. K., Lincoln Y. S. (Eds), *The Sage Handbook of Qualitative Research*, 4: 269–284. Sage.

Creswell, J. W. and Cresswell, J. D. (2018*). Research design, qualitative, quantitative and mixed methods approaches*. 5th ed.. Thousand Oaks, CA: Sage.Dagba, J. and Dagba, G. (2019). Effects of procurement strategies and contract management Practices on the performance of road construction projects in Ghana. Available: https://www.researchgate.net/profile/Gershon-Dagba/publication. [Accessed 17 September 2023].

Dash, A., Pothal, L. K. and Tripathy, S. (2018, July). Factors affecting supplier relationship management: An AHP approach. In *IOP Conference Series: Materials Science and Engineering*, 390(1): 012056. IOP Publishing.

De Boer, L., Harink, J. and Heijboer, G. (2002). A conceptual model for assessing the impact of electronic procurement. *European Journal of Purchasing and Supply Management*, 8(1): 25-33.

Delport, C. M. (2016). *A critical analysis of the South African law of arbitration specifically pertaining to the arbitration clauses in FIDIC and GCC*. Doctoral dissertation, University of Pretoria.

Department of Trade, Business and Innovation. (2017). *Version 1.2. A guide to contract management. Northern territory government.* Available at: htt://ntgcentral.ntgov.au/ntg-tools-services/procurement-and-contracts/procurement/procurement-document. [Accessed 15 June 2020].

de Oliveira, U. R., Marins, F. A. S., Rocha, H. M. and Salomon, V. A. P. (2017). The ISO 31000 standard in supply chain risk management. *Journal of Cleaner Production*, 151: 616-633.

Devenish, G.E., Govender, K. & Hulme, D. (2001). *Administrative law and justice in South Africa.* Durban: Butterworths.

De Vos, P. (2016). *South African constitutional law in context*. 1st ed. Cape Town: Oxford University Press. South Africa.

Dickson, R.N. (2013). *An analysis of the use and implementation of NEC vs traditional forms of contract in the HK construction industry*. MSc. University of Bath.

Dillman, D. A., Smyth, J. D. and Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method*. 4th ed. Hoboken: Wiley publishers.

Ding, J., Wang, N. and Hu, L. (2018). Framework for designing project delivery and contract strategy in Chinese construction industry based on value-added analysis. *Advances in Civil Engineering*, 1-14.

Downer, J. (2019). *Operating metrics that effectively and efficiently measure contract performance operations within an organization*. MBA, Naval Post graduate School.

Duncan, J. (2019). *Access to information and social justice*. 1st ed. Abingdon: Routledge.

Du Plessis, L. (2011). The status and role of legislation in South Africa as a constitutional democracy: Some exploratory observations. *Potchefstroom Electronic Law Journal*, 14(4): 92-102.

Du Plessis, H. (2019). Legal pluralism, Ubuntu and the use of open norms in the South African common law of contract. *Potchefstroom Electronic Law Journal/Potchefstroomse Elektroniese Regsblad*, 22(1):1-37.

Du Plessis, H. B. (2017). *Building contracts, a means to manage the construction process: a South African perspective,* Doctoral dissertation. University of the Free State.

Du Plessis, H. and Oosthuizen, P. (2018). Construction project management through building contracts, a South African perspective. *Acta Structilia*, *25*(1): 152-181.

Dulu, R. (2019). *Assessing contractors' understanding of standard forms of contract in South African Construction Industry*, MSc. University of KwaZulu-Natal.

Dvouletý, O. and Orel, M. (2020). What drives female entrepreneurship in African developing countries? In: Dobson, D., Jones, P., Agyapong, D. and Maas, G. (ed.) *Enterprising Africa: Transformation through Entrepreneurship*. Abingdon, Oxon: Routledge.

Dziadosz, A. and Rejment, M. (2015). Risk analysis in construction project - chosen methods. *Procedia Engineering*, 122: 258-265. Available at: doi: http://dx.doi.org/10.1016/j.proeng.2015.10.034. [Accessed 20 February 2022].

Easterby-Smith, M., Thorpe, R. and Jackson, P. R. (2012). *Management research*. Sage.

Eitjies, W.T.A.M. (2017). *Contract management. Managing conflict escalation in the Dutch building Sector*. Master's Thesis. Delft University of Technology.

El Khatib, M. M., Alnaqbi, W. and Alzoubi, H. M. (2022). BIM as a tool to optimize and manage and manage project risk management. *International Journal of Mechanical Engineering*, 7(91): 63-6323.

Eliah, E. A. (2020). The influence of staff competency on performance of procurement management units in Tanzanian training institutions: case study of vocational education and training authority. *International Journal of Economics, Commerce and Management*, Viii (12):372-383.

Eliah, E. and Athumani, H (2020). The influence of staff competency on performance of procurement management units in Tanzanian training institutions: Case study of vocational education and training authority. *International Journal of Economics, Commerce and Management*, viii (12): 372-384.

Elsayah, O. S. (2016). A Framework for improvement of contractor selection procedures on major construction project in Libya, Doctoral dissertation. School of Engineering and the Built Environment, Edinburgh Napier University, Edinburgh.

Elshaikh, E. A. and Mahmoud, S. Y (2019). The potential effects of variation orders on building projects in Khartoum State-Sudan. *International Journal of Construction Engineering and Management*, 8(2): 70-79.

Emmanuel, T.S. and Haruna, N (2017): Evaluating the effectiveness of the procurement acts in public financial administration; the case study in Ghana, Editions Universitaires europeennes No.

ISBN: 979-620-2-26815-8, 1-43. Available at: https://mpra.ub.uni-muenchen.de/id/eprint/86952. [Accessed 30 May 2022].

Englander R, M. (2012). The interview: Data collection in descriptive phenomenological human scientific research. *Journal of Phenomenological Psychology,* 43:13-35.

Enslin, E. S. (2019). *Project efficiency: effective contract management (New Engineering Contract 3) is a moderator to trust in project success*. PhD., University of Pretoria (South Africa.

eSupport KPO. 2025. Available at: www.esupportkpo.com. [Accessed on 30 March 2025].

Faraji, A., Rashidi, M., Khadir, P. and Perera, S. (2021). A risk analysis-best worst method based model for selection of the most appropriate contract strategy for onshore drilling projects in the Iranian petroleum industry. *Buildings*, 11(3): 1-28.

Fashina, A. A., Omar, M. A., Sheikh, A. A. & Fakunle, F. F. (2021). Exploring the significant factors that influence delays in construction projects in Hargeisa. *Heliyon*, 7(4): 1-9.

Fateh, M. A. M. & Mohammad, M. F. (2021). The framework of factors for the improvement of the significant clauses in the standard form of contract for the IBS construction approach in Malaysia. *International Journal of Sustainable Construction Engineering and Technology*, 1 (1): 164-169.

Feinberg, M.F., Kinnear, C.T. and Taylor, R.J. (2013). *Modern marketing research concepts, methods, and cases*. 2nd ed. South-Western, Cengage Learning.

Fellows, R. F. and Liu, A. M. (2021). *Research methods for construction*. Hoboken: John Wiley & Sons.

Figueiredo, F. and Kitson, B. (2009). Defining risk and contingency for pipeline Projects. *AACE International Transactions*, 8(1):1-10.

Fisher, R., Ury, W. and Patton, B. (2015). *Getting to yes: Negotiating agreement without giving in.* Penguin.

Fornell, C. and Larcher, D. G. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal Of Marketing Research,* 18(1): 39-50.

Fourie, D. (2014). The role of public sector enterprises in the South African economy, *African Journal of Public Affairs,* 7(1): 30-40.

Fourie, D. (2015). Procurement in the South African public service: *A reflection of Ethical and Legislative Framework. Public and Municipal Finance*, 4(2): 42-43.

Fourie, D. and Malan, C. (2020). Public procurement in the South African economy: Addressing the systemic issues. *Sustainability*, 12(20):8692.

Gaikward and Sarode. (2017). Contract selection strategy in construction projects. *International of Advance in Science and Engineering*, 6: 485-500.

Gamage, A. N. K. K. (2023). Dispute risk management in construction projects through effective contract management. *Scholars Journal of Engineering and Technology*, 11(3): 53-65.

Garavan, T. and D. McGuire (2001). Competencies and workplace learning: Some reflections on the rhetoric and the reality. *Journal of Workplace Learning*, 13(4):144–64.

Gelderman, C. J. and Van Weele, A. J. (2002). Strategic direction through purchasing portfolio management: a case study. *Journal of Supply Chain Management*, 38 (1): 30-37.

General conditions of contract for construction works (GCC). (2015). Third edition, the South African Institution of Civils Engineering (SAICE). https://saice.org.za/wp-content/uploads/2017/06/ [Accessed 22 April 2019].

George, D. and Mallery, P. (2010). *SPSS for windows step by step: A simple guide and reference, 17.0 update.* 10th ed. New Delhi: Pearson.

Ghahraman, M. and Sahrayi, M. R. R. (2017). Nature of commitment in the general condition of FIDIC, Iran Construction Contracts, and Principles of European Law on Service Contracts. *Journal of Politics and Law*, 10(1): 166-176.

Gibb, S. 2008. *Human resources development, process, practice and perspectives*. New York: Palgrave Macmillan.

Gildenhuys, J.S.H. 2004. *The philosophy of public administration: A holistic approach*. Stellenbosch: Sunpress.

Gitahi, S. M. and Tumuti, J. (2019). Management of contracting risks on performance of construction projects in Kilifi County, Kenya. *International Academic Journal of Information Sciences and Project Management*, 3(3): 105-130.

Gladysz, B., Skorupka, D., Kuchta, D. & Duchaczek, A. (2015). Project risk time management – A proposed model and a case study in the construction industry. *Procedia Computer Science*, 64: 24-31. doi: Available: http://dx.doi.org/10.1016/j.procs.2015.08.459. [Accessed 30 March 2025].

Glesne, C. (2011). *Becoming qualitative researchers: An introduction*. 4th ed. Boston: Pearson Education.

Golafshani, N. 2003. Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4): 597-607.

Go shared services. (2015). *Procurement and contract management strategy*. Available at: https://www.cheltenham.gov.uk/download/downloads/id/4672/procurement_and_contract_management_strategy.pdf. . [Accessed 20 July 2018].

Government gazette of South Africa. (2016). Available at: https://archive.opengazettes.org.za/archive/ZA/2016/government-gazette. [Accessed 13 October 2023].

Guba, E. G. (2010). Criteria, for, assessing, the, trustworthiness, of, naturalistic, inquiries. *Educational Communication Journal*, 29(12):75-91.

Guest, G., Bunce. A. and Johnson, L. 2006. How many interviews are enough? An experiment with data saturation and variability. *Field Methods,* 18(1): 59-82.

Guiding SA. (2015). KwaZulu-Natal guiding SA [Online]. www.http://guidingsa.com/kwa-zulu-natal/. [Accessed 20 July 2017].

Gunduz, M. and Elsherbeny, H. A. (2020). Construction contract administration performance assessment tool by using a fuzzy structural equation model. *Sustainability*, 12:2-21.

Gupta, S. L. (2010). *Sales and Distribution management*, 2nd Edition, Bengaluru: Excel Books.

Gupta, S. L. (2011). *Marketing Research*. New Delhi: Excel Books.

Gurtu, A. & Johny, J. (2021). Supply chain risk management: Literature review. *Risks*, 9 (1): 16.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010). Multivariate Data Analysis 7th edition. Upper Saddle River, New Jersey Prentice Hall .

Hair, J.F., Wolfinbarger, M., Ortinau, D.J. and Bush, R.P. (2013). 3rd Ed. *Essentials of marketing research.* New York: McGraw-Hill, 36.

Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M. and Sarstedt, M. (2014). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM).* Thousand Oaks, CA: SAGE Publications Ltd.

Hamza, S. B., Gerbi, A. and Ali, S. H. (2016). Factors affecting procurement performance in the case of Awassa textile share company. *Global Journal of Management and Business Research*, 16 (3): 21-34.

Hanak, T. and Vitkova, E. (2022), Causes and effects of contract management problems: Case study of road construction. *Frontiers in Built Environment*, 8: 1-10.

Hardjomuljadi, S. and Sulistio, H. (2021). The most influencing factors on the causes of construction claims and disputes in the EPC contract model of infrastructure projects in Indonesia. *Review of International Geographical Education Online*, 11: 80-91.

Harvett, G. M. (2013). A study of uncertainty and risk management practice relative to perceived project complexity. PhD Thesis, Bond University. Gold Coast, Australia. Available at: http://epublications.bond.edu.au/theses/73/. [Accessed 20 May 2022].

Hartley, J. (2014). Some thoughts on Likert-type scales. *International Journal of Clinical and Health Psychology*, 14 (1): 83-86.

Hayati, K., Latief, Y. and Jaka, S. A. (2019). Risk-based contract management on the design and build construction to minimize disputes in infrastructure projects. *In IOP Conference Series: Materials science and Engineering*, 506(1), 012047).

Hazzi, O. and Maldaon, I. (2015). A pilot study: Vital methodological issues. *Business: Theory and Practice*, 16(1): 53-62.

He, W., Tong, T. W. and Xu, M. (2022). How property rights matter to firm resource investment: evidence from China's property law enactment. *Organization Science*, 33(1): 293-310.

Henkel, T. and Bourdeau, D. (2018). A field study: An examination of managers' situational leadership styles. *Journal of Diversity Management*, 1 (2): 7-14.

Hilsdorf, W. and Romano, C. A. C. (2012). Supplier relationship management: relationship between adopted practices and performance in the auto parts supply chain. *Pro quest Brasil Long Total Carga de Trabajo*. 1-10.

Hillson, D. and Murray-Webster, R. (2004). Understanding and managing risk attitude. Paper presented at the proceedings of the *7th Annual Risk Conference*, London, UK. Available at: https://citeseerx.ist.psu.edu/document. [Accessed 14 October 2023].

Holden, P. (2018). *Corruption and government: Causes, consequences, and reform*. 2nd ed. Cambridge: Cambridge University Press, United Kingdom.

Hox, J. J. and Bechger, T. M. (1998). An introduction to structural equation modeling. *Family Science Review*, 11: 354-373.

Huddleston, M., Eom, J.J. and Bing. J.R (2019). *Comparison of acquisition efficiency on subsistence contract management between the U.S and Japan.* Naval postgraduate school Monterey, California.

Huynh, H.T. (2021). *Application in construction project management*. Doctor of Philosophy. The Catholic University of America.

Hwang, B. G., Zhao, X. and Chin, E. W. Y. (2017). International construction joint ventures between Singapore and developing countries: Risk assessment and allocation preferences. *Engineering,*

Construction and Architectural Management, 24(2): 209-228. Available at: doi: http://dx.doi.org/10.1108/ECAM-03-2015-0035. [Accessed 12 September 2022].

Hyder, S. and Lussier, R. N. (2016). Why businesses succeed or fail: a study on small businesses in Pakistan. *Journal of Entrepreneurship in Emerging Economies*, 8(1) :82-100.

Irumba, A., Bakaaki. P., Julius. A. and Karaaza. G. (2023). Contract management, staff competence and contract performance. A case study of Uganda National roads authority, 2(3): 207-235.

Islam, J. (2023). Impact of contract management in project and supply chain management. Available at: https://www.linkedin.com/pulse/impact-contract-management-project-supply-chain-johurul [Accessed 30 December 2022].

Issaka, A. (2014). *The challenges of contract management in the procurement process in Ghana*. Master's Thesis. Kwame Inkrumah University of Science and Technology (Knust) Kumasi. Available at: https://ir.knust.edu.gh/handle/123456789/6497 [Accessed: 27 August 2022].

Jackson, M. O. (2014). Networks in the understanding of economic behaviors. *Journal of Economic Perspectives,* 28(4): 3-22.

Jacobs, D. (2021). *The effect of negative human behaviour on contract management in local government in the Western Cape*. Master's Degree. Stellenbosch University.

Jain, G., Kumar, A. and Bhat, S.A. (2024). Recent developments of Game theory on RL approaches. *Systematic review* (12).

JBCC Adjudication Rules. (2014). https://www.jbcc.co.za/docs/JBCC_Adjudication_Rules. [Accessed 28 February 2021].

Jenkinson, I. 2013. NEC3: Engineering and construction contract. *Proceedings of the Institution of Civil Engineers - Municipal Engineer*, 166(3): 7-15.

Jennings, W. G. and Reingle, J. M. (2019). *Criminological and criminal justice research methods*. Aspen Publishing.

Ji, M and Ji, P. (2018). Contract Management Based on “Internet”. *Advances in Social Science, Education and Humanities Research*. 221: 506-508.

Joint Building Contracts Committee (JBCC). 2021. Available at: www.jbcc.co.za [Accessed 17 June 2021].

Johnson, A. L. and Jiang, D. R. (2018). Shape constraints in economics and operations research. *Statistical Science*, 33 (4): 527-546.

Johnson, A. L. and Jiang, D.R. (2018) Shape constraints in economics and operations Research. *Institute of Mathematical Statistics,* 33 (4): 527–546.

Johnson, R. B. and Onwuegbuzie, A. J. (2010). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher,* 33(7): 14-26.

Johnson, R. (2021). *Contract Editing Best Practices*. San Francisco, CA: Wiley.

Jones, D. (2018). *The Art of Contract Authoring*. London, UK: Routledge.

Jones, S., Johnson-Yale, C., Millermaier, S. and Perez, F. S. (2018). Everyday life, online: U.S. college students' use of the internet. *First Monday*, 13(10).

Jolly, K. (2022). Effect of contract management practices on procurement performance a case of Nyarugenge district. *International Journal of Scientific Research And Management*, 10(12): 1-10.

Jones, A. and Smith, B. (2019). *Modern business transactions: Navigating complexity.* Oxford University Press.

Jonker, J. and Pennink, B. (2010). The essence of research methodology: A concise guide for Masters and PhD students in Management Sciences. Heidelberg: Springer, Royal Van Gorcum Publishers.

Kaazara, A. G. 2023. Corporate Governance and corporate social; responsibility: Good practices and prospects. *Textile International Journal,* 9(2): 87-99.

Kafile, M. and Fore, S. (2018). Effects of procurement processes on project execution in a project management company in Cape Town, South Africa. *International Journal of Business and Administrative Studies*, 4(4): 176.

Kamble, T., Bhatt, V. and Ghadge. A. (2019). Developing tools to streamline the process of contract administration. *Proceedings of Sustainable Infrastructure Development & Management*, 1-7.

Kanchana, S., Niranjan, V. and Karthick, A. G. (2018). A Study on factors affecting contract management in construction industry. *International Journal of Latest Engineering and Management Research*, 03(03): 24-26.

Kariuki, S. and Paul, S. N. 2019. Influence of contract management practices on procurement performance of country Government in Kenya. *International Journal of Recent Research in Commerce Economics and Management*, 6(4): 222-228.

Katidjan, P., Pawirosumarto, S. and Yuliani, T. (2018). The effect of competence, training, and compensation to employment performance. *European Research Studies Journal,* 21(3) 280-*292.*

Katzenbach, J. R. and Smith, D., K. (2015). The wisdom of teams: Creating the high-performance organization. *Harvard Business Review Press*.

Kaula, S. (2022). Information and communication technologies for effective contract administration of public procurement of works in Mbeya Region. *American Journal of Management Science and Engineering*, 7(4): 44-50.

Kepner, C. H. and Tregoe, B. B. (2016). *The rational manager: A systematic approach to problem solving and decision making.* Princeton, New Jersey: Kepner-Tregoe Inc.Springer.

Khan, A. S. (2019). *The Use of standard form contracts in the procurement processes of the South African Police Service*. Doctoral dissertation, University of Pretoria. South Africa.

Khan, J.A., Raman, A.M., Sambamoorthy, N. and Prashanth, K. (2023). *Research methodology: Methods, approaches and techniques.* New Delhi: San International Scientific Publications.

Kibogo, A.D. and Mwangangi, M. (2014). Factors affecting contract management in public procurement sector in Kenya: A case of Kenya literature bureau. *European Journal of Business Management*, 1(11): 377-384.

Kim, S. (2015). *Toward financially effective contract management: comparing perceptions of contract managers in the public and private sectors*. D Phil ,School of Public affairs and Administration, Rutgers University-Graduate School-Newark.

Kim, C. J. and Ali, Z. (2017). Efficient management of State-Owned enterprises: challenges and opportunities. *ADB Institute Policy Brief.* 2017(4) December.

Kimundu, G. N. and Moronge, M. (2019). Influence of contract management on procurement performance in manufacturing firms of Kenya; A case bidco oil refineries Ltd. *The Strategic Journal of Business and Change Management*, 6(1): 106-120.

Kingoto, B. M. and Ismail, N. (2021). Effect of procurement contract management on performance of commercial state corporations in Nairobi City County, Kenya. *International Research Journal of Business and Strategic Management*, 2(1): 182-196.

Kirk, A. and Ball, J. (2017). *Contract management*. Chichester District Council. Chichester District Council Internal Audit. Available at: https://chichester.moderngov.co.uk/documents/s9424/12.1%20Contracts%20Management%20Audit%20Report%20Appendix%201.pdf. [Accessed 30 June 2022].

Kiromo, E. M. (2015). Factors affecting procurement and supply chain performance in building construction firms in Nairobi. Available at: http://erepository.uo.nbi.ac.ke/handle/11295/93649. [Accessed 19 December 2022].

Klijn, E. H, Metselaar, S. and Warsen, R. (2024). The effect of contract- and network management on performance and innovation in infrastructure projects. *Public Money & Management*. 44(5): 428-437.

Klobučar, T. and Erjavec, J. (2019). Continuous supplier relationship management framework, University of Ljubljana. Available at: https://doi.org/10.22598/pi-be/2019.13.2.xy. [Accessed 30 June 2023].

Köksal, J. T. (2011). FIDIC conditions of contract as a model for an international construction contract. *Business and Management review*, 1(2): 32-55.

Komakech, R. A. (2019). Corruption in public procurement in Uganda: What to Do? In: *Proceedings of the 2nd International Conferences on Governance and Service Delivery in Developing Economies*, Kampala, Uganda, 2:754-770.

Kostovska. A. P. (2020). The role and function of the dispute adjudication board in the Fidic forms of contracts. *ILIRIA International Review,* 10(2): 173-190.

Krefting, L. (1991). Rigour in qualitative research: The assessment of trustworthiness. *American Journal of Occupational Therapy,* 45(3): 214-222.

Krejcie, R. and Morgan, D. 1970. Determining the sample size for research activities. *Education and Psychological measurements,* 30: 607-610.

Kutosi, A. M., Moses, M. & Eya, S. (2015). Contracting and behavioural practices in State Owned Enterprises in Uganda. *International Journal of Social Science and Economics Invention*, 1(01): 1-12.

Kuye, J. O., Thornhill, C., Fourie, D., Brynard, P. A., Crous, M., Mafunisa, M. J. and Van Rooyen, E. J. (2002). *Critical perspectives on public administration*. London: Heinemann.

KwaZulu-Natal Provincial instruction no. 2 (2016/17). Available at: http://ocpo.treasury.gov.za/Resource_Centre/Legislation/Treasury%20Instruction%20No%202%20of%202016. [Accessed 28 April 2019].

Lalonde, C. and Boiral, O. (2012). Managing risks through ISO 31000: A critical analysis. *Risk Management*, 14(4): 272–300.

Lambert, D.M. and Schwieterman, M.A. (2012). Supplier relationship management as a macro business process. *Supply Chain Management: an InternationalJournal*, 17(3): 337-352.

Langrafe, T. F., Barakat, S. R., Stocker, F. and Boaventura, J. M. G. (2020). A stakeholder theory approach to creating to value in approach to creating value in higher education institutions. https://www.emarald.com/insight/0888-045X.htm. [Accessed 21 December 2024].

Larson, E. and Gray, C. (2017*). Project management: The managerial process*. 7th Ed. New York McGraw-Hill.

Lavrakas, P. J. (2008). Economic exchange theory. In P. J. Lavrakas (Ed.), *Encyclopedia of survey research methods.* Thousand Oaks, CA: Sage, 219–220. Available at: doi:10.4135/9781412963947. [Accessed 16 January 2023].

Letshaba, N. W. (2019). *Procurement Process in the North-West department of education and sports Development, Mmabatho Head Office*. Doctoral dissertation, North-West University. South Africa.

Lesere, S. (2018). Effects of contract management practices on supply chain performance on manufacturing firms in Nairobi Country, Kenya. *Journal of Internal Business, Innovational and Strategic Management,* 1(4), 41-59.

Levin, P. (2016). Review of construction contract claims, changes, and dispute resolution, 3rd edition. 9 (4):1-3.

Lifard, A. (2020). *Assessment of the influence of procurement contract management for goods in achieving value for money in public sector in Tanzania, A Case of President's office regional administration and local government (PO–RALG).* Doctoral dissertation, Mzumbe University.

Ling, S. C. A., Jun, L. W., Hashim, N., Kamarazaly, M. A. H., Yaakob, A. M. and King, L. S. (2021). Factors and impacts on the accuracy of cost planning: pre-contract stage. *Malaysian Construction Research Journal*, 12(1): 1-159.

Lomax, R. G. and Hahs-Vaughn, D. L. (2012). *An Introduction to statistical concepts*. 3rd Ed. New York: Taylor and Francis Group.

Lu, H. P. and Wung, Y. S. (2021). Applying transaction cost theory and push-pull-mooring model to investigate mobile payment switching behaviors with well-established traditional financial infrastructure. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(2): 1-21.

Lucian, G. (2013). Corporate contracts in the new civil code. *Ovidius University Annals, Series Economic Sciences* Series, Ovidius University of Constantza, Faculty of Economic Sciences*,* 0(2): 206-209.

Magagula, S. and Mhlanga, O. (2018). Enhancing contract management capability in South Africa: A proposed model. *South African Journal of Business Management*, 49(1): 1-10.

Maiketso, K.G. (2015). *The level compliance with public finance management act in procurement: A case of North West parks and tourism board*. MBA Mini-dissertation, North West University.

Maina, A. N. and Osoro, A. (2020). Effect of contract management on organization performance in The Telecommunication Sector in Kenya: A case of Airtel Kenya. *International Journal of Scientific and Research Publications*, 10(1): 80-91.

Makhanya, L. E. (2018). *An evaluation strategy execution at selected manufacturing companies in Pietermaritzburg perspective of shop floor employees*. PhD. University of KwaZulu-Natal.

Malhotra, K. N., (2007). *Marketing research. An applied orientation*. 7th ed. New Jersey: Pearson.

Malhotra, N.K. (2010), Introduction: Analyzing Accumulated Knowledge and Influencing future Research, Review *of Marketing Research, Vol. 7*., Leeds: Emerald Group Publishing Limited. pp. xiii-xxviii.Available at: https://doi.org/10.1108/S1548-6435(2010)0000007004. [Accessed: 28 February 2025].

Manandhar, B. and Chatterjee, J. M. (2021). The impacts of information system on supply chain management on selected cement companies of Nepal. *LBEF Research Journal of Science, Technology and Management,* 3(1): 17-31.

Mäntylä, J. (2021). *Best practices of supplier relationship management in value creation*. Master's Thesis. Lappeenranta-Lahti University of Technology LUT. School of Business and Management.

Maritz, M. J. (n.d.). *Establishing the efficiency of the JBCC construction and payment guarantees*, University of Pretoria.

Martin, J. (2018). What do academic librarians value in a leader? *Reflections on past positive Library Leaders and a consideration of future Library Leaders. College and Research Libraries*. 79(6): 799 – 821.

Martelli, J. and Greener, S. (2018). *An introduction to business research methods: Business research methods.* Cape Town, South Africa: Cape Peninsula the University of Technology, Bookboon. Available at: http://hdl.handle.neU11189/6176. [Accessed 20 March 2022].

Mashamaite, K.A. and Raseala, P. (2019). Transgression of Corporate Governance in South Africa's state-owned enterprises. *Bangladesh e-Journal of Sociology*, 16(1). January, 2019.

Matsiliza, N. S. (2017). Corporate governance of the state-owned enterprises In an emerging country: Risk management and related issues. *Risk Governance & Control: Financial Markets and Institutions*, 7(3): 35-43.

Matunga, D. A., Ngugi, P. K. and Odhiambo, R. (2021). Relationship between staff competency and implementation level of public regularity framework in the devolved government in Kenya. *International Journal of Supply Chain Management*, 6 (1):13-23.

Mavin, S. and Grandy, G. (2016). Women elite leaders doing respectable business femininity: How privilege is conferred, contested and defended through the body. *Gender, Work and Organization*, 23(4): 379-396..

Mayedwa, V. A. (2018). *The role of the state-owned enterprise in the developmental state of South Africa: a case study of Transnet*. Master's degree, Nelson Mandela University.

Mbonera, M. (2024). Effect of contract on achieving value for money in public sector in Rwanda: A case of ministry of infastructure. *International Journal of Research and Innovation in Social Science (IJRISS),* viii (v): 1343-1360.

Mbuga, P. (2018). *Contract management and sustainable supply of works in the aviation industry of Uganda: a case study of Civil Aviation Authority (CAA*). Master's degree. Nkumba University, Uganda.

McCann, S., Aranda-Mena, G. and Edwards, P. J. (2014). Managing partnership relations and contractual performance in the operating phase of public private partnership: Interview findings. *International Public Management Review*, 15(2): 111-132.

McCusker, K. and Gunaydin, S. (2014). Research using qualitative, quantitative or mixed methods and choice based on the research. *Perfusion,* 1: 1-6.

McDaniel, C. and Gates, R. (2010). *Marketing research essentials*. 7th ed. USA: John Wiley & Sons, Inc.

McGregor, L. 2014. Improving corporate governance of South African state-owned companies (SOCs). Available at: https://www.usb.ac.za/Shared%20Documents/Thinkpiece.Improving%20S.A.%20SOC%20Corporate%20Govep20Gove. [Accessed 20 December 2021].

Mchopa, A. (2015). Integrating contract management practices into the achievement of value for money in Tanzania public procurement: Evidence from selected procuring entities in Moshi municipality. *Journal of Public Procurement*, 15(2): 129-149.

Mchopa, A., Njau, E., Ruoja, C., Huka, H. and Panga, F. (2014). The achievement of value for money in Tanzania public procurement: A non-monetary assessment approach. *International Journal of Management Sciences*, 3(7): 524-533.

McMillan, J. H. and Schumacher, S. (2010). *Research in education: evidence-based inquiry*. 7th ed. Boston: Pearson Education International.

Meki, M. 2019. *Micro equity for micro entrepreneurs: Evidence from an artefactual field experiment and survey.* Working paper. Economic research forum.

Memon, S. A., Rowlinson, S., Sunindijo, R. Y. and Zahoor, H. (2021). Collaborative Behavior in Relational Contracting Projects in Hong Kong—A Contractor's Perspective. *Sustainability,* 13(10): 5375. Available at: https://doi.org/10.3390/su13105375. [Accessed 15 May 2025].

Meng, X. and Boyd, P. (2017). The role of the project manager in relationship management. *International Journal of Project Management,* 35(5): 717-728. Available at: doi: http://dx.doi.org/10.1016/j.ijproman.2017.03.001. [Accessed 15 May 2022].

Mesa, R.N, Kwasira, J and Waweru, L. (2017). Determinants of procurement performance in judiciary department at the Nakuru Law Courts, Kenya. *International Journal of Economics, Commerce and Management*,10(06): 250-270.

Michler, J.D. and Wu, S.Y. (2020). Relational contracts in Agriculture: Theory and Evidence. *Annual Review of Resource Economics.* Available at: www.Annual Review.org. [Accessed 25 January 2025].

Mihungo, S. S. and Mwagike. L. (2021). The influence of staff competence on performance of procurement contracts management in public sector in Tanzania. *Journal of the Institute for African Studies*, 4(57): 47-55.

Miller, C. J., Packham, G. A. and Williams, T. (1999). Re-defining sub-contracting: reducing transaction costs. *In: 15th Annual ARCOM Conference*, 655-664.

Miller, G. (2017) Reflecting on the medicalization of distress. In: White, R., Jain, S., Orr, D., Read, U. (eds) *The Palgrave handbook of sociocultural perspectives on global mental health*. Palgrave Macmillan publishers, United Kingdom. Available at: https://link.springer.com/book. [Last accessed on 31 May 2022].

Minassian, V. K. and Jergeas, G. F. (2009). A prototype risk analysis for determining contingency using approximate reasoning method. *Cost Engineering*, 51(1): 26-33.

Mishra, A.K. (2020). Global contract administration. Global contract administration. *Tamilnadu: DK international research foundation*. Available at: http://doi.org/10.5281/zen. [Accessed 30 November 2023].

Mkhonza, L. and Letsoalo, A. (2017). *Understanding the skills gaps in the public service sector*. Public Service Sector Education and Training Authority. Pretoria. Available at: https://pseta.org.za/wp-content/uploads/2018/05/Understanding-the-Hard-to-Fill-Vacancies-in-the-Public-Service-Sector-The-Case-of-Provincial-Departments. [Accessed 31 July 2023].

Mlinga, R. S. (2008). Ethics in public procurement: A missing link in the education and training of construction industry practitioners. In: *Proceedings of Construction Industry Forum*, Organised by the National Construction Council of Tanzania, 12-13 September, Dar Es Salaam, National Construction Council, 1-19.

Moloi, N. (2018). Avoid having your insurance policy cancelled. *Personal Finance*, 454: 7-9.

Moustafa, I. and Diep, A. (2017). Applied management for FIDIC contracts, part one: segregation pf general provisions. *PW World Journal*, vi: 1-12.

Muheesi, A., Kasenga, M., Ssebagala, C. and Namuli, J. (2023). Contract management and operational performance of the road construction sector in Uganda: Evidence from the Uganda

national roads authority. *Journal of Research Innovation and Implications in Education,* 7(2):105 – 113.

Mutua, J. M., Waiganjo, E. and Oteyo. I.T. 2014. "The influence of contract management on performance of outsourced projects in medium manufacturing enterprises in Nairobi County, Kenya." *International Journal of Business and Social Science*, 5(9): 25–33.

Mouton, J. 2001. *How to Succeed in your Master's and Doctoral Studies, A South. African guide and resource book.* Pretoria: Van Schaik.

Mudaly, NA 2017, *Business model innovation: the drivers, enablers and inhibitors of firms facing disruptive change*. MBA Mini Dissertation, University of Pretoria.

Mughal, A. N., Shahzad, A. & Hashim, R. R. (2021). Redefining contract management practices. *International Journal of Business Reflections*, 2(1): 1-19.

Muhammad, K., Saoula, O., Issa, M. and Ahmed, U. (2019). Contract management and performance characteristics: An empirical and managerial implication for Indonesia. *Management Science Letters*, 9(8): 1289-1298.

Muhwezi.M and Ahimbisibwe.A. (2015). Contract management, inter functional coordination, trust and contract performance of works contracts in Ugandan public procuring and disposing entities. *European Journal and Management*, 7(20): 76-86.

Muijs, D. (2012). *Doing quantitative research in education with SPSS*. 2nd ed. London: Sage

Muijs, R.D. (2004). Scaling procedures-Issues and applications. *British Journal of Educational Psychology*, 74(2*)*: 1-316. Available at: https://doi.org/10.1080/13803610500392236 [Accessed 28 July 2022].

Mukaani, V. (2018). Contract management practice and operational performance of State Corporations in Uganda. A case study of Uganda National Roads Authority (UNRA). Kampala International University.

Mutua, J. M., Waiganjo, E. & Oteyo, I. N. (2014). The influence of contract management on performance of outsourced projects in medium manufacturing enterprises in Nairobi County, Kenya. *International Journal of Business and Social Science*, 5(9): 25-33.

Muzapu, R., Havadi, T., Mandizvidza, K. and Xiongyi, N. (2016). Managing SOEs and parastatals in Zimbabwe: Human resource management challenges – Drawing lessons from the Chinese experience. *Management*, 6(4): 89-102.

Mwangi, C. N. (2018). *Contract management strategies in public procurement*. Master's thesis, Høgskolen i Molde-Vitenskapelig høgskole logistikk.

Mwendwa, M.M. and Ochiri, G. (2019). Influence of contract management practices on performance of State Corporation in Kenya. *International Journal of Supply Chain and Logistics.* 3 (1): 50 – 75.

Myeza, P. J. (2019). *User acceptance of systems for archiving and securing degree certificates and related documents,* PhD Thesis. University of KwaZulu-Natal. South Africa.

Nahem, J. (2019). *Financial management in South Africa: Principles and practice*. 1st ed. Juta and Company Ltd. Sandton: South Africa.

Namakula, B., Matsiliza, N. S., Chikafalimani, S. H. P., Manga, M. and Kibwani, N. (2022). The impact of contracts administration on the performance of road construction projects in Uganda: A Literature Gap. *Academic Journal of Interdisciplinary Studies*,11(6): 184-193.

Nardi, P. M. (2018). *Doing survey research: A guide to quantitative methods*. Routledge.

Narh, O. C., Owusu, E. E., Oduro-Apeatu, K. and Narh, T. W. J. (2015). An exploratory study of professional conflicts and disputes within the construction industry. *International Journal of Managerial Studies and Research*, 3(12): 44-65.

National Government of South Africa. 2023. Available at: https://www.nationalgovernment.co.za. [Accessed on 18 April 2023].

National Treasury of South Africa. (n.d). Available at: www.treasury.gov.za/divisions/sf/sc. [Accessed 10 April 2022].

National Treasury South Africa. (2010) *Contract Management Guide*. Available at: https://oag.treasury.gov.za/Publications/16.%20Contract%20Management/Guideline/Contract%20Management%20Guide%20-%20Ver%201. [Accessed 20 May 2022].

NEC3. (n.d) Available at: https://www.neccontract.com/getmedia/6a050f6a-9969-497c-8f89-7f7f9d670396/engineering-and-construction-contract-guidance. [Accessed 19 September 2022].

Ngetich, S. K. (2017). *Determinants of effective procurement contract administration in selected Public Universities in Kenya*. Doctoral dissertation, JKUAT-COHRED.

Njagi, E. G., Namusonge, G. S. and Shale, N I. (2020). Public participation in contract administration for sustainable procurement management in development system of governments in Kenya. *International Journal of social sciences and information technology,* v(ix): 72-79.

Nombembe, T. (2020). Public sector auditing in South Africa. Sandton: Juta and Company Ltd. South Africa.

Noor, S.N.A.M., Tobi, S.U.M. & Salim, K.R. (2020). Competencies of quantity surveyor professional bodies. *IOP Conference Series, Materials Science and Engineering*, 1-12.

Nsanzimana, J. and Mulyungi, P. (2018). Effect of contract management practices on performance of road construction projects in Kigali: A Case of Rwandex-Remera road construction project. *International Journal of Science and Research (IJSR)*, 7(10): 56-62.

Ntuli, B. and Allopi, D. 2013. Capacity challenges facing civil engineering contractors in Kwazulu - Natal, South Africa. *International Journal of Engineering and Innovative Technology*, 2(11): 90-97.

Nunnally, Jum C. (1967), *Psychometric Theory*, 1st ed., New York: McGraw-Hill.

Nyamasege, J. O. and Biraori, O. E. (2015). Effect of supplier relationship management on the effectiveness of supply chain management in the Kenya public. *International Journal of Managing Value and Supply,* 6(1):25-32.

Ochola, J. O. and Kitheka, S. S. (2019). The determinants of procurement contract management on organization performance. *The Strategic Journal of Business and Change Management*, 6(4): 1090 – 1098.

Okereke, R. A., Zakariyau, M. and Eze, E. C. (2021). Extension of time (EoT) claims substantiation and associated issues in complex-multi stakeholders' building construction contracts. *ITEGAM-JETIA*, 7(32): 23-31.

Oliva, F. L. (2016). A maturity model for enterprise risk management. *International Journal of Production Economics*, 173: 66-79. Available at: doi: http://doi.org/10.1016/j.ijpe.2015.12.007PMI's (2017). [Accessed 17 September 2022].

Oliveria, M. (n.d). *The management of construction agreements in South Africa*. Northwest University.

Oluka, P. N. and Basheka, B. C. (2014). Determinants and constraints to effective procurement contract management in Uganda: A practitioner's perspective. *International Journal of Logistics Systems and Management*, 17(1): 104-124.

Omran, M. E. (2019). A Review about FIDIC contracts in Saudi Arabia. *Indian Journal of Science and Technology*, 12(36): 1-12.

Opaleye, A. O., Ojelade, M. O. and Aremu, E. B. (2020). Effects of supplier relationship Management practices on performance of quoted food and beverage firms in Nigeria. IIARD *International Journal of Economics and Business Management*, 6(2): 12-28.

Oppong, W.A. (2019). Analyzing the effect of contract administration on project completion and attainment of project objectives in basic school construction in greater Accra region by free senior high school secretariat of the Ministry of Education in Ghana through adoption of Total Quality Management. *Project Management Scientific Journal*, 3(7): 138-184.

Osei, V. (2013) The construction industry and its linkages to the Ghanaian economy— polices to improve the sector's Performance. *International Journal of Development and Economic Sustainability*, 1: 56-72.

Oosthuizen, M. (2019). Inequality and the generational economy: Race disaggregated National transfer accounts for South Africa, 2015, WIDER working paper, 2019/24. The United Nations University World Institute for Development Economics Research, Helsinki. UNU-WIDER. 2019. Available at: https://doi.org/10.35188/UNU-WIDER/2019/658-6. [Accessed 11 February 2025].

Pallant, J. (2010). SPSS survival manual: A step-by-step guide to data analysis using SPSS. 4th ed. Australia: Allen and Unwin.

Panontongan. I. (2017). *Implementation of supplier relationship management framework*. Leipzig Graduate School of Management. Germany.

Patel, N. (2017). Building procurement capacity in South African state-owned enterprises: Challenges and opportunities. *International Journal of Project Management,* 35(7): 1238-1251.

Patel, S. V., Patel, A. and Marvadi, B. (2015). Need of contract administration in construction projects. *Journal of Information, Knowledge and Research in Civil Engineering*. 3(2): 231-234.

Patton, M. (2001). *Qualitative Research and Evaluation Method*. 3rd ed. Thousand Oaks: Sage Publications.

Pecherskaya, E. P., Averina, L. V., Kochetckova, N. V., Chupina, V. A. and Akimova, O. B. (2016). Methodology of contract managers' project competency formation in CPE. *International Electronic Journal of Mathematics Education*, 11(8): 3066-3075.

Pieterse, M. (2018). *Administrative law in South Africa*. Sandton: Juta and Company Ltd. South Africa.

Pillay, P. and Maharaj, R. (2017). Contract management practices within South African government departments: A case study of the KwaZulu-Natal Provincial Treasury. *Journal of Public Administration*, 52(3): 567-581.

Project Management Institute (PMI). (2017). *A guide to the project management body of knowledge*. 6th ed. Newtown Square, PA: PMI.

Poku, O.A. (2022). Supplier relationship management and firm performance: The role of operational capabilities. Kwame Nkruma University od Science and Technology. Kumasi.

Polit, D. F., Beck, C.T. & Hungler, B. P. (2001). *Essentials of nursing research: Methods, appraisal and utilisation.* Philadelphia: Lippincott, Williams and Wilkins.

Preferential Procurement Policy Framework Act (5 of 2000). Available at: http://ocpo.treasury.gov.za/Resource_Centre/Legislation. [Accessed: 15 January 2022].

Preferential procurement Regulations of 2011. Available at: http://ocpo.treasury.gov.za/Resource_Centre/Legislation/ [Accessed 17 January 202].

Prempeh, R. J. (2016). *An assessment of contract management practices in public institutions: a case study of University of Professional Studies.* Doctoral dissertation. Accra *(UPSA)*.

Prevention and combating of corrupt activities Act. (12 of 2004). Available at: https://www.google.com/search?q=prevention+and+combating+of+corrupt+activities+act+12+of+2000+pdf. [Accessed 10 January 2022].

Privitera, G. J. and Ahlgrim-Delzell, L. (2018). *Research methods for education*. Sage Publications.

Promotion of Access to Information Act (2 of 2000). Available at: https://www.gov.za/documents/promotion-access-information-act. [Accessed 10 January 2022].

Promotion of Administrative Justice Act (3 of 2000) Available at: https://www.google.com/search?q=promotion+of+administrative+justice+act [Accessed 12 January 2022].

Provost, C. and Esteve, M. (2016). Collective action problems in the contracting of public services: Evidence from the UK's Ministry of Justice. *Journal of Strategic Contracting and Negotiation*, 2(3): 227-243.

Public Finance Management Act of 1999. Available at: https://www.treasury.gov.za/legislation/pfma/PFMA%201999. [Accessed 19 April 2022].

Purdy, G. (2010). ISO 31000: 2009, setting a new standard for risk management. *Risk Analysis*, 30(6), 881-886.

Putra, P.Y.T. and Riyanto, S. (2020). The effect of education and training on the competence and performance of new employees in the sub directorate bibliography, national library of Indonesia. *International Journal of Innovative Science and Research Technology*, 5(6): 57-61.

QAHE Association. 2025. *Academy for International Modern Studies*. Available at: https://www.qahe.org/institute/academy-for-international-modern-studies-aims/. [Accessed 20 February 2025].

Qobo, M. (2018). Economic transformation in South Africa. Cape Town: HSRC Press. South Africa.

Quinot, G. (2019). *Public procurement regulation in Africa*. New York: Cambridge University Press.

Rambau, J. (2018). Rapid mathematical programming for cooperative truck networks. in: Kliewer, N., Ehmke, J., Borndörfer, R. (eds) 2017. *Operations research proceedings.* Cham, Springer. https://doi.org/10.1007/978-3-319-89920-6_43.

Rameezdeen, R. and Rodrigo, A. (2013). Textual complexity of standard conditions used in the construction industry, *Australasian Journal of Construction Economics and Building*, 1 (1): 1-12.

Rameezdeen, R. and Rajapakse, C. (2007). Contract interpretation: the impact of readability. *Construction Management and Economics*, 25(7): 729-737.

Ramlo, S. (2016). Mixed method lessons learned from 80 years of Q methodology. *Journal of Mixed Methods Research*, 10 (1):28-45.

Renault, B.Y., Agumba, J.N & Ansary, N. (2019). A Conceptual model of risk management for Predicting Success in Construction Projects. University of Johannesburg.

Rendon, R. G. (2016). *Assessment of Navy contract management processes. Acquisition Research Program*. Naval Postgraduate School. Monterey, CA.

Republic of Sudan, Federal Ministry of Health. (2016). *Joint Financial Management Assessment Report.* Available at: https://www.uhc2030.org/fileadmin/uploads/ihp/Documents/Key_Issues/Financial_Management/Sudan_Health_Sector_JFMA_Report. [Accessed 5 May 2022].

Parnham, R. (2010). *The B-Team*, *96 EUR. L AW,* 22, 22–23.

Roberts, S. and Miller, M. (2020). *Contract execution: From signature to implementation*. Oxford, UK: Oxford University Press.

Rockson, S. B., Owusu-Anane, E. and Sey, K. A. (2017). Managing supplier relationship in a typical public procurement entity in Ghana: Outcome and challenges. *Journal of Logistics Management*, 6(1): 26-33.

Roux, N.L. (2002). Public policymaking and policy analysis in South Africa amidst transformation, change and globalisation: Views on participants and role players in the public policy analytic procedure. *Journal of Public Administration,* 37(4): 418-437.

Rucha, K. M. and Abdallah, A. N. (2017). Effect of supplier relationship management on humanitarian supply chain performance at the world food programme in Somalia. *European Scientific Journal*, 13(16): 250272.

Saarekas, S. (2018). *Management of contract follow-up and reporting in international logistics case study company.* Master's Thesis. Turku University of Applied Sciences.

Sacklén, E. (2018). *Achieving competitive advantage by developing contract management*. Master's thesis. Turku University of Applied Sciences.

Sah, S.K. and Bhattarai, S.K. (2021). Study of inefficiencies in contract management practice in rural road. *Journal of Advanced Research in Civil and Environmental Engineering*, 8(3and 4): 1-8.

Sajgalikova, H., Bajzikova, L., Polakova, M. & Wojcak, E. (2012). Revisiting new managerial competences: is there enough motivation to apply them? *Procedia-Social and Behavioral Sciences*, 58:944-952.

Salkind, N, J. (2012). *Exploring research*. 8th Ed. New Jersey: Pearson Education.

Salome, O. L. (2018). *Contract management practices and performance of housing construction projects in Nairobi City County, Kenya: A Case of National Construction Authority*. Doctoral dissertation, Kenyatta University.

Sandberg J (2000) Understanding human competence at work. An interpretative approach, *Academy of Management Journal,* 43(9): 9-25.

Sandybayev, A. (2017). Strategic supply chain management implementation: Case study of IKEA. *Noble International Journal of Business and Management Research*, 1(1): 5-9.

Saragih, J., Tarigan, A., Pratama, I., Wardati, J. and Silahi, E. F. (2020). The impact of total quality management, supply chain management practices and operations capability on firm performance. *Polish journal of management studies,* 21(2): 384-397.

Sarkar. P. P (2015). *Contract management practice for the procurement of goods in the Public Sector in Bangladesh: A case study of LGED.* Master's Degree. Brac Institute of Governance and Development University.

Saunders, M., Lewis, P. and Thornhill, A., (2009). *Research methods for business students*. 5th ed. Edinburgh: Prentice Hall. Pearson Education Limited.

Schroeter, U. G. (2002). Freedom of contract: Comparison between provisions of the CISG (article 6) and counterpart provisions of the PECL. *The Vindobona Journal of International Commercial Law and Arbitration*, 6: 257-266.

Schulze, S. and Kamper, G. (2014). The use of mixed methods as reflected in two eminent South African educational research journals. *Journal for New Generation Sciences,* 10(1): 130-147.

Sekeran, U. and Bougie, R. 2009. *Research methods for business. A skill building approach*.5th ed. Chichester: John Wiley and Sons Ltd.

Sekaran, U. and Bougie, R. (2013). *Research methods for business: a skill-building approach*, Chichester, West Sussex: Wiley and Sons Ltd.

Sekaran, U. and Bougie, R. (2016). *Research methods for business: A skill building approach.* Chichester: John Wiley and Sons Ltd.

Senzu, E. T. and Ndebugri, H. (2017). Evaluating the effectiveness of the Procurement Acts in public financial administration; the case study in Ghana. Éditions Universitaires européennes.

Serongoane, T. M. and Ukwandu, D. C. (2021). Measures for the development of corporate governance practices for state-owned enterprises in South Africa. *Administration Publica*, 29(3).

Setino, R. (2018). *Alignment of supply chain management practices with policies and regulations in state owned entities in South Africa*. Doctoral dissertation, University of South Africa.

Shahsavand, P., Marefat, A. and Parchamijalal, M. (2018). Causes of delays in construction industry and comparative delay analysis techniques with SCL protocol. *Engineering, Construction and Architectural Management*, 25(4): 497-533.

Shash, A. A. and Habash, S. I. (2020). Construction Contract Conversion: An Approach to Resolve Disputes. *Journal of Engineering, Project and Production Management*, 10(3): 162-169.

Shiu, E., Hair, J., Bush, R. and Ortinau, D. (2009). *Marketing Research European Edition*. London UK: McGraw-Hill higher Education, 329-469.

Shiwa, R. I. (2014). *The effectiveness of contract management on contractors' performance-a case study of Oil and Gas Company*. The Open University of Tanzania.

Shozi, B. (2020). *Preferential procurement law in South Africa*. LexisNexis. South Africa.

Sias, P. M. and Jablin, F. M. (2020). Communication competence. *The International Encyclopedia of Organizational Communication* (1-15). Chichester: Wiley.

Siddique, L. and Hussein, B. A. (2016). Grounded theory study of the contracting process in agile projects in Norway's software industry. *The Journal of Modern Project Management*, 4(1): 53-63.

Sikunyana, Y. (2018). Conditional letters of intent: are they binding? Doctoral dissertation, University of Pretoria.

Silver, L., Stevens, R., Wrenn, B. and Loudon, D. (2013). *The essentials of marketing research*. 3rd. edition. New York*:* Routledge, Taylor and Francis Group.

Singh, P. K., Sharma, S. K., Samuel, C. and Verma, S. (2017). Supplier relationship management and selection strategies–A literature review, *4th International Conference on Industrial Engineering*, pp. 1-7.

Sithole, B. M. (2016). *Sources of disputes in South African construction contracts and the resolution techniques employed between clients and contractors*. Master's Degree. University of Witwatersrand.

Sithole, G. B. (2016). *The implementation of a health risk management strategy: the case of the KwaZulu-Natal Department of Education*. Doctoral dissertation, North-West University. South Africa), Potchefstroom Campus.

Sithomola, T. (2019). *Leadership conundrum in South Africa's State -Owned Enterprises: Critical considerations for astute and progressive leadership*. University of Johannesburg.

Smit, J. 2015. Out of the Old. Legal brief. Available at: http://www.werksmans.com/. [Accessed 30/08 /2021].

Smith, J., *et al*. (2020). Contract initiation: Strategies and processes. Cambridge, UK: Cambridge University Press.

Solomons, I. (2013). *Dispute resolution in construction contracts*. Available at: www.polity.org.za. [Accessed 13 February 2022].

South Africa. National Treasury. (2011). Preferential Procurement Regulations of 2011. Pretoria.

South Africa. National treasury. 2015a. 2015 Public sector supply chain management review. Pretoria.

South African Council for the Quantity Surveying Profession. (SACQS) (2016) Professional skills module No. 4. Manage price determination processes for built environment projects.

South African Institute of Architects. (2020). JBCC selling prices. Available at: http://jbcc.co.za/documents/free-forms/. [Accessed 30 September 2021].

State Procurement Office Contract Management & Administration. Available at: https://spo.hawaii.gov/wp-content/uploads/2013/12/spo135ContractMgtAdminRev16_07. [Accessed 20 March 2022].

Stinson, E. (2021). *Contract management 101: everything you'll need to know*. Available at: www.jaggaer.com/blog/what-is-contract-management/ - [Accessed 20 January 2023].

Streefkerk, R. (2019). Qualitative versus quantitative research. Available at: https://www.scribbr.com/methodology/qualitative-quantitative-research/. [Accessed 21 September 2022].

Struwig, W.F. and Stead, B.G. (2001). *Planning, designing, and reporting research*. Cape Town: Pearson Education South Africa.

Sullivan, G. M. and Artino Jr, A. R. (2013). Analyzing and interpreting data from Likert-type scales. *Journal of Graduate Medical Education*, 5(4): 541-542.

Suardi, I., Rossieta, H., Djakman, C. and Diyanti, V. (2024). Procurement Governance in reducing corruption in the Indonesian public approach. *Cogent Business & Management*, 11(1): 2393744. Available at: www.tandfonline.com/journal/aabm20. [Accessed 13 February 2025].

Surajbali, R. R. (2016). *Determining contract management challenges relating to supply chain management in the Eastern Cape Department of Education*. Doctoral dissertation, North-West University (South Africa), Potchefstroom Campus.

Suzuki, N. and Whorlow, J. R. (2017). A study on the conditions of contract relationship of FIDIC. In: *Proceedings of the World Congress on Engineering,* 2: 1-6.

Synodinos, C., Bevan-Dye, A. L. and De-Klerk, N. (2013). Influence of conative attitudes towards green advertising on black Generation Y students' environmental behaviour. *Mediterranean Journal of Social Sciences,* 4(3): 17-24.

Tavakol, M. and Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education,* 2: 53-55.

Tapiwa, M.A. (2019). *Reducing contract management challenges in public Sector procurement in Zimbabwe*. https://www.zbw.eu/econis-archiv/. [Accessed 30 April 2022].

Tarigan, Z. J. H, Sutjianto, H. S. A. & Panjaitan, T. W. S (2020), ``The Effect of supplier trust, supplier innovation, and buyer-supplier relationship in enhancing the supplier performance on the death service companies in Surabaya, Indonesia" *in International Conference on Logistic and Business Innovation, KnE Life Sciences*, 238--259.

Teddlie, C. and Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Sage.

Teferi, L. (2022). Study of construction contract administration in Addis Ababa city residential building projects: The case of Ajamba condominium project site. Master's Degree. St. Mary's University. Addis Ababa.

Tong, F.C. (2017). *Incomplete contracts and behaviour aspects-a case in the construction IT industries.* MBA Thesis. Gordon Institute of Business Science University of Pretoria.

Torp, O., Belay, A. M., Thodesen, C. and Klakegg, O. J. (2016). Cost development over-time at construction planning phase: Empirical evidence from Norwegian construction projects. *Procedia Engineering*, 145: 1177-1184. doi: Accessed at: http://dx.doi.org/10.1016/j.proeng.2016.04.152. [Accessed 20 October 202].

Transnet. (n.d). *Our Divisions*. Available at: https://www.transnet.net. [Accessed 20 November 2022].

Transnet SOC Ltd. (2018). Integrated report 2018. Available at: https://www.transnet.net/InvestorRelations/AR2018/Transnet IR 2018. [Accessed 10 July 2022].

Transnet. (2017). Transnet Divisions Available at: http://www.transnet.net/Divisions/Pages/DivisionsHome.aspx.[Accessed 10 July 2022].

Transnet group committee presentation. (2009). Evolution of the NEC in Transnet

Transnet Voluntary Business update (2021) [Online] Investor Relations SENS Announcements (transnet.net). [Accessed 23 February 2022].

Transnet Supply Chain Management (SCM) Policy – Goods and services procurement manual (2023).

Treasury regulations. Available at: https://www.treasury.gov.za/legislation/pfma/regulations/gazette_22219.pdf.[Accessed:10April 2022].

Tregenna, F. (2017). *Industry and inequality in South Africa.* Abingdon, UK: Routledge.

Trochim, W. M. K. (2006). *Research methods: The concise knowledge base* (5th ed.). Atomic dog publishing.

Ullah, K. Ishaq, M.M., Albalwi, D. Banyah, E., Hussain, N.F., Rasool, T. Rasool, A., Amhed, H. and Ahmed, Z. (2024). Application of game theory in modern electrical power system (a review). *AIP Advances.* Available at*:* https://doi.org/10.1063/5. [Accessed 10 February 2025].

Ullman, J.B. (2006). Structural equation modelling: reviewing the basics and moving forward. *Journal of personality assessment,* 87(1): 35-50.

University of Michigan Health System (UMHS). (2012). *Performance planning and staff development.* Available at: https://www.med.umich.edu/finance/Competency. [Accessed 30 Mach 2022].

Usengumuremyi, J. M. V., Iravo, M. A. and Namusange, G. (2024). Effect of board leadership competition of performance of public institutions in Rwanda. *Reviewed Journal International of Business Management,* 11(1), 115-126. Available at: https://doi.org/10.61426/business.v5i 1.183. [Accessed 28 January 2025].

Van der Berg. (2015). *Barriers and the success factors for the implementation of the factors of the NEC within the civil engineering industry of South Africa*. Master's Thesis. Stellenbosch University.

Van Vuuren, E. L. (2013). *Ensuring positive cash flow by prompt payment in the construction industry*. Master's Degree. University of Johannesburg.

Venter, H. (2013). The legislation governing public sector SCM. *Smart Procurement Review***,** 52-53.

Vo, K. D., Nguyen, P. T. and Nguyen, Q. L. H. T. T. (2020). Disputes in managing projects: A case study of construction industry in Vietnam. *The Journal of Asian Finance, Economics and Business*, 7(8): 635-644.

Vuuren, H. (2017). *Corruption and anti-corruption in South Africa*. Abingdon, Oxon: Routledge. United Kingdom.

Wade, E.C.S. and Bradley, A.W. (1993). *Constitutional and administrative law*. London: Longman.

Wafula, J. N. and Makokha, E. N. (2017). The influence of procurement practices on contract Management County Governments: A Case of Trans Nzoia County. *Management*, 9(25): 1-10.

Wahyudi, R., Bangun, V. S. and Muda, I. (2021). Implementation of supplier relationship management on MSMES in *Indonesia. International Journal of Multidisciplinary Research and Growth Evaluation*, 2(1): 435-437. Available at: [Accessed 30 December 2023].

Wahyuni, D. (2012). The research, design, maze: Understanding, paradigms, cases, methods, and methodologies., *Journal, of, Applied, Management, Accounting, Research*, 10(1): 69-80.

Waigwa, M. W. and Njeru, A. (2016). Factors influencing management of procurement contracts in public security agencies: A case of Kenya Police Service. *International Academic Journal of Procurement and Supply Chain Management*, 2(2): 20-40.

Wambui. N.P. (2017). *Factors affecting contract management acquisition of goods and services*. Degree in Business Management and Leadership, Management University of Africa.

Wang, S. (2017). *Definition of Incomplete Contracts*. 4th edition- Available at: https://ssm.com/abstract=281504.

Wang, W., Hu, C., Chen, N., Xiao, C. and Jia, S. (2016). Spatio-temporal risk assessment process modelling for urban hazard events in sensor web environment. *ISPRS International Journal of Geo-Information*, 5(11): 1-21.

Wang, S., Li, D., Zhang, Y. and Chen, J. (2019). Smart contract-based product traceability system in the supply chain scenario. *IEEE Access*, 7:115122-115133.

Watermeyer, R. (2014). Realising value for money through procurement strategy in the delivery of public infrastructure. In *CIDB Post Graduate Conference, University of the Witwatersrand*.

Welman, C., Kruger, F. and Mitchell, B. (2011). Research methodology. 3rd ed. Cape Town: Oxford University Press.

Wiid, J. & Diggines, C. (2011). Marketing Research. Cape Town: Juta and Company.

Wiechers, M. 1985. *Administrative law.* Durban: Butterworths South Africa.

White, L. (2017). *Contract approval procedures: A comprehensive guide*. Hoboken, NJ: John Wiley and Sons.

Wilson, V. (2014). Research methods: Triangulation. *Evidence based library and information Practice*, 9(1): 74–75.

Yadollahi, M., Mirghasemi, M., Mohamad Zin, R. and Singh, B. (2014). Architect critical challenges as a project manager in construction projects: a case study. *Advances in Civil Engineering,*1-15.

Yang, C. (2014). Does ethical leadership lead to happy workers? A Study on the impact of ethical leadership, subjective well-being, and life happiness in the Chinese culture. *Journal of Business Ethics*, 513–525.

Yeh, E. T. (2016). 'How can experience of local residents be "knowledge"?' Challenges in interdisciplinary climate change research. *Area*, 48 (1): 34-40.

Yegon, B. K. (2018). *Determinants of procurement contract management of selected State corporations in Nakuru County, Kenya*. Master's dissertation, Kenyatta University of Agriculture and Technology.

Yegon, B. and Mbeche, W. (2018). Determinants of procurement contract management of selected state corporations in Nakuru County, Kenya: *International Journal of Economics, Commerce and Management United Kingdom*, 6(5): 628-644.

Yoshida, M. and James, J. D. (2011). Service quality at sporting events: Is aesthetic quality a missing dimension? *Sport Management Review,* 14(1): 13-24.

Yusoff, M. S. B. (2011). Psychometric properties of the learning approach inventory: A Confirmatory Factor Analysis. *Education In Medicine Journal,* 3(2): 24-31.

Zakaria, Z., Ismail, S. and Yusof, A. (2013). An overview of comparison between construction contracts in Malaysia: The roles and responsibilities of contract administrator in achieving final account closing success. *In: Proceedings of International Conference on Education and Educational Technologies*, Rhodes Island, Greece.16*:*34-41. July 2013.

Zepeda, S. J. (2017). *The basics of communication research*. Boston: Cengage learning.

Zgheib, P. (2018). Multi-level framework of push-pull entrepreneurship: comparing American and Lebanese women. *International Journal of Entrepreneurial Behavior and Research*, 24 (3): 768-786.

Zikmund, W.G. and Babin, B.J. (2013) *Essentials of Marketing Research*, 5th edition. Ohio, USA: South-Western, Cengage Learning.

Zikmund, G. W. and Babin, J. B. (2018). *Essentials of marketing research*. 4th Ed. Mason: South-Western Cengage Learning.

Ziyu, W., Tahir, N., Dharm, K. and Guru, P. (2017). Risk factors for project success in the Chinese construction industry. *Journal of Manufacturing Technology Management*, 28(7), 850-866.

APPENDIX I

RESEARCH QUESTIONNAIRE

Dear respondent,

I am conducting a study on "**Determinants for Effective Contract Management in South African State Owned- Enterprises: The Case of Transnet SOC Ltd"** as part of my study at the University of KwaZulu - Natal. There are no right or wrong answers to the questions, just answer them as honestly as possible, by ticking in the appropriate box. The responses are completely anonymous and cannot be linked to you or your Department.

SECTION A: DEMOGRAPHICS

1. Gender

Male	Female

2. Education Level

Diploma	Undergraduate	Post-graduate

3. Age

18-30 Years	31-40 Years	41-50 Years	50 Years and above

4. How long have you been with your organisation?

0-2 Years	3-5 Years	6-8 Years	9 Years and above

SECTION B: CONTRACT ADMINISTRATION

Contract administration	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Administrators of contracts maintain a documentation system of every correspondence that arise before, during and after contracts					
Contract monitoring ensures mutual satisfaction to Transnet and its suppliers					
Transnet conduct periodic contract assessments					
The contract management procedures help to increase the efficiency in procurement					
Transnet maintains a contract budgeting register to avoid over expenditure in contract management					

SECTION C: EMPLOYEE COMPETENCY

Employee competency	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Employees are knowledgeable of contract management processes					
Employees are experienced to ensure effective contract management.					
Employees have technical skills to do things right the first time					
Employees are aware on how to interpret contract document					
Employees are motivated to attain organisational goals					

SECTION D: INFORMATION TECHNOLOGY

Information Technology	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Supporting procurement contract management by information technology increase effectiveness					
Information technology increases the speed of doing things					
Information technology helps to improve contract management by reducing costs.					
Information technology supports increased productivity					
Internet connections enhance effective communication with suppliers					

SECTION E: SUPPLIER RELATIONSHIP

Supplier Relationship	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Contract relationships have facilitated supplier efficiency					
Transnet has harmonized and openly discussed contract objectives, goals and planning with suppliers					
Transnet maintains collaborative management structures/teams that aid a joint approach to sustainable supply.					
Transnet maintains open and excellent communications with its suppliers					
Transnet has built mutual trust and understanding with suppliers					

SECTION F: RISK MANAGEMENT

Risk management	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Transnet involves suppliers for strategic risk management initiatives					
Transnet monitors patterns of supply chain disruptions					
Transnet has diversified global sourcing options					
Transnet implements lean management in the extended supply base.					
Transnet has clauses in its contracts to protect it from price unpredictability					

SECTION G: EFFECTIVE CONTRACT MANAGEMENT

Effective contract management	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
There is clear description of contract processes					
There is good communication and relationship between contracting parties.					
Contracts are completed to the required specifications					
There is quick resolution of issues and disputes					
There is active risk mitigation, management and resolution of issues and disputes					

END OF QUESTIONNAIRE

Thank you very much for your valued assistance.

APPENDIX II

INTERVIEW GUIDE

Section A: Demographic information

1. Designation……

2. Number of years' experience…….

3. Educational level…….

Section B: Research Questions

4. At Transnet, are there policies established to ensure the sound contract management?

5. What are the challenges in implementing the departmental contract management framework, policies and processes and procedures?

6. In your opinion, has Transnet established a sound relationship with suppliers?

7. Does Transnet have competent staff ensure good contract management?

8. Please elaborate on how Transnet has harnessed Information Technology to aid contract management activities.

9. What are common risks associated with the transport sector projects?

10. In your opinion, what can be done to limit or mitigate these risks?

11. What are the areas of improvement concerning contract management?

Thank you for your assistance.

APPENDIX III

PERMISSION TO CONDUCT STUDY

9 November 2022
No: 1 Honey Suckle Place
Glenhills
Durban North
4051

Email: [redacted]

Dear Lindiwe Xaba

Re: Request for permission to conduct research at Transnet SOC Limited

Your email of request for permission to conduct research at Transnet on "Determinants for effective contract management in South African State – Owned Enterprise: A case of Transnet SOC LTD" is acknowledged.

We note the conditions of the study to be for strict academic purposes, that the results of the study will be submitted to Transnet, and the research will be confidential and that anonymity for both respondents and the organisation is guaranteed. Should you or University of KwaZulu Natal want to publish the study in any other manner than the final assignment, Transnet will be approached for permission to do so.

Based on the above conditions, your request to conduct the research study in Transnet is granted. We are looking forward to the outcome and recommendations of your study and the positive contributions towards performance of ports at Transnet.

Yours sincerely,

[redacted]

Mr. Itumeleng Matsheka
Chief of People Management & Learning
Transnet SOC Ltd
Date: *15 November 2022*

APPENDIX IV

INFORMED CONSENT LETTER

UNIVERSITY OF KWAZULU-NATAL
School of Management, IT and Governance

Dear Respondent,

Research Project

Researcher: Lindiwe Xaba

Supervisor: Dr Vangeli Gamede] (Telephone number: [+[redacted]) (Email: [gamede@ukzn.ac.za)

Research Office: Humanities & Social Sciences Research Ethics Administration, Govan Mbeki Building, Westville Campus, Tel: + 27 (0)31 260 8350, Email: hssreclms@ukzn.ac.za

I, **Lindiwe Xaba_** am a PhD student in the School of Management, IT and Governance at the University of KwaZulu-Natal. You are invited to participate in a research project entitled:

Determinants for effective contract management in South African state-owned enterprises: A case of Transnet SOC LTD.

The aim of this study is to: evaluate the determinants of effective contract management for South African state-owned enterprises.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this research project. Confidentiality and anonymity of records will be maintained by the researcher and School of Management, It and Governance, UKZN. All collected data will be used solely for research purposes and will be destroyed after 5 years.
This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (approval number: HSSREC/00005840/2023).
The questionnaire should take about 20 minutes to complete. Thank you for your time.

Sincerely

Researcher's signature [redacted] Date : 04/09/2023

APPENDIX V

THEMES AND CODES

Themes and codes	Files	References
Challenges in contract management		
Change frequently	1	1
Lack of communication between project and contract teams	2	2
Lack of contract management skills	1	1
Lack of understanding of contract management	2	2
Lack of uniformity across departments	2	2
Long processes due to reviews	1	1
Lot of paperwork	1	1
Overspending	1	1
Policies not addressing operational issues	1	1
Rigid policies	1	1
Senior management does not abide to policy	1	1
Unclear procedures	1	1
Procedures not clearly defined	1	1
Unclear specifications	1	1
Contract management policies	0	0
Contract management policy exists	10	10
Expansion of contracts policy	1	1
Procurement construction manual	1	1
Standard operating manual	1	1
Variation of contracts policy	1	1
Employee competency	0	0
Employees are competent	6	6
Employees competent but lack resources	1	1
Employees competent but understaffed	2	2
Healthy relationship	2	2
Information technology adoption	0	0
Currently adopting some software	3	3
Increased use of information technology	1	1
Lag behind in harnessing information technology	2	2
SAP CLM software	6	6
Use of Primavera	1	1

Prevalent contract management risks	0	0
Changes in law	1	1
Delays in issuing the purchase order	1	1
Funding delays	2	2
Inadequate specifications	1	1
Lack of NEC knowledge	1	1
Limited number of suppliers	1	1
Misinterpretation of roles	1	1
Not checking contract expiry date	1	1
Poor contract performance	3	3
Slow decision making by top management	1	1
Risk mitigation strategies	0	0
Clear role definition	1	1
Clear specifications	2	2
Effective communication	1	1
Increased use of electronic systems	1	1
Refresher training for project teams	3	3
Research more on costing	2	2
Supplier training	2	2
Suggested improvements	0	0
Adequate provision of resources	3	3
Hiring experienced project managers	1	1
Improve communication	1	1
Increase human resources in NEC	2	2
Refresher NEC training	2	2
Stakeholder engagement	1	1
Training in contract management	4	4
Supplier relations	0	0
Contractor's lack of relevant knowledge	1	1
Cordial relationship	1	1
Good communication with suppliers	2	2
No strong relations with black owned firms	2	2
No strong relations with small firms	1	1

APPENDIX VI

KREJCIE AND MORGAN SAMPLE SIZE TABLE

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

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

APPENDIX VII

EDITING CERTIFICATE

DR KAREN CORBISHLEY **02May202S**

A. Comm, BTech; MTech; DPhil Mngt Sci (Mktg)

Academic Consultant and Editor

[redacted]

Re: Lindiwe Xaba. Doctoral Thesis

Determinants of Effective Contract Management in South African Stat&-Owned Enterprises: The Case ofTrammet SOC Ltd

I, Dr Karen Corbishley, the Editor, declare that I have rendered the following services as contracted by Lindiwe Xaba in her fulfilment of the requirements for her Doctoral degree at the University of KwaZulu Natal.

I have edited this thesis, checking for language, clarity, structure and flow. I have also checked and cross-checked references according to the Harvard style. A number of rec0Illll1endations were made in the above areas which the student may choose to accept or reject.

I am a freelance academic consultant and editor, with a focus on theses in the field of Management Sciences. I am in possession of a B.Comm UNP, BTech, Master's (Cum Laude) and DPhil in Management Science (specialising in Marketing). I also hold a certificate in proof reading and copy editing from the South African Writer's College. During my 30 years at DUT (culminating in Senior Lecturer), I have supervised and/or examined several Masters and Doctorates, and published a number of papers in accredited journals.

SIGNATURE:

[redacted]

Dr Karen Margaret Corbishley

APPENDIX VIII

ETHICAL CLEARANCE CERTIFICATE

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

27 July 2023

Lindiwe Dorcas Xaba (200100888)
School Of Man Info Tech & Gov
Westville Campus

Dear LD Xaba,

Protocol reference number: HSSREC/00005840/2023
Project title: Determinants for effective contract management in South African state- owned enterprise: A case of Transnet SOC LTD
Degree: PhD

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 22 June 2023 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL.**

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 27 July 2024.
To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Yours sincerely,

[redacted]

Professor Dipane Hlalele (Chair)

/dd