DEVELOPING A LEADERSHIP FRAMEWORK FOR IMPROVING CONSTRUCTION BUSINESS ORGANISATION PERFORMANCE IN SOUTH AFRICA

By

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ABSTRACT

The South African construction industry is experiencing challenging times, like its counterparts globally, which has led to the failure of known large contractors. While some studies have suggested different reasons for this, a stream of scholars argued that company leadership contributes significantly to the organisation's performance. Studies on leadership in construction have mainly been undertaken at project level, considering that construction organisations are project-based. This study examined the leadership of construction organisations and whether the traits, skills, role, style and strategic decisions of company leaders impacted on the long-term performance and sustainability of contracting firms in South Africa. The main question investigated in this study is: what combination of leadership traits, skills, style, role, and strategic decisions results in superior and sustainable construction organisation performance, when moderated by strategic decisions of CEO/company leadership? The study draws from theoretical perspectives, namely the 'upper echelons' theory, strategic leadership theory, and the Full Range Leadership Model (FRLM), to develop a conceptual framework. A convergent mixed-method research design was used to advance the investigation. Fifteen semi-structured interviews were conducted with purposively selected construction company leaders of large contracting firms in the Western Cape, in positions of Group Chairman, Chief Executive Officer (CEO) or Managing Director in major building construction, civil engineering, or geo-technical companies of good repute. The survey instrument was pretested by construction company leaders before distribution to respondents and the Crobach Alpha test was used in testing the reliability of the study responses. The cidb provided the database of the construction leaders and a survey of contractors listed in Grades 7-9 of the cidb Register of Contractors was conducted. The responses of the samples on the survey question raised on their position also attests to this. At the end of the survey period between April and September 2020, 257 responses were received, representing 56.86% response rate. The data collected were analysed using descriptive and inferential statistics, including Structural Equation Modeling (SEM), to validate the hypothesis developed that construction company leaders positively impact organisational performance through their strategic decisions on project management, change, and innovation and investment. In addition, the study also tested the hypothesis that strategic decisions mediate the relationship between construction companies' leadership components, characteristics, and construction organisation performance. The findings of this study reveal that decisions on change and innovation have the most impact to prevent business failure, and for construction organisation performance.

Whilst there are other internal and external factors that may contribute to a firm's business outcomes, the findings of the study explain that the attributes of construction business leaders and their strategic decisions play a significant role in construction company leadership and construction organisation's outcomes. The leadership of construction companies is expected to be exhibit transformational qualities, cast visions, channel new opportunities, and reposition their companies according to the current and future economic situations. The gap between expectations and performance must thus be filled by leadership through their strategic decisions that are premeditated and calculated towards the expectations and visions of the construction companies. The study thus contributes to knowledge in leadership and construction research by demonstrating how the multi-dimensions of company leadership impact construction business organisation performance. The integration of leadership personality traits, skills, style, role, and strategic decisions provides a better measure of how leadership impacts organisational performance. The leadership framework developed from the study's findings made explicit the leadership traits, skills, style and strategic roles that would assist construction company leaders to operate their organisations sustainably and devise effective succession plans. The components of the leadership framework include the strategic leadership roles that construction organisational leaders must play, using catalytic leadership skills, transformational and transactional leadership approaches and inherent leadership traits, which could be developed through education, career experiences, mentoring and training. The study is limited to South Africa, which has implications for the generalisability of results.

Keywords: Construction business, Contractor failure, Leadership, Performance, Strategic decisions, Structural Equation Modelling, South Africa.

DECLARATION STATEMENT

This research is my own work, and is in my own words (except where I have attributed it to others). I have used the APA 6th edition convention for citation and referencing. Each contribution to, and quotation in, this research from the work(s) of other people has been attributed, and has been cited and referenced. Any section taken from an internet source has been referenced to that source. I acknowledge that copying someone else's work or part of it, is wrong, and declare that this is my own work.

Signed: Signed by candidate **2021-09-03**

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DEDICATION

This thesis is dedicated to contractors, weathering the storms in challenging times.

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PUBLICATIONS ARISING FROM THE THESIS

Seven research articles (Three journal papers, three international conference papers and one workshop paper) emerged from this study. For useful and relevant feedback, top-rated journals, and conferences in the field of Construction Management, Engineering and the Built Environment and Leadership were approached and engaged. The peer-review and verbal feedback from workshop, journal and conference papers provided rich insights which further helped the author in advancing the study objectives. Alade and Windapo (2018), was a doctoral workshop presentation to different stakeholders in the construction industry. The presentation articulated the research problem for the input of academia, the public and the private sector. Alade and Windapo (2021a) is a conceptual paper that ties the constructs of the study together, proposing a direct relationship between construction company leadership components (independent variable) and construction organisation performance (dependent variable), with strategic decisions of construction company leaders as the intervening variable. Using theoretical insights, Alade and Windapo (2019) was an aspect of the study based on a literature review. It is an exploratory study which primarily addressed objectives one and two of the study. The study was awarded the best paper award at the 11th cidb Postgraduate conference, having proposed the leadership traits and styles relevant to the Fourth Industrial Revolution (4IR). Alade, Windapo and Umeokafor (2020), presented the first qualitative findings from the study. The study identified the key leadership characteristics and strategic decisions of highly experienced CEOs/leaders of 15 large construction companies in the Western Cape, South Africa using thematic analysis. It was a preliminary step towards the quantitative aspect of the study and speaks to the third objective of the study. Alade, Windapo and Wachira-Towey (2021), Alade and Windapo (2021b) deal with an aspect of the quantitative part in the study and relate to strategic change and innovation of construction company leaders in South Africa, especially “in the Fourth Industrial revolution (4IR)”. These studies suggest that leaders in a “construction organisation become change conversant” and use multiple skills to “adapt knowledge and skills to different situations”. Further, they must have the ability to handle interpersonal relationships judiciously, and “display a high level of understanding, adaptability and the ability to process and analyse information, and utilise knowledge from across many disciplinary boundaries”.

LIST OF PUBLICATIONS

Journal articles

1. Alade, K.T., and Windapo, A.O., & Wachira-Towey, I. N. 2021. Rethinking Leadership in the Fourth Industrial Revolution: Lessons for Construction Business Organisations. *Journal of Leadership Studies*. 15(1), 74-80.

2. Alade, K. T., and Windapo, A. O. 2021b. Developing effective 4IR leadership framework for construction organisations. *Engineering, Construction and Architectural Management*. 28 (5), 1377-1396.

3. Alade, K.T., and Windapo, A.O. (Accepted for publication in 2022). The moderation role of strategic decisions in the relationship between construction company leadership components, characteristics, and organisation performance. *International Journal of Construction Management.*

Conference papers

1. Alade K.T. and Windapo A.O. 2021a. A leadership and strategic decisions framework for construction company survival. In Proceedings of Construction Business and Project Management Conference, UCT Graduate School of Business, Cape Town, 24-25 June 2021.

2. Alade, K.T. Windapo, A.O., and Umeokafor, N. 2020. Sustainable contractor development: Do CEOs/company leaders make a difference? In Joint CIB WO99 & TG59 International Web-Conference 2020, Glasgow Caledonian University, Scotland September 9-10, 2020.

3. Alade, K.T. and Windapo, A.O. 2019. 4IR leadership effectiveness and practical implications for construction business organisations. In *Construction Industry Development Board Postgraduate Research Conference* (62-70), 29-31 July 2019. Springer, Cham.

4. Alade, K.T. and Windapo, A.O., 2018. Evaluation of leadership framework for improving construction organisation performance in South Africa. Construction industry development board (cidb) Doctoral Workshop held 3-4 October 2018 at the Hilton Towers, Durban, South Africa.

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LIST OF ABBREVATIONS AND ACRONYMNS

CE- Civil Engineering

CLC- Construction leadership construct

CFI - Comparative Fit Indices

CLI - Catalytic Leadership Inventory

CEO - Chief Executive Officer

Cidb Construction Industry Development Board

CR - Contingent Reward

GB - General Building

GT- Geo-Technical

FRLM - Full-Range Leadership Model

LF - Laissez-faire

LHI - Leadership HEXACO Inventory

LRI - Leadership Roles Inventory

MBA - Master Builders' Association

MBE - Management by exception

MD - Managing Director

MLQ - Multi-factor leadership questionnaire

ORP - organisational performance

RMSEA - Root Mean Square Error of Approximation

SAFCEC - South African Federation of Civil Engineering Contractors

SC I- Strategic Change and Innovation

SDM - Strategic Decision-making

SID - Strategic Investment Decision

SPM-Strategic Project Management

SEM - Structural Equation Modelling

SOM - Self-organising map

SRMR - Standardized Root Mean Square Residual

TLI - Tucker–Lewis Index

TMT-TopManagementTeam

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Introduction

This study examines a leadership paradigm for superior performance in construction business organisations, towards developing a framework for leadership and enterprise performance in South African construction organisations. In this introductory chapter, the background to the study, problem statement, research question, aim and objectives of the study, research hypotheses, significance of the study, scope, and limitations of the study are presented.

1.2 Background to the study

The significance of construction industry

Globally, the construction industry is one of significant strategic significance since it predominantly provides large investment services. It is composed of many participants including contractors, owners, consultants and suppliers. Construction is a key sector of the economy of every country and plays an important role in the development strategy of any nation (Koksa and Kale, 2002). It contributes significantly to the gross domestic product of developed and developing economies (Lopes, 1998; Durdyev and Ismail, 2012). Furthermore, Isa, Jimoh and Achienu (2013) noted that several countries put over 55% of their gross domestic investment into the creation of physical facilities, including infrastructure that is necessary for development. The construction industry in South Africa is however experiencing challenging times, like some other counterparts across the globe, which has led to the failure of well known large contractors (cidb, 2018).

Failure and underperformance of construction business organisations

According to the US Department of Commerce, construction and contracting businesses have the highest record of failure rate (Clayson, 2019). In the UK, Carillion, Clugston Group, Bardsley construction, and McGill which are all major construction service provider, have liquidated (Kelly, 2020). Similarly, Wong and Ng (2010) provided substantive evidence for the failure of Chinese construction companies based in Hong Kong. Abdel-wahab and Vogl (2011) asserted the general slowdown in productivity growth of construction when compared

to other industries in the Organisation for Economic Co-operation and Development (OECD) countries, using the UK, US and Japan as case studies. This is similar to the experience in South Africa, in which some main contracting firms such as Group Five, Basil Read, and NMC are liquidated (Kelly, 2020). Planting (2020) revealed that Aveng, one of the country's leading construction firms accumulated R3.25 billion debt in 2018, while ESOR and Liviero are in business rescue. Similarly, Murray & Roberts and Stefanutti Stocks have restructured in other to survive (Hindle, 2018).

Reasons for failure of Construction business organisations

Scholars have divergent views on the reasons for the poor performance and failure of construction businesses. Kale and Arditi (1999) observed an age-dependent failure in the U.S. construction industry, in which the risk of failure increases in the first few years of a company's life, reaches a peak point, and decreases thereafter as the company ages. Arditi et al (2000) on the other hand attributed construction company failure in the U.S to increasing global turbulence. According to Danuri et al (2006), cash flow problems, non-payment and delay in payment are responsible for failure of construction businesses in Malaysia. The cidb's (2011) report suggested that contractors' incompetence and skills shortage is . More recently, Brooks and Spillane (2015) noted economic recession and market fluctuations in Northern Ireland as responsible for construction business failure. Odendaal (2018) held the changing industry dynamics and the reluctance to adapt easily to digitization, as well as a lack of innovation as reasons for the poor performance for failure of construction business organisations while Korman and Reina (2018) suggested that high legislative loads generally make construction business too risky, unmanageable and prone to failure.

A stream of researchers (Windapo, 2018; FMI, 2016; Rivero, 2014; Ofori and Toor, 2012 and Ofori, 2008) however held that leadership in construction organisations is responsible for its success, or failure. Specifically, Ofori (2008) and Ofori and Toor (2012) articulated a major leadership challenge for the construction industry, advocating for extensive research using multi-level and multi-dimensional research designs, and country-wide collaborations, to explore authentic leadership in construction organisations across the global construction industry. In the same vein, Rivero (2014) showed that the lack of strategic leadership and the existing poor leadership within construction companies in the USA, China, UK, Sweden, and Australia, impacts construction performance negatively. The FMI (2016) study found that 76% of large contractor's failure in the U.S.A is due to poor strategic leadership, submitting that

strong leadership can serve as a cornerstone for success even in the most challenging market conditions. McIntyre (2018) also pointed that Carillion's collapse in the U.K was due to leadership failure.

Gaps in the studies of leadership in construction organisations

While the subject of leadership in construction is growing in interest in recent times, Giritli and Oraz (2004) argued that the lack of understanding of the knowledge of the construction industry on the part of social scientists and a lack of understanding of social science by those in the industry has caused a great dearth in understanding of leadership in construction. As such, it is still not known whether leadership is embedded in the orgainsational structure and culture of construction organisations, and what the attributes to maximise positive organisational outcomes are. Most of the studies on leadership in the construction context, have focussed mainly on project-level leadership (see Graham et al, 2020; Zhang and Wang, 2018; Simmon et al, 2017; Liphadzi, Aigbavboa and Thwala, 2015; Burke and Barron, 2014; Ameh and Odusami, 2014; Bull, 2010; Toor and Ogunlana, 2009; Lloyd-Walker and Walker, 2011; Müller and Turner, 2007; Sunindijo, Hadikusumo and Ogunlana, 2007). This might be due to the fact that construction organisations are project-based, and thrive on project execution. Hence, the leadership factors impacting construction organisation performance are still under-researched and there is no known substantive empirical study or a detailed leadership framework of a leader-focused assessment for companies' performance.

With this perspective, Windapo's (2018) study listed some attributes of construction organisational leaders that impact on the success of a large construction company in South Africa. The study however, was only case study-based, with limited generalisability. Against this background, this study examined the relationship between the leadership traits, styles, skills, role and strategic decisions of construction executives/company leadership, and organisational performance, towards developing a leadership framework for improving enterprise performance in construction. The study highlights the gap in knowledge about the study on leadership components in construction, the moderation role of strategic decisions as it relates to construction organisations. Further, it extends knowledge in leadership and construction management research by developing a leadership framework that demonstrates how the multi-dimensions of company leadership impact construction business organisation performance.

In this study, leadership framework is described as the basic structure underpinning the strategic decisions and leadership actions of the CEO or company leadership, for example of the construction company Chief Executive Officer. These actions set practical and consistent standards for superior performance and sustainability of the construction business organisation (Antonakis and Day, 2017; Merritt, 2017; Celik, Ozkul and Tuna, 2016; Nadkarni and Herrmann, 2010; Ballantyne, 2012; Wang, Chich-Jen, and Mei-Ling, 2010; Sydänmaanlakka, 2003; Boal and Hooijberg, 2000). Leadership has been considered a process which propels change and sometimes uncertainty in an organisational setting (Kruse, 2013; Goleman, 20000). It involves various factors such as developing a vision for the organisation; aligning people with the vision through communication; and motivating people to action through empowerment and basic need fulfilment (Alade et al., 2020) .

Scholars (Antonakis and Day, 2017; Merritt, 2017; Kruse, 2013; Pfeffer, 1977) argued that leadership is a process of social influence, employs the tools of management in a manner that yields superior results and attributes causation to individual social actors . Furthermore, given the uniqueness as well as features of the construction industry, leadership within the context is critical, and it is evident there is a greater need for leadership in construction than arguably in any other industry (Ofori and Toor, 2012). Construction is one of the most dynamic and complex industrial environments with many stakeholders, several processes and disjoints (Raiden, Dainty and Neale, 2006; Loosemore et al., 2003; Wild, 2002 and Druker et al., 1996). Professionals and bespoke teams from different backgrounds work simultaneously and temporarily, often at dispersed geographical locations. This is usually a distance from central management, and a different location each time a new project is awarded. This project-based, multi-organisational nature and unmanageability of construction affects leadership in its context (Burke and Barron, 2014; Ofori and Toor, 2012; Raiden, Dainty and Neale, 2006; Wild, 2002; Hillebrandt, 2000).

Several scholars have illustrated the power of the Chief Executive Officer (CEO)/company leadership in driving organisational performance outcomes; submitting that a firm's CEO is an important member of the firm's dominant coalition, that has profound impact on the strategic direction and performance of the firm(Windapo, 2018; Gow, Kaplan, Larcker and Zakolyukina, 2016; Peterson, Galvin and Lange, 2012; Carmeli and Edmondson, 2012; Nadkarni and Herrmann, 2010; Windapo and Cattell, 2011; Cummings, et al., 2010; Goleman, 2000; Day and Lord; 1988; Peters and Austin, 1985). Leaders differ (Gow, et al., 2016; Peterson, et al., 2012; Carmeli and Edmondson, 2012; Nadkarni and Herrmann, 2010; Bass and Bass, 2009;

Bass 2008; Sydänmaanlakka, 2003). The CEO and company leadership develop strategic decisions that either enhance or inhibit the organisation's performance in a dynamic industry context (Merritt, 2017; Celik, Ozkul and Tuna, 2016; Nadkarni and Herrmann, 2010; Ballantyne, 2012; Wang, Chich-Jen, and Mei-Ling, 2010). It is however important to note that strategic leadership is not the only element of leadership responsible for business success or failure. According to Celik et al. (2016), the strategic decisions made in any business direct and shape its future, and these decisions are influenced by several factors; in which the strategic leader is the key contributor.

Strategic decisions are infrequent decisions made by top leaders of an organisation that critically affect the organisations' health and survival (Eisenhardt and Zibarcki, 1992). These decisions are complex and long-term, concerned with the acquisition of sustainable competitive advantage, and are made at the most senior level based upon uncertain information. Moreover, they involve the setting of long-term corporate objectives, together with the formulation, evaluation, selection and monitoring of strategies designed to achieve those objectives (Campbell, Edgar, and Stonehouse, 2004). The identifiers of the CEO (role, traits, style, skills, and strategic decisions) and company leadership are examined in this study, and considered against performance in construction organisations, using an integrative approach to develop a leadership framework for improving construction business organisations performance in South Africa.

Earlier studies found that the CEO has a profound impact on the strategic direction and performance of the firm (Gow et al., 2016; Kim, Kang, and Park, 2014; Peterson, Galvin and Lange, 2012; Carmeli et al., 2012; Waldman et al.2001; Hambrick, 2005; Hambrick and Mason, 1984). They propose that the CEO sets the tone for their organisation via the vision they express, decisions they make, policies they implement and what they pay attention to in terms of measure and reward. Day and Lord (1988) prove that executive leadership explains as much as 45% of an organisation's performance. Whereas, executive leadership is concerned with the Top Management Team (TMT), Hitt and Tyler (1991) consider the CEO as the most important executive in the TMT for strategic decisions. Further, studies that treat the CEO as just another member of the TMT has been greatly criticized, claiming that everyday observation and empirical evidence indicate that the CEO has a disproportionate, sometimes dominating influence on his or her firm (Balta, Woods, and Dickson, 2010).

1.3 Problem statement

In a dynamic, volatile and complex business environment such as construction, there is an increasing challenge for organisations to survive, perform and thrive. The poor performance and failure of construction businesses, especially the large contractors globally, have been reported. There has been limited research undertaken in the context of construction to investigate whether leadership is embedded in the organisational culture of construction organisations and leadership factors, such as traits, styles, skills and strategic decisions impacting organisational performance. Hence, this study examines the CEO traits, skills, style, role/company leadership, strategic decisions, and construction organisation performance, towards developing a leadership framework for improving performance in construction companies. This is important, because construction, unlike other industries and products, is project-based, with a dynamic and complex environment that involves many stakeholders and several processes. With more theoretical understanding of the factors leading to success, there will be improved construction company survival rates.

1.4 Research question

The main question to be investigated in this study is: What combination of leadership traits, skills, style, role, and strategic decisions results in superior and sustainable construction organisation performance, when moderated by strategic decisions of CEO/company leadership?

1.5 Research aim and objectives

This study aims to examine the relationship between CEO/company leadership traits, skills, style, role, and construction business performance and whether the strategic decisions made by construction company CEOs/ company leadership moderate this relationship. The specific objectives of the study are to:

1. Identify the components of leadership in the context of construction business environment in South Africa;
2. Find out the level of performance of construction companies in the study area;
3. Determine the common construction company leadership characteristics (traits, skills, styles and strategic decisions) in the study area;

4. Understand the common types of strategic decisions made by construction leaders and their impact on construction company performance in the study area;
5. Determine the moderation role of strategic decisions in the relationship between construction company leadership components and construction organisational performance in the study area;
6. Develop a leadership framework for improving construction business organisation performance in the study area.

1.6 Research scope

While construction enterprises vary from architectural firms and building contractors to civil engineering firms, this study focuses on building, civil and geotechnical engineering contractors listed in Grades 7-9 of the cidb Register of Contractors in South Africa.

1.7 Research limitations

The study is limited by the information provided by the respondents. The interviewees' company financial records and statements were not provided to double check their financial performance. While different research instruments were used to capture the participants' leadership characteristics, a better understanding of this may have been possible by obtaining their employees' or other stakeholders' views. As such, the study is limited to the information provided by the participants.

1.8 Research hypotheses

i. Construction company leadership components and characteristics (leadership styles, traits, skills, and roles) are positively related to construction organisation performance.
ii. The strategic decisions made by the CEO and company leadership directly impact the construction organisation's performance.
iii. The strategic decisions made by the CEO and company leadership moderate the relationship between the construction company leadership components and characteristics, and the construction organisation performance.

1.9 Significance of the study

Scholars (Samimi et al., 2020; Lacerda, 2015, and Sydänmaanlakka, 2003) argue that every organisation should define its own leadership profile and select and develop its leaders according to that profile. The disruptive changes in business organisations have been noted by several scholars. Although this is not peculiar to one industry, it appears that construction is majorly affected. Studies have shown that CEOs/company leadership play a significant role in the performance outcomes of their organisations, either directly or indirectly. However, attention has not been paid to how the strategic decisions of leaders affect their organization outcomes in the construction context. Findings of this study will uncover the leadership profile and strategic decisions that impact construction company performance.

The study will prove useful in explaining why some construction organisations are surviving in difficult times, and others not, given the same business environment. This study will also extend the existing leadership theories from the main management lens, using a construction perspective. Several present-day challenges, such as global economic turbulence, pace of change, meeting increased demands and client expectations, the fourth Industrial Revolution (4IR) and the potential of emerging technologies have shown that executive leaders need to understand how best to strategically position their companies, if they are to remain in business. Hence, understanding this can help more construction executives in their strategic response to the undulating market conditions and cyclic environment of the construction industry.

Since construction is a large employer-of-labour industry, there tends to be a ripple effect on the economy, for improved construction performance (Gunhan and Arditi, 2005; Arditi and Mochtar, 2000). Further, the profiling of CEOs/ company leadership in construction companies based on the parameters that will be examined in the South African context, will benefit other developing countries and industries that are closely related to construction, who may want to benchmark the strategic decisions made by their industry leaders. In addition, this study and the framework developed will be beneficial and useful for selecting, training, and developing upcoming and future leaders of construction companies, and in identifying strategies for superior company performance.

1.10 Thesis outline

Chapter One outlines the overview of the thesis. It begins with an introduction to the research, background to the study, problem statement, the research question, aim and objectives. It also includes the research scope, study limitations, hypothesis, and significance of the study.

Chapter Two presents the review of the literature that is relevant and significant to the study. Through this, the status quo on leadership and strategy research and the research intention is summarized.

Chapter Three introduces the conceptual framework developed for the study, based on established theoretical perspectives and insights from literature.

Chapter Four highlights the research methods adopted for the study. The research process, philosophy, paradigm, and strategy are presented. In addition, the justification for the mixed method approach adopted, population, sampling selection, and analysis are presented.

Chapter Five presents the outcome of the semi-structured interviews with construction executives in the study. The results of the qualitative data analysis obtained are also presented.

Chapter Six focuses on the quantitative aspect of the study. The results from the survey of the construction executives who participated in the study are presented.

Chapter Seven presents the discussion arising from evaluation of the qualitative and quantitative data, in relation to the literature. It also introduces the leadership framework developed from the study findings. Each of the components of the leadership framework are explicated in relation to the study findings.

Chapter Eight presents the summary of findings from the study. It reiterates the research objectives and how each was achieved. Further, implications of the research findings to theory, practice, and policy are presented. Finally, the chapter ends with suggestions on potential areas for further study.

CHAPTER TWO

BUSINESS LEADERSHIP TRAITS, STYLES, SKILLS AND DECISIONS

2.1 Introduction

This chapter gives an overview of the different concepts that form the basis of this study. It explicates the review of the literature that is relevant and significant to the study. The first section of the chapter explores the status quo of leadership study from the extant literature. Using previous and current discussions on leadership in the literature, the key areas of ambiguity about the subject in organisations and specifically as it applies in construction were shown. Further, the myriad of studies on strategy, strategic decisions and organisation performance were also presented.

2.2 The concept of leadership

Leadership is the topic of a vast literature, central concern, and universal appeal; and has been extensively researched (Northhouse, 2019; Marturano and Gosling, 2007). As a field of study, leadership has expanded dramatically in recent years in more organisations, due to its recognized importance in the twenty-first century (McManus and Perruci, 2015). Researchers have argued whether leadership is an art or science, a process or position, and wondered which type is the best (Graham et al., 2020; DePree, 2011; Jones, 2006). This has brought about several theories, cumbersome definitions, and numerous classifications of the subject. Leadership can be described as a process of social influence that employs management tools to yield superior results and attribute causation to individual social actors (Northhouse, 2019; Kruse, 2013; Lunenburg, 2011). It is the art of influencing people to accomplish organisational goals (Antonakis and Day, 2017; Merritt, 2017; Kruse, 2013; Pfeffer, 1977). According to Holladay and Coombs (1993), leadership is a behaviour enacted through communication, which shapes the perceptions of a leader's charisma. It also elicits the leader's vision to win the followers' confidence (Pavitt, 1999). Leadership theories have developed along separate tracks that have never fully or usefully converged, although each track provides a distinct dimension and set of requirements for effective leadership (Gill, 2002). In only the past 50 years, there have been as many as 65 different classifications of leadership dimensions, and the more than 90 variables uncovered were still not enough to understand the subject (Winston and Patterson; 2006; Sydänmaanlakka, 2003). There are over 300 definitions of leadership, yet

there is no single and unanimous definition (Albloshi and Nawar, 2015). Researchers have explored leadership as an art, science, process, position, considering different approaches of how individual or groups operate, to promote informed research agendas that align industry needs to theory and practice (Graham, et al., 2020; DePree, 2011; Jones, 2006; Fairholm, 2004; Goleman, et al., 2002).

Table 2.1 shows how researchers have conceived leadership from past to present. Leadership research began empirically with the trait theorists (Sheldon, 1942; Stogdill, 1948) in the 1940s, who studied leader qualities, actions, and what differentiates leaders from followers. The study of leadership continued with the behavioural theories in the 1950s and 60s, which showed how leaders influence followers through their behaviours (Fleishman, 1953; Stogdill, Goode and Day, 1962). The leadership contingent theories were prominent in the 1960s-2000 (Blake, Mouton & Bidwell, 1962; Korman, 1966). The focus of these proponents was on leadership in a particular situation or context, and it incorporated followers and their relationships. More recently however, leadership studies (Simmons, et al., 2017; Graham, et al., 2020; Samimi, et al., 2020) have incorporated identity-based, environmental, and systemic considerations.

Table 2.1: Concepts of leadership and the elements used from the 1940s to date

Period	Definition/Element	Description/Focus
1940s 1950s	Trait theories	Who is a leader? How are leaders distinguished from their followers.
1950s -1960s	Behaviour theories	What skills are important to impact followers?
1960s -2000	Contingent theories	How is the success of a leader recognised in context?
2000 -present	New theories	Where are the relational approaches of the leader, follower, and system.

Adapted from (Simmons, et al., 2017).

2.2.1 Leadership versus management

Scholars (Lunenburg, 2011; Kruse, 2013; Algahtani, 2014) argued that leadership is different from management. There is evidence that leadership is an aspect of management and the key driver responsible for organisational change and effectiveness (Kotter, 2001; Samimi et al., 2020; Antonakis and Day, 2017; Bull, 2010; Goleman, 2000; Bass, 2008). The management

process of organisations is engaged to reduce uncertainty and stabilize the organisation (Kruse, 2013; Lunenburg, 2011). In contrast, the leadership process creates uncertainty and change in the organisation since it involves various factors such as developing a vision for the organisation; aligning people with the vision through communication; and motivating people to action through empowerment and basic need fulfilment (Kotter, 2001; Goleman, 2000; Alade et al., 2020). Given that leadership behaviours are a subset of the personality models, scholars (De Vries, 2018; Lo, 2017; Judge, et al., 2009; Antonakis et al., 2012; Zaccaro, 2012) have called for a closer integration of leadership and personality research into organisation performance. Lacerda (2015) pointed that leadership effectiveness in any organisation is a multi-dimensional construct comprising of four dimensions: traits, skills, behaviours, and processes. Hence, the following sections examine these different characteristics and components that have been used in defining leadership.

2.2.2 Leadership traits

Leadership traits are the natural or acquired ability to lead, and are the innate qualities that differentiate leaders from followers and non-leaders (Lo, 2017; Gow et al., 2016; Lord, 2012; Strang, 2007). Proponents considered leadership traits as patterns of stable attributes that form the personal characteristics of the leader and are necessary to influence people towards organisational goals (Strang, 2007; Sunindijo et al., 2007; Gehring, 2007). The leadership trait perspective is perhaps the most venerable intellectual tradition in leadership research (Judge, et al., 2009). The empirical study of Lo (2017) revealed that personality traits form the foundational antecedents to leadership. While the trait theory has been criticized due to the unpredictability of the environment that may necessitate changes in the behaviour of leaders, there is a consensus emerging around the "HEXACO" concept (Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to experience) (Breevaart and De Vries, 2017; Gow, et al., 2016; Carmeli, et al., 2012; Peterson, et al., 2012; Weller and Tikir, 2011; Nadkarni and Herrmann, 2010).

Honesty-Humility (H) leadership trait

Honesty-Humility, or H dimension, is the genuineness of leaders in relationships with others, and includes the extent to which the leader is unwilling to manipulate, avoids fraud and corruption and is ethical in business decision-making (Breevaart and De Vries, 2017; Lee and Ashton, 2012). However, using others for personal gains, willingness to cheat and steal, seeing

others as less superior and being unethical in business decision-making are indications of low Honesty-Humility in leaders (Van Gelder & De Vries, 2012). Weller and Tikir (2011) acknowledged that leaders who are low on "honesty-humility tend not to feel bound by traditional rules and restrictions, and are more inclined to violate societal conventions, laws, and norms". Lo (2017) also included fairness, sincerity, modesty, and greed-avoidance in the 'H' leadership trait.

Emotionality (E) leadership trait

Emotionality or emotional adjustment is the ability of leaders to adjust their emotional states to varied situational demands and to remain calm and balanced in stressful situations" (Nadkarni and Hermann, 2010). De Hoogh et al. (2005) observed that leaders high in emotionality are emotionally stable and effective in dynamic situations but not for stable tasks. Further, they remain calm and provide focus in dynamic situations, shift focus to initiate appropriate actions to deal with unpredictable situations, and act decisively in crises (Peterson, et al., 2003). This is similar to the study of Weller and Tikir (2011) which implied that leaders high on emotionality tend to make more appropriate decisions in unpredictable situations than in stable ones, while those who are low in emotionality makes better decisions in stable environment. Nadkarni and Hermann (2010) established that the CEO emotionality enhanced firm performance by fostering strategic flexibility.

Extraversion (X) leadership trait

Extraversion, or X in the HEXACO concept, is the ability of the leader to generate positivity and enthusiasm among employees, and implies ambition and getting ahead (Lo, 2017). Leaders high in extraversion are sociable, optimistic, assertive, and energetic (Weller & Tikir, 2011). Their optimistic view of the future is believed to have allowed them emerged as group leaders (Bono et al., 2002; Stogdill, 1948). However, Judge et al. (2009) noted that short-lived enthusiasm of extreme extroverts can result in aggressive strategies that tend to be prematurely terminated. In performance tests, Gow, et al (2016) found extraversion to be negatively associated with a firm's performance, suggesting that leaders who are high on extraversion affect the firm's strategies, policies, and performance in a negative way. The negative results on extraversion also suggest overconfidence (Malmendier et al., 2011; Malmendier et al., 2005). Again, the negative association between extraversion and performance is consistent with the argument that extroverts like to dominate, and the benefits of extraversion are conditional

upon obedience and submissiveness from others, that may not help decision-making in the corporate setting (Gow et al., 2016).

Agreeableness (A) leadership trait

Agreeableness is the tendency of the leader to get along with others, be compliant and avoid conflict (Gow et al., 2016). This leadership trait includes four facets: forgiveness, gentleness, flexibility, and patience (Lo, 2017). Some studies (Judge et al., 2009; Nadkarni and Herrmann, 2010) revealed that agreeable leaders lack decision-making effectiveness, since they may easily yield to others' views. Further, Lo (2017) suggested that agreeable personalities tend to be meek and timid, which is subordinate to leadership criteria. Nadkarni and Herrmann (2010) stated that medium levels of agreeableness allow CEOs to optimally balance these opposing mechanisms to maximize strategic decisions, whereas very high levels of agreeableness induce passivity and compliance. Some studies (Bono & Judge, 2004) indicated that agreeableness relates positively to the effectiveness of the team, and the functionality of leaders. The results of Nadkarni and Herrmann (2010) however showed that agreeableness undermines the firm's performance by inhibiting strategic flexibility. Similarly, Kaplan et al. (2012) do not find any relation between firm performance and characteristics related to agreeableness.The relationship between leader agreeableness and the ability to bring about change is ambiguous (Judge & Bono, 2000). Leaders high on agreeableness have been noted to focus more on what employees think of them, than on accomplishments, thus avoiding conflict at all costs (Nadkarni & Herrmann, 2010).

Conscientiousness (C) leadership trait

Conscientiousness reflects the degree to which the leader shows dependability and an achievement orientation (Nadkarni and Herrmann, 2010). A leader who is high in conscientiousness will create a fair work environment and show more ethical behaviours (Breevaart and De Vries, 2017). Further, conscientious CEOs are likely to rely strongly on dependable, tried-and-true strategies (Gow et al, 2016). Several extant studies argue that highly conscientious CEOs are less attracted to innovative cultures that value risk-taking and inventiveness (Judge and Cable, 1997, O'Reilly et al., 2014a), which is likely to result in lower growth. Extant studies showed that conscientiousness weakens the firm's performance, since conscientious CEOs rely almost exclusively on known strategies and selectively ignore new and unique strategies that challenge their existing assumptions (Nadkarni & Herrmann, 2010).

As such, they are likely to develop narrow fields of vision and a selective perception bias that predisposes them to ignore environmental stimuli that do not match existing assumptions. There is also empirical evidence that the positive association between conscientiousness and Book-to-market (i.e., low growth) is consistent with the CEOs preference for rules and low adaptability (Nadkarni & Herrmann, 2010).

Openness to experience (0) leadership trait

Openness to experience encompasses intellectual curiosity and the ability to think creatively (Lo, 2017). Hence, individuals who score high on openness to experience are intellectually curious, open to stimuli, value unusual thought processes, and are innovative and creative (Gow et al, 2016). Specifically, leaders open to experience have a strong need for change and are highly capable of understanding and adapting to others' perspectives (Gow et al., 2016). Such leaders have also been linked with innovation, need for change, coping better with change, and capable of understanding and adapting to other perspectives (Judge et al., 2002). Moreover, the CEOs' openness to new experiences is central to promoting strategic adaptation in dynamic environments (Datta et al., 2003). Thus, open CEOs are likely to minimize selective perception and interpretation biases, which inhibit strategic flexibility in decision-making (Johnson et al., 2003). There is evidence in the literature that the CEO openness and strategic flexibility has a positive effect on firm performance (Nadkarni and Herrmann, 2010). Some research struggled to find an empirical link with openness to experience and the CEO success (for example Boudreau et al., 2001). Studies (Judge et al., 2002; Gow et al., 2016; Hautz, 2017) have also shown that openness to experience is positively related to leadership in business settings.

2.2.3 Leadership styles

The concept of leadership style originally emerged from the work of Burns and Ward (1978), theorizing that leader raises their followers to higher levels of morality and motivation. Leadership style is the leader’s approach to providing direction, implementing plans, and motivating people for possible organisational outcomes (Serrat, 2021; Kotter, 2001; Avolio, Yammarino and Bass, 1991). The appropriate leadership style is an important factor influencing the leaders’ effectiveness (Sadeghi and Pihie, 2012). The literature revealed that leaders will vary in style based on the environment, the followers in question and the anticipated outcomes (Serrat, 2021).

Transformational leadership

Yammarino (1993) identified idealized influence, inspirational motivation, intellectual stimulation, and individualized thought as aspects of transformational leadership style. The study showed that solitary individualized thought relates to work fulfilment. Hayati et al. (2014) described the impact of transformational leadership and its part in the work commitment of workers.Discoveries from their investigation demonstrated that the impact of transformational leadership on work commitment and its aspects is positive and critical. The examination additionally revealed that transformational leaders transfer their excitement and high capacity to their subordinates, which can build up work commitment in the workers. It was deduced in the investigation that the workers' admiration for the impact of these leaders can shape a particular conviction amongst them, including the employees' attitude toward those leaders, and the leaders can therefore easily communicate their moving inspiration to them. The causal relationship of transformational leadership on employee commitment was displayed by Mahfouz et al. (2019). Their examination discovered that transformational leadership contributed a positive and huge effect on employee commitment. The effect of transformational and transactional leadership styles on workers' organisational commitment in Malaysia was analysed by Lo et al. (2009). The investigation showed that some elements of transformational and transactional leadership have a positive relationship with organisational commitment, though the effects are more grounded for a transactional leadership style.

Transactional leadership

Transactional leadership focuses on the exchanges that occur between leaders and followers (Bass and Bass 2009; Burns, 1978). These exchanges allow leaders to accomplish their performance objectives, complete required tasks, maintain the current organisational situation, motivate followers through contractual agreement, direct the behaviour of followers toward achievement of established goals, emphasize extrinsic rewards, avoid unnecessary risks, and focus on improved organisational efficiency (Mcleskey and Waldron, 2015). Further, transactional leadership allows followers to fulfil their own self-interest, minimize workplace anxiety, and concentrate on clear organizational objectives such as increased quality, customer service, reduced costs, and increased production (Sadeghi and Pihie, 2012). There are two components of the transactional leadership in the FRLM, contingent reward (CR) and management by exception (MBE). CR describes the degree to which the leader determines

rewards to acknowledge followers' efforts to satisfy organisational goals. It also includes clarification of the work required to obtain rewards, and the use of incentives to influence motivation (Sadeghi & Pihie, 2012). MBE describes the management style of a leader who actively monitors the follower's progress to correct the mistakes identified as soon as possible. The leader adjusts the course of action, thereby correcting the situation. The transactional leadership style has been criticized for its short-term nature as it relates to relationships of exchange with the leader. Further, shallow, temporary exchanges of gratification often create resentment among the participants. Additionally, several scholars criticized transactional leadership theory because it utilizes a one-size-fits-all universal approach to leadership in construction that disregards situational and contextual factors related to organisational challenge.

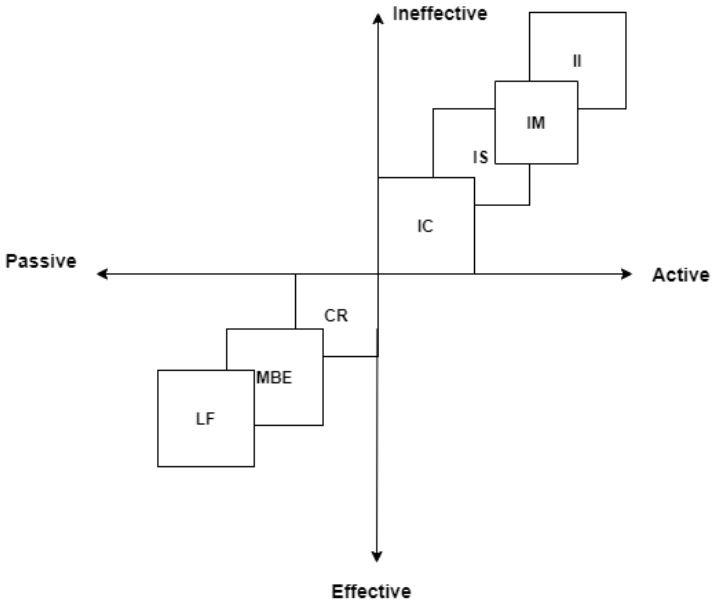
Laissez-faire leadership

The *Laissez-faire (LF)* style of leadership is a redundant and unproductive leadership style (Antonakis et al., 2003). Studies (Opoku et al., 2015; Chan and Chan, 2005) have shown that leaders with this style abdicate their responsibility and avoid taking actions. Specifically, (Chan and Chan, 2005) pointed that a laissez-faire leader avoids giving feedback and rewards to their subordinates, and the leader avoids any participation in discussion. Leaders who adopted this approach of leadership also avoid situations where they have to take decisions regarding important matters (Limsila and Ogunlana, 2008). As a result, this leadership style is rarely exhibited among construction professionals (Chan and Chan, 2005). Construction researchers are also studying the potential harm it might cause to the industry (Hinkin and Schriesheim, 2008).

2.2.4 Full-Range leadership Model

The Full-range leadership model condenses all leadership approaches into Transformational (motivation, stimulation, and influencing); Transactional (management-by-exception and contingent reward) and Laissez-faire behaviours (Antonakis and Day, 2017). It is the predominant approach to explaining leadership (Sadeghi and Pihie, 2012). According to Serrat (2021), FRLM differentiates effective from ineffective leaders at all organisational levels. In doing so, the research stream on FRLM dominates the field of leadership research in terms of published papers (1990 to date) and remains most popular for its understanding of leader effectiveness.

Renjith et al. (2015) criticized this leadership theory, because it is difficult to teach and can lead to self-promotion of the leader. However, other scholars (Sadeghi and Pihie, 2012; Yammarino et al., 1993) agree that it is a relevant theory for understanding the behaviour of leaders towards providing direction, implementing plans, and motivating people. The features of the FRLM are presented in Figure 2.1 and further expounded in the following sub-sections.



KEY:

II- Idealized Influence

IM-Inspirational Motivation

IS- Intellectual Stimulation

IC- Individualized Consideration

CR- Contingent Reward

MBE-Management by Exception

LF- Laissez-faire

Figure 2.1 Full-Range Leadership Model (*Adapted from Renjith et al., 2015).*

Idealized Influence (II)

This component is described as the "charisma" in transformational or superior leadership performance (Bass,1990). It (II) encompasses the behaviour of the leader that inspires trust in the subordinate (Yammarino, et al., 1993), and includes the ability of the leader to raise standards frequently, take calculated risks, and get others to join them in their vision of the future (Bass, 1990). According to Morley (2020), II can be best expressed through the leader's ability to follow a core set of values, convictions, and ethical principles, making subordinates want to become more like the leader in accomplishing the organisational vision.

Inspirational Motivation (IM)

This second component of FRLM relates to the transformational leader's ability to inspire a sense of purpose in their followers and commit them to the organisational vision (Yammarino, *et al* 1993). Renjith et al. (2015) noted that aligning individual needs with the

organisational needs is an essential strategy of inspirational motivation. Using this factor, the leader articulates a clear vision for the future, communicates expectations of the group and demonstrate a commitment to the goals set out (Morley, 2020). This component also helps the leader to maintain a positive attitude, optimism, and enthusiasm.

Intellectual Stimulation (IS)

This third component describes the transformational approach to modeling new ways of thinking and motivating subordinates to take risks by displaying genuine interest in their efforts to be innovative (Bass, 1990; Yammarino et al., 1993). The leader also encourages performance by involving subordinates in the decision-making process and creating an environment receptive to change, growth and new ways of thinking. It is, in part, coaching and mentoring to subordinates (Morley, 2020).

Individualized Consideration (IC)

This component in the FRLM describes the ability of the transformational leader to recognise the unique needs of subordinates (Morley, 2020). IC refers to the attribute of being a compassionate leader, which allows the leader to treat each member of the organisation individually (Renjith et al., 2015). The component is often commitment-based and allows the leader to provide individual feedback to committed team members through coaching and mentoring sessions, to assist them in reaching their full potential (Yammarino, et al., 1993).

Contingent Reward (CR)

This component is linked with the transactional leadership style (Bass, 1990). It is the ability of the leader to exchange or reward effort of subordinates, recognise accomplishments, and reward good performance (Renjith et al., 2015; Yammarino et al., 1993). Further, CR describes the degree in which the leader determines rewards in exchange with followers' efforts to satisfy organisational goals and includes clarification of the work required to obtain rewards and the use of incentives to influence motivation (Sadeghi & Pihie, 2012).

Management by Exception (MBE)

This is a transactional leadership component focusing on the exchanges that occur between leaders and followers (Renjith et al., 2015; Bass and Bass 2009; Burns, 1978). MBE describes a leader who actively monitors the follower's progress to correct the mistakes identified as soon as possible. The exchanges allow leaders to accomplish their performance objectives, complete required tasks, maintain the current organisational situation, motivate followers

through contractual agreement, direct behaviour of followers toward achievement of established goals, emphasize extrinsic rewards, avoid unnecessary risks, and focus on improve organisational efficiency (Mcleskey and Waldron, 2015). The passive MBE component allows the leader to watch and search for deviations from rules and standards to take corrective action (Yammarino et al., 1993). This might be in form of reprimands or punishments. The passive MBE leader, however, only intervenes when standards are not met (Bass, 1990).

Laissez-faire leadership (LF)

Scholars (Bass, 1990; Antonakis et al., 2003) defined this component as inactive, passive, and unproductive leadership style or non-leadership. It is characterized by leaders using their authority to abdicate responsibility, avoid leading and avoid taking actions (Opoku et al., 2015). This leadership style not only avoids making decisions, but also avoids giving feedback, and gives no rewards to their subordinates for any participation in discussion (Chan and Chan, 2005). Leaders who adopt this approach avoid situations where they have to take decisions regarding important matters (Limisila and Ogunlana, 2008). Consequently, this leadership style is not broadly used by the professionals in the construction industry (Chan and Chan, 2005).

2.2.5 Leadership skills

The proponents of the leadership skills theory argued that organisational leadership skills are capabilities and competencies that can be developed and improved over time, through formal or informal education, practice, and experience (Mumford et al., 2000; Mumford et al., 2007). Social judgement skills, such as communication and persuasion, negotiation, conflict management, social perceptiveness, behavioural flexibility, and coaching help leaders to understand the social context and respond to the dynamics of the environment. The leadership skills strataplex (Mumford et al., 2007) shown in Figure 2.2 suggested that different leadership skills are required at different levels of the organisation. For instance, cognitive skills such as investigating, monitoring, information gathering and disseminating, are general and basic cognitive capacities which are required at junior levels of the organisation. At the mid-level of organisational leadership however, interpersonal skills such as supervision, negotiating, human relations, people orientation, social complexity, social judgment and social capacities are required. Business skills such as coordination, staffing, resource allocating, technical know-how, and technical expertise are also essential at this level. The senior level of the organisation requires strategic skills, which are highly conceptual, to take a systems perspective. This aids in understanding complexity, dealing with ambiguity, and effecting influence in the

organisation. These strategic skills include planning, evaluating, decision-making, problem solving, exercising cognitive complexity, having intellectual competence, using a systems perspective, acting as a figurehead, being a spokesperson, networking, problem solving and using other higher cognitive capacities.

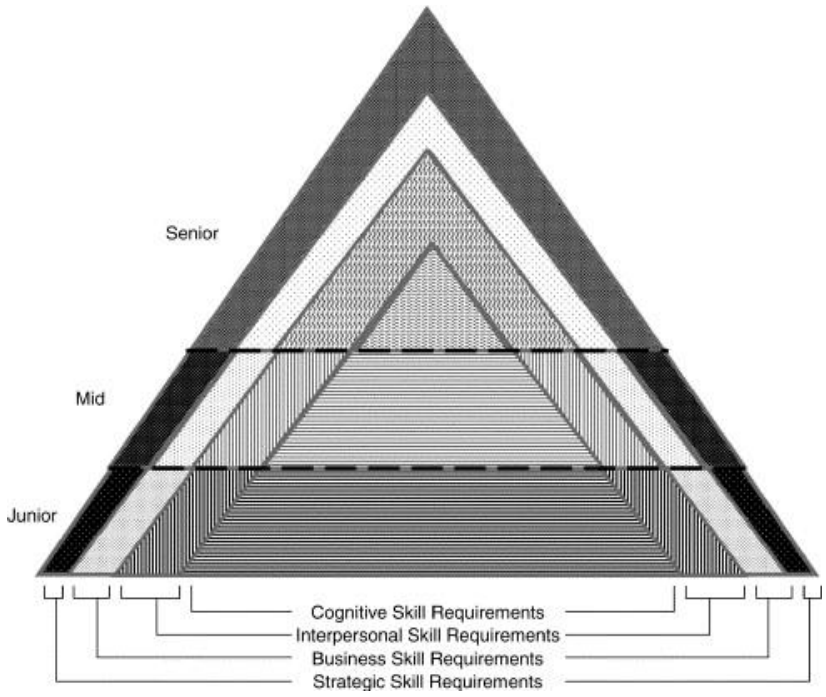


Figure 2.2: The leadership skills strataplex *(Source: Mumford et al., 2007).*

Based on in-depth interviews of 80 highly successful leaders in business, sports, and arts, Toomer et al. (2018) revealed twelve catalytic skills for leader performance and organisational effectiveness. They submitted that catalytic leaders could cascade communication across the organisation and inspire new ways of working, despite challenges, to achieve the organisation's highest aspirations. There are 12 leadership skills which were further clustered into four cornerstones, described in the section below.

Building Credibility

Effective leaders build credibility by communicating clearly, speaking actively, writing clear and concise messages, and listening closely for understanding (Lacerda, 2015; Toomer, et al., 2018). Further, they energize others with a confident, hope-filled outlook on the future and convey a can-do attitude (Toomer et al., 2018). Bass and Steidlmeier (2006) pointed that transformational leadership is often unethical, and must be grounded in a moral foundation to

be authentic. Effective leaders therefore live authentically and demonstrate ethical principles in a manner that promotes trust (Toomer et al., 2018; Thiel et al., 2012).

Creating Cohesion

Leaders are leaders because they have followers and a common goal to achieve, and studies (Batool, 2013; Liden and Antonakis, 2009; Goleman, 2000) reflected that emotional intelligence impacts upon organisational goals. Further, intelligent implementation of emotions is required for leaders to be effective and efficient in any organisation. As Hersona and Siharta (2017) suggested, a cooperative attitude has a strong influence on motivation, because it motivates employees to give their best performance. As such, connecting emotionally, developing camaraderie, and putting organisational mission before personal interests are key skills for catalytic leaders. Toomer et al (2018) stated that organisational leaders connect to the emotional signals, respond empathetically, and establish a positive rapport with subordinates.

Generating momentum

This leadership cluster shows that leaders play motivational roles to achieve organisational objectives. Toomer et. al (2018) identified the activities of energizing others to execute the objectives of the organisation, upgrading and rejuvenating skills and knowledge, as well as leading or following, depending on the situation, as the catalytic skills requirement for leaders in this category. According to Ateş et al. (2019) leadership is key to strategic change since it not only sets the strategic direction, but also tells a story about why the change is worth pursuing. In so doing, the people (workers) are inspired to embrace the change. Hersona and Siharta (2017) found that seeking and acquiring leading-edge knowledge and expertise helps the leader to be more impactful. The leader must also be able to demonstrate respect for the abilities of others by allowing them to lead in the area where their knowledge and expertise are well suited to the task.

Amplifying impact cluster

This leadership cluster is the ability of the leader to lead with steadiness and urgency as necessary (Toomer et al., 2018). Consistency of top executives is continually linked to strategic direction of organisations (Nahavandi and Malekzadeh, 1993). Peters and Austin (1985) noted that the passion for excellence is the hallmark of leadership. As such, pursuing excellence, mentoring, and coaching others to excel, and proposing imaginative solutions, are the catalytic leadership skills requirements for amplifying impact in organisations (Toomer et al., 2018). Leaders demonstrate extensive knowledge and competence and advocate high-calibre

performance of others. In addition, catalytic leaders model exemplary behaviour and support the persona and professional development of the team members by providing constructive advice. Another way in which catalytic leaders amplify impact is by presenting creative, imaginative, and value-adding ideas for solving problems and achieving objectives (Toomer et al., 2018).

2.2.6 Leadership roles

Leadership roles are the responsibilities that leaders have in the evolution, development, success, and sustainability of their organisations (Abass and Asghan, 2010; Opoku and Fortune, 2011). Chan et al. (2014) submitted that academics and practitioners tend to focus on the technical skills of construction professionals and ignore the importance of their leadership roles in a project or an organisation. Figure 2.3 drawn from the literature (Batra and Hyde, 2020; Abass and Asghan, 2010 and Suresh et al., 2008) showed that organisational apex leaders play key and central role in the overall organisational performance. These roles can be classified as structural, motivational, internal, and external. The structural and motivational roles relate to mode. The structural roles are fundamental, relating to planning activities: it includes vision setting, strategic decision-making and probing with curiosity (Borkovskaya, 2018; Samimi et al., 2020). The motivational roles include efforts to commit team members to the achievement of the organisational goals. Such roles include communicating the vision, educating the team, and motivating the team through coaching and mentoring (Batra and Hyde, 2020). The internal and external roles of the organisational apex leaders relate to the boundary of the efforts of the leaders. While the internal roles include modelling the company values, helping to adapt to change and performance evaluation, the external roles include developing trust, networking and collaboration with external constituencies and providing and receiving feedback (Abass and Asghan, 2010; Suresh et al., 2008).

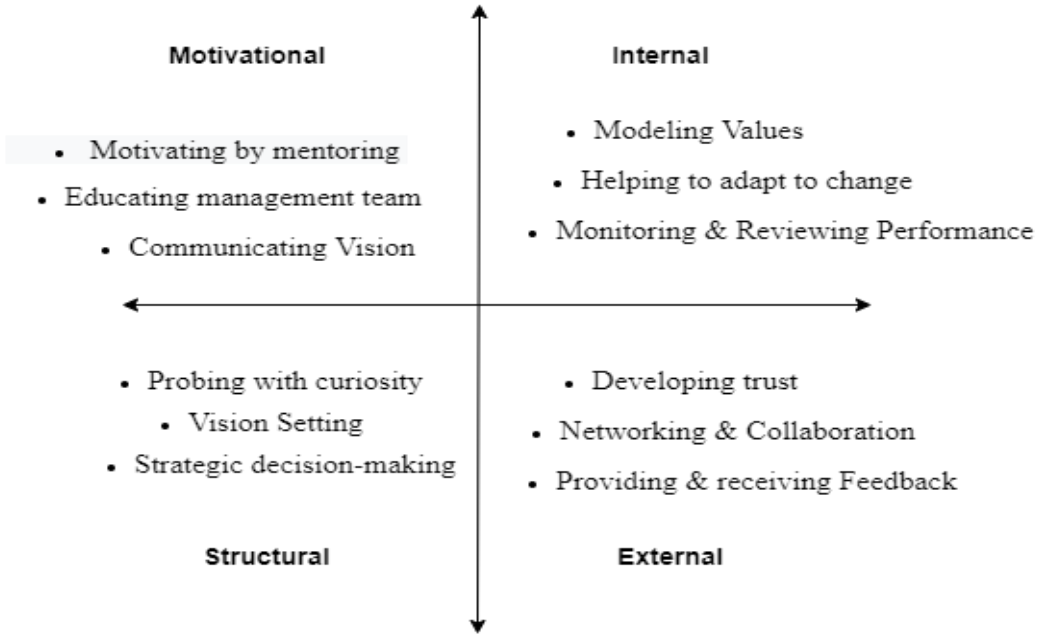


Figure 2.3: Leadership roles developed from literature: (Opoku and Fortune, 2011; Abass and Asghan, 2010; Suresh et al., 2008; Samimi et al., 2020; Batra and Hyde, 2020).

2.3 Components of leadership in the construction business environment

Components of leadership are the qualities that enhance the leader's effectiveness when exhibited, reducing the risk of failure in the construction enterprise, and leading to superior performance (Bradley, 2013; FMI, 2016; Muda et al., 2017; Borkovskaya, 2018). In the construction context, difficulties, for example, with managing different project groups and stakeholders, changing dynamics in the project environment, the Fourth industrial revolution (4IR) and identifying with the labour force, is making leadership become more crucial (Ismail and Fathi, 2018; Zhang, 2018; Batra and Hyde, 2020; Alade and Windapo, 2021). Table 2.2 shows recent studies on leadership in construction context, the components and study limitations. The Transformational leadership paradigm based on the Multi-factor Leadership Questionnaire (MLQ) has been mostly revered. Limsila and Ogunlana (2008) established transformational leaders produce higher leadership outcomes on projects. Other studies (Suresh et al., 2008; Toor and Ofori, 2008; Chan et al., 2014; Muda et al., 2017; Alade and Windapo, 2021) researching component of leadership in the construction sector have zeroed in from general management, Project Management, well-being of the workers, ethics, and the leadership in the Fourth Industrial revolution.

For general management, leaders will in general be able to develop a vision and influence others through communication (Limsila and Ogunlana, 2008). In addition, they possess awareness of climate, higher flexibility, accomplishment, desire, conclusiveness, decisiveness, autonomy, energy, determination, fearlessness, stress resistance, drive to practice drive and ability to acknowledge obligation than non-leaders (Muda et al., 2017). Suresh et al. (2008) concluded that leaders must serve as visionary in helping their people understand the importance of knowledge management initiatives in construction organisations. Likewise, Nasaruddin and Rahman (2016) noticed that the component of leadership in construction sector involves visioning, group building, dynamic, planning and technique expertise, and correspondence ability. In an assessment of the initiative competency profiles of effective undertaking administrators in various kinds of tasks, Tabassi et al. (2016) hypothetically broadened initiative capabilities of undertaking administrators to incorporate vision, creative mind, basic examination, and judgment, enabling, resource management, connecting with correspondence, creating, accomplishing, forms followers into leaders, and ability to rouse followers to go past their limits. The examination suggested that transformational leadership components are helpful in seeing how leadership practices impact the success and sustainability of construction projects.

Table 2.2 Past studies on leadership components in construction context

Leadership in construction		**Major findings on components and limitations**	**References**
1.	General management	Transformational leadership is positively associated with Knowledge Management and Safety Management initiatives, innovation climate, creativity, and improves the competitive advantages of construction companies. Components include Creation of vision, ability to influence others through communication, and consistency in building trust. The Multi factor Leadership Questionnaire (MLQ) has been most frequently used. The use of other instruments, or several instruments at the same time, has been recommended.	Limsila and Ogunlana, (2008); Suresh et al. (2008); Chan et al. (2014); Nasaruddin and Rahman (2016); Muda et al. (2017).

2.	Project leadership	Transformational leadership improves project performance and reduces the risk of failure in projects. The components include effective communication, emotional intelligence, experience, good listening skills, flexibility in decision making and problem solving. Studies are mostly quantitatively based.	Toor and Ogunlana, 2008) Ameh and Odusami, (2014) Liphadzi et al. 2015); Tabassi et al. (2016); Zhang and Wang (2018)
3.	Workers' performance and welfare	Authentic leadership moderates the relationship between socialization domains and affective commitment of workers, and safety implementation in construction projects. Components include awareness, future orientation, relational orientation, confidence, transparency, unbiased processing, and leading from the heart. Studies are mostly conceptual.	Toor and Ofori (2008); Daniel (2015); Batra and Hyde (2020)
4.	Ethical leadership	Ethical leadership moderates the relationship between employee outcomes and organisational culture. Components include clear communication of ethical values, morality, trust, responsiveness to reported wrong-doings, going beyond personal interests, setting the highest levels of ethical standards, honesty, and discipline. Some of the studies used disparate samples and were cross-sectional in nature, limiting studies.	Ofori (2009); Ho and Oladinrin (2019); Nawaz Khan et al. (2020)
5.	4IR leadership	Effective 4IR leadership in construction is positively associated with high implementations of the 4IR. "Components include 4IR-related leadership traits such as disruption-preparedness, agility, focus on talent development, and a collaborative approach"; 10-type 4IR leadership intelligence" which is Contextual, Emotional, Inspired, Entrepreneurial, Strategic, Transdisciplinary, Ecosystem, Socratic, and Ethical, and includes a changing leadership style. Studies are mostly conceptual and quantitative.	Gaultier (2018); Alade & Windapo (2019); Alade & Windapo (2020a)

Concerning workers' performance, safety management and ethics, scholars such as Batra and Hyde (2020), Ho and Oladinrin (2019), Nawaz Khan et al. (2020), and Daniel (2015) investigated the precepts of workers' well-being, initiative, commitment and ethics within the construction sector. It was found that authentic leadership moderates the relationship between socialization domains and affective commitment of workers. Further, ethical leadership is strongly connected with leader viability, ground-breaking initiative, ground-breaking culture of organisation, unexpected reward dimension of value-based leadership, worker ability to invest additional exertion, and employee satisfaction with the leader. Other recent studies (Gaultier, (2018); Alade and Windapo (2019); Alade and Windapo (2021) considered leadership in construction in relation to the Fourth Industrial revolution (4IR). Major components of 4IR leadership found include disruption-preparedness, agility, focus on talent development, collaborative approach; change leadership intelligence and change leadership styles. These investigations have distinguished the components of leadership with regards to different settings, business organisations and construction business climate; still there are insufficient empirical examinations to support the identified components, and little is known with respect to the components of leadership in the South African construction industry as well as leadership components for construction business organisations.

2.4 Strategy, decision-making, and strategic decisions in construction organisations

2.4.1 The concept of strategy

Strategy is an integrated and extensive set of resource commitments that position an organisation to bring competitive advantage in changing environmental conditions (Mccabe, 2010; Celik, Ozkul and Tuna, 2016). The dimensions for defining strategy as a word is vast in the literature. Mintzberg et al. (1998) considered strategy as a plan, pattern, position, ploy, or perspective. McCabe (2010) however, included mission, vision, goal, objective, capability, systems, models, control, strengths, weaknesses, opportunities, threats, values, and initiatives as the key terms common to the word. When it relates to the process of development, strategy can be 'deliberate' or 'emergent' (Mintzberg, 1987). It is deliberate when procedures to realize the strategies are formalized, and emergent when patterns are developed without intentions. Unlike execution and control plans developed for individual projects in construction, strategy does not have intrinsic steps to achieving the destination (Chinowski and Meredith, 2000). This is consistent with Hills and Jones (2004) who asserted that strategy can emerge from deep

within an organisation in the absence of formal plans, and in response to unpredicted situations. In their study, Dikmen et al. (2009) acknowledged strategy as a process, content, and context.

The process is how strategy is developed and includes the power dynamics and prevalent leadership style. The strategy content is the product or result of the strategy process while the strategy context includes organisational and environmental circumstances under which the strategy process and content are determined. Hills and Jones (2004) concluded that effective leaders of the strategy-making process have several key attributes in common which include vision, eloquence, consistency; commitment; being well informed; willingness to delegate and empower; political astuteness; and emotional intelligence. An effective leader will use interdependent issues to develop the organisation's strategy and determine the general direction, health, and survival, which ultimately leads to superior performance (Papadakis and Barwise, 1998; 2012; Robert Mitchelle et al., 2011; Nandakumar et al., 2010; Eisenhardt, 1989).

2.4.2 Decisions and decision-making in organisations

Decision is a response, revealing judgement, expectations, and evaluation in a situation (Wang et al., 2015; Oliveira, 2007). Decision-making in business, however, means choosing between alternatives to achieve business aims (Celik et al., 2016; Casadesus-Masanell and Ricar, 2010). Decision-making involves "the process of human thought and reaction to the external world, which includes the past and possible future events, and the psychological consequences of those events for the decision maker" (Oliveira, 2007, Pg.12). Decision-making limitations and biases have been used to relate the dispositional features of leaders to their strategic choices. Scholars have argued that the hierarchic decision-making control in organisations is key to delivering high quality outcomes (Samimi et al., 2020; Graham et al., 2020; Campbell et al., 2004).

Figure 2.4 shows that decisions in organisations are usually in different forms, based on the organisational hierarchy. At the lowest level of the organisation are operational decisions, which are simple routine decisions made by junior management on a day-to-day basis. Tactical decisions are at the middle level of the organisation, made by the middle managers, and are concerned with how to achieve policy in the medium term. At the organisational apex, however, are strategicdecisions, identified as extensive, substantial, non-routine, all-pervading and complex decisions made by the leaders at the highest level of the organisation (Campbell et al, 2004; Papadakis and Barwise, 2012; Hitt and Tyler, 1991; Hickson, 1987).

According to Samimi et al. (2020), making strategic decisions is the first function of strategic leaders. Given that contemporary organisations are dynamic, 'their leaders are often faced with ill-defined problems that require interpretation and decision-making at very complex levels"(Thiel, 2012; Mumford, et al, 2007; Mumford et al., 2000). As such, every organisation distinguishes itself by differentiating its choice of offerings in some way (Dikmen et al, 2009). The decisions made represent the choice that will affect the risk exposure of the organisation and performance in the long run (Borkovskaya, 2018; Gill, 2002; Hillson, 2002; Goleman, 2002; Child, 1972).

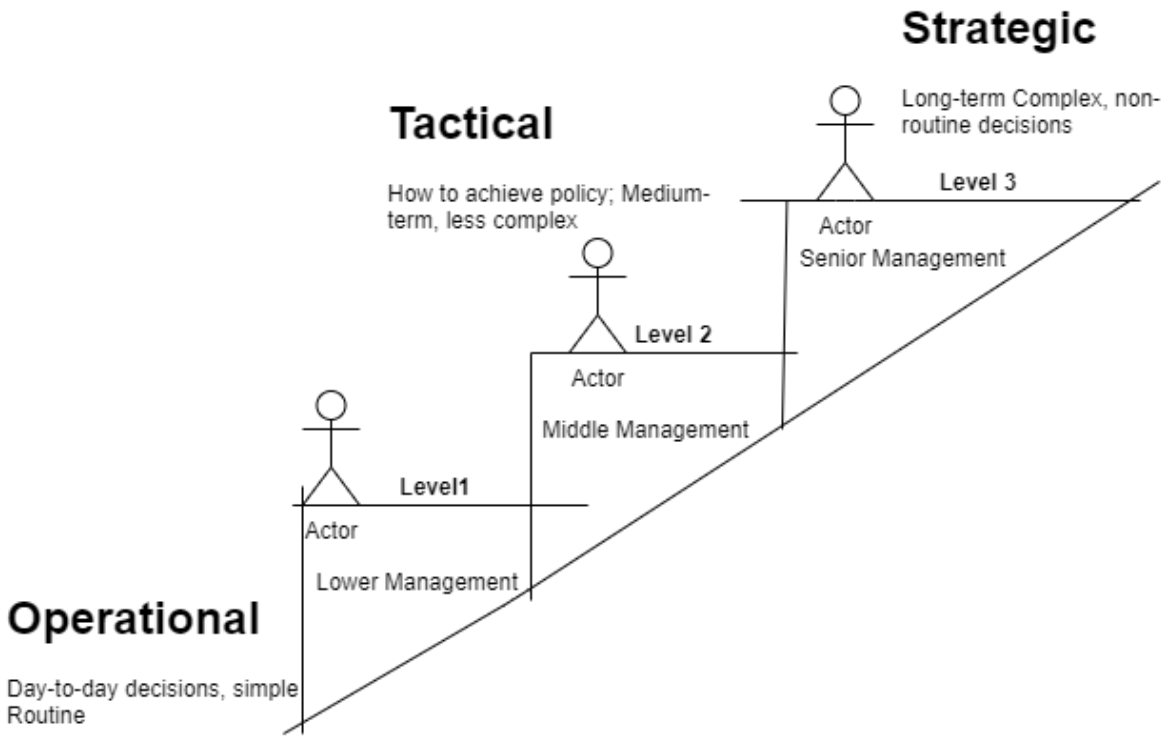


Figure 2.4: Comparison of strategic, tactical and operational decisions in an organisation.
(*Developed from: Campbell et al., 2004; Papadakis and Barwise, 2012*).

Strategic decisions are hard-to-reverse decisions to determine the commitment of essential resources in the organisation, including setting of precedents, and directing of the necessary highest firm-level actions, to shape the company's general direction for the future (Robert Mitchell et al., 2011; Papadakis and Barwise, 2012). Research on strategic decision-making in organisations has been broadly categorized into two: content research and process research (Papadakis and Barwise, 1998, 2012). While the content research stream deals with issues of strategy content such as diversification, differentiation, and the alignment of firm strategies

with environmental characteristics, the process research deals with the procedures by which strategic decisions are made and implemented (Balta et al., 2010).

Hitt (1991) concluded that strategic decision models are quite complex and vary from industry to industry, and also vary with executive characteristics. However, the ability of the executive leaders to develop quality strategic decisions in relation to their context determines how the organisation will operate more innovatively, sustainably and ethically, and how this ultimately affects its long-term performance (Carmeli et al., 2012; Chang et al., 2016; Zhang et al., 2018). Despite the large body of research on the strategic decision function, Samimi et al. (2020) recommended an examination into the changing patterns of strategic decisions over time to understand strategic leadership, submitting that gradual changes in an organisation's strategy could reflect significant efforts from leaders to change the course of the organisation. The study concluded that several important aspects of the strategic decision functions, such as delay in decision-making, delegating decisions, discarding choices, and indecision, are still under-studied.

2.4.3 Strategic decisions in construction organisations

The main quality, and first function of organisational leaders is strategic (Borkovskaya, 2018; Samimi et al, 2020). As such, the need for strategic perspectives by construction company leaders has long been stressed by scholars (Oyewobi et al, 2019; Borkovskaya, 2018; Dikmen, et al., 2009; Isik et al., 2009; Chinowski and Meredth, 2000; Warszawski, 1996; Betts and Ofori, 1992). Chinowski and Meredith (2000) recognized that the pressures of project performance often obscure the broader social, economic, and professional context for strategic issues in construction. Hence, this section presents the operational definitional bases for strategy, decision-making, strategic decisions, and strategic leadership in construction organisations. No precise scale has been developed for measuring the levels of strategic decisions and factors appropriate for construction company survival, as at the period of this study, which points to a gap in the literature. However, Seaden et al. (2003) and Isik et al. (2009) gave some indication as to what is meant by strategic decisions concerning construction organisations. Also, Ateş et al. (2019) recommended that a firm should apply both industry-specific and generalised management practice to achieve success. Hence, it can be argued that some strategic decisions that apply to other business organisations will also apply to contracting businesses (Celik, Ozkul and Tuna, 2016; Stonehouse et al., 2007; Allen and Helms, 2006; Hambrick et al., 2005; Eisenhardt, 1989). Table 2.3 on the next page describes the strategies

and strategic decisions used by companies obtained from the literature. These strategies are classified into organisational planning, differentiation, procurement, project management, investment, and organisational change strategies.

Table 2.3 Organisational strategies used by project-based companies

Strategies	**Description**
Organisational planning	Decisions pertaining to setting the vision and mission of the organisation
Project management	Decisions relating to execution of projects, and leveraging the mission of the company and the company's business environment to achieve project goals.
Differentiation	Various products or services that provide a competitive advantage, and allow a company to meet the threat of new entrants to the market
Procurement	Market, project, client, and partner selection strategies, that characterise construction projects; these include the location and complexity of the project, environmental conditions, availability of materials, competent subcontractors, etc
Organisational change	Decisions pertaining to the company's response to environmental changes, as well as the management of the informal relations among the different parties within the company
Investment	Occurs along several dimensions such as capabilities of the company resources, pricing, financial decisions, product, construction project-related factors including research and development

Adapted from Seaden et al., 2003; Isik, et al., 2009; Oyewobi, 2019 and Ateş *et al.,2020.*

With regards to the content of strategic decisions, Porter's (1980:1985) generic strategies have been widely used for determining strategies in organisations. Even in construction, Oyewobi et al. (2019) adopted it. This may be due to Porter's claims that organisations perform best when they pursue one of their competitive generic strategies (such as cost leadership, focus, differentiation, and diversification). Nevertheless, several other scholars of strategy in construction used different typologies, considering more specifically the nature of the

construction industry as project based. Kale and Arditi (2002) argued from their study on the U.S. construction firms, that companies can gain competitive advantage either based on 'mode' of competition or 'scope' of operations. They submitted that construction firms that place a strong emphasis on all modes of competition (such as cost, quality, innovation of product or process, and time) and adopt a neutral approach to scope (such as in-between narrow and broad operations in markets), outperform their rivals. In contrast, Isik et al. (2009) measured eight strategic decisions believed to be representative of the characteristics of the construction industry in Turkey, as a project-based organisation. The strategic decisions measured include market selection, project selection, client selection, partner selection, project management, differentiation, investment, and organisation planning. A related study in Turkey by Dikmen et al. (2009) also uncovered two-dimensional competitive scope, (market-level and project-level), and two groups of factors (price and non-price) for determining competitiveness of Turkish contractors. The market-level strategies relate more broadly to playing in the construction industry while the project-level deals with the individual project deliverables. The primary objective of a contractor competing on price is to minimize costs. However, the contractor competing on non-price factors tries to maximize client satisfaction through high quality products and services, innovation and support services, for example.

More recently, Orozco et al. (2014)'s study in Chile revealed that the traditional project performance indicators (cost, time, quality, safety and security) are very important to assess the competitiveness of any construction company. They found that leadership and company image and reputation were the most relevant and decisive strategic factors affecting performance in the Chilean construction industry being orientated towards price as the primary contract award criterion. The study also indicated that social responsibility is a global trend to be included for competitiveness in future studies. In sum, it is still difficult to determine the most appropriate leadership style to conform with each situation in the development of strategic decisions in construction organisations. As Naum (2001: Pg 223) noted, "leaders may thus have to switch from one style of leadership to another or combine elements of different styles, until the right balance between concerns for tasks and concern for people is reached".

2.5 Organisational performance (ORP) measures

Organisation performance (ORP) is defined as a set of indicators that offer information on the degree of achievement of objectives and results in an organisation, which accounts for the

efficiency and effectiveness of the actions taken (Maduenyi et al., 2015; Oyewobi et al., 2019). The use of ORP measures through different indices has been in operation since at least the beginning of the 19th century (Chandler, 1997). Further, it has been identified as a major indicator to evaluate leadership effectiveness (Oyewobi, 2014; Avery et al., 2015; Hove and Banjo, 2015). As such, different performance measures have been used by scholars to explain the concept and indicators of OP, and the importance of the measures has been shown both theoretically and empirically in the literature.

2.5.1 Organisational performance measures in construction organisations

The current construction management literature indicates that several models have been developed to measure performance. Examples of such includes critical success factors, indicators, performance measures. However, OP indexes for construction have traditionally concentrated on financial performance, tending to measure only what was easily measurable (Orozco et al., 2014). However, increased global competition, has forced companies to include non-traditional measures (Oyewobi, 2014; Maduenyi, et al., 2015). In measuring ORP, Oyewobi (2014) utilized objective, subjective and quasi-methods. Similarly, Oyewobi et al. (2019) considered multiple measures (financial and non-financial) of organisational performance, to evaluate the achievement of overall organisational objectives in South Africa.

2.5.2 Performance of construction companies in South Africa

Performance is a set of financial and non-financial indicators that offers information on the degree of achievements of objectives and results in an organisation, accounting for the efficiency and effectiveness of actions taken in an organisation (Maduenyi et al., 2015; Oyewobi et al., 2019). Further, performance might seek information on size, growth, profit, liquidity, success or failure, market share and leverage (Hove and Banjo, 2015). Accordingly, the performance of construction companies is vital for the advancement of business movement, economy, total national output, and to address the levels of joblessness and neediness (Sitharam and Hoque, 2016). Tan et al. (2012) concluded that the main goal of a firm is to achieve good performance and add value for its stakeholders. Contentions have been advanced with respect to performance challenges that are peculiar to large construction firms. Aigbavboa (2014) explored current difficulties and issues confronting contractors within grade 1-4 in the cidb list of registered contractors in South Africa. The outcomes showed that external factors, for example, high rivalry while tendering for construction jobs within the cidb class, is a significant

test faced in the procurement of work; while internal factors like poor authoritative administration within the organisation, absence of gifted experts and absence of ability to follow through on certain ventures, constitute the greatest difficulty faced by the construction organisations. Likewise, Oyewobi (2014) considered that the essence of measuring an organisation's performance is to provide viable and useful information to decision-makers within an organisation. There is evidence that the performance of construction companies in South Africa is generally low. The weak performance of emerging contractors, high rates of failure of large contractors and small and medium scale construction companies has been reported (Aigbavboa, 2014; Hove and Banjo, 2015; Odendaal, 2018). These investigations have offered experimental support for the degree of performance of construction organisations in South Africa. This has created the requirement for new and wide-running factors for estimating the degree of performance of construction organisations in South Africa.

2.5.3 Factors impacting firm performance

There are different factors that impact firm performance. Fosu (2013) analyzed the impact of capital structure on firm performance and examines the degree of the product market rivalry among 257 South African firms over the period 1998–2009. The outcomes showed that monetary influence has a positive and huge impact on firm performance. Similarly, in an investigation of factors influencing the organisation's performance in KwaZulu-Natal, South Africa, Sitharam and Hoque (2016) detailed that technological headway, rivalry, and joint effort emphatically influenced the performance of the organisations. Further, technological capabilities, competitiveness (Sitharam and Hoque, 2016; Fosu, 2013), organisation resource and turnover (Adediran and Windapo, 2017), as well as income and resources (Odediran and Windapo, 2016) have been proposed by researchers. Adediran and Windapo (2017) investigated the impact of government focused procurement strategies on the growth performance of construction organisations in South Africa. The examination tracked down the positive critical connection existing between offering value, preferencing and turnover, outsider administration and friends' resources. They found that the number of workers, as well as turnover, sped up revolutions, and number of employees. Odediran and Windapo (2016) analysed the financial performance of Multinational construction organisations (MCO) in South Africa. The study reported that the income and resources of the MCO contend well with their partners from different parts of the world, who were positioned among the main 100 companies by the Engineering News Record in 2015.

2.6 Leadership framework in construction organisational settings

Taking a look at the diverse leadership frameworks proposed by the past investigations in construction, there remains a gap in knowledge that should be filled in the improvement. Opoku and Fortune (2011) advanced a leadership framework for promoting sustainable practices in the construction industry. However, the performance of leaders according to leadership segments and organisational performance was not considered. Similarly, Muda et al. (2016) developed a leadership capability framework for team leaders in the construction industry. Although the framework uncovered the skills, abilities, and capabilities that a leader should display to become successful, the study was conceptual, and only theorizing. In view of the South African construction organisations, Liphadzi et al. (2018) suggested that construction organisations prepare their project managers to become skilled leaders at team level. This contention stems from previous studies (Opoku and Fortune, 2011; Muda et al., 2016), and the undeniable truth that the abilities required for leadership are changing. However, the study was project leadership-focused and not company leadership-focused.

Other leadership frameworks have been proposed by Muller et al. (2018), Almadi (2019) and Alade and Windapo (2020b) and Alade and Windapo (2021). Muller et al. (2018) developed a framework for understanding the cooperation between individual focused leadership by project managers (vertical leadership - VLS) and group focused leadership by people in the task group (horizontal leadership - HSL). The framework has suggestions for the comprehension of project leadership being iterative in nature, as opposed to the more successive worldview applied in some project management systems. Further, it distinguished five occasions that portray the progress among vertical and horizontal leadership, which include assignment - the occasion of designating project colleagues to a task; recognizable proof – the identification of conceivable horizontal leaders; determination – the strengthening of one or a few colleagues as horizontal leaders; horizontal leadership and administration – the execution of horizontal leadership by a colleague; and progress – the finish of the horizontal leadership and the elaboration of potential changes to the conditions for future arrangements of horizontal leaders. Almadi (2019)'s framework of leadership styles in the Pygmalion impact involves the control of administrative assumptions prompting an improvement in leadership conduct and higher subordinate self-assumptions (Figure 2.4). The study clarified that leadership is influenced by subordinate inspiration, administrative assumptions, subordinate self-assumptions, and prompts a more elevated level of performance.

Figure 2.5: A leadership model in the Pygmalion effect *(Source: Almadi, 2019).*

The study of Alade and Windapo (2020b) created a leadership framework, revealing the hindering and helpful factors and leadership roles for sustainable housing production in South Africa. The framework exposed the roles, responsibilities, and skills of project leaders in the human settlement environment. Similarly, the leadership framework of Alade and Windapo (2021) suggested a relationship

between the construction CEO/company leadership characteristics, components, and construction organisation performance. These frameworks have distinguished the leadership roles and responsibilities for settling difficulties, improving performance, and driving the advantages of sustainable practices in construction. However, a major limitation of the studies is that they were mostly conceptual and not empirically substantiated.

2.7 Chapter summary

This review has identified the previous and current discussions in the literature and the key areas of ambiguity about leadership in organisations, specifically as it applies to construction. The myriad of studies on strategy, strategic decisions and organisation performance have also been considered. This review has also generated scholarly perspectives for insight. In response, this study proceeds to give theoretical foundations and develop a conceptual framework in the next chapter, to prepare for the research process.

CHAPTER THREE

THEORETICAL AND CONCEPTUAL BACKGROUND

3.1 Introduction

This chapter presents the major theories that underpin this research and the conceptual framework developed for the study. The role of theory in research has been noted by scholars, given that theories explain complex and comprehensive understandings of the phenomena that are not easily understood. Further, combining theories is reasonable, especially when deciding on a complex phenomenon (Reaves & Hean, 2013), such as leadership in construction, that this study investigates. "The complexity of construction organisations stems from the management of project-based activities, with several stakeholders usually involved in its process, different procurement methods, project uncertainty, lack of complete specifications or incorrect briefing, lack of communication, unpredictable nature of the environment and a fragmented supply chain" (Liphadzi, et al., 2015; Hampson, Kraatz and Sanchez, 2014; Dubois and Gadde, 2002).

3.2 Theoretical perspectives and framework

While several theories offered different insights, there are three streams of leadership research that assert that the decisions of leaders at the organisational apex have a direct or indirect effect on the strategic processes and outcomes of organisations. These theories are the Upper Echelon theory (Hambrick and Mason, 1984), Strategic Leadership theory (Finkelstein and Hambrick, 1996), and the Full Range Leadership theory (Avolio and Bass, 1991). Each of these theories and their relevance to this study is explained in greater detail in the sections below.

3.2.1 The Upper Echelon theory

Chandler's (1962) historical account of the development of organisations explained that executive leaders largely impact the strategic choices of their organisations. Based on this, Hambrick and Mason (1984), in their Upper Echelon theory assert that organisational outcomes reflect the cognitive values and predispositions of the leaders. As such, performance can be partially predicted by the characteristics and strategic decisions of the top-level executives. This theory was chosen for this study because it holistically suggests a relationship between leadership characteristics, that is, the traits, skills, roles, and performance in organisations. Using this theory, Day and Lord (1988) determined that executive leadership affects the

organisation's performance by as much as 45%. Despite the calls to examine the role of leadership in implementing organisational strategies (Boal & Hooijberg, 2001; Cannella & Monroe, 1997), "only a few studies have done so, almost exclusively focusing on leadership of the upper echelons in large construction organisations in South Africa" (Alade et al., 2020, P.308). Again, previous studies on the upper echelon relied on demographics and observable variables to capture executives' characteristics; however, there have been calls to expand on this, using non-demographic variables, to provide greater reliability (Samimi et al., 2020).

3.2.2 Strategic Leadership theory

This theory by Finkelstein and Hambrick (1996), is an expansion of the Upper Echelon theory. It postulates that the values and belief of the leader frames how issues are interpreted and acted upon, the strategic decisions and subsequently the organisation outcomes (Elenkov et al., 2005). Given that contemporary organisations are dynamic, leaders are often faced with ill-defined problems that require interpretation and decision-making at very complex levels (Thiel, 2012; Mumford, et al, 2007; Mumford et al., 2000). Papadakis and Barwise (2012) indicated that every organisation's strategic decision is distinctive and not generic in every circumstance. Hence, this theory was chosen to understand the relationship between the executive leadership characteristics, and strategic decisions in South African construction organisations. There has been a stream of research on strategy, strategic planning, and strategic management in construction (Oyewobi et al., 2019; Orozco et al., 2014; Isik et al., 2009; Dikmen et al, 2009; Chinowski and Meredith, 2000; Seaden et al., 2003). Therefore, the positioning, strategic decisions and values expected of organisational leaders in construction were explored from the viewpoint of this theory.

3.2.3 Full Range Leadership theory (FRLT)

The FRLT differentiates effective from ineffective leaders at all organisational levels based on the leader's style. The extant literature reveals that the Full Range Leadership Theory (FRLT) is the most popular theory of leadership for understanding leader effectiveness (Samimi et al., 2020; Antonakis and Day, 2017; Sadeghi and Pihie, 2012; Peterson et al., 2009; Bass and Roggio, 2010). The FRLT postulates that the behaviour of leaders towards providing direction, implementing plans, and motivating people will be different in different situations. Due to the multi-faceted nature of construction, this theory has been the most advanced in the construction setting (Lui, 2017; Sundinjo, 2010). With the aim of researching the connection between

transformational leadership and innovation, Mokhber et al. (2015) investigated the connection between transformational leadership and organisational innovation at the organisational level. The discoveries of the investigation uncovered that among five segments of transformational leadership that were tested, only attributive moxie, helpful inspiration, and scholarly incitement were emphatically identified with organizational innovation. Waziri et al. (2015) explored the impact of transformational leadership style on ICT selection in the Nigerian construction industry. The outcomes showed a positive and direct connection between transformational leadership style and ICT reception in organisations. Strukan et al. (2017) examined the effect of transformational leadership on business execution in organisations in Bosnia and Herzegovina. The examination revealed that transformational leadership strongly affects the financial performance of an organisation and new product development. The investigation additionally showed that leaders and managers of organisations in Bosnia and Herzegovina concentrated more on project tasks than on individuals.

3.3 Past empirical studies on leadership and gaps in knowledge

3.3.1 Leadership characteristics and components in construction organisational settings

Long et al. (2014) regarded leadership characteristics as distinctive elements or qualities that leaders possess. Ismail and Fathi (2018) however, perceived leadership characteristics as a blend of abilities and practices that leaders use while associating with their subordinates. Exploration and empirical works on construction leadership characteristics and components have zeroed in mostly from the context of projects. In addition, leadership style is a common leadership characteristic across all studies of the concept. Instances of such investigations include Muller and Turner (2009) who reasoned that transformational leadership style is the noticeable style among project managers. Ismail and Fathi (2018) investigated the leadership style practiced in construction projects. It was “deduced from the investigation that leadership styles ought to be chosen and adjusted to fit organisations, circumstances, groups, and people”. Considering this fact, it seems that in construction, various styles of leadership are required in various circumstances. Hoffmeister et al. (2014) considered the connections between singular aspects of transformational and value-based leadership styles and security results (wellbeing related to environment, work- related injuries, wellbeing consistency, wellbeing cooperation, and work-related torment) in plumbing and line-fitting tasks. The outcome of the examination proposes that leadership advancement programs in construction should address different

individual components of leadership, for example, using a guiding principle, having solid abilities, and setting standards for practice.

The study of Adogbo et al. (2017) described the properties of leadership behaviours in Nigerian construction organisations. The research found that construction organisations showed transformational leadership practices more than the value-based and free enterprise leadership behaviours. Investigations of leadership characteristics have included leadership skills. For instance, Goldenhar et al. (2019) considered leadership skills for improving the jobsite safety climate. In South Africa, Liphadzi et al. (2015) noticed that construction organisations are confronting leadership issues because of inadequate ability or qualities, or the utilization of unseemly leadership styles in managing subordinates on construction projects. Accordingly, Liphadzi et al. (2015) found the main qualities of construction and project managers in the South African construction industry included critical thinking abilities, inspiration, mental fortitude, endurance and stress resilience, humility, empathy, trustworthiness, humour, energy, and shrewdness. Muda et al. (2017) investigated group leadership ability for construction organisations.

Rafferty and Griffin (2004) proposed five more engaged sub-measurements of transformational leadership including scholarly incitement, vision, persuasive correspondence, individual acknowledgment, and strong administration. The investigation offered help for the five sub-measurements of transformational leadership that were distinguished by the authors. Cetin and Kinik (2015) dissected the scholarly leadership behaviour from the point of view of transformational leadership, utilizing factors like sexual orientation, age, residency, and instruction. The examination discovered that the variable of training was the lone critical factor influencing the scholars' impression of transformational leadership.

Jung et al. (2014) distinguished the favoured leadership style for administrative situation of construction executives. The after-effects of the examination demonstrated that both project managers and administrators like to have more totalitarian managers and directors at project supervisor position and a more participatory leadership for project leaders. Jung and Mills (2013) described the leadership styles among 174 construction experts and distinguished the most suitable leadership style for a project executive and a task supervisor. The investigation contended that a fruitful leader is required to have a creative mind, knowledge, drive, and the ability to make fast (and for the most part, savvy) choices, and the capacity to rouse subordinates. Despotic, participative, and free-rein leadership styles were also recognized as

the real leadership styles of project managers and executives. The investigation inferred that the real leadership styles for both project supervisor and task chief are not related to favoured leadership styles.

The investigation found that leadership training and leadership experience are important to leadership capacity of construction group leaders. These investigations have uncovered a portion of the factors of leadership characteristics of construction company leadership. Additionally, a large portion of the past investigations announced clashing proof concerning leadership behaviour and styles, which highlights the requirement for a complete examination concerning the leadership characteristics and components of construction company leadership in South Africa.

3.3.2 Relationship between company leadership and organisational performance

Leadership is one of the elements that add to construction organisational success (Ismail and Fathi, 2018). As such, the relationship between construction company leadership and construction organisational performance have been thoroughly examined. Scholars (Muller and Turner, 2009; Yang et al., 2011; Jung and Mills, 2013; Al Khajeh, 2018) have underscored the effect of leadership practices on project and organisational performance. Specifically, Yang et al. (2011) stated that the job of a leader is basic to project and organisational performance. Albloshi and Nawar (2015) explored the effects of leadership styles on the performance of SMEs in Saudi Arabia. It was found in the examination that transactional leadership was the most appropriate leadership style for good performance in SMEs. Additionally, the consequences of the investigation showed that a positive relationship exists between transactional leadership and employees' readiness to invest additional energy for the sake of better occupational fulfillment and an improvement of viability in their situation as workers. Similarly, Al Khajeh (2018) inspected the effect of leadership styles on the organisational performance. The attention was on six significant leadership styles — transformational, transactional, autocratic, charismatic, bureaucratic, and democratic. It was found that democratic, transformational, bureaucratic, and autocratic leaderships positively affect authoritative presentation. However, charismatic and transactional leaderships contrarily affect the organisational performance, as they do not give openings and opportunities to employees to behave in ways that benefit the organisation. In addition, leadership is fundamental to accomplishing superior performance and executing a culture of profitability improvement

(Jung and Mills, 2013). Akkaya (2020) researched the general effect of various sorts of leadership on firms' dynamic capacities in Turkey. The outcomes showed that dexterous leaders and transformational leaders can upgrade firms' dynamic capacities straightforwardly, or in a roundabout way by creating an organisational atmosphere where workers and devotees are supported, spurred, and enlivened to be a good example, open to change and innovation. Abdolmaleki et al. (2013) and Jung et al. (2014) also established that leadership is fundamental for an organisation to accomplish valuable degrees of performance and carry out a culture of efficiency improvement. Abdolmaleki et al. (2013) pointed that an organisation with an effective leadership structure will generally have a better chance of survival in today's competitive environment. Similarly, Nanjundeswaraswamy and Swamy (2014), indicated that the accomplishment of any organisation depends on the leadership style. The perceptions by these researchers suggest that the accomplishment of a construction organisation depends on the leadership styles practised by the leaders, and these leadership styles influence organisational effectiveness and performance. In view of these perceptions, different examinations have endeavoured to build up the connection between leadership component and organisational performance. The effect of various leadership components and attributes on various segments of organisational performance, like development, authoritative change, and benefits have been examined. These investigations have established the connection between leadership components and organisational performance which are further discussed in the following sub-sections.

3.3.3 The moderating role of strategic decisions between leadership and performance

Decision-making is a key action for leaders, and their decisions fundamentally influence their organisations (Martinsons and Davison, 2007; Papadakis et al., 2010). Alkharabsheh et al. (2013) affirmed that leadership is straightforwardly identified with decision-making. However, researchers have noted that decisions that would guarantee supportability and improvement in organisations should be strategic (Balta et al., 2010; Wu et al., 2017). Studies, for example, Teece (2007), Ng and Sears (2012), Celik et al. (2016), Puni et al. (2016), Akkaya (2020) and Nahum and Carmeli (2020), showed that strategic decisions moderate the relationship between leadership and organisational performance. Specifically, the study of Teece (2007) in the U.S showed that long-run enterprises have leaders who operate innovatively through collaboration and make decisions to adapt to different business ecosystems. As verified by Balta et al. (2010), a strategic decision is identified with essential situations of the organisation in terms of both

the internal and external environments in which it functions, and the expectations arising from them.

Furthermore, strategic decisions influence stakeholders. Wu et al. (2017) viewed that strategic decisions influence the future execution of techniques, as well as the future endurance, sustainability, and advancement of the organisation. Similarly, transformational leaders enhance their firms' dynamic capabilities and sustainability directly or indirectly through their decisions, by creating an organisational atmosphere where employees and followers are encouraged, motivated, inspired, and open to change and innovation (Celik et al. 2016; Akkaya, 2020).

The study of Bin Jomah (2017) examined the impacts of decision-making and leadership styles on organisational development, effectiveness, and sustainability in Saudi Arabia. This investigation established that leaders, through their decisions, inspire their followers to achieve beyond their expectations. More recently, Oyewobi et al. (2019a and 2019b)'s study investigated the strategic clusters and moderating role of competitive strategies on the relationship between resources, capabilities and performance of large construction organisations in South Africa. The results show that cost-leadership strategy has a positive impact on the financial performance of the organisation, although using a differentiation strategy influences it negatively. These research works have given persuasive proof on the side of the mediating role of strategic decisions between the leadership component and organisational performance in different settings. Nonetheless, with reference to the South African construction industry, there is a shortage of investigative evidence that supports the relationship between strategic decisions, construction company leadership component, and construction organisational performance.

According to Papadakis and Barwise (2012), every organisational strategic decision is distinctive and not generic in every circumstance. As such, there has been a stream of research on strategy, strategic planning, and strategic management in construction. However, there are limited studies on strategic leadership in construction. Most scholars of strategy in construction concur that the strategic decisions of construction companies significantly contribute to the company's performance (Oyewobi et al., 2019; Orozco et al., 2014; Oyewobi, 2014; Borkovskaya, 2018; McCabe, 2010; Isik et al., 2009; Dikmen et al., 2009; Chinowski and Meredith, 2000; Seaden et al., 2003; Price and Newton, 2003). However, there is still contention as to the precise scale for measuring strategic decisions in construction, as at the

period of this study, since scholars have divergent views. For example, Kale and Arditi (2002) pointed that research on strategic positioning in the construction industry is unbalanced, maintaining that the task of determining the competitive pattern of construction companies reflects the challenges facing construction as a project-based organisation.

Eweje et al. (2012) utilized speculations about decision-making, organisational behaviour and programme management, to examine the effect of data feed utilized by project managers on the strategic value conveyed by megaprojects. The investigation showed that data feed to project supervisors essentially impacts the strategic value created by megaprojects. Demirkesen and Onubi et al. (2020) described how the choice to embrace construction site practices improved the economic performance of contractors in Nigeria. Suresh et al. (2008) and Yusof and Abu Bakar (2012) contended that the choice to embrace knowledge management would improve the development of construction organisations in the UK, and Malaysia, respectively. Analyzing the patterns in the performance of the Portuguese construction industry, Horta et al. (2012) investigated how the choice to innovate and be monetarily stable empowered both small, specialized companies and large contractors to accomplish the best performance levels. In Malaysia, Hashim et al. (2013) described how the choice to receive e-procurement has improved the tasks, market access, customer relationship, and strategies of construction organisations. Similarly, Onosakponome et al. (2011) demonstrated that construction organisations in Malaysia which chose to embrace the cost benefit analysis of their procurement systems, effectively improved the time, cost, and quality of the execution of their construction projects. Onaolapo and Odetayo (2012) inspected the impact of the choice to embrace accounting information system (AIS) on the organisational effectiveness of selected construction companies in Nigeria. The investigation showed that receiving AIS had impacted the nature of monetary reports and the way choices were made in these organisations. Considering the assessment that heads of construction companies are the fundamental part in the safety and wellbeing of construction workers, Turskis et al. (2019) proposed a Fuzzy Group Decision-making Model for supportable anticipation of mishaps on construction sites. The model incorporates the Delphi strategy and fluffy expansions of Eckenrode's criteria rating technique. Asgari et al. (2016) articulated how the decision to introduce risk allowance in the bidding process improved the performance of construction contractors. Another investigation by Lam et al. (2021) incorporate the suggestion of a coordinated Entropy–Fuzzy VIKOR dynamic model for assessing the performance of construction companies in Malaysia. Tariq and Rehman (2020) assessed the the role of conflict

management viability on the organizational performance of construction companies in Pakistan. The study found that performance of construction companies is significantly related to internal factors such as decisions made by the leaders, and workforce productivity. In view of these past examinations, an exploration of different kinds of strategic decisions made by construction company leadership in South Africa, and their effect on performance, should offer insight into the common strategic decisions employed by construction company leaders in South Africa.

3.3.4 Leadership and organisational performance

The connection between organisational leadership and organisational performance has been examined by researchers utilizing various factors to analyse these variables. While looking at the connection between leadership and organisational structure in high-performing organisations in South Africa, Lear (2012) observed that top leadership impact superior performance in the organisations they lead. This is in their obligation to the execution of basic key initiative measures all through the organisations. The findings of Lear (2012) motivated Sandada et al. (2014) to build the connection between essential planning practices and firms' performance in the Gauteng territory of South Africa. The investigation affirmed that organisational planning has a positive link and predictive relationship with the organisations' performance. The study by Schimmoeller (2010) showed that there is a weighty connection between specific types of organisational cultures and leadership styles. Yuan and Lee (2011) investigated the connection between leadership types, organisation cultures, and employee performance. The outcome introduced critical contrasts between the employees' perceived leadership types, organisational cultures, leadership performance and the firm's background. Alnasseri et al. (2013) investigated the connection organisational culture, authentic leadership style and effectiveness within the setting of a contextual analysis focused on Middle Eastern construction clients and their project managers. The results of the examination demonstrated that organizational culture is identified with performance and effectiveness, while project managers' leadership style was discovered to be identified with viability, by implication. Concerning the size of organisations and organisational performance, Ladzani et al. (2012) examined the utilization of leadership and important managerial capacities in improving the management performance of construction small, medium, and micro enterprises (SMMEs) in the province of Gauteng, South Africa. It was found in the examination that most SMMEs were not using their leadership and strategic planning abilities to improve their management performance. Taner (2013) in an investigation of basic achievement factors for Six Sigma

execution in large-scale Turkish construction organizations, found that leadership as well as commitment of top administration, cross- functional collaboration, and commitment of middle managers were the most critical success factors for the fruitful implementation of Six Sigma.

In an examination of the effect of leadership on creativity and innovation, Nabil et al. (2017) asserted that leadership gives the correct environment to the workers, can move them and inspire them, so they could use creative thinking. Maziti et al. (2018) examined the connection between essential leadership, innovation performance and competitive advantage among an example of private ventures in South Africa. New findings from the investigation show that a relationship exists between strategic leadership with innovation performance, and competitive advantage. Samad (2012) examined the connection between innovation, transformational leadership, and organizational performance of logistic organisations. Both transformational leadership and innovation were discovered to have a marked impact on organistional performance. The study (ibid.) additionally revealed that the active part of transformational leadership or innovation in administration arose as the main factors that impact performance in an organisation. In light of the recommendation that leadership can impact specialized innovation of organisations in the electronic business of Iran, Manafi and Subramaniam (2015) analyzed the connection between human resource management (HRM) practices, transformational leadership, information sharing, and innovation of the major electronic organizations. Their findings showed that only two HRM practices (preparing and cooperation) and three transformational leadership components (vision, scholarly initiative, and individual acknowledgment) fundamentally affect innovation. Mkheimer (2018) contemplated the effect of leadership styles on business accomplishment in Amman. The investigation recognized the transactional leadership style as the only style with a marked positive effect on business achievement. In a study which set out to decide the impact of work inspiration and leadership on work fulfilment and its relationship to task execution, Pancasila et al. (2020) showed that leadership and work motivation have a marked positive impact on work fulfilment. Amirul and Daud (2012) analysed the connection between leadership styles and leadership viability among Malaysian Government linked companies. Their discoveries demonstrate that all parts for both transformational leadership (the important impact of property, conduct, persuasive inspiration, singular thought, scholarly contributions) and value-based/ transactional leadership (unexpected rewards and gains made through exceptional action) have strong positive connections to leadership adequacy, incorporating additional exertion, viability, and fulfilment. Abu Bakar et al. (2015) inspected the impact of transformational leadership quality on

companies' performance in the construction industry in Malaysia. The investigation found that leaders' capacity to rouse team members to go past their own personal responsibility and encourage worker efforts, is connected with the organisation's performance. Oyetunji et al. (2019) researched leadership conduct and its effect on construction workers' performance in Lagos, Nigeria. The study showed that the most commonly shown leadership conduct on the contemplated building site is transformational leadership conduct, and that there is a positive direct relationship between transactional leadership conduct and construction worker performance. The study also revealed that the appropriation of free enterprise leadership conduct brings about an adverse relationship with construction worker performance.

3.4 Conceptual framework proposed from theory and literature sources

Based on the foregoing theoretical underpinnings, Figure 3.1 is the conceptual framework drawn from literature sources. It is predicated on the Upper Echelon theory, Strategic Leadership theory and the Full Range Leadership Theory, considering also the diverse leadership, strategic decisions, and organisational frameworks from past investigations. The conceptual framework spotlights construction company organisational leadership performance from a strategic perspective, and it is supported in the literature (Akkaya, 2020, Nahum and Carmeli 2019, Al Khajeh, 2018, and Ng and Sears, 2012; Borkovskaya, 2018; Samimi et al., 2020; Alade and Windapo, 2021). Further, the framework developed suggests that the relationship between the CEO/company leadership components (traits, style, skills, role) and construction organisation performance is moderated by the strategic decisions of the company leaders (Akkaya, 2020, Nahum and Carmeli 2019, Al Khajeh, 2018, and Ng and Sears, 2012). From a technical perspective, construction is a project-based industry and relies on projects, which implies that the efficient procurement and execution of projects is essential. However, considering studies (Kale and Arditi, 2000; Isik et al., 2009, Ateş et al., 2020) alleging that the project performance pressures often obscure the broader social, economic, and professional context for strategic discussion in construction, this framework included strategic decisions on broader issues, such as change and innovation, and investment decisions. For instance, when compared to their manufacturing and related industries counterparts, construction organisational leaders have been criticised as rigid and slow in responding to change and innovation (Oosthuizen, 2017; Gautlier, 2018; Alade and Windapo, 2019). The attitude of the company leaders vis-a-vis the constant and rapid changes in the global business worldwill be explicit from the framework. Further, owing to the nature of construction as a capital-intensive and unpredictable venture, strategic investment decisions of the construction company leaders

are considered along three lines: financial investment (FI), human resource/training (HR), and corporate social responsibility (CSR). In the framework of this study, therefore, the moderating role of the strategic decisions and how the leadership components affect the construction company performance will be understood from different perspectives.

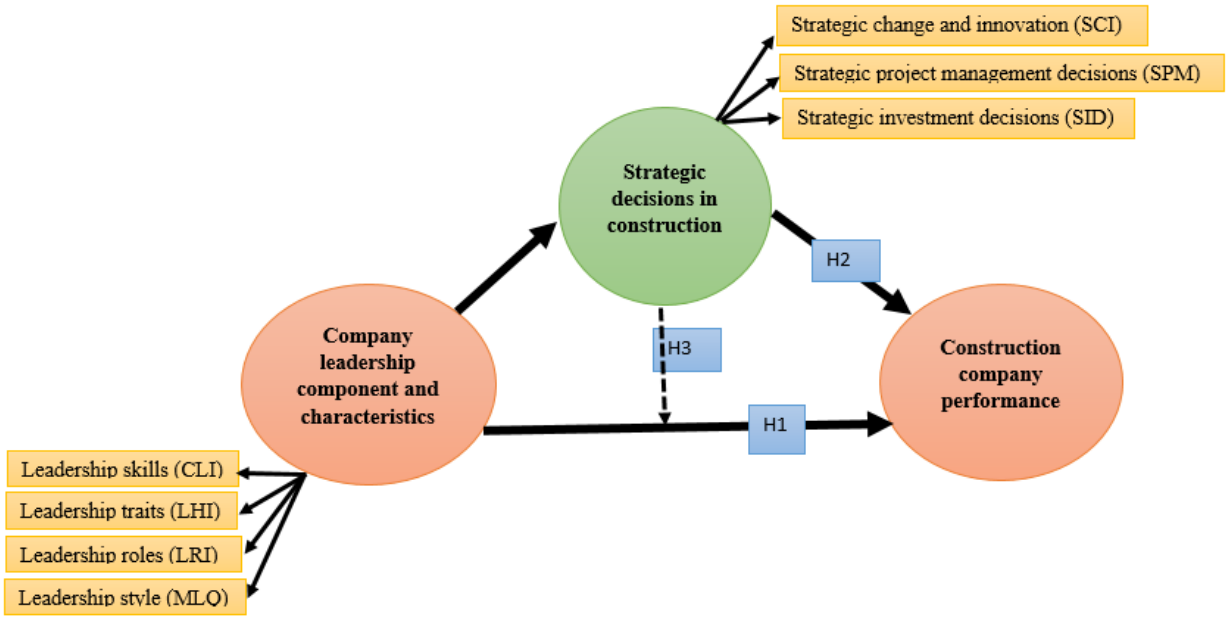


Figure 3.1. The proposed conceptual framework, drawn from theory and literature.

Relationships **Structural equations**

$X_{ORP} = KX_{SDM}$……. *Equation 3.1*

$X_{ORP} = KX_{SDM} + KX_{CLC}$……*Equation 3.2*

$X_{ORP} = KX_{SDM} + KX_{CLC} + KX_{SDM}X_{CLC}$…… *Equation 3.3*

Where: K= constant

X_{ORP} = Construction Company Performance

X_{SDM} = Strategic Decisions in Construction Company

X_{CLC} = Company Leadership Components and Characteristics

Hypothetical statements:

H_1: Construction company leadership components and characteristics are positively related to construction organisation performance.

H_2: Strategic decisions made by construction company leadership directly impact the construction organisation performance.

H_3: The strategic decisions made by the company leadership moderate the relationship between the construction company leadership components and characteristics, and the construction organisation performance.

3.5 Chapter summary

This chapter has used the established theories to develop the concept of leadership in the organisational setting. Through these, more perspective has been provided, which led to the constructs developed for the study and the conceptual framework applied by the study in the investigative process. The next chapter gives the detail of the research paradigms, as well as the research method and approach for the study, and the justification for these choices.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

This chapter presents the overview of the research process and justification for the chosen research methods. The philosophical assumptions that underpin the research, as well as the procedures of inquiry, are presented and discussed. In addition, the specific research methods for data collection, analysis, interpretation, and ethical considerations are also covered. Patel (2019) stated that the findings and conclusion of any phenomenon are significantly affected by the research method chosen. Hence, this chapter provides the justification for the method adopted to achieve the aims and objectives of the study. The chapter focuses on the research method in relation to the topic and scope. Further, research philosophy and paradigm including the research design, methods of data collection, and the method used for the analysis of results are outlined.

The research process for the study which reveals the steps taken for the research, including the methods and tools adopted for each of the study objectives and outcomes, is shown in Figure 4.1. The study begins with understanding the research problem through the review of literature. Through this, the status quo of leadership research in construction was established (Creswell, 2015; Fellows and Liu, 2016). There were six objectives identified in the study and the process of achieving each of the objectives of the study is reflected in the diagram. Further, the diagram linked each of the objectives to chapters of the thesis and outcomes of the research. The research philosophy, methodological viewpoints and paradigms used in the research are presented in the following sub-sections.

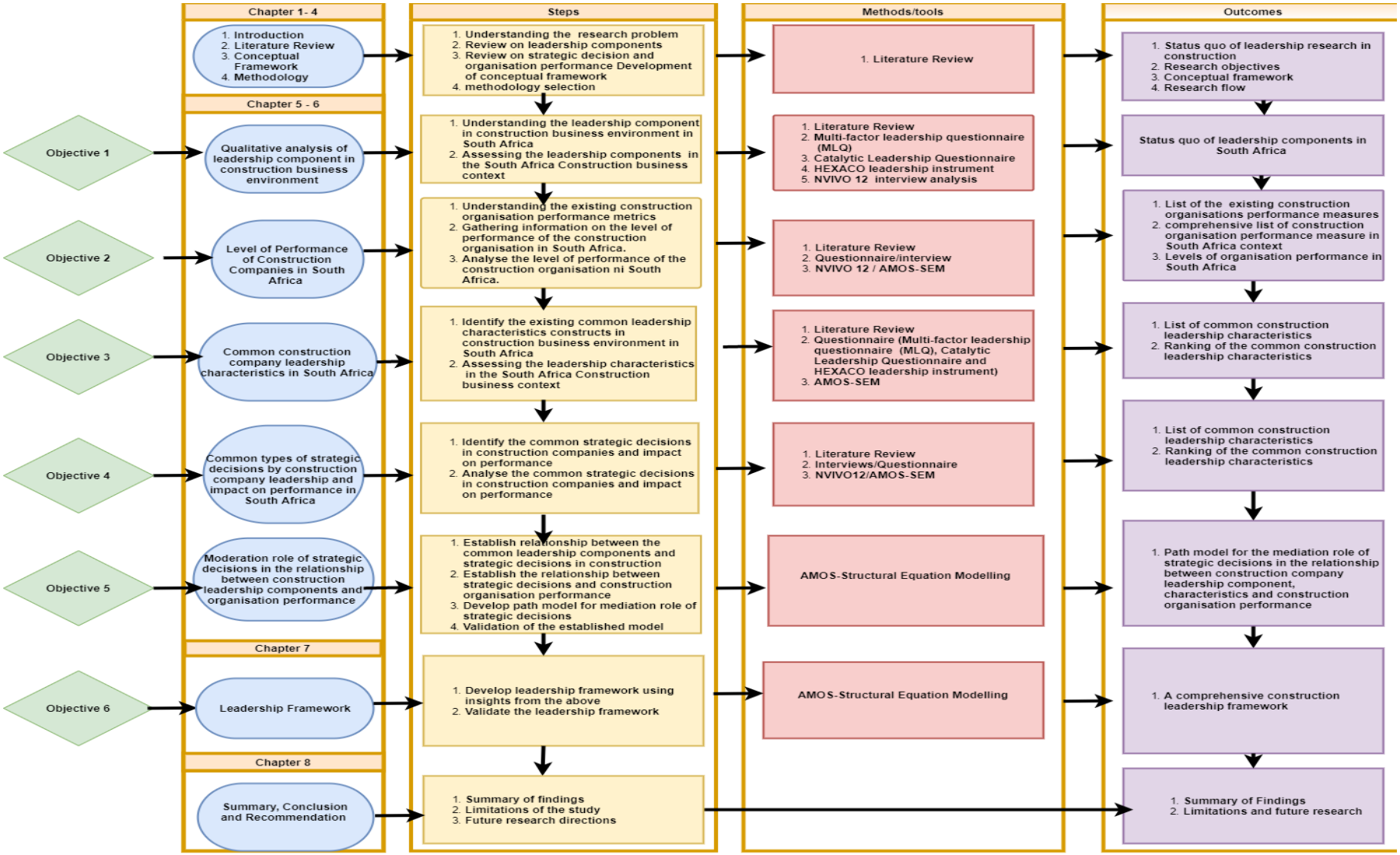


Figure 4.1 The research process for the study

4.2 The research philosophy and paradigm

Research philosophy is the system of generalized views of the world, which form beliefs that guide the actions of the researcher. Research paradigms are philosophical assumptions or the basic set of beliefs underlying the worldview of the researcher, based on ontological, epistemological, and methodological assumptions (Kaushik and Walsh, 2019; Creswell, 2015; Moon and Blackman, 2014; Guba and Lincoln, 1994). According to Kaushik and Walsh (2019), the topic of social inquiry, analyses, and interpretation of data are influenced by the world view, disciplinary ways of thinking and the researcher's favoured theories, professional or personal life experience, and values. They are also influenced by dynamics within the context of the enquiry, and political factors. Therefore, this study considers the issues of research philosophy and paradigms, in order to reduce bias and increase validity. Greener (2011) submitted that knowledge of philosophy increases the probability of a researcher making satisfactory choices in a methodical way. This is particularly true for researchers studying topics that involve human actions or behaviour in construction processes, such as leadership in construction that this study is considering (Abowitz and Toole, 2010). As shown in the Table 4.1, different research philosophies have different paradigms and perspectives on the ontology, epistemology, and methodology, as explained in the next section.

4.2.1 Ontology in research

Ontology refers to the 'science or study of being' and deals with the nature of reality (Blaikie, 2010). It is a system of belief that reflects an interpretation by an individual about what constitutes a fact, helping the researcher to be certain about the nature and existence of their research (Moon and Blackman, 2014). The different ontology in research and how the ontological position of the researcher was determined is presented in the following section.

Positivism

This relates to the philosophical stance of the natural scientist and entails working with an observable social reality to produce law-like generalisations (Saunders et al., 2016). It promises unambiguous and accurate knowledge and is often based on the objectives set. Based on this, researchers with this view of inquiry consider a series of logically related steps and make claims of knowledge using objectivity, standardization, deductive reasoning, and control within the research process (Kaushik and Walsh, 2019).

Critical realism

As a philosophy, this focuses on explaining what we see and experience, in terms of the underlying structures of reality that shape the observable events (Saunders et al., 2016). Further, this philosophy suggests that there are two steps to understanding the world: the first being the sensations and events that are experienced, and the second being the mental processing that goes on sometime after the experience. This second experience has been termed "retroduction", or "reasoning backwards" (ibid).

Interpretivism

This emphasises that humans are different from physical phenomena because they create meanings and interpretivists study these meanings (Saunders et al, 2016). The purpose of interpretivist research is to create new, richer understandings and interpretations of social worlds and contexts. Thus, for business and management researchers, this means expanding at organisations from the perspectives of different groups of people (ibid). Thus, interpretivist research is shaped from the bottom up, i.e., from individual perspectives to broad patterns, and ultimately to broad understandings (Kaushik and Walsh, 2019).

Postmodernism

This emphasises the role of language and of power relations, seeking to question accepted ways of thinking and give voice to alternative marginalised views. However, postmodernists also recognise the limitations of language (Saunders et al, 2016). Hence, this school of thought goes even further than interpretivists in its critique of positivism and objectivism, attributing even more importance to the role of language. They assert that any sense of order is provisional and foundationless and can only be brought about through language, with its categories and classifications.

Pragmatism

As a philosophy, this holds that human actions can never be separated from past experiences and from the beliefs that have originated from those experiences (Kaushik and Walsh, 2019). For a pragmatist, research starts with a problem, and aims to contribute practical solutions that inform future practice (Saunders et al., 2016). These authors contended that in pragmatist terms, the ways in which people in an organisation see things may differ, so much so that they could arguably be experiencing different workplace realities. The aim of this study is to develop a leadership framework for improving construction business organisation performance. As

such, this study provides a background of incessant failure of contracting organisations and suggests that the company leadership experience, characteristics, components, and strategic decisions could make a positive difference. Following this explanation, ***pragmatism*** is the ontological foundation that best fits this study. The table on the next page describes the differences between the different philosophical approaches.

Philosophy	Positivism	Critical realism	Interpretivism	Postmodernism	Pragmatism
Ontology: nature of reality or being	Real, external, independent, One true reality (universalism) Granular (things) Ordered	Stratified/layered (the empirical, the actual and the real) External, independent Intransient Objective structures Causal mechanisms	Complex, rich Socially constructed through culture and language Multiple meanings, interpretations, realities Flux of processes, experiences, practices	Nominal Complex, rich Socially constructed through power relations Some meanings, interpretations, realities are dominated and silenced by others Flux of processes, experiences, practices	Complex, rich, external 'Reality' is the practical consequence of ideas Flux of processes, experiences, and practices
Epistemology: what constitutes acceptable knowledge	Scientific method Observable and measurable facts Law-like generalisations Numbers Causal explanation and prediction as contribution	Epistemological relativism Knowledge historically situated and transient Facts are social constructions Historical causal explanation as contribution	Theories and concepts too simplistic Focus on narratives, stories, perceptions and interpretations new understandings and worldviews as contribution.	What counts as 'truth' and 'knowledge' is decided by dominant ideologies Focus on absences, silences and oppressed/ repressed meanings, interpretations and voices Exposure of power relations and challenge of dominant views as contribution	Practical meaning of knowledge in specific contexts 'True' theories and knowledge are those that enable successful action. Focus on problems, practices and relevance Problem solving and informed future practice as contribution
Methodology: Data collection techniques	Typically, deductive, highly structured, large samples, measurement, typically quantitative	Retroductive, in-depth historically situated analysis of pre-existing structures and emerging agency. Range of	Typically, inductive. Small samples, in depth investigations, qualitative methods of analysis, but a range	Typically, deconstructive – reading texts and realities against themselves.	Following research problem and research question Range of methods: mixed, multiple, qualitative, quantitative, action research

	methods of analysis, but a range of data can be analysed	methods and data types to fit subject matter	of data can be interpreted	In-depth investigations of anomalies, silences, and absences Range of data types, typically qualitative methods of analysis	Emphasis on practical solutions and outcomes
Philosophy	**Positivism**	**Critical realism**	**Interpretivism**	**Postmodernism**	**Pragmatism**
Ontology: nature of reality or being	Real, external, independent, One true reality (universalism) Granular (things) Ordered	Stratified/layered (the empirical, the actual and the real) External, independent Intransient Objective structures Causal mechanisms	Complex, rich Socially constructed through culture and language Multiple meanings, interpretations, realities Flux of processes, experiences, practices	Nominal Complex, rich Socially constructed through power relations Some meanings, interpretations, realities are dominated and silenced by others Flux of processes, experiences, practices	Complex, rich, external 'Reality' is the practical consequence of ideas Flux of processes, experiences, and practices
Epistemology: what constitutes acceptable knowledge	Scientific method Observable and measurable facts Law-like generalisations Numbers Causal explanation and prediction as contribution	Epistemological relativism Knowledge historically situated and transient Facts are social constructions Historical causal explanation as contribution	Theories and concepts too simplistic Focus on narratives, stories, perceptions and interpretations new understandings and worldviews as contribution.	What counts as 'truth' and 'knowledge' is decided by dominant ideologies Focus on absences, silences and oppressed/ repressed meanings, interpretations and voices	Practical meaning of knowledge in specific contexts 'True' theories and knowledge are those that enable successful action. Focus on problems, practices and relevance Problem solving and informed future practice as contribution

				Exposure of power relations and challenge of dominant views as contribution	
Methodology: Data collection techniques	Typically, deductive, highly structured, large samples, measurement, typically quantitative methods of analysis, but a range of data can be analysed	Retroductive, in-depth historically situated analysis of pre-existing structures and emerging agency. Range of methods and data types to fit subject matter	Typically, inductive. Small samples, in depth investigations, qualitative methods of analysis, but a range of data can be interpreted	Typically, deconstructive – reading texts and realities against themselves. In-depth investigations of anomalies, silences, and absences Range of data types, typically qualitative methods of analysis	Following research problem and research question Range of methods: mixed, multiple, qualitative, quantitative, action research Emphasis on practical solutions and outcomes

Source: *(Adapted from Kaushik and Walsh, 2019;* Adediran, 2018; *Saunders et al. (2016); and Oyewobi, 2014)*.

4.2.2 Epistemology in research

Epistemology centres on the study of knowledge and what types of evidence the researcher uses to make their claims (Creswell, 2015). Moon and Blackman (2014) considered that epistemology includes aspects of validity, scope, and methods of acquiring knowledge. As shown in Table 4.1, the epistemology in positivism is to use observable phenomena to provide credible data and facts and make law-like generalisations, using numbers. In critical realism, the researcher uses knowledge that is historically situated and facts are based on social constructions, whereas, in interpretivism, narratives, stories, perceptions, and worldviews are used to contribute to theory. The epistemology in post- modernism is determined by the dominant views and ideologies, while the practical meaning of knowledge in a specific context is the focus in pragmatism, which is the philosophical foundation of this study. Kaushik and Walsh (2019) suggested that pragmatists are more interested in practical outcomes than abstract distinctions, and their research may have considerable variation in terms of how 'objectivist' or 'subjectivist' it turns out. As a research paradigm, pragmatism is widely accepted for the mixed methods approach, and it is based on the proposition that researchers should use the philosophical and/or methodological approach that works best for the research problem that is being investigated (ibid).

Another thought for this approach is that using through the qualitative study, a comprehensive understanding can be obtained on the leadership phenomenon while the quantitative approach, on the other hand, enables testing to determine as well as fortify the hypotheses resulting from the developed conceptual model of the study. This includes gaining insight about the factors predicting successful leadership in construction organisations. It also allows the collected data to be regarded as the population from which the sample is extracted. Thus, using qualitative and quantitative approach studies' approach is likely to generate a better solution to the subjects of the study.

4.3 Research approach and strategy — Exploratory Sequential Mixed method

Creswell *et al.* (2003) noted that the choice of research approach is important because it provides a road map for how to conduct studies rigorously to best meet certain objectives. Hence, this study considered the choice of research approach before advancing. Scholars (Fellows and Liu, 2015; Abowitz and Toole, 2010) in the construction field affirmed the increasing importance of a mixed methods approach to improve the knowledge and understanding in construction research. Researchers studying topics that involve human actions or behaviour in construction processes, such as leadership, strategy, and performance were particularly advised to do so from this viewpoint. Therefore, this study adopted an exploratory sequential mixed method approach, shown in Figure 4.2 below. This method combines qualitative and quantitative data collection and analysis in a sequence of phases (Creswell & Plano Clark, 2018).

The core assumption in using this approach is that the literature review reveals a few findings to guide the enquiry (Mihas and Odum Institute, 2019). Further, the qualitative data is first collected and analysed, to develop themes that will drive the development of a quantitative instrument to further explore the research problem (Creswell and Plano Clark, 2018). Three stages of analysis were conducted: after the primary qualitative phase, after the secondary quantitative phase, and at the integration phase that connects the two strands of data and extends the initial qualitative exploratory findings. This mixed-method research approach has been strongly suggested for use by scholars for better understanding, and corroboration, based on synergy and the combined strengths of each (Saunders et al, 2016; Creswell, 2015; Abowitz and Toole, 2010). Figure 4.2 on the next page illustrates the integration of the two methods.

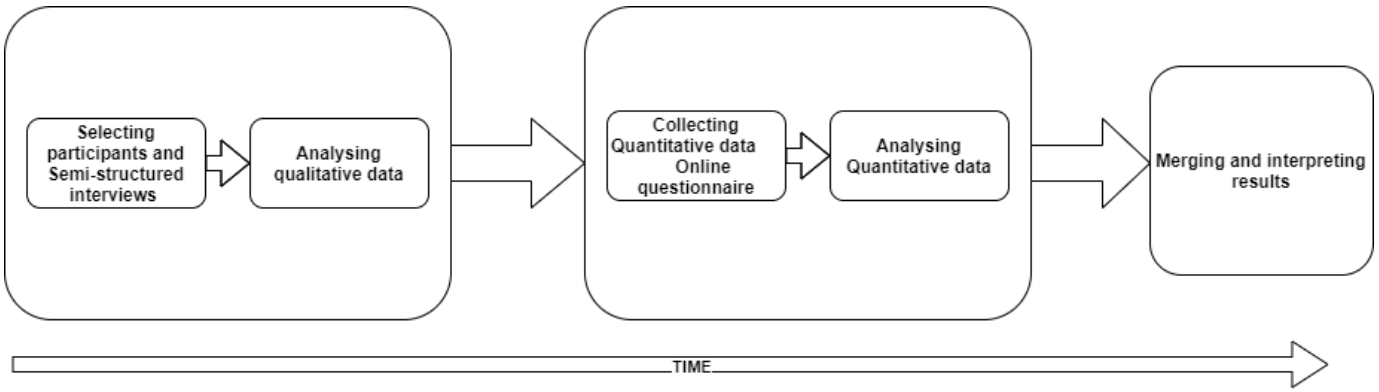


Figure 4.2 The research approach for the study *(Adapted from Creswell, 2015:84)***.**

4.3.1 The Qualitative stream

The qualitative research approach helps in gaining insights and generates data that is rich in content and provides scope for better understanding (Fellows and Liu, 2015). The purpose of the inquiry is to understand the leadership phenomenon in construction business organisations in South Africa. In qualitative research, an exploration of the subject is undertaken without prior formulations (Fellows and Liu, 2015). Given the biases intrinsic in perception of one's own leadership characteristics, leadership effectiveness is likely to be a highly subjective phenomenon open to multiple interpretations (Lacerda, 2015). Hence, the researcher developed questions that were in line with the aims and objectives of the study, as a guide for the semi-structured interviews.

4.3.2 The Quantitative stream

Watson (2015) noted that quantitative research encompasses a range of methods concerned with the systematic investigation of social phenomena, using statistical or numerical data. Further, it involves measurement and analyses data for trends and relationships to verify the measurements made. According to Stiles (2003), this approach supports the use of the questionnaire to elicit data, as well as using precise, reliable measures, testing hypotheses, and generating representative data through random sampling. Hence, the major advantage of this stream is the ability to investigate relationships within data and control bias (Creswell, 2015).

4.4 Population, sample size and sampling technique

In all, fifteen semi-structured interviews were purposively selected based on the recommendation of two prominent construction bodies in the Western Cape: the Master Builders Association (MBA) and the South African Forum of Civil Engineering Contractors (SAFCEC). The study participants are construction company leaders of large contracting firms, in positions such as Group Chairman, Chief Executive Officer (CEO) or Managing director in major building construction, civil engineering, or geo-technical companies of some standing. The participants' contexts, based on the semi-structured interviews, were linked to the existing body of knowledge from the review of the literature (Miles et al., 2020). Considering that the study focussed on large construction organisations across the nine provinces of South Africa, it was not possible to obtain data from the entire populace. Hence several factors were used to arrive at the sample size for the study. A stratified sampling technique was used to determine the construction organisations in the large category, i.e contractors listed in the grades 7-9 of the cidb Register of contractors (Oyewobi, 2014; Odediran, 2016). It was also important to determine the minimum sample size, using the appropriate method. The most suitable formula depends on several factors, including the aspect of the sampling method, the type of data collected and whether the population is large, small, or unknown; and the analytical method (Fellows and Liu, 2015; Lavrakas, 2008). The relevant formula for determining the minimum sample size was one introduced by Cochran (1977) and cited in Fordjour (2021), stated below.

$$= \frac{W^2 \, x \, Y^2}{H^2}$$

Where:

X represents the sample size,

W represents the value of the accepted level of risk, which corresponds to the true margin of error for a given acceptable margin of error. If the desired confidence level is 99%,

then *W* = 2.58

Y is the population standard deviation estimate = population variance estimates for a 5-point scale as 5, which is the inclusive range of the scale divided by 4. This is the number of standard deviations of possible values in the range (Fordjour, 2021).

H represents permissible margin of error for the estimated mean = number of points on the primary scale multiplied by the permissible/ acceptable margin of error, set at 0.05, which

corresponds to a 5% error rate, which is considered an acceptable margin for many studies (Enshassi, et al., 2016).

By providing the figures, the sample size was determined as follows:

$$X = \frac{2.58^2 \times 1.25^2}{0.05^2}$$

$$= \frac{6.6564 \times 1.5425}{0.0625}$$

$$= 164$$

Hence the minimum sample size of 164 research participants was considered appropriate for the study. The survey obtained 257 valid responses which was over and above the recommended sample size of 164 for the study. A total number of 452 organisations listed in the cidb grades 7-9 were contacted across the nine provinces of South Africa. Hence, to calculate the response rate (RR),

$$RR = \frac{Nr \times 100}{Tn}$$

Where *RR* represents the response rate.

Nr represents Number of valid responses and

Tn represents Total number contacted

Inserting the values, $RR = \frac{257 \times 100}{452}$

This represents a 56.86% response rate.

4.4.1 Data collection procedures — qualitative

The semi-structured interviews began on the 15th of August 2019 and were concluded on the 14th of February 2020, lasting for a period of 7 months. The average interview duration was 56 minutes. The interview protocol is exhibited in Appendix A2. The sample of this first phase is based on a small number of fifteen senior construction staff, intentionally selected to provide an understanding of the problem. A new or modified instrument was developed by this researcher, to test the larger sample, as recommended by Creswell (2015). The interview protocol was compiled in such a way that it did not limit the interviewee's possible answer. The interview protocol comprises of three sections, noted as A, B and C. The Section A

examines the background information of the participant, as well as the current role played in the leadership position. Section B relates to the strategic decisions of the company leadership, while the Section C deals with the organisation performance. The open-ended nature of the questions enabled further probing by the researcher for more insights as necessary (Creswell, 2015). Prior to each interview, participants were requested to fill and sign the consent form and their permission was sought for audio recording. Besides the audio-recording, field notes were taken of observations and reflected upon after the study, to support and make better sense of data gathered (Greenfield and Greener, 2016). All interview participants were required to fill the leadership research instruments namely, the Multifactor Leadership Questionnaire (MLQ), and the Catalytic leadership questionnaire and the leadership HEXACO questionnaire after each interview to understand their leadership profile.

4.4.2 Data collection procedures — quantitative

Prior to this aspect of the study, the piloting of the questionnaire developed from the initial qualitative phase was conducted with two construction executives and two peers, to ensure that the questions were easy to answer and unambiguous. Further, it was presented and discussed with the supervisor (Fellows and Liu, 2015). The feedback from this piloting process provided a research-oriented view of the components of the questionnaire, and the average time for completion for the questionnaire as 25 minutes. The questionnaire developed was administered via the Survey monkey to Group Chairmen, Chief Executive Officers (CEO) and Managing Directors, listed in grades 7-9 of the cidb Register of Contractors across the nine provinces of South Africa. The use of online questionnaires is the most effective method for accessing the maximum number of contractors across the nine provinces of South Africa, as suggested by Evans and Mathur (2005) and Wright (2005). The survey was opened between April and September 2020, lasting a period of six months. There are four sections in the questionnaire: A, B, C and D (Appendix A4). The first section, A, obtained the background information of the respondents and their organisation. The second section, B, obtained the strategic decisions of the company leadership. Section C has four sub-sections and takes inventory of the leadership profile of the respondents, including the role, traits, style, and skills. The last section of the questionnaire, D, obtained information about the company's growth and performance. Through this quantitative research stream, data is analysed more efficiently and provides more generalisable conclusions (Creswell, 2015).

4.5 Method of Data Analysis

4.5.1 Qualitative data analysis

The qualitative data analysis followed the stages of analysis suggested by Miles et al. (2020). First, the researcher archived the interview recordings and became familiar with the data by listening to each recording three times. The data obtained from the interviews with the construction executives was then transcribed verbatim. The transcripts were read and re-read with a view to highlight the salient words, actions, activities, phenomena, and context in relation to the study aims and objectives. NVivo 12 was used, a qualitative data analytical software that helps to organise unstructured mixed media, by providing tools for classifying and sorting data, to enable the identification of themes and patterns (Edhlund and McDougall, 2019). Using the concept coding and thematic analytical approach, codes were developed which were separated into the categories and themes presented and discussed in Chapter 6 (Miles et al., 2020 and Saldana, 2009). An initial number of 126 codes was generated, however, the irrelevant codes were dropped during the analysis, leaving the total remaining codes as 86 (see Appendix D). This number is deemed sufficient based on the recommended number of 80-120 codes (Miles et al., 2020 and Saldana, 2009).

4.5.2 Quantitative data analysis

Analysis of Moment Structures, Structural Equation Modelling (AMOS-SEM) was used as the statistical approach for analysing the hypotheses of the study, specifically the analysis of mean and covariance structures. An interesting aspect of AMOS is that, although developed within the Microsoft Windows interface, the program allows researchers to choose from two completely different modes of model specification (Bryne, 2001). According to Cheung (2015), SEM is one of the powerful statistical methods in the educational, social, and behavioural sciences that fits networks of constructs to data and has goodness of fit for indices. The unique ability of SEM to impute relationships between unobserved constructs (latent variables) from observable variables means that it is widely embraced as a tool for quantitative data analysis. Several studies relating to leadership and strategic management have used SEM to test relationships between variables (Lacerda, 2015; Oyewobi, 2014; Alade and Windapo, 2021; Robins, 2012). Also, Bartlett's test of sphericity was used to test the variables for validity and reliability. The Kohonen self-organising map (SOM) was used for clustering the inter-related processing of some strategic decisions (Mulier and Cherkassy, 1995; Curry et al., 2001;

Hutcheson and Moutinho, 2008; Cialfi, 2019). The SOM provides a picture or map of a set of data in an adaptive or intelligent way. This is regarded as a form of clustering analysis, which is different from more conventional methods of clustering, because the transformation does not involve the same space as the data, but is subject to a form of typology described by the prototypes. The aim is to transform an incoming signal pattern of an arbitrary dimension into a one- or two-dimensional discrete map, and to perform this transformation adaptively in a topologically ordered fashion (Cialfi, 2019. As a result, the location of the neurons becomes ordered, and an input feature is created on the lattice. Further, it is suitable because of the ease and speed with which it helps to formulate a quality path-diagram (ibid).

4.6 Validity and reliability in research

4.6.1 Validity in quantitative and qualitative research

Abowitz and Toole (2010) suggested using operational definitions and measures developed by others and already reported in the literature, to achieve high levels of validity. Hence, well-established psychological leadership instruments, the multi-factor leadership questionnaire (MLQ), the HEXACO personality traits and Catalytic leadership questionnaire were used to take inventory of the leadership profile of the executives. In addition, the components of strategic decisions and constructs of organisational performance measures were based on established parameters in the literature. Prior to the interviews, a peer debriefing of the interview protocol was conducted on the 4th of July 2019 with two colleagues and the research supervisor to ensure that the research instrument was useable, and the questions were clear and precise (Miles et al, 2020). As a result of this pilot study, some questions exhibited in Appendix D were removed from the interview guide as it was recognized that they were not able to address the research questions. The feedback from the initial pilot of the qualitative research instrument thus improved the interview protocol and helped to focus on the right questions, based on the objectives of the research. This contributed to improving the trustworthiness of the research (Miles et al., 2020).

4.6.2 Reliability in quantitative and qualitative research

Cronbach's Alpha and average variance were used as measures of scale reliability and internal consistency for the study. Cronbach's Alpha is one of the most adopted tests for internal consistency (Oyewobi, 2014; Garson, 2016). The Cronbach alpha reliability test was used to verify that the scales that have been constructed for the resesrch are fit for purpose. A general accepted

rule is that a Cronbach Alpha of 0.6-0.7 indicates an acceptable level of reliability, and 0.8 or greater a very good level. This study's Cronbach alpha reliability rating is 0.70, which is considered moderate and acceptable (Pallant, 2020; Taber, 2018). Factor loadings was used to reduce the data and determine variability among the observed correlated variables. According to Salkind (2010), factor analysis is a widely used method in social and behavioural research to better understand and predict observed variables. Bartlett's test for sphericity was used to ensure that all data met assumptions of procedures, and to check for redundancy between variables in the study. Bartlett's test is one of the best overall methods to test the homogeneity of variances (Arsham and Lovric, 2011). Using Nvivo 12, a Computer-Aided Qualitative Data Analysis (CAQDAS) software programme exhibited in Appendix C, codes were generated for the study (Miles et al., 2020; Saldana, 2009). The advantage of using software for more rigour and speed in analysing complex qualitative data has been established in the literature (Maguire and Delahunt, 2017).

4.7 Ethical considerations

Ethics are the principles of honesty and good human behaviour that must be central to every aspect of research (Greenfield and Greener, 2016). Hence, this study considered ethical principles such as honesty, integrity, informed consent, confidentiality, and the right to privacy (Adediran, 2018). The ethical approval for the research was sought before the data collection began. The Ethics in research committee of the Faculty of Engineering and the Built Environment of the University granted the approval on the 4th of February 2020 (see Appendix A1). In addition, the participation in the research made voluntary. The informed consent of participants was sought before the study and they were allowed to discontinue or withdraw at any point, if they so wish. The confidentiality of all participants was assured, and interview participants and survey respondents were codified to maintain anonymity.

4.8 Chapter summary

This chapter has offered a guide to the research philosophy, and a deeper understanding of the approach and methods adopted for the study, including the data collection and analysis. The choice of the mixed methods approach and how it was employed for the study has been presented. Subsequently, the next chapter presents the results and discussion of findings obtained from the semi-structured interviews with 15 senior construction executives in the Western Cape, South Africa. The analysis and interpretation of the data collected at this stage of the study is the focus of the chapter.

CHAPTER FIVE

QUALITATIVE DATA PRESENTATION AND ANALYSIS

5.1 Introduction

This chapter presents the data from the interviews, including the profile of the respondents and their respective organisations, and their perception of the factors affecting the growth, performance, and sustainability of contractors in the South African Construction industry. The findings from the interview of fifteen senior construction executives which began on 15 August 2019 and was concluded on 14 February 2020, lasting for a period of 7 months, are presented. Both face-to-face and telephonic means were used to conduct the interviews and obtain data from participants.

5.2 Qualitative data presentation

Prior to each interview, a consent form was sent to each interviewee, with a questionnaire to capture and determine their leadership profile (the leadership HEXACO traits, skills, and style). The findings of the data from the interviews are presented. The interview sample is attached in Appendix C2. The conversation of the interviewee with the highest number of years in the leadership position (37) is presented.

5.2.1 Profile of interviewees and their companies

The general profile of the interview respondents is presented in Table 5.1. This table covered Questions 1 to 5 in the interview protocol. To maintain anonymity, the interview participants are codified using letters A to O. Participants hold positions as either Group Chairman, CEO or Managing director in a major building construction, civil engineering, or Geo-technical company of good standing in the Western Cape province of South Africa. All the respondents' companies have affiliation with either the Master Builder Association (MBA), the South African Forum of Civil Engineering Contractors (SAFCEC) or both. The respondents' companies are also listed in the large category (Grades7-9) of the construction industry development board (cidb), Register of Contractors (ROC). It is noteworthy that two of the companies are not listed in the cidb register although they operated in a capacity equivalent to the stated grade. Their experience over more than 20 years in construction and operation of all the companies provides them with significant experience in the industry, enabling them to provide rich information especially in terms of sustainable construction. The 5 to 36 years of

leadership experience, also allow for the level of insight required for this study on leadership in construction. While some of the respondents started and owned their companies, others worked through the ranks to attain the headship position in their companies. Based on this, the respondents are placed appropriately to allow for the level of insight required for this leadership study. The longevity of the respondents' companies, which ranges from 15 to more than 100 years, indicates that they have operated sustainably over time. A significant number of the interviewees also have a technical background.

Table 5.1 Profile of interviewees and their companies

Participant	Position	Discipline	Company age	Years in industry	Years with company	Years in position	Company Cidb grade	Duration	Interview mode and date
A	Managing Director	Civil Engineering	55	36	29	10	7CE/GT	38m.36s	Telephonic 27/02/2020
B	Group Chairman	Qty Sur. & Project Mgt.	37	46	37	37	9GB/CE	29m.35s	Telephonic 03/02/2020
C	Managing Director	Constr. Supervision &Quantity Surveying	100+	40	25	6	9GB/CE	79m.56s	Face-to-face 15/08/2019
D	CEO	Quantity Surveying	27	33	27	27	7GB	55m.07s	Face-to-face 14/11/2019
E	CEO	Building Management	69	50	50	16	7GB	75m.1s	Face-to-face 27/08/2019
F	CEO	Industrial & Mech Eng.& MBA	22	24	22	22	8CE/GB	30m.3s	Telephonic 24/10/2019
G	CEO	Eco. /Acc. & MBA	100+	34	34	16	9GB/CE	89m.55s	Face-to-face 11/7/2019
H	CEO	BSc Hons in Civil Engineering	35	53	33	35	8CE	76m.5s	Face-to-face 23/08/19
I	Managing Director	Building & Project Mgt.	40	20	19	13	8GB/CE	55m.12s	Face-to-face 17/12/2019
J	Commercial Director	BScHons. Quantity Surveying	15	23	15	15	7GB/CE	46m.59s	Face-to-face 04/07/2019
K	CEO	BScHons Civil Engineering	24	22	22	22	SK6	30m.38s	Face-to-face 08/10/2019
L	Managing Director	Construct. Management	30	16	5	5	9GB/CE	74m.26s	Face-to-face 02/08/2019
M	Group Chairman	Mechanical Engineering	52	30	27	14	7GB	67m 01s	Face-to-face 21/01/2020

Participant	Position	Discipline	Company age	Years in industry	Years with company	Years in position	Company Cidb grade	Duration	Interview mode and date
N	Managing Director	Civil Engineering	49	23	23	12	9GB/CE	49m..3s	Face-to-face 20/08/2019
O	CEO	Industrial Psychology/ People Management	34	29	29	11	9GB	33m36s	Face-to-face 30/07/2019

5.2.2 Presentation of responses on leadership role and responsibilites of interviewees

Interviewees were asked to state their roles and responsibilities in their leadership positions. The verbatim statements from responses of all interviewees are presented in Table 5.2. The responses show that interviewees played different roles in their positions, ranging from strategic and oversight, to operational and functional roles. While six of the interviewees' roles can be classified as strategic (B, D, E, G, L, M and O), dealing with broader issues beyond the immediate, others had operational roles, dealing with day-to-day activities and business-related issues. For instance, interviewee M, whose role is strategic, stated that

"I am looking at the bigger picture as to where we want to go and mentoring and assisting employees." Interviewee M

In contrast, interviewee I stated that

"I am responsible for acquisition of plants, and company finances, Client acquisition and financing upon acquisition, hiring and firing of employees and for tendering." Interviewee I

Further, the leadership roles of the interviewees are different depending on the company structure, size, and title or position in the organisation.

For instance, interviewee A stated that

"*My role as the Managing director is first and foremost looking after and securing the work within the company so that we can obviously have business to do, and money come in." Interviewee A*

Interviewee B on the other hand explained that: *"We have two CEOs; we have two main companies. One is construction and the other is developments. I would look after the strategic side of the business; I would chair the board meetings."*

Another interviewee, G, is a CEO in his company group and clarified his role as follows: *"I serve as a CEO on the mother board, and I also serve as Managing Director on the construction company board. From our perspective, the way it works is that the board sets the strategic objectives and I report back and give feedback to the board whether we are maintaining our strategic objectives and in the shorter term, are we doing the right things? Are we profitable? Are our people happy working for us?"* Interviewee G

Other interviewees with the position as CEO or MD of their companies without such group affiliations such as A, D, I, J and L are not required to report back to the group, but take the overall responsibility for their company. For instance, Interviewee I pointed that

"I am responsible for staffing, overseeing the office, and ownership as well as the projects delivery." Interviewee I

Table 5.2 Interviewees' roles and responsibilities in their leadership position

Interviewee	Position	Stated roles and responsibilities
A	Managing Director	• Securing the work within the company • Checking for errors and consistency in tendering • Looking after the operations of the company
B	Group Chairman	• Strategic side of the business • Chair the board meetings • Supporting, mentoring, and growing company leaders
C	Managing Director	• Responsible for the company business • The procurement of work, the execution of work, the managing of the business • Reporting to the group. • On the outside, responsible through management teams on all projects • Responsible for the performance of the projects
D	CEO	• Oversee everybody • Making sure all the people who report to me are fulfilling their roles • Protecting the company's interests in terms of its name, reputation, financial interest
E	CEO	• Responsible for the overall planning of the business; commercial and production. • Support functions to accounting, and procurement department. • Overseeing capacity
F	CEO	• Run the company in terms of securing deals and in terms of what we agree to contract on. • Very much involved in investing in new business
G	CEO	• Huge input into the strategic goals formulation of the company • Implementing the strategic vision. • Reporting back and giving feedback to the board whether we are maintaining our strategic objectives.
H	CEO	• Acquisition of plant, and company finances • Client acquisition and financing upon acquisition • Hiring and firing of employees • Responsible for tendering
I	Managing Director	• Staffing • Overseeing the office, and ownership • The projects' delivery and liability
J	Commercial Director	• I am responsible for getting work in and sending all business emails.

Interviewee	Position	Stated roles and responsibilities
K	CEO	• I will focus on the total team • Provide all the resources to be able to do a good job • Ensure flow of profitability
L	Managing Director	• Building a culture in the business; that is, a performance-driven culture • Creating enough opportunities for black people and women in the business
M	Group Chairman	• Looking at the bigger picture as to where we want to go • Mentoring and assisting employees
N	Managing Director	• Responsible with estimating department for tendering • Negotiations with clients • Responsible for the delivery and the execution of contract
O	CEO	• I covered the strategic side • Networking our client base and market exposure • Looking after our people

5.2.3 Interviewees' major challenges in leadership position and approach

Interviewees were asked to explain the major challenges in their leadership position and how they have addressed these challenges. This question seeks to understand and establish the interviewees' leadership traits, skills, and characteristics. In addition to this question, leadership instruments namely (MLQ, LHI, and CLQ), presented in the next section were also used to profile the leadership components, and characteristics of the respondents. The responses on the challenges faced in the leadership roles of the interviewees shown in Table 5.3 indicates they were mostly faced with economic challenges. In addition, some of the interviewees included technical, and legislative issues as their major challenges. According to Interviewee B:

"First, the challenges in the country at the moment is the economy and the construction industry, which has been through the worst time to my knowledge in probably forty to fifty years. I have never seen that in these 44 years of my working career. So, it is hectic to see what has happened to the industry." Interviewee B

This interviewee explained that he is dedicated to ethical principles and challenging the industry to do the same to salvage the image of the Construction industry in South Africa:

"I focus on XXX (intentionally codified by researcher). *If you look on the website, you will see that we have a strong focus on ethics and challenging the industry and the players and competitors to be ethical in all their dealings. And of course, the industry has been in the news for all the wrong reasons with all the corruption and the stuff up to 2010 with the Soccer World Cup and so forth. So, it has been quite a radical."* Interviewee B

Other interviewees revealed different approaches to tackling the economic situation, such as positive attitude, and determination to overcome the challenges:

"You need to be ready to deal with challenges because the challenges are there. Now we are in survival mode, so being able to operate under severe pressures around the business and the way it is operating. The biggest fear is that clients do not pay us for the work we do for them. To manage that, you need to have a level of resilience. And probably most importantly, you must be positive about what you do, how you do it, and about the business as a whole." Interviewee C

Technical challenges identified by some interviewees include issues related to dealing with multiple stakeholders on projects, having skilled workers, and clients constantly making changes, as shown in the verbatim statements below.

"*I think the biggest challenge is about how do you manage projects, with so many different stakeholders?"*- Interviewee L.

To manage this, the interviewee explained that

"*What I learned as well is communication is very key in leadership; if you do not communicate, it makes matters worse."* Interviewee L

Another interviewee who voiced concerns about technical challenges mentioned that:

"The problem is that clients do not understand that the systems and structures of build are very, very specific and clients are constantly changing things, not understanding how important their role is in information delivery and making sure that they get it to you time. So, I ask them to sit down, and you must guide them along in that process. So that is the biggest difficulty in my own opinion." - Interviewee N

Table 5.3 Challenges faced in leadership position and approaches

Challenge	Interviewees	Displayed Leadership characteristics
Economic	A, B, C, D, E, F, G, H, I, L, M, N, O	Dedication to ethical principles, positive attitude, resilience, hard work
Technical	A, B, C, F, J, H, I, L, N, F	Communication, training, mentorship system
Legislative	H, M, K	Agreeableness, conscientiousness

Interviewees who revealed legislative issues as the paramount challenge, identified compliance with the BBEEE policies and competing against non-compliant contractors as the biggest issues. The leadership characteristic displayed included being conscientious, as noted by Interviewee M:

"*Compliancy and competing against non-compliant contractors is probably 60% of our problem. We have the Building Industrial Park and Council (BIPC) and I report any person who does not comply with their legislation, but unfortunately, our government does not apply and follow through with its own legislation."* Interviewee M

5.2.4 Presentation of leadership components and characteristics of interviewees

The interviewees' leadership components and characteristics were examined in different ways to determine their leadership traits, leadership skills, and leadership style. As stated previously, all interviewees were requested to fill the leadership research instruments, namely the Multifactor Leadership Questionnaire (MLQ), Catalytic leadership questionnaire (CLQ) and leadership HEXACO questionnaire, before or immediately after each interview. This was required to assist in the profiling of their leadership components and characteristics. Table 5.3 presents the summary of the leadership scores of each of the examined factors. The results reveal that respondents possessed moderate to high scores in all the transformational leadership components, II- Idealized Influence, IM-Inspirational Motivation, IS- Intellectual Stimulation, IC-Individualized Consideration, (14 of 15), except for respondent H, who scores the highest

in the Contingent reward (CR) component and can therefore be categorised as a transactional leader.

The low score of respondents in the Laissez-faire (LF) leadership means that all the interviewees consider themselves to be actively involved in leadership of their organisations. With respect to the leadership skills, all the interviewees score high in the catalytic skills components although at varying degrees. Two of the interviewees L and N are extremely catalytic based on the aggregate scores, all others are highly catalytic except for F and J who are only moderate. This suggests that the respondents communicate clearly, stimulate their employees with optimism, and act with integrity (demonstrating ethical principles), applying their leadership vision to win their employees' confidence. Interviewees considered themselves to possess the requisite skills to motivate and impact upon their employees, build credibility, and foster teamwork in their organisations.

The HEXACO inventory of the interviewees reveals that most of the interviewees (14) scored high H-Honesty-Humility, except for respondent D, who has a score of 7 which is on the average. This implied that interviewees considered themselves to be honest, and ethical in their decision-making and business dealings, and inclined to societal conventions, laws, and norms. The interviewees (14), scored moderate to high in E-Emotionality, with only one low score of respondent L. This suggests that most of the interviewees considered themselves to be emotionally stable, even in conflictual situations. This also means that they could make appropriate professional decisions in unpredictable situations. The interviewees rated high in the leadership HEXACO.

E-Extraversion suggests that they are all sociable, optimistic, assertive, and energetic. They also have an optimistic view of the future. 14 of the 15 interviewees scored moderate to high scores in A-Agreeableness, revealing that the interviewees mostly avoid conflict and get along with others easily. All the interviewees scored moderate to high in C-Conscientiousness, showing that they create a fair work environment and exhibit ethical behaviours. As regarding O-Openness, all the interviewees also scored moderate to high. This shows that the interviewees are intellectually curious, creative, and capable of adapting to other perspectives.

The semi-structured interviews allowed the researcher to establish how each of the leadership traits and skills reflected on the organisation's performance. This aspect was further established during the interviews, in which the company leaders were specifically asked about their involvement in the decision-making of the organisation. In addition to the presented leadership

roles and the leadership components scores reflected in the table, the last question of the interview requested the advice of the construction executives to upcoming leaders or people who aspire to their type of role, to understand their leadership paradigms and imperatives.

Table 5.4 Leadership inventory scores of interviewees

Respondent	Multi-factor inventory	Catalytic inventory	HEXACO inventory
A	II-9, IM-9, IS-8, IC-9, CR-9, MB-9, LF-2 Transformational	BC-18, CC-20, GM-19, AI-18 Total-75 Highly Catalytic	H-20, E-16, X-12, A-12, C-19, O-14
B	II-9, IM-9, IS-9, IC-9, CR-9, MB-8, LF-4 Transformational	BC-19, CC-17, GM-16, AI-17 Total-68 Catalytic	H-16, E-9, X-13, A-13, C-16, O-11
C	II-10, IM-11, IS-8, IC-9, CR-9, MB-9, LF-2 Transformational	BC-16, CC-15, GM-15, AI-16 Total-62 Catalytic	H-15, E-14, X-12, A-11, C-13, O-11
D	II-6, IM-4, IS-6, IC-5, CR-7, MB-5, LF-4 Transformational	BC-16 CC-15, GM-9, AI-17 Total-57 Catalytic	H-7, E-10, X-11, A-11, C-14, O-12
E	II-12, IM-10, IS-6, IC-10, CR-10, MB-7, LF-0 Transformational	BC-18, CC-20, GM-19, AI-18 Total-75 Highly Catalytic	H-16, E-9, X-14, A-10, C-17, O-13
F	II-7, IM-8, IS-11, IC-7, CR-9, MB-6, LF-3 Transformational	BC-13, CC-12, GM-16, AI-15 Total-56 Moderately Catalytic	H-15, E-17, X-15, A-8, C-14, O-17
G	II-9, IM-11, IS-9, IC-10, CR-9, MB-11, LF-3 Transformational	BC-19, CC-17, GM-16, AI-13 Total-65 High	H-14, E-10, X-14, A-9, C-15, O-14
H	II-8, IM-7, IS-6, IC-7, CR-12, MB-5, LF-0 Transactional	BC-15, CC-17, GM-19, AI-17 Total-68 High	H-19, E-13, X-13, A-14, C-16, O-16

Respondent	Multi-factor inventory	Catalytic inventory	HEXACO inventory
I	II-9, IM-9, IS-11, IC-11, CR-10, MB-12, LF-2 Transformational	BC-21, CC-21, GM-17, AI-13 Total-72 High	H-20, E-15, X-16, A-19, C-19, O-10
J	II-8, IM-7, IS-7, IC-8, CR-10, MB-11, LF-2 Transformational	BC-14, CC-11, GM-18, AI-13 Total-56 Moderately Catalytic	H-18, E-15, X-11, A-16, C-16, O-12
K	II-10, IM-9, IS-10, IC-8, CR-7, MB-7, LF-3 Transformational	BC-15, CC-17, GM-13, AI-17 Total-63 Catalytic	H-20, E-11, X-15, A-15, C-15, O-11
L	II-12, IM-9, IS-12, IC-11, CR-10, MB-9, LF-4 Transformational	BC-21, CC-21, GM-21, AI-19 Total-82 Extremely Catalytic	H-19, E-5, X-14, A-10, C-19, O-15
M	II-7, IM-6, IS-8, IC-6, CR-8 MB-7, LF-3 Transformational	BC-19, CC-16, GM-16, AI-17 Total-68 Catalytic	H-17, E-10, X-13, A-15, C-11, O-12
N	II-10, IM-12, IS-8, IC-9, CR-9, MB-9, LF-2 Transformational	BC-20, CC-19, GM-21, AI-21 Total-81 Extremely catalytic	H-20, E-12, X-13, A-5, C-18, O-14
O	II-9, IM-9, IS-8, IC-9, CR-9, MB-9, LF-2 Transformational	BC-19, CC-19, GM-18, AI-14 Total-70 Catalytic	H-19, E-15, X-14, A-12, C-9, O-9

Key: MLQ components interpretation: II - Idealized Influence, IM — Inspirational Motivation, IS — Intellectual Stimulation, IC — Individualized Consideration, CR — Contingent Reward, MB — Management-by-Exception, LF — Laissez-faire Leadership. MLQ — Score range (9-12 = High, 5-8=Moderate, 0-4 = Low)

Catalytic components interpretation: BC — Building Credibility, CC — Creating Cohesion, GM — Generating Momentum, AI — Amplifying Impact. Score range (15-21 = High, 8-14 = Moderate, 0-7 = Low)

HEXACO components interpretation= H — Honesty-Humility, E— Extraversion, A — Agreeableness, C — Conscientiousness, and O — Openness (13-20 = High, 7-12 = Moderate, 1-6 = Low).

5.2.5 Interviewees' level of involvement in strategic decision-making

The Section B aspect of the interview protocol relates to the strategic decisions of the interviewees. First, the interviewees were asked to state their level of involvement in formulating their company's long-term planning and strategic decision-making. The response from this is presented in Table 5.5. As shown, the majority (10 of 15 interviewees) stated that they are very involved or fully involved in their organisational long-term planning and strategic decision-making. Further probing revealed that these executives were involved 100% in the organisational planning and responsible for the strategic decision making of their organisations. For example, while Interviewee B noted that

"I am responsible for the strategic side of the business…" Interviewee B

*I*nterviewee E stated that

"I am responsible for the overall planning of the business." Interviewee E

Four of the interviewees, however, stated that they were only partially involved because they were managing partners. According to Interviewee C,

"We call it business planning, the experts consist of the Managing Directors of the various divisions within the company as well as certain other executives." Interviewee C

One of the interviewees, however, stated that he did not get involved in the long-term planning and company strategic decisions at all. According to interviewee K,

"That is under-emphasized, I focus on the small building blocks of construction. We've got 15 teams in the field; I will focus that the total team has got all the resources to be able to do a good job and out of that must flow profitability." Interviewee K

This suggests that most of the interviewees are well-placed to give insight into the subject of the enquiry. This is evident in the data shown in Table 5.5 on the next page.

Table 5.5 Level of interviewees' involvement in organisational planning and strategic decision making

Level of involvement	**Interviewees**
Fully involved- (100%)	A, B, D, E, F, G, I, L, M, N, O
Partially involved (up to 50%)	C, J, H, I
Not involved	K

5.2.6 Presentation of interviewees' timeframe for strategic decisions

The timeframe for decision making in the interviewees' organisation was explored. The response to this question shown in the Table 5.6, reveals that there were three categories. Six of the interviewees planned between 1-2 years ahead for their strategic decisions. Upon further probing, this category of the respondents explained that due to the current economic situation in South Africa, it is difficult to plan ahead for the long term. According to interviewee A,

"In this current environment it is quite difficult to predict what the long-term goal is. I think a lot of construction companies in South Africa are working on a survival mechanism, we do not know, and it has been quite difficult particularly in the last five years. Yes, it has become a scary process." Interviewee A

Another category, eight of the interviewees considered 3-10 years to be long term planning. According to one of the interviewees in this group,

"We do not think 20, 30, 40 years ahead. I think in South Africa, it is just too difficult, but we think 5, 10 years ahead. I would say 10 years is long term for us." Interviewee F

One of the participants, however, presented a dissenting view, stating that the company is driven by the 100- year long-term plan of the company vision:

"We have set ourselves a 100-year dream. So, if you look at our purpose 'to improve the quality of life in Africa, through infrastructure development' and you look at our values and strategic

intent and so forth, you will pick it up". Interviewee BThis suggests that the period set for strategic decisions of interviewees differ and ranges from short-term, medium-term to long-term.

Table 5.6 Time frame for decision-making of interviewees

Interviewee	Time frame (years)
A	3-5
B	100
C	3-10
D	1
E	3-5
F	5-10
G	3-5
H	1
I	1-2
J	1-2
K	1
L	3
M	1-2
N	3
O	3-5

5.2.7 Presentation of interviewees' strategic decisions

Interviewees were asked two direct and eight indirect questions to elucidate their strategic decisions. The direct questions asked included the decisions taken at the company leadership level of interviewees, that had impacted their organisations' performance in the last 5-10 year period or more, considered as long-term, and which decisions had the most significant impact on the organisation. In addition, interviewees were asked indirect questions based on the organisational planning, and whether the National Development Plan (NDP) was considered in developing their company strategy; how they procured their services, the major changes in how they operated their company overtime; and to what they committed most or a significant part of the profits of the business? Also, what were the major traits of the growth and success of their company? What corporate social responsibility role did they perform in the community? How did they go about the ethical issues of the business and the major milestones

or significant turning points for the company, since assuming their respective leadership positions?

5.2.8 Leadership advice of interviewees

The interviewees were asked to give a word of advice to someone who aspired to their type of role. This question seeks to understand their leadership imperatives, paradigms, and narratives, in summary. The leadership advice of interviewees shown in Table 5.7 reveals that interviewees prioritise different things as important for success and in operating a construction company sustainably. This advice was extrapolated and included as components of leadership in the construction business organisation, under the qualitative data analysis section. It informed part of the leadership framework which the research developed. For instance, the leadership advice of interviewee J suggests that hard work, dedication, and ethical leadership is important for operating a construction company sustainably, as shown:

"*I think it is hard work and I think you just have to be focused and just stick to your job, do not give up, because there are hard times you know; I mean that you will tender and tender and you don't get a job and people are not interested. But when it does come in, it comes quickly and then you get too busy. Again, be a decent and ethical person, I think that is the main thing, because I think our industry has had such a bad name, speaking about the collusion that happened with the World Cup stadiums."* Interviewee J

Table 5.7: Leadership advice and imperatives of interviewees

Interviewee	Statements of leadership advice
A	Focus on providing a good quality service and the money will come. If you provide a good service and you end up providing an excellent service, the money will come.
B	The industry is very detail, and it is not easy to get into. As far as the quality control is concerned, European standards are used and are tough. If people get involved with you and you do not have the right price, they will get seriously hurt.
C	The biggest fear is that clients do not pay us for the work we do for them. To manage that, you need to have a level of resilience. And probably most importantly, you must be positive about what you do, how you do it, and about the business as a whole.
D	I think the single most important aspect is that you need a good role model. If you have seen somebody that literally started at the very bottom follow the right route, did the right things and built it up from nothing from scratch and eventually got up and saw what they did and how they do it and their dedication and the hard work…

Interviewee	Statements of leadership advice
E	I think it is not a specific say. It is in a period that you do certain things in a certain way. You behave in a certain way. It is a moulding where you blend somebody into your way of thinking and into your way of running the business and it obviously is a way that works, because he has been here for that long. So that person accepts it as a way to do things because it works.
F	I think my advice to someone who likes construction but actually wants to take care of the business, I would suggest go and do some studying around business or go and do an MBA or bachelor's in commerce or whatever in order to learn about business and see if it is really what you want to do.
G	I have only one piece of advice; know your people. The numbers do not lie. The numbers do not change, when you do a bill of quantities, it does not change. Make sure that your people understand what the vision is. If your people do not align themselves with the vision, then you got the wrong people.
H	We must stop being politically correct and we must tell the truth if there is truth to be told because it does not help us if we do not. If there are problems with the client, please sort it out and do not get involved in any fraud, corruption, collusion because the biggest thing that has happened to this construction industry and has not recovered is the collusion that happened in the late 2000. (Ethical leadership)
I	I think the key is, it is not about you, you know, the key is, it is about the team and making sure that all participants are working together, that it is a relationship building, I think people need to focus on the interpersonal relationship aspect of project management. It is a critical aspect that few people are skilled in.
J	I think it is hard work and I think you just have to be focused and just stick to your job do not give up because there are hard times you know. Again, be a decent and ethical person, I think that is the main thing because I think our industry has had such a bad name, speaking about the collusion that happened with the World Cup stadiums.
K	You need to go get some experience. Learn your trade first. That is, number one. I found out pretty soon after I started my business that to survive, I do not have to work too hard; I can survive fairly easily but I want if I want to do well, I need to just put in more. The more, you put in, the more you get out. (Dedication)
L	It helps to have mentors. So, I have been lucky, I have got a lot of good mentors around me. It helps to have mentors. (Mentoring)
M	Go do it in another country and you can go and research it, and you can ask people, I have always maintained I will be the last one to switch the lights off, and then suddenly now I do not have any faith in our leadership. (Geographic relocation)
N	If you are moving into a position of leadership, make sure that you listen to the people around you. Hear what they are saying, do not be arrogant in that process. You can be hard, but you need to keep your ears opened. If it is closed, you are going to be a failure. Also, guide your people properly, develop them, and make sure that they are part of learning as well. Then support them in their crisis. (Emotional intelligence)

Interviewee	Statements of leadership advice
O	Do not try and be too big. Do not grow, depending on the economy. So only grow the business when you know that the conditions for growth are correct. Do not try and force growth when conditions are not conducive to growth.

The researcher also reflected on some observable and visible leadership qualities that emanated from the interview conversation, which established some of the leadership components in the South African context. For instance, the researcher further reflected on the high "A- agreeableness" score of one of the interviewees who explained the benefits of yielding to the advice of the finance department not to expand, despite his ambition:

"The temptation when the construction industry was really booming for us to open branches in Durban and Johannesburg and have three branches in Durban, Johannesburg and Cape Town. And that was really an ambition of both myself and my engineering partner, but our financial department never supported that thing. They did not like the idea of losing control and having offices all over the country. And ultimately, they won, and we have maintained our head office only in Cape Town". This action paid off several years later because it allowed us to keep a very tight control of our business. And in terms of the oiling now, it has been an incredibly important decision because it would have resulted in retrenching and hostile treatments of staffs which they never have had to do." Interviewee B.

5.3 Qualitative Data Analysis

5.3.1 Components of leadership in the context of the construction business in South Africa

There were five major themes that emanated from the interview findings, as components in relation to the study objectives, presented in the next sections. Each of these emerging themes and the analysis are presented in the following sections.

Good understanding of the construction business

Figure 5.1 is the word cloud showing keywords from all the interview files based on the interview questions in Appendix C1 and using Nvivo12 software. The five major keywords in the word cloud are: business, people, construction, work, and industry. A common cliché from

the interviewees from this study is that *"construction is a people business",* and *"we are reliant on work".* In this regard, majority of the interviewees believe that construction is complex, and that leading in its context requires good understanding of the business and environment.

Figure 5.1 Word cloud of all the interview files using Nvivo12

The good understanding of the construction business appears to aid leadership functions such as planning the activities of the organisation including the vision, mission and strategy as well as in relating with all stakeholders. According to one of the participants in the study,

"To understand construction is first, nobody understands the fact that construction is totally different from any other form of business and the people in it are different from anybody else. What we call them is path markers; they are tough guys, and they are loyal guys, and they demand people above them to earn their respect"- Interviewee H.

Similarly, Interviewee D asserted that

"If you have a good understanding of the business, you can see when the red flags start going up, and the minute you start seeing a red flag starting you can just say this thing is now starting to lift, and ask hang on about buying of a new car, there is something here that needs to be

dealt with now and the quicker you identify it and the quicker you are able to resolve it, the better."

Another interviewee, I, who reasoned along these lines, stated that "having good understanding of the business as a leader builds the trust of the followers because they consider their leader as credible and worthy of emulation".

However, one of the participants had a divergent view, suggesting that the leader in the construction organisation does not necessarily have to be good at every aspect to be leader. This participant noted that

"You do not have to be good at everything to be a CEO or to be a leader in construction; that is a temptation. The analogy that my predecessor always uses is a conductor in an orchestra, the conductor is not expected to play all the instruments, but he is expected to allow the musicians to play in harmony." Interviewee G.

Notwithstanding this view, the majority of the interviewees agreed that being exposed to construction early in their working lives, studying construction-related degree or 'growing through the ranks' in their organisations, prepared them for a leadership position in construction. All the interviewees believed that having a background in a construction-related discipline and or further studies to understand the business side of construction aided their performance as a leader. They also noted that having a guide as mentor helped them a great deal in developing their leadership. Interviewee N pointed that

"When I started out, I learned my base systems from the first person I worked with; my immediate contracts director. And he was the one that guided me, and I was lucky I had some good mentors at the time."

The foregoing suggests that a good understanding of the construction industry from a variety of experiences, either through family business, education, mentoring, training, professional affiliation, or further education, tends to be beneficial or has potential for some positive outcomes on construction leadership performance.

Resilience:

This theme is a major leadership component emanating from the interviewees in this study. The majority of the interviewees maintained that construction is a cyclical business. In addition, the economic situation has made operating the construction business more challenging.

However, hard work, dedication, a positive attitude, and resilienceare requirements for leadership success, suggested by interviewees. Specifically, interviewee C voiced that

*"The biggest fear is that clients do not pay us for the work we do for them. To manage that, you need to have a level of resilience. And probably most importantly, you must be positive about what you do, how you do it, and about the business as a whole."*Interviewee C

Another pointer that established this theme is the high E-Emotionality, and high X-Extraversion scores of 14 interviewees, shown previously in section 5.2.4 and Table 5.4 in this study. The high scores suggest that most of the interviewees considered themselves to be emotionally stable, optimistic, and adaptable even in unstable situations. Along these lines, interviewee J also advised that:

"*I think it is hard work and I think you just have to be focused and just stick to your job, do not give up because there are hard times you know; I mean that you will tender and tender and you don't get a job and people are not interested. But when it comes in when it does come quickly and then you get too busy."* Interviewee J

This suggests that the ability to persevere and be adaptable is required to succeed as a leader in construction.

Ethical leadership

Some of the interviewees referred at one point or the other to the 'good times' of the construction boom which had passed in South Africa. Further probing by the researcher revealed that the unethical behaviour of collusion of some company leaders resulted in the loss of trust in the South African construction industry and led to difficulties in the procurement of work, especially from the Government, who is the major client, and from some parts of the private sector. This led to the emergence of a description of ethical leadership in the interview, as a component in this study. Some of the participants specifically showed that being ethical in business and all dealings was their top company secret of sustainability, which had kept them going for many years:

"*We are a business that has strong ethical high grounds at a minimum requirement. I mean integrity in our business is key. We would not have been around for 90 years if we were not ethical".* Interviewee F

Another interviewee, H, advised that:

"We must stop being politically correct and we must tell the truth if there is truth to be told because it does not help us if we do not. If there are problems with the client, please sort it out and do not get involved in any fraud, corruption, collusion because the biggest thing that has happened to this construction industry and we have not recovered from is the collusion that happened in the late 2000." Interviewee H

In addition, most of the interviewees (14) scored high on "H"-Honesty-humility, displayed elsewhere in this analysis section except for respondent D who has a score of 7 which is on the average. This implied that interviewees considered themselves to be honest and ethical in their decision-making and business dealings, and inclined to societal conventions, laws, and norms.

Emotional intelligence

This leadership component relates to maintaining good interpersonal relationships with others. It emerged from this study that interviewees pointed that they try their best to support and encourage their employees as much as they could. In addition, they show concern for their employees' well-being, try to train, and develop employees and maintain good relationships with all stakeholders. As shown previously in the NVivo 12 analysis of the interview files, *"construction is a people business".* The emphasis on people and high leadership catalytic scores, displayed previously in the presentation in section 5.2.4 and Table 5.4, suggests that interviewees value the people they work with and try to inspire, motivate, impact, and win their confidence to foster teamwork from all stakeholders in their organisations. Further probes when interacting with interviewees reveal that the nature of construction requires that people play different roles at different points.

For instance, Interviewee G stated that *"I am passionate about people because people make things happen. Not machines, not a lot of money; it is about people".* Another interviewee, M, noted that*: "As I see people with potential, I am trying to assist them, and in the process, I crack them out, praise them or wherever they can be assisted, every single staff member obviously has to be treated differently because they are all different.*" Interviewee G

In addition, the advice of Interviewee N also reveals that emotional intelligence is a major component to lead successfully in construction:

"Make sure you listen to the people around you. Hear what they are saying, do not be arrogant in that process. You can be hard, but you need to keep your ears opened. If it is closed, you are going to be a failure." Interviewee N.

Effective communication

The researcher observed that all the interviewees communicated clearly and effectively during the interviews. It also emerged that some interviewees specifically placed emphasis on effective communication with stakeholders at all levels as important, and key to being a successful leader. There were further probes in some instances to understand how interviewees achieved effective communication in their organisations. While some operate the open-door policy in which the employees have access at any given time, some explained that they use the flat communication line structures to achieve this. According to Interviewee G, *"The most important skill that you have is the ability to communicate with people at all levels"*.

Interviewee L further related the importance of communication as follows:

"What I learned is that communication is very key in leadership, if you do not communicate, it makes matters worse. So, I make sure that I regularly communicate". Interviewee L

The NVivo results showing how communication was used by interviewees, is presented below.

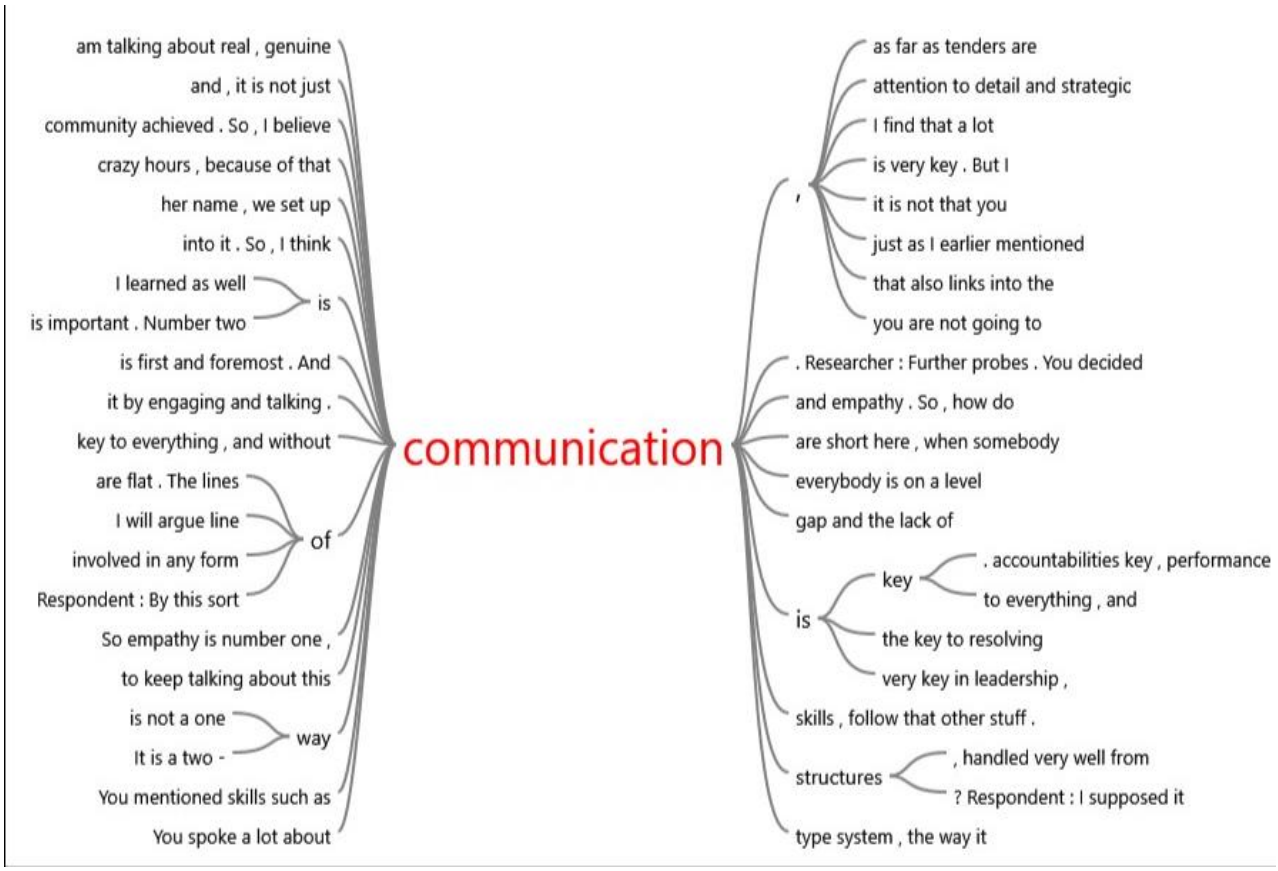


Figure 5.2 Nvivo results on how interviewees used the word "communication"

5.3.2 Strategic decisions of interviewees

Concept coding described by Miles et al. (2020) was used to classify the codes of all the strategic decisions of the interviewees and generate the themes presented in the following section. Initially 142 codes and 205 references were generated from all the strategic decisions-related questions. These were reduced to 82 codes and 115 references generated (see Appendices C3-Codebook). Based on the groupings of categories, the main themes on the strategic decisions of interviewees that emerged from this study were classified into three: Strategic Project Management (SPM) decisions, Strategic Change, and Innovation (SCI) decisions, and Strategic Investment decisions (SID). Each of these themes are expounded in the next section.

Strategic Project Management (SPM) decisions

Considering that construction business organisations are project-based, this theme relates to the decisions of the interviewees as it affects that affects their organisational planning, procurement of their services and execution of their projects. Participants were asked about the long-term planning in their organisations, their disposition and positioning on the National Development Plan (NDP) as well as how they have operated their companies sustainably in procuring services and managing their construction projects. It emerged from this study that interviewees are mostly in 'survival mode' and admitted that they are unable to forecast or plan long-term or use of the National Development Plan (NDP) of the Government:

"The reason we cannot plan is because we cannot plan with the NDP. If we trusted what was coming up, we would all be on expansion phase instead of which we are all declining" - Interviewee H.

Another interviewee stated that:

"*Everyone was talking to the 2011 Government budget speech when we heard the Government was going to spend eight hundred billion Rand (R800,000,000,000) on infrastructure. At that time, they probably only spent about a hundred million Rand (R100,000,000).*"- Interviewee O.

However, one of the participants had a dissenting view, having stated that the company is driven by the long-term plan of the company vision:

"We have set ourselves a 100-year dream. So, if you look at our purpose "to improve the quality of life in Africa, through infrastructure development, we are saying that this must outlast all of us. When I am not here, when the next level of leaders is not here. So, what is it that you and I will do to empower the next level of leadership to do a better job?" Interviewee B

The view of this interviewee on the NDP is to maintain the status quo while anticipating the implementation of the Government plan:

"We have seen many promises over the years by the government. So, you cannot just accept that when they say that is going to happen, this amount is going to be spent in the front lines. To just blindly follow that would be crazy. We have got to be wise, and we have got to wait, and we have got to keep our existing systems, and existing things that we are good at, keep those intact. And as things do shift, so for example, there has been a lot of talk on renewables. We have done 35% of all the renewables, every base that has been caused in this country, we have done 35%. We got involved with the very first one, we learned a lot of lessons. And so, we saw this as a future opportunity". – Interviewee B

Participants admit that there is not sufficient work coming to the market to sustain the number of contractors. As such, they have different approaches to the procurement of their services. For majority of the participants their top priority is delivering quality service and client satisfaction which they explained leads to repeat business. The philosophy of Interviewee A and the company is

"focus on providing a good quality service and the money will come". I think all businesses are focused on making a profit and accountants are the ones who drive the business and push it from behind. But you cannot go out there and make a profit without providing a good service and that is what is the fundamental base. If you provide a good service and you end up providing an excellent service, the money will come." Interviewee A

Other similar comments along this line include

"We try and do the quotation as efficiently as what we can, interacting with our clients to produce the best that we can."- Interviewee M

"It is repeat clients. So, it is repeat business, it is reputation, it is invitation. You get invited by the people, or you get invited by reputation. And you build up a relationship with the quantity

surveyors and the architects and even clients." Interviewee E

However, one of the interviewees stated that the limitation of work sometimes makes it necessary to be competitive by beating down the price, which he admits was not sustainable as shown in the verbatim statement below:

"… as contractors, you end up finalizing tenders and you might be forced into making a commercial decision around and putting it at a lower price. For instance, on a particular contract, I secure the work, secure my core resources into that work, and hopefully the next projects can be more beneficial, but it is unsustainable because you get into a downward spiral." -Interviewee C

The assertion of another participant buttresses this:

"Your pricing must be very competitive. But there is also a point, you cannot just keep going lower and lower and lower because that is why a lot of the contractors are out and the industry is in so much trouble. They are following that philosophy of just saying, well, if we cannot win a job with a 10% margin, let us go in at 8%, then at 6% and then eventually you find all now going in at 1% and now we are getting a lot of work but the financial implications of that can be catastrophic." Interviewee D

On managing projects and operating them sustainably, the company leaders mostly paid attention to attracting and retaining a competent workforce, as well as training and mentoring them. This is shown in some of their verbatim statements below:

"*To start with, some ten years ago, we went on to get proper staff on board. I mean to get some good quality staff on board. So, there is a consistent drive, it is not something that you can stop. So that was priority number one."* Interviewee N.

"We have employees in this company who have 40 years of service. So, they have worked for us for 40 years uninterrupted. So, the only job they have ever had is here. We place a huge emphasis on mentorship, because there is not a lot of training in the industry that you can pick up. You can buy machines, and you can train your operators up externally using those external trainings, but by and large, most of the training is done internally within the company." - Interviewee A

Strategic change and innovation decisions

The section following presents some of the strategic decisions from the interviewees, about change and innovation. Some of the participants stated that they had become more innovative in adjusting the organisational plans in line with market demands and economic situations. In addition, some interviewees indicated that their organisations were able to operate sustainably by putting people and public good first and operating for the greater good of the society. This is shown in some of the verbatim statements of the interviewees presented below:

"The other significant milestone was a strategic decision that was taken 16 years ago, when we started paying tax, and our business changed significantly. Because then you had to start thinking differently in terms of tax burden. One of the strongest pillars of this company is that it relies on or believes in corporate social investment. Sixteen years ago, the board came to me and said, we want to put our name to something that is significant in terms of corporate social investment. Previously, we were prevented from doing that." Interviewee G

Similarly, Interviewee I noted that

"Our one key objective is to be adaptable and to look for alternate opportunities from what we have been doing in the past. For example, we have been looking at, you could say, carbon neutral development opportunities, which is sustainable building types." Interviewee I

Interviewee L noted that the strategic intent of a company is important to its sustainability.

"We have to bring back empathy and love because I think once you have love in your business, once you have love for the people in your business, and you have love for society, you tend to make decisions that are better in the society and not just for your business. So, the reason I study construction is so that I could come up with solutions that will better our community because the world cannot thrive or survive without habitat." Interviewee L

Besides this, some of the participants noted that they were able to operate their construction companies more sustainably by embracing new ways of doing things in the procurement of services, approach to managing their projects, values of the company in being ethical and in taking advantage of technology and its potential, as shown in the verbatim statements presented below:

"For the business to keep going first, we operate a different policy to most companies. We operate on the basis that each one of our contract managers and each one of our site agents,

has a group and each of those site agents runs his job as if it was his own job. It is almost like a franchise, but we supply everything. They do the work; we give them their allowable. They obviously pay but we do everything for them. We give them their allowable that is what we expect them to do the job for, and if they do better than their allowable, then they get a third of that. So, a third of the profits made on the contracts goes directly to the site agents." Interviewee H.

Other similar comments of the interviewees along these lines are shown in the verbatim statements below:

"We have effectively moved away from being the old model main contractor employing virtually 80% of the people that work on the sites, to almost becoming project managers, where we literally provide the management side of things and some supervision on the site and the rest of it, everybody now works for somebody else." Interviewee D.

"We have introduced a system down here called an invacom system. If I could put it into perspective, previously when we were doing contracting on a day-to-day basis, we would literally arrive at site, and you would be running around telling everybody what to do. So, what we have got now is a kind of detailed structured system called an invacom system." Interviewee N.

"*Our procurement process now as a company is driven by the financial departments. The financial department first gather data on our clients. So, we want to tender on a job or do something to pick up work in a certain sector of the market, or for a certain client, our financial sector first does a credit check on them to see if they are actually worth working for."* Interviewee A.

"We were part of the mafia involved in the collusion and stuff taking place in the industry, we to have to draw a line and say, sorry, we're no longer going to be part of that. To inform the other company leaders was not easy. It was tough, one of the most tough decisions, but that was the best decision that I have ever made in my life. Because without that, we would have been embarrassed, we would have been part of those that were asked to pay these huge fines through the competition commission, and we would have been banned by government on working on certain projects." Interviewee B

Interviewee O also specifically pointed out that not making timely changes to downsize the company quickly was one of the mistakes undoing that caused the company to go into liquidation:

"My worst decision was not reacting to the market. I am saying that probably the biggest mistake was that we, as management, did not react quickly. We should have reduced the size of the business a lot quicker. We should have sold off our civil engineering business." Interviewee O.

Another Interviewee who spoke in relation to change stated that: *"The first thing that we did was to right size the business to suit the economic situation. The volumes of work that are on offer have become greatly reduced so each company needs to be right sized to suit that. For example, in the past, where we might have employed 80 or 100 people, we might only be employing 30 people because there just is not enough work around to sustain those numbers and volumes and amount. The level of activity you see is a dramatic drop in turnover and all those things."* Interviewee D

Strategic investment decisions (SID):

Participants were asked to state where they invested the bulk of the profits of the companies in the long-term, and if there were specific reasons for this. In addition, the impact of such decisions on their company performance was investigated. There were 32 references on strategic investment decisions from 11 participants in the Nvivo 12. In general, participants considered that it had been more challenging to make profits, in a survival mode. However, the decisions of the company leaders varied from savings, to reinvesting back to the business, diversifying operations and activities, and sharing the profits amongst employees/shareholders. This is as stated in the verbatim statements below:

"The significant part of the profits of the company is committed to building new reserves. In order words, keeping cash in the bank because when the downturn comes, you got reserves that you can use to tide you over to the next, till the next upstream comes. As I say, we have been in a steady downturn if you think about it. So, you can imagine that for a company to have been in a steady decline since 2009, over an 11-year period, you had to put in some hefty reserves at the start to still be around today." Interviewee D

Other participants who invest along these lines noted that

"We have retained income and some leaders are prepared to do everything that is needed to try and survive as opposed to just jumping the show. We also put a lot of money into training, we put money back into equipment, technology, and social upliftment, which is one of my downfalls, I tend to give more than I earn." - Interviewee M

"We buy some plant, but I think the significant part will go back to the people, and I am not talking about me but all the way down. The company will declare the dividend and that dividend will get distributed to the shareholders. But before the company declares the dividends, there will be a major outflow to the whole hierarchy from I mean to our typist and receptionist in December. So, you water down that which you call profit by giving it back to the people who helped make it." Interviewee E

However, Interviewee G stated that

"We do land banking, those are strategic decisions. In our mind, you buy land 30, 40 years ahead of time, and then you bank. It will become valuable". Besides this, the participant also noted that *"the company took a conscious decision 16 years ago, that we will allocate 35% of our profits, after tax profits to a foundation. So, every year, we take 35% of our profits and we transfer to the foundation, of which I am the CEO, to build school halls as a corporate social investment".*

Interviewee A gave some insight into the investment of the company which is in different hands:

"*30% of our profits are re-invested back into the company every single year. So, anything we make a profit out of, 30% gets reinvested back into plant, the other 30% gets invested into employees and the last 30% is kept as a reserve. So, we work on that principle ever since we started with the company."* Interviewee A

Interviewee K also noted that the investment of the company is into diversifying into another business and equipment:

"*It is another branch in the business that we started off in another niche market. We just expanded our market from doing small work to big machine work. That is called a big machine work. We are not using wheelbarrows anymore we are not using push machines; we have invested in a 2-million-rand machine."* Figure 5.2 is an overview of the strategic decisions of the interviewees, based on the extract from Nvivo 12.

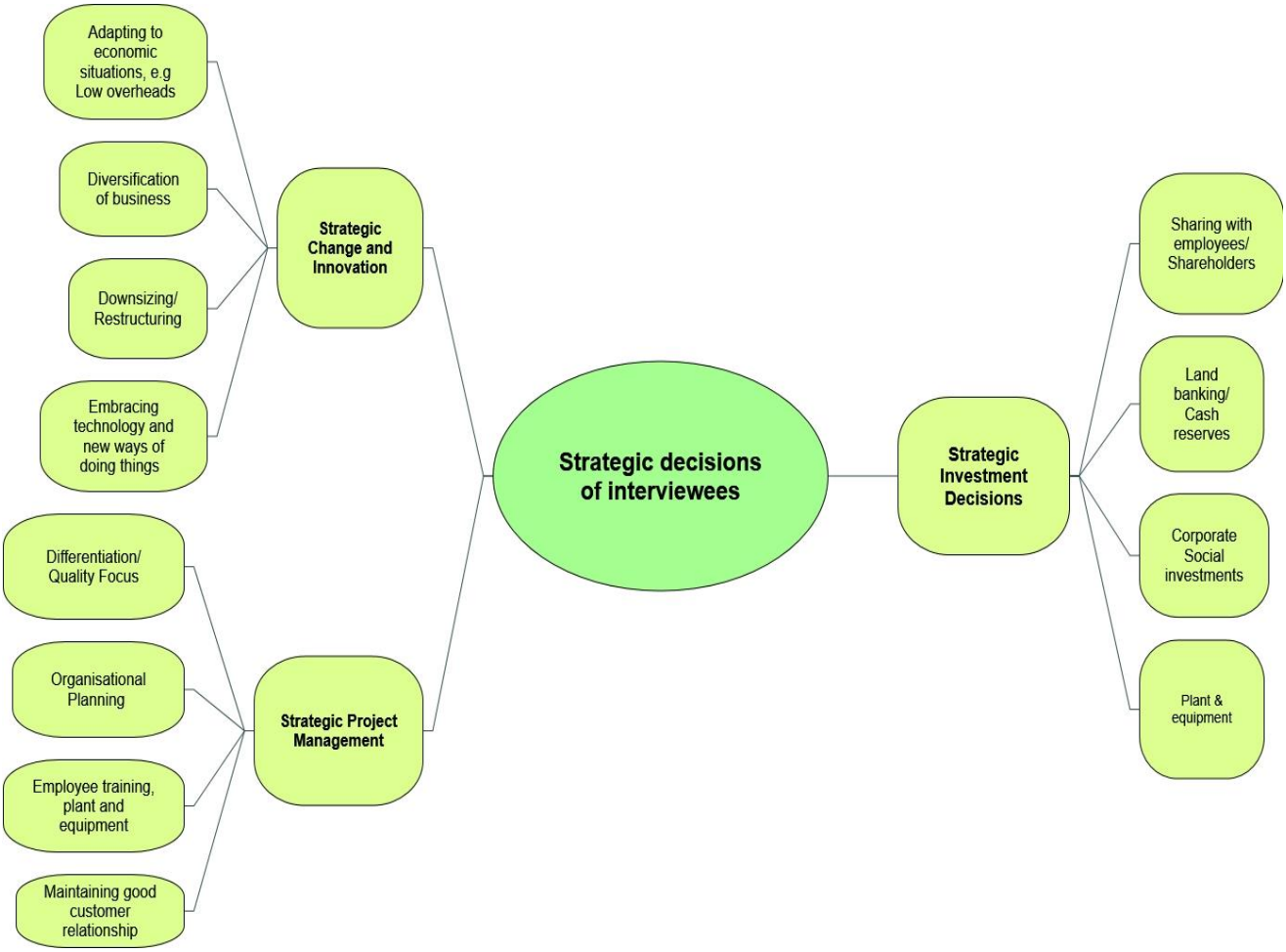


Figure 5.3 Strategic decisions of the interviewees developed from interviews

5.7 Chapter summary

This chapter has presented the findings from the qualitative aspect of the study, based on the interviews of 15 senior construction executives (representative of the industry leaders). The major advantage of this aspect of the study is that it allowed experiential knowledge and insight on issues regarding the subject of enquiry, to gain understanding of leadership from construction business senior executives. The interviews allowed for a deeper understanding of the research constructs — leadership traits, roles, styles, and strategic decisions of the construction business leaders, thereby addressing the second objective of the study. The major themes arising from this aspect of the study were used in the development of the instrument for the next phase of the study, which is the quantitative stream of the research. The next chapter presents the quantitative findings and analysis.

CHAPTER SIX

QUANTITATIVE DATA PRESENTATION AND ANALYSIS

6.1 Introduction

This chapter presents the findings from the survey of 255 construction company leaders, using the questionnaire attached in Appendix D. The chapter first presents the demographic information and background profile of the respondents and their organisations and then presents the analysis of the data and test of the hypothesis.

6.2 Profile of the respondents and their organisations

6.2.1 Profile of respondents

Tables 6.1a and 6.1b give the profile of the respondents for this research. The proportions of the respondents in terms of designation in the company were: CEO (47.22%), Board member (4.37%), Director Cadre (42.46%), Senior Management Cadre (8.73%), and others such as Group Chairman and Chief Officers (5.16%). In terms of number of years in the leadership position,1-5 years (21.33%), 5-10 years (43.12%), 11-15 years (23.22%), 16-20 years (10.43%), 21-25 years (0.95%), and 26-30 years (0.95%). The degree of influence of the respondents on decision-making in their organisations is expressed in the following percentages: CEO (75.31%), Board of directors (55.97%), and Management team (62.14%) showing that the respondents are involved in strategic decision-making of their organisations. The designation, number of years in position and influence on decision-making of the respondents were regarded as evidence of the respondents' qualification as leaders in their respective organisations.

Another aspect of the profile of the respondents was their background discipline and province of operation in South Africa. The results in Table 6.1b show that the majority of the respondents had their professional training in Construction Management (38.58%), Building (26.38%), and Civil Engineering (27.56%). Most of the respondents are in Kwa-Zulu Natal (31.67%), Eastern Cape (21.25%), and Gauteng (27.5%), showing that a significant number of the respondents have a technical background. The proportions of the respondents in terms of academic qualifications were: National Diploma (42.97%), Bachelors (12.45%), B. Hons (5.62%), Masters (8.03%), and PhD (0.8%). This suggests that respondents are qualified and

knowledgeable and could easily comprehend the questions posed to them about organisational leadership.

Table 6.1a: Profile of respondents

Position/designation in the company		
Options	Number of Responses	Response Percent
CEO	119	47,22%
Board Member	11	4,37%
Director Cadre	107	42,46%
Senior Management Cadre	22	8,73%
Others, please specify (Group Chairman, Chief Financial officer, Chief Technical Officer)	15	5,16%
Total	257	

Number of years in leadership position

No of years	No of Valid Responses	Response rate
1-5	51	21.33%
6-10	97	43.12%
11-15	65	23.22%
16-20	28	10.43%
21-25	8	0.95%
26-30	8	0.95%
Total	257	100%

Influence on decision-making in the organisation

CEO	183	75.31%
Board of directors	136	55.97%
Management team	151	62.14%
Government	120	49.38%
Stockholders	99	40.74%
Financial institutions	113	46.5%
Other (please specify)	53	21.81%

Table 6.1b: Profile of respondents (Cont'd)

	Background discipline	
Options	**Number of Responses**	**Response Percent**
Architecture	4	1.57%
Building Technology	67	26.38%
Construction Management.	98	38.58%
Civil Engineering,	70	27.56%
Quantity Surveying	9	3.54%
Other (please specify)	81	31.89%
Total		
	Academic qualifications	
National Diploma	107	42.97%
Bachelors	31	12.45%
B. Hons	14	5.62%
Masters	20	8.03%
PhD	2	0.80%
Other (please specify)	81	32.53%
Total		

6.3.2 Profile of respondents' organisations

Table 6.2 on the next page presents the profile of the respondents' organisation. Most of the respondents are located and operate in Kwa-Zulu Natal (31.67%), Eastern Cape (21.25%), and Gauteng (27.5%). The number of years of existence of the company is 1-9 years (48.35%), 10-19 years (44.62%), 20-29 years (4.13%), 30-39 years (2.07%), 40-49 years (0) and 50 years /above (0.87%). This shows that most of the companies have been in business operation long enough and have been sustainable. The decreasing order in the number of companies relative to longevity and number of years is also indicative of the challenge of survival and operational sustainability in construction organisations.

Table 6.2: Profile of respondents' organisations

Province of operation	Number of Responses	Response Percent
Kwa-Zulu Natal	76	31.67%
Gauteng	66	27.50%
Eastern Cape	51	21.25%
Free state	40	16.67%
Mpumalanga	40	16.67%
Western Cape	38	15.83%
Limpopo	32	13.33%
North-West	31	12.92%
Northern Cape	25	10.42%
International	18	7.50%

Number of years of existence of the company

No of years	1-9	10-19	20-29	30-39	40-49	50/above
Response rate	117	108	10	5	0	2
Response Percent	48.35%	44.62%	4.13%	2.07%	0	0.87%

6.3 Strategic decision profile of respondents

6.3.1 Common types of strategic decisions made by construction company leadership

The strategic decisions made by the respondents were investigated using three types of strategic decisions - strategic project management, strategic change and innovation decisions, and strategic investment decisions. A total of 19 statements were formulated to describe the three types of strategic decisions made by company leadership. The respondents were asked to indicate the statements that related to their strategic decision-making style using the following Likert scale: *1-strongly disagree, 2-disagree, 3-undecided, 4-agree, 5-strongly agree*. Under strategic project management (see Table 6.3), the respondents agreed that their *preference* was *client satisfaction (4.53)*. Regarding strategic change and innovation decisions (see Table 6.4),

the respondents agreed that they *put the people and public good first* (4.47), *maintain high ethical standards on our projects* (4.41), and *adjust the company policies as quickly as possible in line with market demands and adapt as occasion demands* (4.07). The results of the mean score analysis of the strategic investment decisions in Table 6.5 shows that the respondents agreed that they *are open to expand their business operations to new geographic areas (4.29), diversify operations and activities* (4.06), and *re-invest the bulk of the profits made back into the business* (4.02). These results suggest that the strategic decisions of the respondents centred on satisfying clients, corporate social responsibility, ethics, innovation, diversification, and internationalisation.

Table 6.3: Strategic project management carried out by construction company leadership

Code	Statement	Mean score
V8	Our preference is client satisfaction	4.53
V7	We re-invest profits first into project execution	3.89
V4	Our preference is for government contracts	3.82
V6	Our services are mainly procured through customer relationship	3.70
V1	We have a compelling narrative of our company	3.68
V2	Our company plans up to 5 years or more in advance	3.44
V5	We prefer private clients and contracts	3.42
V3	We use the National Development Plan (NDP) to determine our company direction	3.27

Table 6.4: Strategic change and innovation decisions made by construction company leadership

Code	Statement	Mean score
V9	We put the people and public good first	4.47
V15	We maintain high ethical standards on our projects	4.41
V10	We adjust the company policies as quickly as possible in line with market demands and adapt as occasion demands	4.07
V11	We usually choose projects in favour of new ways of doing things	3.69
V19	We commit the substantive part of our profits to Corporate Social Responsibility	3.31

Table 6.5: Strategic investment decisions made by construction company leadership

Code	Statement	Mean score
V12	We are open to expand our business operations to new geographic areas	4.29
V14	Our preference is diversifying our operations and activities	4.06
V16	We re-invest the bulk of the profits made back into the business	4.02
V17	We prefer to save bulk of the profits made by the company in investment portfolios	3.60
V13	Our preference is specializing in one area of operation	2.89
V18	Our preference is to share the profits amongst employees/shareholders or spend it	2.93

6.4 Respondents' leadership characteristics and components

The common construction company leadership characteristics in South Africa were investigated using leadership role inventory (LRI), Leadership HEXACO inventory (LHI), and catalytic leadership inventory (CLI) tools. Section 6.4.1 and Table 6.8 present the results of the data analysis for LRI. Section 6.4.2 and Table 6.9 present the data analysis results for LRI, while section 6.4.3 and Table 6.10 present the results of the data analysis for CLI. The Multi-factor leadership questionnaire (MLQ) was used to examine the leadership components of the respondents, and the result is presented in section and Table 6.11.

6.4.1 Leadership Role Inventory (LRI)

Mean scores of LRI are presented in Table 6.6. The data used for the mean score analysis was acquired by asking the respondents to tick the LRI profile, as it relates to their use of the following Likert scale: *1 - Not at all, 2 - Once in a while, 3 – Sometimes, 4 - Fairly often, 5 - Frequently.* Based on the scale, all the respondents indicated that the LRI profile *Fairly often* (mean scores ≥ 4.15) related to them. The LRI profile with the highest rating, according to the results, is '*I develop trust with all stakeholders (4.54)*', '*I manifest an example of the company's values (4.48)', 'I monitor and review the company performance (4.44)'*, and '*I am responsible for setting the vision and determining the company direction (4.43)'*. This suggests that the leadership roles played by the respondents is aligned to the direction and performance of the companies they are leading.

Table 6.6: Mean Scores of Leadership Role Inventory

Code	Statement	Mean score
V30	I develop trust with all stakeholders	4.54
V29	I show example of the company's values	4.48
V28	I monitor and review the company performance	4.44
V20	I am responsible for setting the vision and determining the company direction	4.43
V25	I motivate the management team as necessary	4.38
V21	I determine the key strategic choices of the company	4.36
V22	I actively communicate the vision, values and strategy of the company	4.35
V23	I help the employees adapt to change	4.35
V24	I educate the management team as necessary	4.30
V27	I provide and receive feedback to and from the management team as required	4.30
V31	I foster collaboration of the company with external constituencies	4.16
V26	I probe with curiosity, making sure my questions are answered	4.15

6.4.2 Leadership HEXACO inventory (LHI)

The respondents were asked to indicate to what extent they agree with the statements in LHI, using the following answer categories: *1 = strongly disagree, 2 = disagree, 3 = neutral (neither agree, nor disagree), 4 = agree, and 5 = strongly agree*. The respondents were informed that the words "others" or "people" in the questionnaire meant employees, clients, or group members. The data elicited were analysed and the results are presented in Table 6.7. The results show that the respondents agree that the following statements apply to them: *I make sure that things are in the right spot (4.35), I work very precisely (4.17), I find it difficult to lie (4.10), I easily approach others (4.08), Others like talking with me (4.02), I like to talk with others (4.02), I have a lot of imagination (3.98), Even when I'm treated badly I remain calm (3.91), I can easily overcome difficulties on my own (3.85), I can look at a painting for a long time (3.54), and I like people with strange ideas (3.52)*. This suggests that overall, the respondents exhibited some measure of honesty, humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience.

Table 6.7: Mean Scores of Leadership HEXACO Inventory

Code	Statement	Mean score
V34	I make sure that things are in the right spot.	4.35
V46	I work very precisely.	4.17
V38	I find it difficult to lie.	4.10
V42	I easily approach others.	4.08
V36	Others like talking with me.	4.02
V48	I like to talk with others.	4.02
V45	I have a lot of imagination.	3.98
V53	Even when I'm treated badly, I remain calm.	3.91
V49	I can easily overcome difficulties on my own.	3.85
V33	I can look at a painting for a long time.	3.54
V51	I like people with strange ideas.	3.52
V41	I often express criticism.	3.20
V37	I am afraid of feeling pain.	2.99
V54	I am seldom cheerful.	2.99
V55	I may cry during sad or romantic movies.	2.98
V47	I tend to quickly agree with others.	2.92
V43	I worry less than others.	2.73
V56	I am entitled to special treatment.	2.71
V35	I remain unfriendly to people who are mean to me.	2.69
V50	I want to be famous.	2.61
V40	I postpone complicated tasks if possible.	2.53
V39	I think science is boring.	2.15
V52	I often do things without really thinking.	2.02
V44	I wouldn’t mind making lots of money in a dishonest manner.	1.73

6.4.3 Catalytic Leadership Inventory (CLI)

To obtain information on the CLI, respondents were asked to indicate the level to which the CLI statements describe them. The results of the mean score analysis shown in Table 6.7 revealed that the mean scores range between 4.57 – 3.34. The range of the mean score indicates that the CLI statements mostly describe the respondents. The CLI statements that highly describe the respondents are *I recommend and respect the knowledge and skills of others and seek to learn from them (4.57), I do whatever I can to elevate the performance of others and my team as a whole (4.48), I do everything I can to live authentically, I regularly demonstrate*

ethical principles in a manner that promotes trust (4.44), I'm a highly curious person and actively pursue personal and professional improvement opportunities (4.40) and I energize others with a confident, hope-filled outlook, I convey a "can-do" attitude (4.40).

These results suggest that the respondents are supportive, authentic, ethical, and charismatic.

Table 6.8: Mean Scores of Catalytic Leadership Inventory

Code	Statement	Mean score
V105	I recommend and respect the knowledge and skills of others and seek to learn from them	4.57
V101	I do whatever I can to elevate the performance of others and my team as a whole	4.48
V89	I do everything I can to live authentically. I regularly demonstrate ethical principles in a manner that promotes trust.	4.44
V104	I'm a highly curious person and actively pursue personal and professional improvement opportunities.	4.40
V93	I energize others with a confident, hope-filled outlook. I convey a "can-do" attitude.	4.40
V97	I fit in naturally with others and regularly foster positive interactions.	4.35
V100	I prioritize team success over my own personal goals, and I do whatever it takes to achieve and pursue the overarching organizational goals	4.34
V109	I model exemplary behavior and actively support the personal and professional development of others	4.33
V112	I present creative, novel, and valuable ideas for achieving objectives and solving problems.	4.32
V92	I consciously attempt to speak and write clear and concise messages and to listen closely for understanding.	4.30
V96	I read emotional signals of others accurately and respond appropriately to them.	4.23
V108	I possess extensive knowledge and/or competence of construction business	4.06
V107	My knowledge and expertise of construction are not as advanced as many others in our organisations	3.67
V110	I don't worry much about how others see me and rarely work with others to help them improve	3.67
V94	I tend to critique new ideas and may unintentionally deflate the energy and optimism of others	3.63
V111	I generally recommend traditional solutions to problems and shy away from risky new ideas	3.58
V103	I'm generally satisfied with my current skill set and level of knowledge and don't actively pursue suggestions and opportunities for improvement.	3.54
V102	I generally focus on how well I am doing personally rather than on how I'm contributing to the success of the team or how others are performing	3.49

V95	I'm not very concerned about others' emotional reactions and am reluctant to acknowledge how they are feeling.	3.47
V98	I frequently have a hard time connecting and interacting with others.	3.46
V99	I do less than I could to achieve results and occasionally lose sight of big picture goals	3.45
V106	I drive to do things my own way and tend to resist the recommendations of others	3.43
V90	Sometimes I skew the facts of a situation and create a biased impression. I don't always say what I'm thinking or present myself as I truly am.	3.42
V91	Sometimes I fail to pay attention to what others are saying and communicate my ideas in an unclear manner.	3.34

6.4.4 Leadership components of respondents

The Multi-factor leadership questionnaire (MLQ) was used to determine the leadership style components. The respondents were asked to state how frequently each of the statements in the MLQ applies to them. It was explained in the survey that the word 'others' could mean employees, clients or group members. The respondents were asked to indicate their responses on a 5-point Likert scale, where *1 - Not at all, 2 - Once in a while, 3 – Sometimes, 4 - Fairly often, 5-Frequently*. It is noticeable from the results in Table 4.3 that only one variable '*whatever others want to do is OK with me (2.52)*' applies to the respondents '*once in a while*'. The remaining variables '*sometimes*' and '*fairly often*' apply to the respondents. The mean scores of the variables range from 4.40 to 3.39. The results suggest that the components of leadership in the context of the construction business environment in South Africa are adequately described by these variables.

Table 6.9: Leadership style components of respondents using the MLQ

Code	Statement	Mean score
V63	I am satisfied when others meet their agreed-upon standards	4.40
V61	I help others develop themselves	4.39
V69	I provide recognition and rewards when others reach their goals	4.32
V73	I help others find meaning in their work	4.28
V62	I tell others what to do if they want to be rewarded for their work	4.21
V77	I tell others the standards they have to know to carry out their work	4.20
V58	I make others feel good to be around me	4.18
V75	I give personal attention to others who seem rejected	4.13
V65	Others have complete faith in me	4.12
V67	I provide others with new ways of looking at puzzling things	4.06
V66	I provide appealing images about what we can do	4.03
V72	Others are proud to be associated with me	4.03

V59	I express with a few simple words what we could and should do	4.00
V68	I let others know how I think they are doing	3.99
V76	I call attention to what others can get for what they accomplish	3.95
V74	I get others to rethink the ideas that they had never questioned before	3.81
V60	I enable others to think about old problems in new ways	3.71
V70	As long as things are working, I do not try to change anything	3.57
V78	I ask no more of others than what is absolutely essential	3.52
V64	I am content to let others continue working in the same ways always	3.39
V71	Whatever others want to do is OK with me	2.52

6.5 Performance of construction companies of respondents

6.5.1 Level of success in achieving organisational performance objectives

Table 6.12 presents the results of the mean score analysis of the level of success of the respondents in achieving organisational performance objectives. In the questionnaire, the respondents were asked to indicate the extent to which their organisation has been successful in achieving their performance objectives in the last five years. The 5-point Likert scale used in the questionnaire entails *Very unsuccessful - 1, Unsuccessful - 2, Somewhat successful -3, Successful - 4,* and *Very successful-5*. All variables were highly ranked by the respondents from '*somewhat successful*' to '*very successful*'. The result clearly indicated that the respondents perceived that they have been successful in resolving problems, promoting management development, preventing problem areas, evaluating alternative projects/products based on relevant information, improving long-term performance, and predicting organisation's future growth.

Table 6.10: level of success in achieving organisational performance objectives

Code	Answer Choices	Mean score
V84	Resolving problems	4.02
V85	Promoting management development	3.84
V83	Preventing problem areas	3.71
V82	Evaluate alternative projects/products based on relevant information	3.69
V80	Improvement in long-term performance	3.64
V81	Predicting organisation's future growth	3.59

6.5.2 Profit margin of the organisations

The profitability level of the surveyed organisations was investigated by asking the respondents to state their company's annual turnover and profit over the last five years (2015 - 2019). The annual turnover and profit details provided by the respondents were used to calculate the average profit margin of the organisations using

$$average\ profit\ margin\ = [average\ total\ profit/average\ total\ turnover]\ \times 100\%.$$

The results of the average profit margin of the organisations are presented in Table 6.4. The results show that in 2015, Grade 9 companies had an average profit margin of 100% recorded the highest profit margin. Grade 9 companies were also the most profitable in 2016 and 2017 with an average profit margin of 108.7% and 150% respectively. In 2018, Grade 9 companies recorded the highest average profit margin of 650%, to top the other companies. In 2019, the highest average profit margin was 82.2% which was recorded by Grade 9 companies. These results suggest that overall, the companies made a good profit over the past five years. However, Grade 9 companies with the highest cidb grade were more profitable in that period. The observable high profit margins could be because of the increasing capacity of contractors to acquire more revenues and diversify as the grade increases (Oyewobi et al., 2019a).

Table 6.11: Average profit margin of the organisations (2015 - 2019)

Cidb grade	**Year**				
	2015	**2016**	**2017**	**2018**	**2019**
Grade 7	25%	22.2%	20%	19.2%	18.1%
Grade 8	16.6%	30%	60%	31.3%	48.4%
Grade 9	100%	108.7%	150%	**650%**	82.2%

6.6: Data Analysis

6.6.1 Test for reliability

Tables 6.6 and 6.7 show the measured variables for performance of construction companies and strategic decisions made by construction company leaders in South Africa. Six variables were used to measure the performance of construction companies while 19 variables were used to measure strategic decisions. The cut-off value for Cronbach's alpha coefficient, correlation coefficient, Eigen value, average variance explained, and Kaiser-Meyer- Olkin were 0.60, 1.0,

50%, and 0.60 respectively. As shown in Tables 6.12 and 6.13, all the conditions for reliability, consistency, and validity were met by the measured variables. Also, Bartlett's test of sphericity for strategic decisions and performance of construction companies was significant. The results suggest that the measured variables for strategic decisions and performance of construction companies have sufficient reliability and validity for structural equation modelling.

Table 6.12: Results of the test for reliability of performance of construction companies' variables

Measured variable	γ	ϕ	Φ	μ	ß	ƛ	ɀ
V80	0.746	0.615	0.812	2.295	32.765	.668	Chi-square: 235.229 Significance: 0.000
V81	0.738		0.841				
V82	0.644		0.775				
V83	0.627		0.357				
V84	0.592		0.322				
V85	0.676		0.111				
γ = factor loading; ϕ = Cronbach's alpha coefficient; Φ = correlation coefficient; μ = Eigen value; ß = % of variance explained; ƛ = Kaiser-Meyer-Olkin value; ɀ = Bartlett's test.							

Table 6.13: Results of the test for reliability of strategic decision variables

Measured variable	γ	ϕ	Φ	μ	ß	ƛ	ɀ
V1	0.636	.858	0.326	5.987	31.509	0.864	Chi-square: 1511.195 Significance: 0.000
V2	0.671		0.434				
V3	0.503		0.447				
V4	0.646		0.383				
V5	0.307		0.457				
V6	0.564		0.581				
V7	0.691		0.690				
V8	0.758		0.722				
V9	0.748		0.732				
V10	0.586		0.720				
V11	0.592		0.610				
V12	0.555		0.702				
V13	0.587		0.225				
V14	0.496		0.532				
V15	0.679		0.722				
V16	0.585		0.698				
V17	0.473		0.556				
V18	0.720		0.257				
V19	0.673		0.405				
γ = factor loading; ϕ = Cronbach's alpha coefficient; Φ = correlation coefficient;μ = Eigen value; ß = % of variance explained; ƛ = Kaiser-Meyer-Olkin value; ɀ = Bartlett's test.							

Tables 6.14 – 6.16 show the measured variables for LRI, LHI, CLI and MLQ. The process of measurement used 12 variables to measure LRI, 32 variables were used to measure LHI, 34 variables were used to measure CLI, and 21 variables were used to measure MLQ. Using the same cut-off value for Cronbach's alpha coefficient, correlation coefficient, Eigen value, and average variance as above, the results in Table 6.14– 6.16 show that the variables met the conditions for reliability, consistency, and validity. Bartlett's test of sphericity was significant for LRI, LHI, CLI and MLQ. The results indicated that the measured variables for LRI, LHI, and CLI and MLQ have sufficient reliability and validity for structural equation modelling.

Table 6.14: Results of the test for reliability of the Leadership Roles Inventory (LRI) variables

Measured variables	**γ**	**ϕ**	**Φ**	**μ**	**ß**	**ƛ**	**ɀ**
V20	0.737	0.922	0.766	7.164	55.111	0.918	Chi-square: 1985.598 Significance: 0.000
V21	0.676		0.740				
V22	0.681		0.745				
V23	0.646		0.797				
V24	0.638		0.795				
V25	0.707		0.838				
V26	0.574		0.750				
V27	0.610		0.754				
V28	0.693		0.821				
V29	0.690		0.831				
V30	0.499		0.706				
V31	0.509		0.692				
γ = factor loading; **ϕ = Cronbach's alpha coefficient;** **Φ = correlation coefficient;** **μ = Eigen value;** **ß = % of variance explained;** **ƛ = Kaiser-Meyer-Olkin value;** **ɀ = Bartlett's test.**							

Table 6.15: Results of the test for reliability of the Leadership HEXACO Inventory (LHI) variables

Measured variables	γ	Φ	Φ	μ	ß	ƛ	ɀ
V33	0.607	.754	0.072	3.976	15.902	0.741	Chi-square:
V34	0.530		0.569				1231.972
V35	0.565		0.066				Significance:
V36	0.568		0.518				0.000
V37	0.734		0.078				
V38	0.548		0.627				
V39	0.639		0.589				
V40	0.557		0.385				
V41	0.642		0.004				
V42	0.490		0.456				
V43	0.606		0.734				
V44	0.518		0.055				
V45	0.547		0.037				
V46	0.495		0.507				
V47	0.693		0.057				
V48	0.724		0.186				
V49	0.428		0.522				
V50	0.396		0.277				
V51	0.657		0.773				
V52	0.596		0.014				
V53	0.508		0.394				
V54	0.584		0.308				
V55	0.457		0.457				
V56	0.804		0.102				

γ = factor loading; ϕ = Cronbach's alpha coefficient; Φ=correlation coefficient; μ = Eigen value; ß = % of variance explained; ƛ = Kaiser-Meyer-Olkin value; ɀ = Bartlett's test.

Table 6.16: Results of the test for reliability of the Catalytic Leadership Inventory (CLI) variables

Measured variables	γ	Φ	Φ	μ	ß	ƛ	ɀ
V87	0.469	.838	0.426	5.011	25.057	.853	Chi-square:
V88	0.563		0.382				1524.175
V89	0.539		0.341				Significance:
V90	0.438		0.569				0.000
V91	0.565		0.572				
V92	0.601		0.333				
V93	0.575		0.278				
V94	0.642		0.545				
V95	0.634		0.603				
V96	0.672		0.351				
V97	0.697		0.368				
V98	0.614		0.707				
V99	0.636		0.647				
V100	0.641		0.364				
V101	0.443		0.344				
V102	0.514		0.574				
V103	0.660		0.655				
V104	0.369		0.496				
V105	0.584		0.434				
V106	0.594		0.669				
V107	0.469		0.426				
V108	0.563		0.382				
V109	0.539		0.341				
V110	0.438		0.569				
V111	0.568		0.693				
V112	0.692		0.695				

γ= factor loading; ϕ = Cronbach's alpha coefficient; Φ = correlation coefficient;
μ = Eigen value; ß = % of variance explained; ƛ = Kaiser-Meyer-Olkin value;
ɀ = Bartlett's test.

Table 6.17: Results of the test for reliability of the Multi-Leadership Questionnaire (MLQ) variables

Measured variables	γ	ϕ	Φ	μ	ß	ƛ	ɀ
V58	0.526	0.889	0.624	7.769	35.313	.895	Chi-square:
V59	0.657		0.760				2060.445
V60	0.561		0.692				Significance:
V61	0.584		0.722				0.000
V62	0.585		0.310				
V63	0.574		0.549				
V64	0.538		0.685				
V65	0.683		0.801				
V66	0.683		0.706				
V67	0.589		0.696				
V68	0.603		0.326				
V69	0.629		0.103				
V70	0.676		0.557				
V71	0.652		0.755				
V72	0.553		0.696				
V73	0.588		0.718				
V74	0.515		0.707				
V75	0.578		0.722				
V76	0.811		0.385				
V77	0.720		0.209				
V78	0.755		0.199				

= factor loading; ϕ = Cronbach's alpha coefficient; Φ = correlation coefficient; μ = Eigen value; ß = % of variance explained; ƛ = Kaiser-Meyer-Olkin value; ɀ = Bartlett's test.

6.6.2 Test of hypotheses

Relationship between CLC and ORP (Hypothesis 1)

Hypothesis 1 theorises that there is a positive relationship between company leadership characteristics, components, and organisational performance. The path model of the hypothesis was tested (see Figure 6.1). The model estimation for the hypothesis is presented in Table 6.17. The results in the table revealed that the relationship between ORP and CLC (r = -0.088937744257794, z =--0.00698031049183248) is negative and not significant. The results

of the goodness of fit test, as presented in Table 6.17, indicate that the structural equation model is a good fit. The nature of the relationship between ORP and CLC, as revealed by the estimate parameter, does not support Hypothesis 1. This indicates that the component and characteristics of the construction company leadership has no positive impact on the company performance. It means that Hypothesis 1 was not valid. This also suggests that there are other factors that impacts on the organisation performance other than the construction company leadership components.

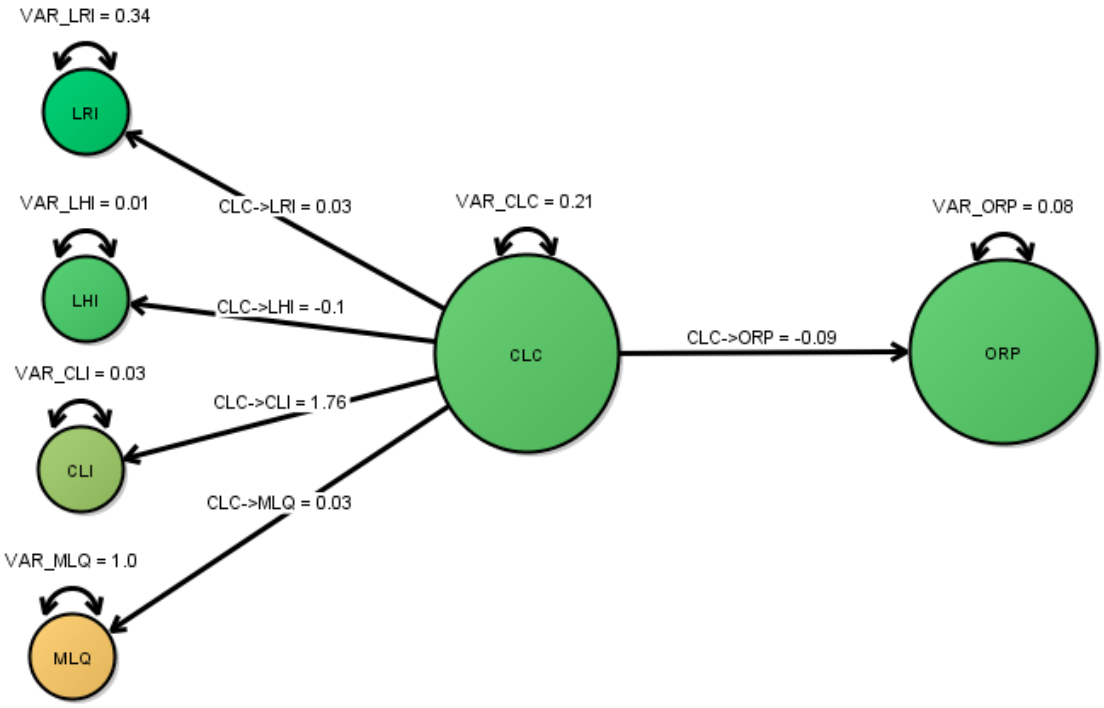


Figure 6.1: Path model for the relationship between construction company leadership and organisational performance (Hypothesis 1).

Table 6.18: Structural model for the relationship between construction company leadership and organisational performance (Hypothesis 1)

Relationships	**Estimate**	**Standard Error**	**Z-value**
CLC->CLI	1.760	252.025	0.007
CLC->LHI	-0.101	14.492	-0.007
CLC->LRI	0.034	4.857	0.0069
CLC->MLQ	0.026	3.676	0.006980
CLC->ORP	-0.089	12.741	-0.006980
LRI=Leadership Role Inventory, LHI=Leadership HEXACO Inventory, CLI=Catalytic Leadership Inventory, MLQ=Multi-Leadership Questionnaire, ORP=Organisation Performance			

Table 6.19: Fit indices for the estimated model of the relationship in Hypothesis 1.

Fit index	**Values**
Basic statistics	
Estimated parameters	28
Observed Statistics	153
Number of Observations	257
Restricted Degrees of Freedom	125
Degrees of Freedom (independent)	136
The goodness of fit index	
Model Chi-Square	381.866
Chi-square from independent	1006.614
RMSEA	0.099
SRMR	0.024
CFI	0.975
TLI	0.979

Impact of strategic decisions made by construction company leadership on performance (Hypothesis 2)

Figure 6.2 shows a path model illustrating a structural equation model for hypothesis which posits that strategic decisions made by construction company leadership directly impact the company performance. The model estimation for the hypothesis is presented in Table 6.19. The results in the table revealed that strategic change and innovation (SDM->SCI =0.863708138829623), strategic investment decisions (SDM->SID = 0.6195937054687952), and strategic project management (SDM->SPM = 0.8770132622524256) are strongly associated with strategic decisions.

The relationship between strategic decisions and company performance was indicated to be strongly positive and significant:
[(SCI->ORP; r = 0.6386341849646883; z = 1.3412936034826015), (SID->ORP; r = 0.5477637236305062; z = 0.8605777844469235); (SPM->ORP; r = 0.347663283054646; z = 0.7098756381666587)].

The fit indices for the structural equation model are presented in Table 6.20. The results in the table confirm that the structural equation model is a good fit, because the SRMR index is below

0.10, CFI and TLI are above 0.97, RMSEA is below 0.08, and the chi square test statistics are not significant at the 0.05 level. These results validate the hypothesis that strategic decisions made by construction company leadership directly impact the company performance.

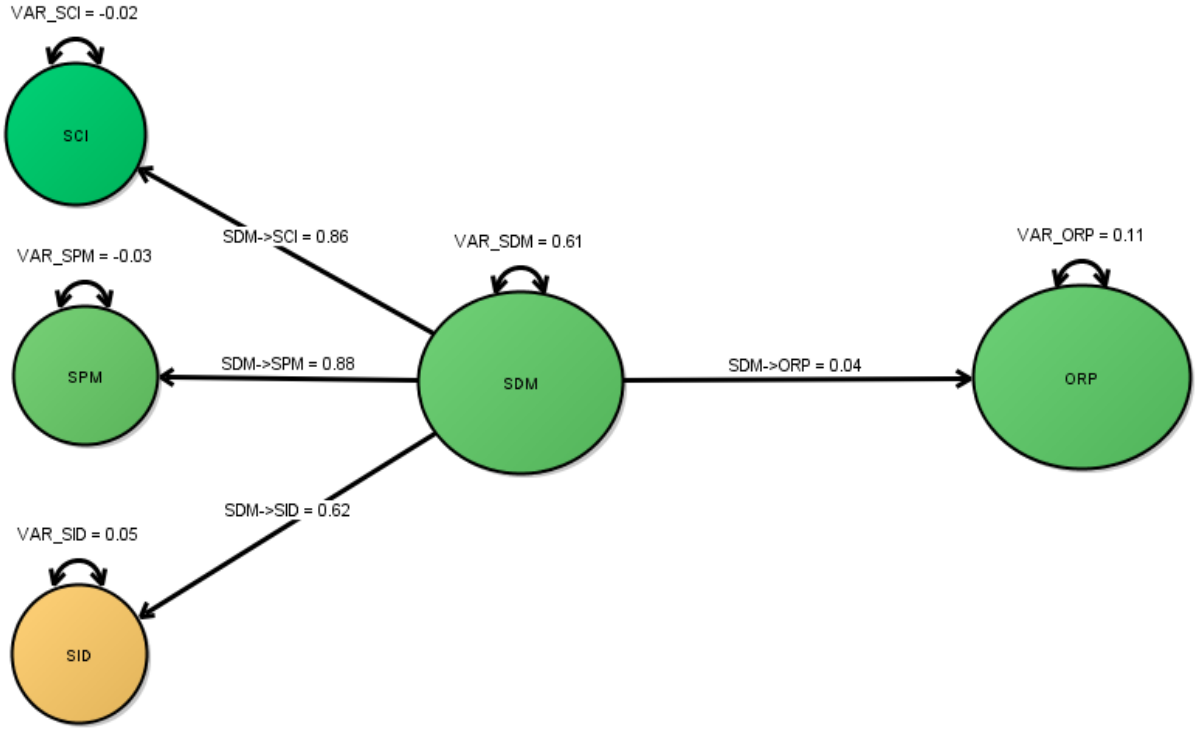


Figure 6.2: Path model for impact of strategic decisions made by construction company leadership on performance (Hypothesis 2)

Table 6.20: Structural model for the impact of strategic decisions made by construction company leadership on performance (Hypothesis 2)

Relationships	Estimate	Standard Error	Z-value
SCI->ORP	0.639	0.476	1.341
SDM->SCI	0.863	0	0
SDM->SID	0.620	0	0
SDM->SPM	0.877	0	0
SID->ORP	0.548	0.637	0.861
SPM->ORP	0.348	0.490	0.710
SDM->ORP	0.045	0.033	1.371
SCI= strategic change and innovation, ORP= organisational performance, SDM=strategic decision-making, SID=strategic investment decision, SPM= strategic project management			

Table 6.21: Fit indices for the estimated model of the relationship in Hypothesis 2.

Fit index	Values
Basic statistics	
Estimated parameters	23
Observed Statistics	78
Number of Observations	257
Restricted Degrees of Freedom	55
Degrees of Freedom (independent)	66
The goodness of fit index	
Model Chi-Square	1013.659
Chi-square from independent variable	294.069
RMSEA	0.037
SRMR	0.071
CFI	0.978
TLI	0.967

Moderation role of strategic decisions in the relationship between construction company leadership component, characteristics, and construction organisational performance (Hypothesis 3)

Figure 6.3 illustrates the path model for testing Hypothesis 3 which postulates that strategic decisions moderate the relationship between construction company leadership characteristics, components, and construction organisational performance. In the model, strategic decisions were measured using strategic change and innovation, strategic investment decisions, and strategic project management. The leadership component was measured using MLQ, and leadership characteristics were measured using LRI, LHI, and CLI.

The model estimation is summarized in Table 6.22. As explained in the table, positive and strong associations exist between strategic change and innovation, leadership component, leadership characteristics, and organisational performance:
[SCI->CLI (r=0.239390640268331, z = 2.424970653822203); LHI (r = 0.27307647813006697, z = 2.13585802287316); LRI (r = 0.007157953225572973, z = 0.05067603823295233); MLQ (r = 0.02643480010351672, z = 0.2259760169938195); and ORP (r = 0.2563129216610509, z = 2.5960139183943665)].

The association between strategic investment decisions and the leadership component, leadership characteristics, and organisational performance was found to be strong, positive, and significant:
[SID->CLI (r = 0.16332048188833445, z = 1.3480036985459192); LHI (r = 0.28950394666105267, z = 1.6963059680227173); LRI (r = 0.07205167828988901, z = 0.4148101035779128); MLQ (r = 0.22019538668599492, z = 1.5010074166064915); and ORP (r = 0.029052281703649104, z = 0.24142731250472693)].

Regarding the relationship between leadership component, leadership characteristics, organisational performance, and strategic project management; the result indicated a strong, positive, and significant association:
[SPM->CLI (r = 0.055462992024062546, z = 0.4457008175318685); LHI (r = 0.20243592045036934, z = 1.2367490396439509); LRI (r = 0.5032484607769852, z = 2.53599702689986); MLQ (r = 0.16443510809941458, z = 1.0610727368926718); and ORP (r = 0.09316854395726609, z = 0.8177006905955069)].

The fit indices for the structural equation model as shown in Table 6.23 are within the recommended values:
[chi square = 1643.209, df = 183, RMSEA = 0.024, SRMR = 0.065, CF1 = 0.991, TL1 = 0.985].

These results validate hypothesis 3 and confirm that strategic decisions moderate the relationship between construction company leadership component, characteristics, and construction organisational performance.
As shown in Figure 6.3 on the next page, the measuring instruments used are as follows:
SCI= strategic change and innovation, ORP= organisational performance, SDM=strategic decision-making, SID=strategic investment decision, SPM= strategic project management, LRI= Leadership role inventory, LHI=Leadership HEXACO inventory, CLI= Catalytic Leadership inventory, MLQ=Multi-factor Leadership Questionnaire, CLC= Construction company leadership

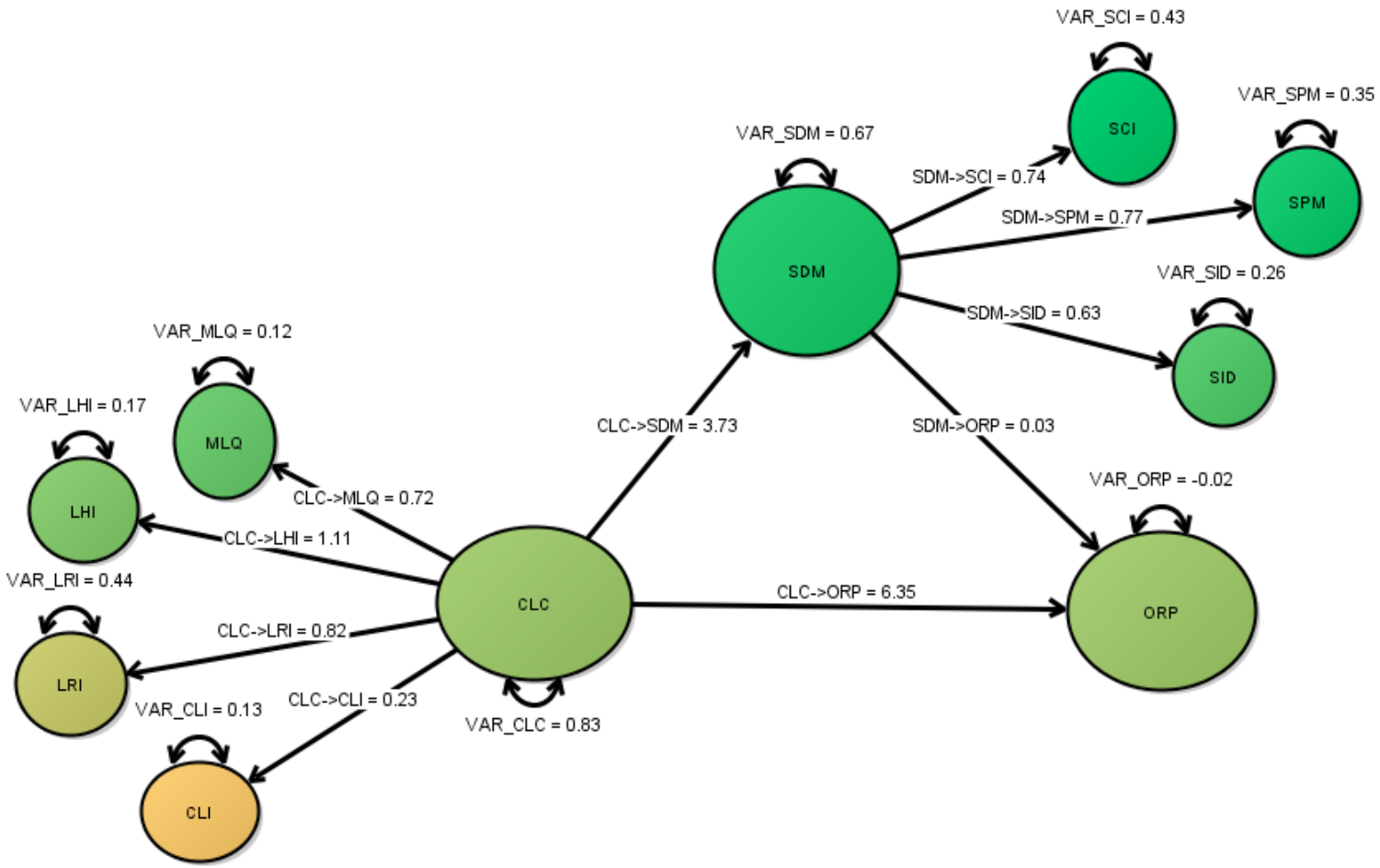


Figure 6.3: Path model for moderation role of strategic decisions in the relationship between construction company leadership characteristics components, and construction organisational performance (Hypothesis 3).

Table 6.22: Structural model of the moderation role of strategic decisions in the relationship between construction company leadership component, characteristics, and construction organisational performance (Hypothesis 3)

Relationships	Estimate	Standard Error	Z-value
CLI->ORP	0.605	0.119	5.077
LHI->ORP	0.286	0.122	2.334
LRI->ORP	0.052	0.046	1.138
MLQ->ORP	0.118	0.145	0.808
SCI->CLI	0.239	0.099	2.425
SCI->LHI	0.273	0.128	2.136
SCI->LRI	0.007	0.141	0.051
SCI->MLQ	0.026	0.117	0.226
SCI->ORP	0.256	0.099	2.596
SID->CLI	0.163	0.121	1.348
SID->LHI	0.290	0.171	1.696
SID->LRI	0.072	0.174	0.415
SID->MLQ	0.220	0.147	1.503
SID->ORP	0.029	0.120	0.241
SPM->CLI	0.055	0.124	0.446
SPM->LHI	0.202	0.164	1.237
SPM->LRI	0.503	0.198	2.536
SPM->MLQ	0.164	0.155	1.061
SPM->ORP	0.093	0.114	0.818
CLC->CLI	0.232	0.031	7.613
CLC->LHI	1.111	0.116	9.619
CLC->LRI	0.824	0.091	9.105
CLC->MLQ	0.724	0.083	8.757
SDM->SCI	0.741	0.055	13.516
SDM->SID	0.626	0.047	13.436
SDM->SPM	0.775	0.052	14.743
CLC->ORP	6.352	3.289	1.931
CLC->SDM	3.732	2.101	1.777
SDM->ORP	0.035	0.188	0.189

SCI= strategic change and innovation, ORP= organisational performance, SDM=strategic decision-making, SID=strategic investment decision, SPM= strategic project management, LRI=, LHI=, CLI=, MLQ=, SDM=, CLC=

Table 6.23: Fit indices for Hypothesis 3

Fit index	Values
Basic statistics	
Estimated parameters	48
Observed statistics	231
Number of observations	257
Restricted Degrees of Freedom	183
Degrees of Freedom (independent)	210
The goodness of fit index	
Model Chi-Square	1643.209
Chi-square from independent	826.045
RMSEA	0.024
SRMR	0.065
CFI	0.991
TLI	0.985

Chapter summary

This chapter presented the analysis of data collected from the survey of construction company leaders across the nine provinces of South Africa. The results of the three hypotheses developed for the study was also tested. The next chapter articulates the integration of the qualitative and quantitative research streams in relation to the literature. Further, it presents the leadership framework developed from the study.

CHAPTER SEVEN

DISCUSSION OF FINDINGS

7.1 Introduction

This chapter discusses the qualitative and quantitative data obtained from the study, using the study objectives as basis. The chapter highlights the similarities and differences between the different strands of research and then connects the findings to existing literature. It is arranged in seven sections as follows: the components of leadership in the construction business environment, the level of performance of construction companies in South Africa, the common construction leadership characteristics, the common types of strategic decisions made by construction company leadership and their impact on performance, the moderation role of strategic decisions in the relationship between construction company leadership component, characteristics and construction organisational performance, and the leadership framework developed from the study findings.

7.2 Components of leadership in the construction business environment

This research investigated the components of leadership in the context of the construction business environment in South Africa, using both interviews and a well-established psychological leadership inventory pertaining to the components of effective leadership. The findings of the qualitative aspect of the study revealed that the construction company leaders possessed good understanding of the construction business, ethical leadership, emotional intelligence, good communication skills, and resilience. The quantitative findings also indicated that the interpretation of the components on the MLQ scale in both interview and survey showed that the leadership of the construction organisations in South Africa is mostly transformational and transactional. These results are consistent with the earlier studies, such as those by Limsila and Ogunlana (2008), Toor and Ofori (2009), Muller and Turner (2009), Daniel (2015), and Tabassi et al. (2016), Nasaruddin and Rahman (2016), that identified having a vision, empowering others, using imagination, achievement, assertiveness, communication skills, ethics, critical thinking, and motivation as the components of leadership in the construction industry. This result shows that the nature of the leadership in construction organisations in South Africa is transformational leadership and also transactional leadership.

Transformational leaders are visionary, encourage innovative thinking, stimulate creativity, generate solution, foster the spirit of teamwork, and provide commitment. It is also a form of

leadership that is dedicated to the growth and development of the employees and organisations. This suggests that respondents are being positioned by the leadership to be creative, innovative, and solution oriented. The presence of transformational leadership in the respondents also suggests that the construction organisation leaders are visionary and willing to commit resources to employee training and advancement.

The components of transactional leadership in the findings are management by exception and contingent reward. Based on this result, many construction organisations also adhere strictly to performance evaluation. This is because transactional leadership makes the employee personally responsible for their own success and takes employees' performance to be the determinant of the company's growth. Transactional leadership achieves results by defining job requirements for employees, monitoring deviations and errors, supervising the employees' actions, and evaluating the employees' performance. Performance evaluation is usually followed up by taking disciplinary actions for non-conformance to rules or rewarding employees for their achievements. This suggests job insecurity for the employees in the South African construction industry owing to the possibility of stringent rules and regulations. The results also suggest that the South African construction industry is competitive. This could explain why the leadership exhibits transformational and transactional tendencies. The focus of both leadership is human resources and improved organisational performance. According to the findings, some of the respondents are developing their competitive edge by motivating their employees (human resources) to be creative and innovative, while some are competing through performance evaluation driven by rules and rewards.

7.3 Level of performance of construction companies in South Africa

The level of performance of construction companies in South Africa was investigated by examining the level of success in achieving organisational performance objectives and by evaluating the profit margin of the organisations. The qualitative findings revealed that the large contractors are in survival mode. The quantitative findings revealed that the average profit margin of the construction organisations in South Africa declined in 2019. This suggests that the South African construction industry did not perform well in 2019. It also emerged from the findings that the large construction organisations are engaged in profitable projects. The study of Odediran and Windapo (2016) corroborates this finding by reporting that companies with a high cidb grade have adequate financial capabilities. Problem-solving skills have also been linked to the high performance of South African firms by Anderson-Macdonald et al. (2014).

The construction organisations have mostly achieved progress by resolving problems and preventing problem areas in their organisations. Projects have been procured by the respondents' organisations through relationships, optimizing performance on projects, and repeat business. This means that the leadership of construction organisations are quite aware of their strategic, operational, and relational roles.

7.4 Common construction company leadership characteristics in South Africa

Using established inventions (LHI, LRI, and CLI) for leadership characteristics, the study investigated the common construction company leadership characteristics in South Africa. The findings from LHI provided insights into the behaviors of the construction company leadership in South Africa. LHI measures the levels of leadership traits, namely Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience of leadership. This research found that the leadership of construction companies in South Africa is highly conscientious (V_{34}, V_{46}, V_{41}), honest-humble (V_{38}, V_{53}), extrovert (V_{42}, V_{36}, V_{48}), and open to experience (V_{45}, V_{49}, V_{33}, V_{51}). The findings give evidence of social self-esteem among the leadership of construction companies in South Africa. The findings also suggest that the leadership of construction companies in South Africa is resilient, organized, honest, modest, and fair. It can also be inferred from the findings that the leadership of construction companies in South Africa is inquisitive, creative, gentle, flexible, sociable, and patient. The implication of this finding is that construction workers or employees in South Africa are treated fairly and in a friendly manner by the company leadership. The finances of the construction companies under the leadership of the respondents for this research should thrive due to behaviour such as honesty and prudence. These construction companies are expected to have creative workflows and excellent work relations. The employees of these companies will work with a leadership that inquires after their challenges, amends rules for the progress of organisations, and associates freely with the employees. According to Hoffmeister et al. (2014), the behaviour of leadership of construction organisations must be centered on the core values that affect individuals in the organisations. Diligence, flexibility, and patience were emphasized by Jung and Mills (2013) as some of the behaviours expected of construction companies' leadership.

The findings from the LRI explained the leadership roles of the respondents. From the findings, it emerged that the leaders mainly build trust, evaluate performance, and set vision. Other roles played by the leadership of construction companies in South Africa include motivation, giving

feedback, making strategic decisions, managing change, fostering collaboration, and developing the management team. This finding indicated that the leadership perceive the employees as essential to the progress and growth of construction organisations. The focus on building of trust among the employees, selling the vision of the organisations to the employees, and evaluating the performance of the employees shows that the emphasis of leadership in construction companies is mostly on the employees.

The other roles played by the leadership support this explanation. Motivation applies to the employees, while strategic decisions determine the direction of the actions and activities of the employees. The leadership of construction companies also emphasize team building and fostering of collaboration as one of the ways to lead a construction company. Change is inevitable in every sector and employees will need feedback and information on the direction in which their companies are heading. This research found that it is more helpful to manage organizational change when construction companies' leadership supply the needed information and direction to their employees. The findings from CLI revealed the leadership skills of the construction companies' leadership in South Africa. According to the findings, the major leadership skills of construction company leaders in South Africa are skills for building credibility and amplifying impact. This is revealed in their efforts to acquire knowledge of construction business and demonstrate ethical principles. The leaderships of the construction companies are also undergoing professional development, pursuing organisational goals, and learning from successful leaders. The study by Adogbo et al. (2017), Goldenhar et al. (2019), Liphadzi et al. (2015), and Muda et al. (2017) agree with these findings. Specifically, Liphadzi et al. (2015) found that the roles played by the leadership of construction organisations in the South African construction industry include problem solving skills, motivation, integrity and humour.

7.5 Common types of strategic decisions

The fourth objective of this research investigated the common types of strategic decisions made by construction companies' leaders and their impact on the performance of their companies. The qualitative and quantitative findings indicate that the construction company leaders are mostly differentiation focused, and prioritize client satisfaction, based on a niche market. The qualitative findings on strategic decisions from the study revealed that the construction company leaders in South Africa compete based on different modes such as cost, quality and diversification and expansion of the business, in a way that is similar to the studies from the

U.S. and Turkish construction firms (Kale and Arditi, 2002; Dikmen et al, 2009; Isik et al., 2009). The construction companies' leadership procured projects through customer relations. These findings suggest that building customer relationships is a strategic method for procuring projects from private clients. It suggests a networking system where the construction companies' leadership engages potential clients in social activities. In addition, the construction company leaders execute projects using their profits. This is strategic because it shows the client that the construction companies are financially stable and capable. It also enables the construction companies to build financial viability by not taking loans for project execution. The preference of respondents for contracts suggests that government contracts are mostly large and good for company marketing. Executing government projects enables construction companies to build reputation, competitive edge, and position them as a leading company in the South African construction industry.

The findings on strategic change and innovation decisions made by construction companies' leadership revealed that the leadership of construction companies in South Africa restructures their organisations and builds the capacity of their employees in line with the demands and trends in the market. The strategies in this arrangement are flexibility and survival. Demands and trends change periodically and construction companies cannot dictate the trends and demands in the construction industry. To survive and be compliant with the change in the market, construction companies position their employees and capability in line with the dictates of the market. This is congruent with the findings of Alade et Al. (2021), Mahfouz et al. (2019), Riviero (2014) and Seaden et al. (2003).

The findings on strategic investment decisions made by construction companies' leadership revealed that they re-invest their profit in investment portfolios, diversify their operations and activities, and expand to new locations. There are nine provinces in South Africa, the decisions to expand to more than one province is strategic for some because it will guarantee patronage and support the company survival. Diversification of operations and activities is another strategic decision made by the construction companies' leadership. In South Africa, construction companies are mainly registered as general building, civil engineering, or geo-technical engineering. Efforts made by construction companies' leadership to operate in all the three main categories is a survival strategy. This strategy indirectly builds capacity and also ensures that the construction companies stay afloat through every economic situation. There are other construction-related investments, such as property development and material manufacturing. Investing in these construction-related businesses is strategic because it will

bring financial stability and ensure economic survival. Also, the company sometimes acts as the client, a one stop shop, by taking the intiative for a new project. Internal relations are also maintained with other construction teams, such as relevant consultants and contractors.

The research set to test the hypothesis that strategic decisions, made by construction companies' leadership, directly impact the company's performance. The result of the SEM validates the hypothesis by revealing a positive and significant relationship between strategic decisions made by construction companies' leadership and organisational performance. This finding is similar to previous research conducted by Eweje et al. (2012), Demirkesen and Beliz Ozorhon (2017), Lain et al. (2020), Turskis et al. (2019), and Tariq and Rehman (2020). Eweje et al. (2012) reported that strategic decisions made by construction companies leadership created strategic value in project delivery. Demirkesen and Beliz Ozorhon (2017) reported that strategic integration and management strongly impacted on performance of construction companies. Lain et al. (2020), Turskis et al. (2019), and Tariq and Rehman (2020) found that sustainable prevention of accidents on construction sites, conflict management effectiveness, and the use of the integrated Entropy-Fuzzy VIKOR decision-making model, are strategic tactics that positively impact the performance of construction companies.

The validation of the hypothesis suggest that leaders positively impact organisatonal performance through their decisions. According to the findings of this study, decisions on change and innovation have the most impact on the organisational performance. This suggests that construction companies with change- and innovation-conscious leadership will likely achieve high organisational performance. This finding is in line with findings of previous studies by Horta et al. (2012), Asgari et al. (2016), Onubi et al. (2020), Yusuf and AbuBakar (2012), and Hashim et al. (2013). Horta et al. (2012) found that strategic decisions on change and innovation enabled construction companies in Portugal to achieve best performance levels. Strategic decisions on change and innovation such as risk allowance (Asgari et al., 2016), green construction site practices (Onubi et al., 2020), knowledge management (Yusuf and AbuBakar, 2012), e-procurement (Hashin et al., 2013), and cost benefit analysis of procurement systems (Onosakponome et al., 2011) have been reported in literature as positively impacting on the economic performance of construction companies.

7.6 The moderating role of strategic decisions

The study hypothesized that strategic decisions moderates the relationship between construction companies' leadership component, characteristics, and construction

organisational performance. The SEM result confirmed the hypothesis. Wu et al. (2017) had earlier claimed that strategic decisions influence the survival and development of organisations. Further, the relationship between strategic decisions and leadership has also been established by Alkharabsheh et al. (2013) and Balta et al. (2010). Earlier findings indicated that leadership is directly related to strategic decisions. The findings of this research thus support these previous studies. The findings of this research also explain that strategic decision-making is a major role for construction company leadership. It emerged that the leadership of construction companies in the study cast visions, channel new opportunities, and reposition their companies according to the current and future economic situations.

The gap between expectations and performance are filled by leadership through the making of decisions that are premeditated and calculated towards the expectations and visions of the construction companies. The expectations and visions of construction organisations cannot be met by the leadership single handedly. Construction company leaders therefore cascade their strategic decisions so that employees can understand and key into their vision and commit to the decisions made by the leadership. Hence, the leadership also considers related issues such as employee turnover, employee commitment, organisational culture and structure, and dynamic capabilities. The leadership considers strategies for keeping employees employed, and securing construction projects, because employee turnover is a major challenge in the construction industry.

Failure to do this will ultimately affect the vision of the company. In drawing up expectations for their companies, the leadership of construction companies are found to incorporate the needs of their employees in their decisions because visions cannot be implemented without resetting the culture and structure of an organisation. These findings are in line with extant studies such as Puni et al. (2018), Windapo (2018) Jung et al. (2003), Zehir et al. (2011), Akkaya (2020), Nahum and Carmeli (2019), Jomah (2016), Alkhajeh (2018), and Albloshi and Nawar (2015). Specifically, Zehir et al. (2011) established that leadership decisions moderate the link between organisational leadership and performance. In the same vein, Akkaya (2020) reported that the dynamic capabilities of the leader such as openness to change, and the ability to be innovative, are moderated by leadership decisions. The link between leadership styles, decisions, and organisational performance was also established in previous studies by Nahum and Carmeli (2019), Jomah (2016), Alkhajeh (2018), and Albloshi and Nawar (2015).

7.7 Leadership framework for improving construction business performance

The framework is based on the integration of themes of the qualitative findings and the convergence from the qualitative and quantitative results. Each component of the leadership framework is shown in Figure 7.1 and discussed in greater detail in the next section.

7.7.1 Leadership development

This component is the foundation for developing the requisite leadership traits and leadership skills that equip the leadership to play the relevant leadership roles, and to adopt the appropriate leadership style for success. At this stage, the construction organisation leader begins the leadership journey. This study shows that the majority of the construction leaders with some exposure in construction or a related discipline acquired through education, experience, mentoring, or training, perform better. However, professional development, further education in business, management or leadership, or affiliation with construction-related bodies also enhanced performance. The leadership development component emerged as fundamental and critical to acquiring the requisite leadership traits, and skills for leading successfully in construction organisations. Through this, a good understanding of the construction business, and the ethics and values required for success in the industry are acquired.

7.7.2 Leadership style

As the individual develops and practises in the industry, there is a conscious or unconscious development of a leadership style to obtain results, with the team and other stakeholders, which enhance the organisation's sustainable performance. While leadership style is sometimes context specific, the presence of transformational leadership in the South African construction organisations suggest that the leaders are change-orientated and willing to commit resources to employee training and technological advancement. The transactional leadership components in the findings also show that many construction organisations in South Africa adhere strictly to performance evaluation. As such, they are task orientated and communicate expectations to employees and other stakeholders to achieve results. The leadership framework is illustrated on the next page in Figure 7.1.

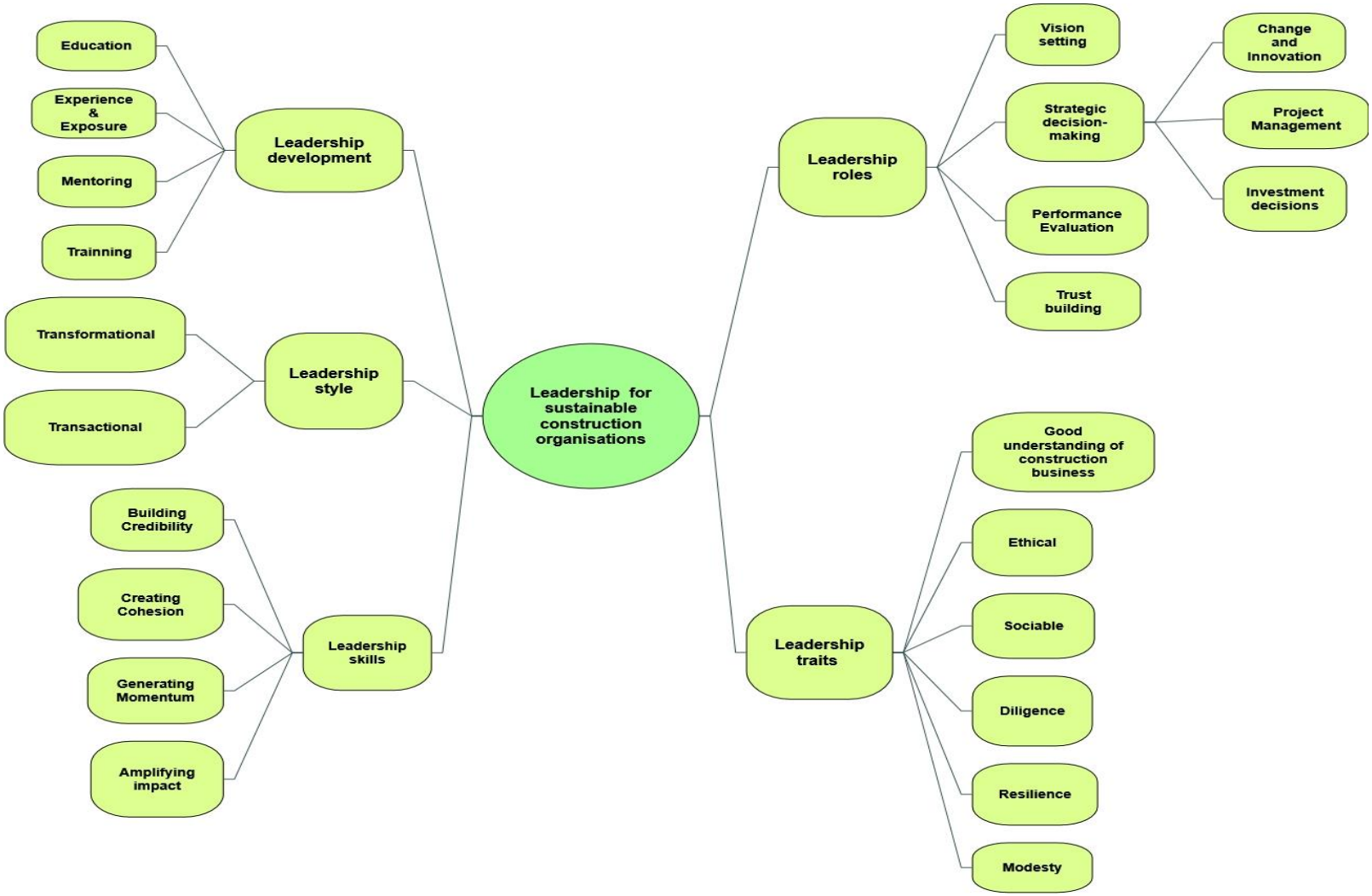


Figure 7.1 Leadership framework developed for construction business organisations

7.7.3 Leadership skills

This component refers to the ability to carry out the all the tasks expected of the company leadership to achieve the organisational goals. These skills can be sharpened, improved and enhanced through practice. As revealed in this study, effective communication, and acting with integrity are important to build credibility. Upgrading and sharpening skills and knowledge from time to time helps the leaders to generate the required momentum for accomplishing the organisational goals. Finally, coaching, mentoring, pursuing excellence and proposing imaginative solutions all help to amplify the leaders' impact.

7.7.4 Leadership roles

The leadership role component in the framework speaks to the headship responsibilities expected of construction organisational leaders to operate the company sustainably. It includes vision setting, strategic decision making, performance evaluation and trust building. The study found that leaders who play these strategic and structural roles perform better. Vision setting includes the setting the agenda for the organisation and providing the overall direction for the sustainability of the company. In addition, leaders make long-term decisions consistent with the company vision and in relation to change and innovation, project management, and investment. The leaders that evaluate the performance of their companies in relation to the company vision were found to perform better. Trust building among all the stakeholders is also a function expected by the company leadership. This requires the leaders to listen to and support employees, and demonstrate ethical principles and values in all their dealings, to promote confidence in them and their leadership. The consequences of the corruption and collusion that emanated from the Competition Commission's report on some construction organisational leaders during the 2010 World Cup still affects several organisations and the industry.

7.7.5 Leadership traits

This component in the leadership framework includes visible attributes of the leaders, such as good understanding of the construction business, diligence, resilience, sociability and being ethical. The highly complex nature of construction and the challenges associated with the contracting business, stems from managing multiple stakeholders, supply chain processes, legislative loads, compliance requirements, and different procurement systems. This has been described and further established through this study. A good understanding of the construction business appeared as a requirement essential for company success and sustainability.

Construction organisations are project-based, and each project is unique. This helps the leader to gain perspective more quickly when dealing with a crisis. Further, being ethical in all dealings is regarded as the hallmark of construction company leadership. This invokes the confidence of stakeholders within and without the organisation. Considering the cyclical nature of the industry and current economic challenges in the South African context, requires resilience from business owners. For instance, not all tenders are successful, and the idea of not giving up and trying again is important. Diligence is required from construction organisation leaders. Construction is a tough industry and knowing the kinds of job to tender for, the ones to avoid, the kind of people and sub-contractors to engage, which plant and equipment to hire or buy, involves diligence. In addition, considering the people-nature of the construction business, sociability is required of construction company leadership. Efforts of team members and other stakeholders such as sub-contractors, consultants, architects, builders, engineers and quantity surveyors must be acknowledged and harnessed in accomplishing the company vision.

7.8 Chapter summary

This chapter presented the discussions of the findings from the study, in relation to the literature. The chapter highlighted a leadership framework for improving construction business organisations' performance in South Africa. In addition to previous studies, the leadership framework developed from the study's findings explicates the multi-dimensions of leadership that impacts on construction business organisation performance. The components of the leadership framework thus provides a better measure of how leadership impacts organisational performance, in construction business organizational settings. The next chapter will present the summary, conclusions, and recommendations ensuing from this study.

CHAPTER EIGHT

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

8.1 Introduction

This chapter presents the summary of findings, conclusions and recommendations for theory and practice as well as potential areas of future research for the study. The chapter highlights each objective set out for the study and how they were achieved. Considering the continued failure of large contractors in South Africa, this research examined organisational leadership in South African construction firms, and whether their strategic decisions moderate the relationship between leadership and their organisational performance.

8.2 Summary of findings

The main question investigated in this study is: What combination of leadership traits, skills, style, role, and strategic decisions results in superior and sustainable construction organisation performance? To answer this question the extant literature was used to develop relevant questions. The study adopted a sequential mixed-research approach. It first purposively sampled fifteen executives of large, sustainable, high performing construction organisations with company headquarters in the Western Cape, South Africa. Semi--structured interviews were used to define the sample. Using this sample, a survey of construction executives was carried out across the 9 provinces of South Africa, with 259 responses gathered. Based on this, a questionnaire survey of senior construction organisational executives was carried out across the nine provinces of South Africa. The hypotheses developed for the study were tested using the SEM inferential analysis technique.

Objective 1: Identify the components of leadership in the context of construction business environment.

This objective was achieved through the review of literature and also using empirical data. The findings revealed that leaders would generally be required to have vision, set expectations, possess strength and flexibility, demonstrate an awareness of climate, have accomplishments, show desire, conclusiveness, decisiveness, participation, autonomy, energy, determination, fearlessness, stress resistance, drive to practice, and ability to acknowledge obligation, more

than non-leaders would. In addition, leaders should demonstrate integrity by being ethical and inspiring their followers to be stretched beyond their limits.

Objective 2:Find out the level of performance of construction companies in South Africa.

This was investigated by examining the level of success in achieving organisational performance objectives and by evaluating the profit margin of the organisations. The findings of the qualitative revealed that the large construction companies are in 'survival mode' for the five-year period examined (2015-2019). Further, the average profit margin of the construction organisations in South Africa declined in 2019, suggesting that the South African construction industry did not perform well in 2019 because of economic and national challenges.

Objective 3: Determine the common construction company leadership characteristics (traits, skills, and styles).

This objective was achieved by investigating the common construction company leadership characteristics in South Africa using established scales (LHI, LRI, and CLI). It emerged that the construction leadership mainly build trust, evaluate performance, and set vision. Other roles played by the leadership of construction companies in South Africa include encouraging motivation, giving feedback, making strategic decisions, managing change, fostering collaboration, and developing the management team. This is revealed in their efforts to acquire knowledge of the construction business, undergo professional development, pursue organisational goals, and demonstrate ethical principles. The leadership of the construction companies also learn from successful leaders through receiving mentoring.

Objective 4: Understand common types of strategic decisions made by construction company leadership and their impact on performance of construction companies.

This objective was achieved using qualitative and quantitative means. The findings revealed that the construction company leaders in South Africa compete based on different modes. Strategic change and innovation, strategic investment decisions, and strategic Project Management were found to aid construction company sustainability. It emerged that strategic change and innovation decisions impact the construction companies the most. The leadership of construction companies in South Africa restructure their organisations and build the capacity of their employees in line with the demands and trends in the market to operate sustainably.

The findings on strategic investment decisions made by construction companies leadership revealed that construction companies' leadership re-invest their profit in investment portfolios, diversify their operations of activities, and expand to new locations. The findings on strategic Project Management reveals that the construction companies' leadership procured projects through customer relations, prioritize client satisfaction based on a niche market for repeat business, and take advantage of technology.

Objective 5: Determine the moderation role of strategic decisions in the relationship between construction company leadership ccharacteristics and construction organisational performance.

This objective was achieved by quantitative data analysed using Structural Equation Modelling (SEM). The SEM result confirmed the hypothesis that strategic decisions moderate the relationship between construction company leadership characteristics and construction organisational performance. The findings of this research thus reveal that strategic decision-making is a major role for construction company leadership. As part of objective 4, this research set out to test the hypothesis that strategic decisions made by construction companies' leadership directly impact the company's performance. The result of the SEM validates the hypothesis by revealing a positive and strong relationship between strategic decisions made by construction companies' leadership and the level of success of that leadership in achieving organisational performance objectives.

Objective 6: Develop a leadership framework for improving construction business organisation performance in South Africa.

This objective was accomplished. In response to the findings from the study, a leadership framework was developed, proposing the essential leadership traits, skills, style and strategic decisions, and the pathway to construction organisational leadership development.

8.3 Conclusions

Based on these findings, the study concludes that construction company leadership impacts significantly on organisational performance, through their strategic decisions. Apart from project leadership, and the transformational leadership approach which has been mostly

emphasized for construction organisations, there are other important leadership factors which have been articulated through this study, such as the strategic leadership roles, leadership HEXACO traits, and catalytic leadership skills and strategic decisions, all of which impact on the organisation's sustainability. Hence, construction organisational leaders aggregate the vision, give the methodology and course towards the shared objective to all relevant stakeholders. It is also essential for construction companies' leadership to consider dynamic capability as one of the elements affecting organisational performance and to be covered by the strategic decisions. The study thus implies that certain leadership characteristics and competencies foster organisational performance, and the strategic decisions made by construction companies' leaders' impact on the company performance and sustainability.

8.4 Contribution to knowledge

The poor performance and failure of construction businesses especially the large contractors globally are the motivation for this study. The research was undertaken to investigate whether leadership is embedded in the organisational culture of construction organisations and understand the leadership factors responsible for organisational performance and sustainability. Hence, this study examines the construction company leadership traits, skills, style, roles and strategic decisions, and construction organisation performance, towards developing a leadership framework for improving performance in construction companies. While there have been different studies on leadership in construction, this study contributes to knowledge in the leadership and construction research by considering multi-dimensions of the company leadership's impact in the performance of construction business organisations. The study integrates the leadership personality traits, skills, style, roles, and strategic decisions, thus providing a better understanding of measuring leadership impact on performance in the construction business organisational context.

8.5 Recommendations for further studies

Future studies examining leadership in South African construction organisations should consider the following recommendations:

- Include other stakeholders such as board members, employees, and clients. In this study, the company leaders were the focus. However, including such perspectives has the potential to create more insight and a holistic view of the company leadership.
- Incorporate the processes in strategic decision-making. This study considered the content of strategic decisions, but did not look at the processes involved. Considering the complexity of large organisations, organisational structures differ, and this may have implications in strategic decision making. Hence, future studies should consider processes involved in strategic decision-making.

8.6 Recommendations for practice

Based on the conclusions, the study recommends the following:

- Construction organisational leaders should pay more attention to the transformational and transactional leadership components for organisational success and sustainability. Further, the HEXACO leadership trait component speaks to the business side of construction. From the 'cash is king' perspective, company leadership is expected to be modest in the running of the business. Overheads should be minimal and it seems wiser to invest more of earnings rather than spend it, e and consequently build up cash reserves, are wise.
- While hard construction skills such as Architecture, building, construction, engineering and project management are essential, construction company leadership should pay closer attention to the soft and catalytic skills. These skills boost morale and higher performance of employees and other stakeholders, who are involved with achieving the organisational goals effectively. They include behaviours for building credibility, creating cohesion, generating momentum, and amplifying impact.
- Inculcate strategic decisions in relation to change and innovation, investment and project management, which have more impact on the performance and sustainability.
- Construction organisations should consider and use the leadership framework as a guide in their succession plans and determining their potential leaders; individuals and upcoming leaders can also understand more easily the requirements of leadership in construction organisations using the framework.

- Communication should be cascaded easily from the top to all levels, using appropriate means. In addition, company leadership should be emotionally intelligent in order to create cohesion among the workforce.
- Construction associations in South Africa such as the Master Builders' Association (MBA), South African Forum of Civil Engineering Contractors (SAFCEC), Electrical Contractors Association South Africa-(ECASA) Construction Engineering Association (South Africa), Association of South African Quantity Surveyors (ASAQS) and the South African Council for the Project and Construction Management Professions (SACPCMP) should incorporate components of the leadership framework in their standards for leadership competence and proficiency.

8.7 Recommendations for policy

Considering the role of the construction sector in society, the sustainability of construction organisations is important. Since leadership contributes significantly to the sustainable performance of construction organisations, the construction industry development board (cidb) should train and develop its industry leaders. There should be more platforms to facilitate the leadership development in the construction sector. In addition, educational institutions, educators, and trainers should also incorporate leadership awareness and development into their curriculum using the framework developed.

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APPENDIX A- ETHICAL APPROVAL

APPENDICES: A (Ethics Approval)

Application for Approval of Ethics in Research (EiR) Projects Faculty of Engineering and the Built Environment, University of Cape Town

APPLICATION FORM

Please Note:

Any person planning to undertake research in the Faculty of Engineering and the Built Environment (EBE) at the University of Cape Town is required to complete this form **before** collecting or analysing data. The objective of submitting this application *prior* to embarking on research is to ensure that the highest ethical standards in research, conducted under the auspices of the EBE Faculty, are met. Please ensure that you have read, and understood the **EBE Ethics in Research Handbook** (available from the UCT EBE, Research Ethics website) prior to completing this application form: http://www.ebe.uct.ac.za/ebe/research/ethics1

APPLICANT'S DETAILS		
Name of principal researcher, student, or external applicant		Kehinde Alade
Department		Construction Economics and Management
Preferred email address of applicant:		Aldkeh001@myuct.ac.za
If Student	Your Degree: e.g., MSc, PhD, etc.	PhD
	Credit Value of Research: e.g., 60/120/180/360 etc.	360
	Name of Supervisor (if supervised):	A/Prof. Abimbola Windapo
If this is a researchcontract, indicate the source of funding/sponsorship		N/A
Project Title		Developing a leadership framework for improving construction business organisation performance

I hereby undertake to carry out my research in such a way that:

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;s
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

SIGNED BY	Full name	Signature	Date
Principal Researcher/ Student/External applicant	Kehinde Alade		**22 Feb 2019**

APPLICATION APPROVED BY	Full name	Signature	Date
Supervisor (where applicable)	A/Prof. Abimbola Windapo		**26 Feb 2019**
HOD (or delegated nominee) Final authority for all applicants who have answered NO to all questions in Section1; and for all Under graduate research (Including Honours).	Click here to enter text.		Click here to enter a date.
Chair : Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the above questions.	R Behrens		08 Mar 2019

APPENDIX B- CONSENT FORM

Kenny Alade (PhD Candidate)
University of Cape Town
Level 5, Snape Building
Upper Campus
Rondebosch, 7701
Cape Town, South Africa
Cell: +27 701 703 9794
Email: aldkeh001@myuct.ac.za

CONSENT FORM

Title of the research project:

Developing a Leadership Framework for Improving Construction Business Organisation Performance

Dear participant,

You are invited to take part in a research study on *Developing a leadership framework for improving construction business organisation performance.* This research is conducted by Kenny Alade, a PhD Candidate at the University of Cape Town. The inquiry is supervised by Associate Professor Abimbola Windapo of the University of Cape Town and the results of the study will be presented to the Department of Construction Economics and Management in fulfilment of the requirements for the degree of Doctor of Philosophy in Construction Economics and Management.

The questionnaire can be completed in approximately 15-20 minutes at a time convenient to you. Please be aware that information provided by you will be treated in the strictest confidence and your company will be kept anonymous. Further, the key findings of the research can be communicated with you if you request. In case you have any concerns or question(s) relating to the research please do not hesitate to contact me, Kenny Alade or the research supervisor, Associate Professor Abimbola Windapo on:

Kenny Alade	Aldkeh001@myuct.ac.za	+27 (0) 717039794
Abimbola Windapo	Abimbola.Windapo@uct.ac.za	+27 (021) 650 2049

Purpose of the Study:

The primary aim of the research is to examine the relationship between the CEO/company leadership and construction business organisation performance. The study will further establish whether the strategic decisions made by the construction company CEO/company leadership mediate the relationship between the organisation performance and the CEO/company leadership. The study is being conducted in South Africa. This phase of the research process is thus examining the strategic decisions and leadership attributes of construction executives across Provinces in South Africa.

APPENDIX C- INTERVIEW PROTOCOL

Researcher

Thank you very much for your willingness to participate in this leadership in construction study and for your audience. I am Kenny a PhD research student in the Department of Construction Economics and Management, University of Cape Town. The MBA and or SAFCEC recommended you as one of the participants in this study because they thought that I am likely to have more information from you that can help in this leadership in construction study. Kindly permit me to refer the SYNOPSIS earlier sent to keep you abreast of what the research is all about. The aim of the research is to develop a leadership framework for improving construction business organisation performance in South Africa. I will be running through a structured interview protocol that I have as a guide. Could you please sign the CONSENT form so we can proceed? I would also like to take your permission for AUDIO recording as I may not be fast enough with notetaking, ok?

SECTION A- Background Information

1. Please can you begin by telling me a bit about yourself and how you got into this position?
2. What is the number of years in total in the construction industry?
3. How long have you been in this company?
4. What is your status or current position?
5. How long have you been in this role?
6. What are your roles and responsibilities in this position?
7. What major challenges have you faced in this role?
8. How did you address these challenges?

SECTION B- Strategic Decisions in Construction organisations

Leadership theorists have noted that leaders can impact on organisational outcomes either through direct or indirect means.

1. What is the level of your involvement in formulating your company long-term goals and decision-making of your company?

2. What timeframe do your company usually set for achieving her long-term goals/objectives?

3. What were the decisions that you have taken at the company leadership level in the past that you feel is helping your company's performance?

4. Do you consider or use the National Development Plan in setting the goals of the company?

5. How do you mainly procure your services?

7. What are the major changes in how you manage the company overtime considering the volatile business environment?

8. What do you commit the most or significant part of the profits of the business to as a company?

9. What are the major traits of the growth and success of your company?

10. What Corporate Social Responsibility role do you play in the community?

11. How do you go about ethical issues of the business?

12. What decisions made the most impact on your company performance in the last 5-10years or more?

SECTION C- Company Information /Performance

1. What is the size of your company on the cidb Register?

2. (a)How many employees do you have now?

(b)What is the company annual turnover?

3. What is the company leadership composition/structure?

4. I am interested in the ways the performance of your organisation is measured. Could you please let us know whether you evaluate the performance of your organisation and in what ways- KPI?

5. What was the growth process for the company like? Rapid/Sudden, Slow and organic?

6. Have there been major milestones or significant turning points for the company since you assume your position that you'll like to share?

7. What advice or suggestions do you have for someone who desire your type of role?

End: Thank you once again for your time and participation in this study, I wish you and your organisation success in your endeavours.

APPENDIX D- SAMPLE INTERVIEW

Date: 03/02/2020
Duration: 29m:35s
Participants- Two
Researcher- Kehinde Alade (PhD Candidate)
Respondent – Group Chairman for Company B

Researcher: Thank you very much for your willingness to participate in this leadership and construction study and thank you for your audience. I am a PhD research student in the Department of Construction Economics and Management in the University of Cape Town. The MBA recommended you as one of the participants in this study because they thought that I am likely to have more information from you that can help in this leadership in construction study. Kindly permit me to refer to the synopsis earlier sent to you to keep you abreast of what my research is all about. The aim is to develop a leadership framework for improving construction business performance in South Africa. I will be running through a structured interview protocol that I have as a guide. Thank you for sending in the signed consent form. I also like to inform you that I will be using an audio recording machine so that I can have all the information.

Respondent: That is ok.

Researcher: Please could you begin by telling me a bit about yourself and how you got into this position as the Group chairman of your company?

Respondent: Okay, so I am 64 years old. My name is xxx born and bred Capetonian. I spent most of my life working for a construction company; I started off as a trainee surveyor, then unto Quantity Surveying Project Management and then 37 years ago I started the company, in 1983. And we grew you know from very small progressively through the years and today we employ about 1700 people, and of which about 800 of them are permanent employees. And so, we are primarily focused on what I would call highway construction, roads, bridges, dams, etc. Now we are moving into township development where we do the services for infrastructure, and we also build many thousands of the small affordable housing. We are also involved with some off market development so; we try to have probably most of the plants and equipment that we need and sometimes we do hire from outside. That is just a little bit of background.

Researcher: Thank you so much. What is the total number of years that you have with construction industry?

Respondent: Let me just quickly see now 37 plus 9, 46years.

Researcher: And you have been managing your company for how long?
Respondent: 37 years.

Researcher: (Probes further), So you have been in your role as the chairman of the group for 37 years, I suppose?

Respondent: I started the business from small that stage one was the Managing director stroke, everything you know, doing all the basics, being a very small company at the time.

Researcher: So, what are your roles and responsibilities in this position?

Respondent: We have two CEOs; we have two main companies. One is construction and the other is developments. And under construction, we do all that which I have explained to you. And under developments we do property development and housing and things like that. (Researcher- I noticed that in your company structure online).

Researcher: So, what do you do as the chairman?

Respondent: I would look after the strategic side of the business, I would chair the board meetings, I stay in the office five days a week. I do have some outside interest specifically on the spiritual side, where I am involved in things across Africa and globally. But probably 75% of my time is business related. And it is in support, mentoring and growing our leaders. That is not all, but also the little spinner. I am still fairly active. In the next year or two, I hope to take more of a less direct role in the day-to-day activities.

Researcher: Thank you so much. What have been the major challenges that you faced in this leadership role? And how has it been addressing this??

Respondent: First, the challenges in the country at the moment is the economy and the construction industry, which has been through the worst time to my knowledge in probably forty to fifty years. Five out of the eight companies listed on the stock exchange that we compete against, are in trouble. Either they are in business rescue, or they are liquidated. I have never seen that in these 44 years of my working career. So, it is hectic to see what has happened to the industry. And I do believe that there should be a gradual turnaround from that position as government get their heads together. And as we see things settling down after all the corruption and the state capture that has really drained down our country.

Researcher: So, what has been your approach to this challenge or challenges?

Respondent: Well, the key thing that I focus on is (intentionally withheld by researcher). If you look on the website, you will see that we have a strong focus on ethics and challenging the industry and the players and competitors to be ethical in all their dealings. And of course, the industry has been in the news for all the wrong reasons with all the corruption and the stuff up to 2010 with the Soccer World Cup and so forth. So, it has been quite a radical. Of course, there are other challenges in our country. You know, having the right kind of skills, helping to upskill people, maintaining people, at the moment many people are finding that, with the industry being in the state that it is, we are losing many young engineers to New Zealand, Australia and elsewhere. That, to me is a concern that our bright young minds are looking to go elsewhere because of the uncertainty of the future in this country.

Researcher: (Probes further) This is interesting, I have heard a couple of similar stories from other executives. Now, you just struck a vital chord in your conversation about ethics. I have a section that is dealing with this, but since you mentioned it, I will just quickly bring something up around that. So, is this your concern of driving ethics based on the Competition Commission's report?

Respondent: No. It was started before the commission's report. The whole thing was started in October 2006. It came through a dream which God had given me and just with absolute clarity that we need to pursue this thing. And of course, the whole issue with the corruption and stuff was in the industry but was only revealed in 2011.

Researcher: So how have you really been driving this through?

Respondent: So, if you have a look at the website, you will see there is a lot of detail on there that a few short videos, three- and four-minute-long videos, which will take you through what we are doing. So, we are working with schools, Junior schools, high schools, people that are in business and through the churches and through government. So, we have varied approach to this thing. But one of the key focus for me is that 70% of our energy and effort needs to go into young people. This is a long-term issue, and we need to change that moral compass when people are 13, 14, 15, 16, 17 and 18 years old.

Researcher: Thank you so much for that. And talking about your organisation, how do you drive these principles through?

Respondent: To so many people, I always say a fish rots from the head. When we have a president that was rotten, it affected everything below. So, if we as a leader in an organisation,

as a leader in the country, as a leader in whatever you are doing, if we are ethical and we are good role models to those that are looking up to us, then we will be encouraging them to follow that kind of focus and moral compass. If we are looking at just the bottom line and making profits, and we do not care how we get there, then we will affect those. And so, the key issue is that we need more role models in this country and around the world that are willing to be firm and bold, about their stance on ethical values.

Researcher: Thank you. This next section is dealing with the decisions that leaders make in their organisations. Leadership theorists note that leaders can impact on their organisations' outcomes either through direct or indirect means. An example of direct means is in the formulation of appropriate strategy for the organisations and in the decisions that executives make while an example of indirect means is in how leaders manage the symbols that help to build commitment to the employees in the organisation. So, what is the level of your involvement in formulating your company strategies?

Respondent: 100%

Researcher: What would you call long term for your company?

Respondent: First, we have set ourselves a 100-year dream. And that means that if you look at our website and things like that, you will see it there. We are saying that this must have outlast all of us. So, it must be able to progress. When I am not here, when the next level of leaders is not here. So, what is it that you and I will do in order to empower the next level of leadership to do a better job? because we are likely to grow in the spine and the next leader is going to need to be better prepared to be able to take it forward.

Researcher: (Further probes about the 100 years?)

Respondent: That is right. So, if you look at our purpose "to improve the quality of life in Africa, through infrastructure development" and you look at our values and strategic intent and so forth, and get on the website, you will pick it up. Obviously, I would have given you some hard copies of some of these things if you were here physically, but it is available on our website.

Researcher: What were the decisions that you have taken your company leadership level that you feel is helping your performance?

Respondent: First of all, I think that the fact that we are not just chasing profits, that we are caring for our staff number one, secondly, for the communities in which we operate, and that we see this as a long term- marathon, not a not a sprint. In other words, what we are busy working on must be around in 1500 hundred years' time, so that we know that we are all building towards this legacy.

Researcher: Do you use the National development plan (NDP) in setting the goals of the company?

Respondent: Yes of course. Well, first of all that plan been around for a number of years, as you know, and nothing happened for five years. So, I am trusting now with the new president and the new leadership that they will be some active pursuing of those goals. I fully endorse those goals and I think that it is what the country needs. What we need now is the leadership to implement those things.

Researcher: I think your opinion is quite strong about the NDP, so how would you say the NDP has been over the years in terms of implementation?

Respondent: Till date, if I have to score it out of 100, it will probably be a 10%. That needs to get to 70 or 80% and it needs to happen sooner than later.

Researcher: Probes further. So, if it is that way, why do you still pursue it? I mean, one of the executives I interviewed believed following this NDP made the company lose out eventually, because he thought the Government will go this way and they did not? He put all the resources and lost out so how do you cope up with this?

Respondent: One needs to be wise. Things are not going to change over-night; things are not going to happen overnight. And we got to get ourselves to be able to be nasty on our feet to be able to swing with the punches or you know, with the pride, and so not in any way compromising our values and our ethics. But the key thing is to ensure that we do not. We have seen many promises over the years by the government. So, you cannot just accept that when they say that is going to happen, this amount is going to be spent in the front lines, to just blindly follow that would be crazy. We have got to be wise, and we have got to wait. And we have got to keep our existing systems, and existing things that we are good at, keep those intact. And as things do shift, so for example, there has been a lot of talk on renewable. We have done 35% of all the renewables, every base that has been caused in this country, we have done 35%. We got involved with the very first one, we learned a lot of lessons. And so, we saw this as a

future opportunity. And we really studied ourselves into it, and we put a lot of efforts which cost us a lot of money. But those are something that we said, this is a new line eight years ago, seven years ago. Now how do we become specialists? And we are still learning we are far from specialists at it, but at least we are right now we are busy with five wind farms in the country, and with the newest window of them saying what they need up to the year 2030, we believe that this, you know, continues to need a lot of focus for now.

Researcher: How do you mainly procure your services?

Respondent: A lot of it is through tenders. Initially it was tenders now it also comes with relationships and it comes with the having a good CV on renewable energy and therefore people come to us because they know that we have done it and we have not had one of our towers or bases that collapsed and so it comes out of reputation, and it comes out of good history with health and safety and things like that.

Researcher: What would you say, have been the major changes in how you manage this company over time considering the volatile business environment?

Respondent: There has been a lot of changes that have taken place. You know, way back we were building when it comes to townships, the squatter areas, we were just putting in roads and we were putting in these little toilets on each block to every now and then then it changed from that to small houses and that is become 40 square meters houses. It is small and we will proceed. I think we are about 55,000 houses which we build today for government. And because we saw there is a need and because from our heart, we knew this is something that people need, not a lot of profit margins, but it is coming out of the fact that we believe that this is important for our people and for our country.

Researcher: Thank you. So, what do you commit the significant part of the profits of your business to as a company?

Respondent: It varies. But, you know, we like to think that it is well spread. So, when government was doing a lot of, you know, housing, then of course, that is a section that expands. But we have a consistent amount, of roads we are building amount of infrastructure we are doing for private individuals and companies, and for government. So, we might find probably 30 to 40%, private and 60 to 70% for government, depending on the season. You know, if Government is not spending, then you might drift a little more to the goals of private and private is not spending you might want to upscale.

Researcher: So, what are the major traits to the growth or success of your company?

Respondent: Hard work, dedication, are the traits the company. If you buy peanuts, you will attract monkeys. We make sure that we pay our people well, that we train them well, and that we are a family business. We want to make sure that people feel part of the collective and that this is not an easy come easy go kind of situation we have been through our 33 years without any major restructure until two years ago, when the work dried up, but we care about our people.

Researcher: Do you have a CSR role?

Respondent: Absolutely, big. We are constantly involved with a thing called (intentionally withheld by researcher) which has got students, we are now in the 14th year, where we have students from the poorer communities that come in for one year. And they end up doing maths, English, computer skills, life skills. It has got a biblical foundation and we try to help people to discover their purpose, their calling and then to set goals in life in order to go out and make a difference. It is called "XXX Leadership Academy". That is one of the things among so many others that we are involved in other than, you know the ethical initiatives.

Researcher: What decision made the most impact on your company?

Respondent: The biggest change in my life came in 1998 when I committed my life to Christ. We were part of the mafia where we were involved in the collusion and stuff taking place in the industry, we to have to draw a line and say, Sorry, we no longer going to be part of that dream. To inform the other company leaders was not easy. It was tough, one of the most tough decisions, but that was the best decision that I have ever made in my life. Because without that, we would have been embarrassed we would have been part of those that were asked to pay these huge fines through the competition permission, and we would have been banned by government on working on certain projects, etc.

Researcher: (Probes further.) So that changed the whole business for you?

Respondent: Yes. We always think we are fairly good at what we do, productivity and things like that. But this was a strategic shift, which I believe one can sleep well at night when you know that you have been ethical in your dealings, you do not have to worry that somebody is going to come and discover that you try to cheat the tax man or whatever. And I think that in a piece is a key issue.

Researcher: Thank you so much. We are now in the final section, and this has to do with your company performance information. So, are you connected to the cidb?

Respondent: Yes, Grade 9 and we have been for many years

Researcher: What category?

Respondent: GB and CE and we are also a level 1BEEE

Researcher: So, I am interested in the ways performance is measured in your organisation. Do you evaluate your company performance in how do you do this?

Respondent: Certainly, everybody has a KPI. Yeah, we also have a personal development plan (PDP) that is done with everyone, at least every two years. KPI's are well detailed, hopefully everybody knows it well in advance as to what is expected of them. And so, we measure it, and it also help our remuneration and bonus per time.

Researcher: It is so shocking to see that you have zero million rand as profit in 2018.

Respondent: For two years, we had two bad years. First time ever in the history of the company that we have not made good profits. And so, it was a matter of going through the storm, and thankfully we are now through that, and we can again pick up to 2018, 2019 and 2020. You only asked to 2018.

Researcher: What has been the major milestone or significant turning point for your company in the last 10 years?

Respondent: One is constantly to adapt based on government's needs and expectations. So probably one of the things that we have had to come to terms with is that the bulk infrastructure in this country is now fairly-well established. Now, a lot more focus is on rehabilitation of roads, and not these big, multi-million cubic meters to be shifted and new developments, but it was more a matter of what basically now needs to be upgraded and maintained. I think that has been one of the big shifts, that companies that have been into big bulk earth moving and Mark shifting and building you know, major routes, and the airports and harbours and things like that. The bulk of those are fairly established in South Africa. And now the focus needs to be on being worthier to be able to maintain and look after those bulk infrastructures. And then on the second hand, there is the housing need in our country since the time of Nelson Mandela, he wanted to build a million houses in five years. It took him six or six and a half years. But since then, I think there is about two and a half million houses that have been built and that we needed

to see, is this something that we want to get involved in? And how are we going to become specialists in that and to put our effort and energy into working at being good at that. I think those are some of the key shifts. Needless to say, there has also been quite a bit of shift in specifications. And for instance, SANRAL the National Roads Agency, have come up with some very tough measurements, guideline measurements and specifications. And as contractors, it has cost us a lot of money, and it is a matter of now having gain that knowledge, how do we apply it going forward?

Researcher: So, are you into energy as well?

Respondent: Yes. The renewable energy, we build these big concrete bases and all the roads that are needed and the platforms, we don't actually erect the cranes and the towers, but we do all the underground stuff and the roads. So, we have already completed previously, we have competed seven and we busy with five at the moment, I believe that is going to be a fair amount, you know, going forward.

Researcher: What would be your advice or suggestions for upcoming executives that desire your type of role? What would you say they need to focus on?

Respondent: Well, first the industry is very detail and it is not easy to get into. It is very detailed with very stringent rules as far as health and safety. As far as quality control is concerned, the European standards are used and are tough. If people get involved with you and you do not have the right price, they will get seriously hurt.

Researcher: Thank you so much for your participation and time once again. I wish you and your company further success in your endeavours.

APPENDIX E: DETAILED QUESTIONNAIRE

Developing a Leadership framework for improving Construction Business Organisations Performance in South Africa

Dear participant,

You are invited to take part in this research on *Developing a leadership framework for improving construction business organisation performance in South Africa.* The inquiry is conducted by Kenny Alade, a PhD Candidate at the University of Cape Town under the supervision of Associate Professor Abimbola Windapo. The results of the study will be presented to the Department of Construction Economics and Management in fulfilment of the requirements for the degree of Doctor of Philosophy in Construction Economics and Management.

The questionnaire has four sections (A-D) and can be completed in approximately 25 minutes at a time convenient to you. Please be aware that information provided by you will be treated in the strictest confidence and your company will be kept anonymous. Should you require further information kindly reach me on (0717039794;Aldkeh001@myuct.ac.za). Many thanks for your time.

SECTION A- General Information

1. Position/designation in the company? Please tick as appropriate

- ☐ CEO
- ☐ Board Member
- ☐ Director Cadre
- ☐ Senior Management Cadre
- ☐ Others, please specify_____

2. How long have you been in position (2) above?_____

3. Please allocate points out of 100 based on how much influence each of the following groups has over decisions made in your organization e.g. …….65 points.

CEO

Board of directors

Management team

Government

Stockholders

Financial institutions

Other please specify……

4. Highest academic qualification: National Diploma, Bachelors, B. Hons, Masters, PhD

Others please specify……

5. Background discipline: Architecture, Building, Construction Management. Civil Engineering, Quantity Surveying

Others (please specify)……

6. Please indicate the number of years of your experience in the construction industry (e.g. 25 years)

7. Please indicate number of years of experience with your current company (e.g. 25 years)

8. How long has the company been in existence (e.g. 50 years)

9. Please indicate the classification and level **at the point of registration** of your company with the cidb. (e.g. General Building Grade 2 Year e.g. **2006, Grade 4**)

Classification	**Grade**									
	0	1	2	3	4	5	6	7	8	9
General Building (GB)										
Civil Engineering (CE)										

Geotechnical Engineering (GE)										

10. Please indicate your **current grade** on each of these classification on the cidb register of contractors

Classification	**Grade**									
	0	1	2	3	4	5	6	7	8	9
General Building (GB)										
Civil Engineering (CE)										
Geo-Technical Engineering (GE)										

11. Kindly indicate all the provinces and other areas in which your company operates (tick all that is applicable)

Province/region	**Tick**
Free state	
Gauteng	
Limpopo	
Mpumalanga	
Northern Cape	
Western Cape	
North-West	
International	

Section B- Strategic Decisions Profile (SDP)

The following statements relates to your Strategic decision-making style. Please tick as appropriate using the following as guide. 1-strongly disagree, 2-disagree, 3-undecided, 4-agree, 5-strongly agree

Statement	**Disagreement or Agreement**				
	1	2	3	4	5
We have a compelling narrative of our company					
Our company plans up to 5yrs or more in advance					
We use the National Development Plan (NDP) to determine our company direction					
Our preference is for Government contracts					
We prefer private clients and contracts					
Our services are mainly procured through customer relationship					
We re-invest profits first into Project execution					
Our preference is client satisfaction					
We put the people and public good first					
We adjust the company policies as quickly as possible in line with market demands and adapt as occasion demands					
We usually choose projects in favor of new ways of doing things					
We are open to expand our business operations to new geographic areas					
Our preference is specializing in one area of operation					
Our preference is diversifying our operations and activities					
We maintain high ethical standards on our projects					
We re-invest a bulk of the profits made back into the business					
We prefer to save bulk of the profits made by the company in investment portfolios					
Our preference is to share the profits amongst employees/shareholders or spend it					

We commit the substantive part of our profits to Corporate Social Responsibility					

Section B: Company Leadership Characteristics and Components

Leadership roles- Leadership Role Inventory (LRI)

The following statements is your LRI profile, please tick as relates to you using the following

key: 1-Not at all, 2-Once in a while 3- Sometimes 4- Fairly-often, 5-Frequently

Statement		**Disagreement or Agreement**				
		1	2	3	4	5
1	I am responsible for setting the vision and determining the company direction					
2	I determine the key strategic choices of company					
3	I actively communicate the vision, values and strategy of the company					
4	I help the employees adapt to change					
5	I educate the management team as necessary					
6	I motivate the management team as necessary					
7	I probe with curiosity making sure my questions are answered					
8	I provide and receive feedback to and from the management team as required					
9	I monitor and review the company performance					
10	I show example of the company's values					
11	I develop trust with all stakeholders					
12	I foster collaboration of the company with external constituencies					

Leadership traits- Leadership HEXACO Inventory (LHI)

Please indicate to what extent you agree with the statements below, using the answering categories:

1=strongly disagree, 2=disagree, 3=neutral (neither agree, nor disagree), 4=agree, and 5=strongly agree. The word "others" or "people" means your employees, clients or group members.

No	Statement	Rating				
1	I can look at a painting for a long time.					
2	I make sure that things are in the right spot.					
3	I remain unfriendly to people who are mean to me.					
4	Others like talking with me.					
5	I am afraid of feeling pain.					
6	I find it difficult to lie.					
7	I think science is boring.					
8	I postpone complicated tasks if possible.					
9	I often express criticism.					
10	I easily approach others.					
11	I worry less than others.					
12	I won't mind making lots of money in a dishonest manner.					
13	I have a lot of imagination.					
14	I work very precisely.					
15	I tend to quickly agree with others.					
16	I like to talk with others.					
17	I can easily overcome difficulties on my own.					
18	I want to be famous.					
19	I like people with strange ideas.					
20	I often do things without really thinking.					
21	Even when I'm treated badly, I remain calm.					
22	I am seldom cheerful.					
23	I may cry during sad or romantic movies.					
24	I am entitled to special treatment.					

Leadership skills- Catalytic Leadership Inventory (CLI)

Please indicate to what extent you agree with the statements below, using the answering categories:

1=strongly disagree, 2=disagree, 3=neutral (neither agree, nor disagree), 4=agree, and 5=strongly agree. The word "others" or "people" means your employees, clients or group members.

		1	2	3	4	5
	I do everything I can to live authentically. I regularly demonstrate ethical principles in a manner that promotes trust.					
	Sometimes I fail to pay attention to what others are saying and communicate my ideas in an unclear manner.					
	I energize others with a confident, hope-filled outlook. I convey a "can-do" attitude.					
	I'm not very concerned about others' emotional reactions and am reluctant to acknowledge how they are feeling.					
	I fit in naturally with others and regularly foster positive interactions.					
	I do less than I could to achieve results and occasionally lose sight of big picture goals					
	Sometimes I skew the facts of a situation and create a biased impression. I don't always say what I'm thinking or present myself as I truly am.					
	I consciously attempt to speak and write clear and concise messages and to listen closely for understanding.					
	I tend to critique new ideas and may unintentionally deflate the energy and optimism of others					
	I read emotional signals of others accurately and respond appropriately to them.					
	I frequently have a hard time connecting and interacting with others.					

	I prioritize team success over my own personal goals, and I do whatever it takes to achieve and pursue the overarching organizational goals					
	I do whatever I can to elevate the performance of others and my team as a whole					
	I'm generally satisfied with my current skill set and level of knowledge and don't actively pursue suggestions and opportunities for improvement.					
	I recommend and respect the knowledge and skills of others and seek to learn from them					
	My knowledge and expertise of construction are not as advanced as many others in our organisation					
	I model exemplary behavior and actively support the personal and professional development of others					
	I generally recommend traditional solutions to problems and shy away from risky new ideas					
	I generally focus on how well I am doing personally rather than on how I'm contributing to the success of the team or how others are performing					
	I'm a highly curious person and actively pursue personal and professional improvement opportunities.					
	I drive to do things my own way and tend to resist the recommendations of others					
	I possess extensive knowledge and/or competence of construction business					
	I don't worry much about how others see me and rarely work with others to help them improve					
	I present creative, novel, and valuable ideas for achieving objectives and solving problems.					

Leadership styles-Multifactor Leadership Questions (MLQ)

Please state how frequently each of the statements below applies to you. The word others could mean your employees, clients or group members.

Key: 1-Not at all, 2-Once in a while 3- Sometimes 4- Fairly often, 5-Frequently

No	Statement	Rating				
		1	2	3	4	5
1	I make others feel good to be around me					
2	I express with a few simple words what we could and should do					
3	I enable others to think about old problems in new ways					
4	I help others develop themselves					
5	I tell others what to do if they want to be rewarded for their work					
6	I am satisfied when others meet their agreed-upon standards					
7	I am content to let others continue working in the same ways always					
8	Others have complete faith in me					
9	I provide appealing images about what we can do					
10	I provide others with new ways of looking at puzzling things					
11	I let others know how I think they are doing					
12	I provide recognition and rewards when others reach their goals					
13	As long as things are working, I do not try to change anything					
14	Whatever others want to do is OK with me					
15	Others are proud to be associated with me					
16	I help others find meaning in their work					
17	I get others to rethink the ideas that they had never questioned before					
18	I give personal attention to others who seem rejected					
19	I call attention to what others can get for what they accomplish					
20	I tell others the standards they have to know to carry out their work					
21	I ask no more of others than what is absolutely essential					

Section D- Company Performance Rating (ORP)

Please indicate the extent to which your organisation has been successful in achieving the following performance objectives in the last five years. Very unsuccessful-1 Unsuccessful-2 Somehow successful-3 Successful-4 Very successful-5

Objective attainment	**Success level**				
	1	2	3	4	5
Improvement in long-term performance					
Predicting organisation's future growth					
Evaluate alternative projects/products based on relevant information					
Preventing problem areas					
Resolving problems					
Promoting management development					

Please state your company's annual turnover over the last five years (in Rands)

Year	**Annual Turnover (Total value contracts acquired)**
2019	
2018	
2017	
2016	
2015	

Kindly indicate your company's annual **profit/revenue** over the last five years (in Rands)?

Year	**Annual Profit/Revenue**
2019	
2018	
2017	
2016	
2015	

Thank you

APPENDIX E: NVIVO EXTRACTS

List of nodes from interviews

Name	Description	Files	References
Strategic Investment decisions	Long-term decisions on allocation of the company with positive future benefits	11	33
Cash reserves	Leaving cash in bank untouched for future	5	6
Equipment and Training	Spending on plants or employees	5	5
Growth refusal	Maintaining status quo and deliberating refusing to grow business or expand operations	3	5
Land banking	Aggregating parcels of land for future development	1	2
Property acquisition	Amassing parcels of land for future development	1	2
Retaining employees	Not sacking employees or staff in the company	1	1
CSR	Corporate social responsibility and Social responsiveness in the society	7	8
Worker's trust	Creating platforms for formal transfer of asset to employees	1	1

Name	Description	Files	References
Strategic Change & Innovation	Decisions to be dynamic, adapt and adjust company strategies relative to changes	13	38
4IR effectiveness	Using technology for the benefit of the organisation	2	3
Adaptability	Being flexible in operations	5	7
diversification	Expanding operations of business to other areas	2	3
Downsizing	Reducing the size of the business due to challenging times	1	1
Ethical Leadership	Being honest and having integrity in dealings and relationships	8	10
Public good	Working for the benefit of the public in the long run	2	2
Strategic flexibility	Being adaptable in decision-making	3	3
Strategic Project Management	Decisions on organisation planning, procurement, and execution of projects	14	44
Competent workforce	Providing employees with requisite knowledge and skills and performance	7	17
Client Satisfaction	Making project owners happy with service provided and work done	8	7
Outsourcing	Using another company for project execution	2	2

Name	Description	Files	References
Price focus	Competing by reducing price when bidding	4	4
Profit optimization	Striking balance between cost and quality to maximise profit	1	1
Quality focus	Competing based on price	2	4
Stakeholder engagement	Involving internal and external people	1	3
Leadership development	Background to acquiring the requisite leadership experience	14	34
Construction-related education	Advantage from construction background	5	5
Mentoring	Have role models or mention that its place is vital	5	8
Family business	Early exposure to construction due to family	3	3
Foreign exposure	Studying or have experience in construction outside South Africa	2	2
Further education	Other degree in business, finance, or leadership	3	3
Long Service with company	Been with same company for 5years and beyond	3	4
Leadership roles	Evidence of activities that matches title and leadership position	15	41

Name	Description	Files	References
Accountability	Condition of responsibility to others	2	2
Administrative roles	Functions relating to running the business	1	1
Constant monitoring and evaluation	Giving and receiving feedback for performance improvement	3	5
Culture building	Creating a value-system in the organisation	1	1
General Oversight	Leader playing overseeing role	4	4
Implementing vision	Leader involved personally	1	1
Negotiation	Actions relating to resolve conflicts	1	2
Networking	Linking with others for business purposes	3	3
Personal involvement	Involved with activities of organisation and team members	9	10
Procurement and Contract management	Involved in tendering for the organisation	3	3
Providing feedback	Evidence of reaction to employees' performance	1	1
Strategic planning	Involved in setting organisation's direction	4	4
Succession planning	Involved in planning for passing on leadership role in the organisation	2	3

Name	Description	Files	References
Leadership traits	Evidence, mention or display of leadership qualities	10	21
Agreeableness	Being considerate, kind, and cooperative	1	1
Conscientiousness	Being responsible on tasks and regulations	3	4
effective Communication	Clarity in speaking and writing	5	6
Emotional intelligence	Evidence of empathy in interpersonal relationships	4	6

APPENDIX F: RELIABILITY AND FACTOR ANALYSIS

Strategic decision-making

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.858	.867	19

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.864
Bartlett's Test of Sphericity	Approx. Chi-Square	1511.195
	df	171
	Sig.	.000

Correlation Matrix

		5	5	4	3	5	5	5	5	5	5	5	5	1	5	5	5	5	4	4
Sig. (1-tailed)	5		.000	.029	.014	.013	.017	.114	.000	.003	.009	.129	.003	.213	.000	.000	.003	.012	.419	.096
	5	.000		.000	.497	.001	.000	.001	.006	.003	.000	.001	.001	.043	.002	.011	.001	.000	.011	.000
	4	.029	.000		.055	.000	.000	.000	.048	.011	.000	.000	.001	.000	.018	.007	.000	.000	.002	.000
	3	.014	.497	.055		.344	.007	.003	.000	.000	.000	.000	.000	.040	.001	.000	.001	.041	.164	.123
	5	.013	.001	.000	.344		.000	.000	.000	.000	.002	.000	.000	.017	.000	.000	.000	.000	.002	.005
	5	.017	.000	.000	.007	.000		.000	.000	.000	.000	.000	.000	.000	.002	.000	.000	.000	.032	.002
	5	.114	.001	.000	.003	.000	.000		.000	.000	.000	.000	.000	.002	.000	.000	.000	.000	.190	.001
	5	.000	.006	.048	.000	.000	.000	.000		.000	.000	.000	.000	.134	.000	.000	.000	.001	.294	.027
	5	.003	.003	.011	.000	.000	.000	.000	.000		.000	.000	.000	.225	.000	.000	.000	.000	.070	.001
	5	.009	.000	.000	.000	.002	.000	.000	.000	.000		.000	.000	.008	.000	.000	.000	.000	.006	.000
	5	.129	.001	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.001
	5	.003	.001	.001	.000	.000	.000	.000	.000	.000	.000	.000		.219	.000	.000	.000	.000	.146	.010
	1	.213	.043	.000	.040	.017	.000	.002	.134	.225	.008	.000	.219		.258	.410	.048	.000	.000	.009
	5	.000	.002	.018	.001	.000	.002	.000	.000	.000	.000	.000	.000	.258		.000	.000	.001	.068	.067
	5	.000	.011	.007	.000	.000	.000	.000	.000	.000	.000	.000	.000	.410	.000		.000	.000	.320	.001
	5	.003	.001	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.048	.000	.000		.000	.104	.000
	5	.012	.000	.000	.041	.000	.000	.000	.001	.000	.000	.000	.000	.000	.001	.000	.000		.000	.000
	4	.419	.011	.002	.164	.002	.032	.190	.294	.070	.006	.000	.146	.000	.068	.320	.104	.000		.000
	4	.096	.000	.000	.123	.005	.002	.001	.027	.001	.000	.001	.010	.009	.067	.001	.000	.000	.000	

Communalities

	Initial	Extraction
5	1.000	.636
5	1.000	.671
4	1.000	.503
3	1.000	.646
5	1.000	.307
5	1.000	.564
5	1.000	.691
5	1.000	.758
5	1.000	.748
5	1.000	.586
5	1.000	.592
5	1.000	.555
1	1.000	.587
5	1.000	.496
5	1.000	.679
5	1.000	.585
5	1.000	.473
4	1.000	.720
4	1.000	.673

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.987	31.509	31.509	5.987	31.509	31.509	4.420	23.265	23.265
2	2.061	10.845	42.354	2.061	10.845	42.354	2.341	12.319	35.584
3	1.275	6.709	49.063	1.275	6.709	49.063	1.855	9.763	45.347
4	1.122	5.905	54.968	1.122	5.905	54.968	1.729	9.100	54.447
5	1.026	5.401	60.370	1.026	5.401	60.370	1.125	5.922	60.370
6	.944	4.968	65.337						
7	.813	4.279	69.616						
8	.771	4.060	73.676						
9	.673	3.545	77.221						
10	.646	3.399	80.620						
11	.591	3.112	83.732						
12	.557	2.929	86.662						
13	.497	2.616	89.277						
14	.484	2.545	91.823						
15	.386	2.030	93.852						
16	.368	1.935	95.787						
17	.336	1.769	97.555						
18	.294	1.545	99.101						
19	.171	.899	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component				
	1	2	3	4	5
5	.326	-.023	.594	-.189	.375
5	.434	.383	.527	-.238	-.044
4	.447	.488	.211	-.130	-.058
3	.383	-.172	-.273	.013	.629
5	.457	.208	.234	-.004	.001
5	.581	.231	-.161	-.383	-.015
5	.690	-.011	-.228	-.190	-.357
5	.722	-.479	.022	.083	-.016
5	.732	-.418	.002	.194	.000
5	.720	-.026	-.243	-.085	-.021
5	.610	.210	-.327	-.117	.235
5	.702	-.234	-.063	-.051	.038
1	.225	.575	-.331	-.224	.216
5	.532	-.239	.301	.117	.227
5	.722	-.359	.089	.111	-.092
5	.698	-.070	-.063	.001	-.298
5	.556	.334	.061	.120	-.184
4	.257	.490	-.077	.598	.224
4	.405	.416	.034	.561	-.143

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
5	.139	-.076	.727	-.095	.272
5	.083	.238	.747	.120	-.188
4	.064	.407	.484	.273	-.153
3	.274	.221	-.021	.018	.722
5	.231	.188	.408	.223	-.033
5	.290	.654	.226	-.025	-.009
5	.613	.504	.021	.030	-.246
5	.850	.007	.107	-.005	.155
5	.835	-.003	.084	.119	.174
5	.585	.469	.054	.111	.094
5	.310	.609	.070	.185	.293
5	.671	.241	.143	.017	.159
1	-.208	.691	.061	.197	.155
5	.505	-.108	.381	.094	.276
5	.799	.019	.173	.081	.050
5	.656	.294	.105	.149	-.188
5	.301	.321	.261	.422	-.181
4	-.047	.106	.040	.810	.221
4	.182	.087	.099	.779	-.123

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Component Transformation Matrix

Component	1	2	3	4	5
1	.786	.434	.340	.261	.103
2	-.564	.527	.273	.542	-.191
3	-.043	-.519	.834	-.022	-.178
4	.122	-.514	-.271	.798	.102
5	-.219	.017	.202	-.009	.954

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

LRI PROFILE

Reliability Statistics

Cronbach's Alpha	N of Items
.922	13

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.918
Bartlett's Test of Sphericity	Approx. Chi-Square	1985.598
	df	78
	Sig.	.000

Correlation Matrix

		5	5	5	5	5	5	5	V27	V28	V29	V30	V31	V32
Sig. (1-tailed)	5		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.266
	5	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.228
	5	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.429
	5	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.006
	5	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.054
	5	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.016
	5	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.083
	V27	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.005
	V28	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.002
	V29	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.012
	V30	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.092
	V31	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	V32	.266	.228	.429	.006	.054	.016	.083	.005	.002	.012	.092	.000	

Communalities

	Initial	Extraction
5	1.000	.737
5	1.000	.676
5	1.000	.681
5	1.000	.646
5	1.000	.638
5	1.000	.707
5	1.000	.574
V27	1.000	.610
V28	1.000	.693
V29	1.000	.690
V30	1.000	.499
V31	1.000	.509
V32	1.000	.646

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.164	55.111	55.111	7.164	55.111	55.111	7.164	55.111	55.111
2	1.140	8.772	63.883	1.140	8.772	63.883	1.140	8.773	63.883
3	.890	6.843	70.727						
4	.804	6.184	76.910						
5	.579	4.456	81.366						
6	.511	3.932	85.298						
7	.395	3.040	88.338						
8	.367	2.820	91.158						
9	.311	2.391	93.550						
10	.279	2.146	95.695						
11	.227	1.744	97.439						
12	.184	1.419	98.858						
13	.148	1.142	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component	
	1	2
5	.766	-.388
5	.740	-.358
5	.745	-.355
5	.797	.100
5	.795	.082
5	.838	.072
5	.750	.108
V27	.754	.203
V28	.821	.135
V29	.831	.012
V30	.706	.008
V31	.692	.173
V32	.180	.783

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Rotated Component Matrix[a]

	Component	
	1	2
5	.765	-.390
5	.739	-.360
5	.744	-.358
5	.798	.097
5	.795	.079
5	.838	.069
5	.750	.106
V27	.755	.201
V28	.822	.132
V29	.831	.010
V30	.706	.006
V31	.693	.171
V32	.183	.782

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 2 iterations.

Component Transformation Matrix

Component	1	2
1	1.000	-.003
2	.003	1.000

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

LEADERSHIP XTS 1 (LHI)

Reliability Statistics

Cronbach's Alpha	N of Items
.754	25

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.741
Bartlett's Test of Sphericity	Approx. Chi-Square	1231.972
	df	300
	Sig.	.000

		V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57
Sig. (1-tailed)	V33		.108	.000	.440	.001	.044	.348	.234	.000	.134	.004	.000	.000	.155	.000	.086	.496	.007	.002	.002	.052	.114	.161	.003	.030
	V34	.108		.361	.000	.256	.002	.001	.002	.189	.000	.000	.270	.222	.001	.136	.285	.000	.036	.000	.107	.018	.007	.002	.254	.337
	V35	.000	.361		.105	.001	.229	.096	.312	.000	.327	.153	.000	.321	.089	.000	.006	.076	.005	.495	.085	.182	.092	.348	.054	.002
	V36	.440	.000	.105		.254	.000	.000	.035	.451	.045	.000	.255	.365	.000	.408	.009	.000	.141	.000	.067	.020	.020	.067	.110	.426
	V37	.001	.256	.001	.254		.237	.131	.232	.022	.453	.017	.047	.011	.256	.142	.349	.134	.178	.002	.005	.083	.007	.262	.010	.020
	V38	.044	.002	.229	.000	.237		.000	.000	.442	.000	.000	.386	.167	.000	.170	.410	.000	.132	.000	.479	.003	.130	.001	.184	.056
	V39	.348	.001	.096	.000	.131	.000		.000	.285	.004	.000	.150	.133	.000	.025	.102	.011	.001	.000	.490	.104	.435	.074	.225	.202
	V40	.234	.002	.312	.035	.232	.000	.000		.241	.005	.002	.218	.132	.336	.108	.137	.049	.025	.000	.419	.236	.144	.049	.140	.410
	V41	.000	.189	.000	.451	.022	.442	.285	.241		.477	.058	.004	.000	.402	.000	.005	.492	.013	.037	.013	.000	.003	.449	.001	.000
	V42	.134	.000	.327	.045	.453	.000	.004	.005	.477		.000	.379	.327	.042	.473	.074	.031	.100	.000	.470	.061	.114	.008	.071	.298
	V43	.004	.000	.153	.000	.017	.000	.000	.002	.058	.000		.326	.171	.000	.175	.482	.000	.065	.000	.399	.003	.011	.000	.056	.123
	V44	.000	.270	.000	.255	.047	.386	.150	.218	.004	.379	.326		.000	.140	.001	.000	.329	.005	.411	.003	.473	.213	.154	.015	.015
	V45	.000	.222	.321	.365	.011	.167	.133	.132	.000	.327	.171	.000		.137	.000	.030	.434	.000	.042	.000	.483	.447	.270	.015	.110
	V46	.155	.001	.089	.000	.256	.000	.000	.336	.402	.042	.000	.140	.137		.416	.012	.001	.041	.000	.089	.002	.051	.004	.351	.264
	V47	.000	.136	.000	.408	.142	.170	.025	.108	.000	.473	.175	.001	.000	.416		.017	.373	.007	.261	.011	.009	.008	.351	.001	.004
	V48	.086	.285	.006	.009	.349	.410	.102	.137	.005	.074	.482	.000	.030	.012	.017		.079	.001	.171	.087	.021	.004	.380	.075	.000
	V49	.496	.000	.076	.000	.134	.000	.011	.049	.492	.031	.000	.329	.434	.001	.373	.079		.046	.000	.263	.000	.076	.000	.179	.079
	V50	.007	.036	.005	.141	.178	.132	.001	.025	.013	.100	.065	.005	.000	.041	.007	.001	.046		.068	.001	.001	.053	.085	.011	.442
	V51	.002	.000	.495	.000	.002	.000	.000	.000	.037	.000	.000	.411	.042	.000	.261	.171	.000	.068		.035	.001	.001	.000	.016	.029
	V52	.002	.107	.085	.067	.005	.479	.490	.419	.013	.470	.399	.003	.000	.089	.011	.087	.263	.001	.035		.033	.113	.396	.001	.009
	V53	.052	.018	.182	.020	.083	.003	.104	.236	.000	.061	.003	.473	.483	.002	.009	.021	.000	.001	.001	.033		.000	.000	.108	.473
	V54	.114	.007	.092	.020	.007	.130	.435	.144	.003	.114	.011	.213	.447	.051	.008	.004	.076	.053	.001	.113	.000		.000	.250	.258
	V55	.161	.002	.348	.067	.262	.001	.074	.049	.449	.008	.000	.154	.270	.004	.351	.380	.000	.085	.000	.396	.000	.000		.215	.052
	V56	.003	.254	.054	.110	.010	.184	.225	.140	.001	.071	.056	.015	.015	.351	.001	.075	.179	.011	.016	.001	.108	.250	.215		.000
	V57	.030	.337	.002	.426	.020	.056	.202	.410	.000	.298	.123	.015	.110	.264	.004	.000	.079	.442	.029	.009	.473	.258	.052	.000	

Communalities

	Initial	Extraction
V33	1.000	.607
V34	1.000	.530
V35	1.000	.565
V36	1.000	.568
V37	1.000	.734
V38	1.000	.548
V39	1.000	.639
V40	1.000	.557
V41	1.000	.642

V42	1.000	.490
V43	1.000	.606
V44	1.000	.518
V45	1.000	.547
V46	1.000	.495
V47	1.000	.693
V48	1.000	.724
V49	1.000	.428
V50	1.000	.396
V51	1.000	.657

V52	1.000	.596
V53	1.000	.508
V54	1.000	.584
V55	1.000	.457
V56	1.000	.804
V57	1.000	.781

Extraction Method: PrincipalComponent Analysis.

Total Variance Explained

Component	Initial Eigenvalues	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings

ent	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.976	15.902	15.902	3.976	15.902	15.902	2.991	11.964	11.964
2	3.405	13.621	29.523	3.405	13.621	29.523	2.308	9.232	21.196	
3	1.467	5.867	35.391	1.467	5.867	35.391	1.885	7.539	28.735
4	1.340	5.361	40.751	1.340	5.361	40.751	1.679	6.715	35.450

5	1.202	4.807	45.558	1.202	4.807	45.558	1.669	6.675	42.126
6	1.132	4.528	50.087	1.132	4.528	50.087	1.548	6.192	48.317
7	1.118	4.471	54.557	1.118	4.471	54.557	1.354	5.415	53.732
8	1.037	4.150	58.707	1.037	4.150	58.707	1.244	4.975	58.707
9	.962	3.848	62.555						
10	.915	3.659	66.215						

11	.879	3.515	69.730							
12	.807	3.229	72.959							
13	.783	3.132	76.091							
14	.736	2.942	79.033							
15	.691	2.762	81.795							
16	.688	2.751	84.546							

17	.606	2.425	86.971
18	.552	2.208	89.179
19	.490	1.959	1.138
20	.454	1.817	92.955
21	.425	1.701	94.656
22	.380	1.519	96.175

23	.357	1.429	97.604							
24	.325	1.301	98.905							
25	.274	1.095	100.000							

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
V33	-.072	.647	-.212	-.255	-.129	-.050	.089	-.214
V34	.569	-.043	.102	.102	.158	-.315	.228	.085
V35	.066	.517	.069	-.050	-.325	-.412	-.105	-.024
V36	.518	.068	.293	.148	-.097	-.347	.059	-.234
V37	-.078	.373	-.075	.141	.209	-.397	.600	-.054
V38	.627	-.093	.049	-.084	-.092	.297	.131	-.154
V39	.589	.041	.377	-.199	-.194	.110	.036	-.241
V40	.385	.079	.141	-.283	-.155	.130	.408	.308
V41	-.004	.698	-.204	-.023	-.319	.094	.012	.048
V42	.456	-.050	.035	-.065	.055	.182	.201	.444
V43	.734	-.171	.104	.009	.093	.131	.033	-.013
V44	.055	.454	.314	-.317	.141	-.193	-.190	.130
V45	-.037	.497	-.039	-.358	.393	.028	.117	-.008
V46	.507	.103	-.020	-.007	.228	-.204	-.223	-.290
V47	.057	.643	-.136	-.192	-.400	.239	-.002	-.068
V48	.186	.378	.162	.097	.036	-.150	-.490	.497
V49	.522	.012	-.240	.074	.038	-.082	-.234	-.174
V50	.277	.395	-.005	-.195	.298	.073	-.143	.105
V51	.773	-.191	.068	-.008	-.073	.046	-.105	.028
V52	-.014	.440	-.088	-.045	.563	.260	-.010	-.090
V53	.394	.269	-.425	.277	.015	.094	-.099	-.064
V54	.308	.238	-.378	.402	-.074	-.127	.132	.299
V55	.457	-.007	-.458	.156	.039	.114	-.017	-.014
V56	-.102	.514	.385	.487	.098	.292	.051	-.217
V57	-.135	.490	.448	.518	-.034	.208	.030	.085

Extraction Method: Principal Component Analysis.

a. 8 components extracted.

Rotated Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
V33	-.040	.689	.021	-.015	.299	-.113	-.029	.164
V34	.466	-.199	.171	-.056	.001	.253	.138	.397
V35	.147	.543	-.046	.027	-.091	-.141	.390	.255
V36	.655	.028	.013	.106	-.155	-.020	.129	.293
V37	-.096	.139	.034	.117	.175	.015	-.105	.806
V38	.549	.031	.173	.003	.021	.355	-.242	-.175
V39	.709	.165	-.150	.070	-.014	.251	-.052	-.126
V40	.182	.163	-.078	-.064	.020	.690	-.019	.102
V41	-.125	.718	.206	.184	.107	.062	.134	.034
V42	.137	-.129	.177	-.031	.063	.637	.111	-.013
V43	.613	-.208	.233	-.025	.051	.348	-.025	-.091
V44	.131	.233	-.295	.024	.360	.027	.473	.069
V45	-.066	.240	-.102	-.029	.662	.062	.049	.171
V46	.569	-.033	.217	-.095	.235	-.196	.132	.060
V47	-.002	.787	.092	.138	.123	.114	.010	-.134
V48	.021	.066	.138	.146	.101	.079	.807	-.110
V49	.443	.015	.430	-.153	.054	-.102	.075	-.067
V50	.161	.131	.114	.012	.505	.126	.258	-.039
V51	.645	-.129	.265	-.115	-.095	.311	.099	-.160
V52	-.072	.030	.133	.215	.722	-.057	-.038	.011
V53	.169	.178	.655	.072	.112	-.030	.013	-.008
V54	-.043	.105	.630	.084	-.111	.192	.183	.290
V55	.194	.006	.615	-.127	.053	.101	-.099	-.047
V56	.045	.136	-.015	.854	.180	-.133	-.028	.050
V57	-.079	.121	-.044	.845	.007	.023	.198	.068

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 11 iterations.

Component Transformation Matrix

Component	1	2	3	4	5	6	7	8
1	.803	-.024	.419	-.096	.049	.393	.112	-.004
2	-.042	.703	.106	.391	.450	-.029	.300	.217
3	.338	-.188	-.726	.495	-.072	.135	.235	-.018
4	-.064	-.298	.500	.662	-.364	-.222	.034	.190
5	-.036	-.589	.054	.021	.773	-.117	.022	.189
6	-.138	.027	.108	.378	.228	.348	-.428	-.685
7	-.092	.046	-.102	.082	-.031	.491	-.564	.642
8	-.454	-.177	.106	-.064	-.081	.633	.583	-.004

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

LEADERSHIP XTS 2 (MLQ)

Reliability Statistics

Cronbach's Alpha	N of Items
.889	22

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.895
Bartlett's Test of Sphericity	Approx. Chi-Square	2060.445
	df	231
	Sig.	.000

Correlation Matrix

		V58	V59	V60	V61	V62	V63	V64	V65	V66	V67	V68	V69	V70	V71	V72	V73	V74	V75	V76	V77	V78	V79
Sig. (1-tailed)	V58		.000	.000	.000	.028	.000	.000	.000	.000	.000	.002	.372	.000	.000	.000	.000	.000	.000	.000	.226	.016	.015
	V59	.000		.000	.000	.026	.000	.000	.000	.000	.000	.014	.229	.000	.000	.000	.000	.000	.000	.005	.007	.027	.017
	V60	.000	.000		.000	.000	.000	.000	.000	.000	.000	.001	.063	.000	.000	.000	.000	.000	.000	.002	.010	.002	.000
	V61	.000	.000	.000		.012	.000	.000	.000	.000	.000	.001	.481	.000	.000	.000	.000	.000	.000	.000	.294	.064	.090
	V62	.028	.026	.000	.012		.000	.035	.001	.001	.003	.000	.000	.006	.002	.005	.059	.001	.023	.088	.041	.022	.138
	V63	.000	.000	.000	.000	.000		.000	.000	.000	.000	.064	.349	.000	.000	.000	.000	.000	.000	.002	.393	.409	.439
	V64	.000	.000	.000	.000	.035	.000		.000	.000	.000	.002	.353	.000	.000	.000	.000	.000	.000	.000	.242	.217	.005
	V65	.000	.000	.000	.000	.001	.000	.000		.000	.000	.016	.124	.000	.000	.000	.000	.000	.000	.000	.036	.131	.018
	V66	.000	.000	.000	.000	.001	.000	.000	.000		.000	.000	.016	.000	.000	.000	.000	.000	.000	.015	.289	.118	.053
	V67	.000	.000	.000	.000	.003	.000	.000	.000	.000		.000	.015	.000	.000	.000	.000	.000	.000	.007	.020	.065	.000
	V68	.002	.014	.001	.001	.000	.064	.002	.016	.000	.000		.000	.000	.007	.002	.000	.001	.043	.058	.249	.144	.381
	V69	.372	.229	.063	.481	.000	.349	.353	.124	.016	.015	.000		.025	.491	.290	.182	.335	.125	.010	.142	.003	.008
	V70	.000	.000	.000	.000	.006	.000	.000	.000	.000	.000	.000	.025		.000	.000	.000	.000	.000	.001	.118	.048	.087
	V71	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	.007	.491	.000		.000	.000	.000	.000	.000	.003	.031	.037
	V72	.000	.000	.000	.000	.005	.000	.000	.000	.000	.000	.002	.290	.000	.000		.000	.000	.000	.000	.031	.196	.003
	V73	.000	.000	.000	.000	.059	.000	.000	.000	.000	.000	.000	.182	.000	.000	.000		.000	.000	.000	.415	.373	.038
	V74	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.001	.335	.000	.000	.000	.000		.000	.000	.002	.066	.040
	V75	.000	.000	.000	.000	.023	.000	.000	.000	.000	.000	.043	.125	.000	.000	.000	.000	.000		.000	.000	.040	.013
	V76	.000	.005	.002	.000	.088	.002	.000	.000	.015	.007	.058	.010	.001	.000	.000	.000	.000	.000		.317	.111	.437
	V77	.226	.007	.010	.294	.041	.393	.242	.036	.289	.020	.249	.142	.118	.003	.031	.415	.002	.000	.317		.000	.000
	V78	.016	.027	.002	.064	.022	.409	.217	.131	.118	.065	.144	.003	.048	.031	.196	.373	.066	.040	.111	.000		.000
	V79	.015	.017	.000	.090	.138	.439	.005	.018	.053	.000	.381	.008	.087	.037	.003	.038	.040	.013	.437	.000	.000	

Communalities

	Initial	Extraction
V58	1.000	.526
V59	1.000	.657
V60	1.000	.561
V61	1.000	.584
V62	1.000	.585
V63	1.000	.574
V64	1.000	.538
V65	1.000	.683
V66	1.000	.683
V67	1.000	.589
V68	1.000	.603
V69	1.000	.629
V70	1.000	.676
V71	1.000	.652
V72	1.000	.553
V73	1.000	.588
V74	1.000	.515
V75	1.000	.578
V76	1.000	.811
V77	1.000	.720
V78	1.000	.755
V79	1.000	.597

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.769	35.313	35.313	7.769	35.313	35.313	6.050	27.498	27.498
2	2.126	9.663	44.976	2.126	9.663	44.976	2.433	11.058	38.556
3	1.655	7.521	52.497	1.655	7.521	52.497	2.201	10.003	48.559
4	1.093	4.967	57.464	1.093	4.967	57.464	1.866	8.480	57.039
5	1.013	4.605	62.069	1.013	4.605	62.069	1.107	5.030	62.069
6	.870	3.952	66.022						
7	.802	3.646	69.668						
8	.736	3.347	73.015						
9	.655	2.979	75.993						
10	.646	2.936	78.930						
11	.581	2.643	81.573						
12	.533	2.422	83.994						
13	.485	2.205	86.200						
14	.451	2.051	88.251						
15	.435	1.978	90.229						
16	.377	1.712	91.942						
17	.353	1.606	93.547						
18	.344	1.565	95.112						
19	.325	1.475	96.588						
20	.267	1.212	97.799						
21	.257	1.168	98.967						
22	.227	1.033	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component				
	1	2	3	4	5
V58	.624	-.031	-.032	-.344	.127
V59	.760	-.061	-.191	.125	-.157
V60	.692	.126	.010	-.066	-.248
V61	.722	-.138	-.057	.199	.029
V62	.310	.241	.636	.090	-.132
V63	.549	-.235	.066	.459	.048
V64	.685	-.125	-.048	-.154	.166
V65	.801	-.086	-.040	-.179	.019
V66	.706	-.052	.120	-.333	-.237
V67	.696	.069	.032	-.131	-.286
V68	.326	.065	.696	.014	-.088
V69	.103	.389	.655	-.136	.140
V70	.557	-.030	.178	.573	.073
V71	.755	-.031	-.094	.249	-.102
V72	.696	-.058	-.055	-.231	.096
V73	.718	-.238	-.078	.044	.085
V74	.707	-.010	-.045	-.086	.067
V75	.722	-.010	-.237	-.001	-.027
V76	.385	-.038	.105	-.055	.805
V77	.209	.754	-.296	.141	.030
V78	.199	.821	-.132	.110	.106
V79	.252	.693	-.219	-.071	.000

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
V58	.683	-.018	.046	.072	.229
V59	.654	.449	.123	-.060	-.092
V60	.641	.219	.199	.187	-.165
V61	.552	.519	.025	.019	.093
V62	.118	.182	.081	.726	-.067
V63	.278	.690	-.100	.063	.080
V64	.658	.193	-.003	.029	.258
V65	.783	.212	.037	.080	.128
V66	.779	.025	-.027	.252	-.110
V67	.683	.173	.131	.198	-.191
V68	.173	.155	-.105	.734	-.002
V69	-.018	-.127	.173	.738	.194
V70	.187	.760	.072	.222	.094
V71	.569	.554	.138	.029	-.045
V72	.704	.117	.051	.053	.194
V73	.628	.399	-.077	-.028	.166
V74	.646	.240	.108	.074	.152
V75	.661	.315	.173	-.100	.039
V76	.234	.152	.034	.089	.851
V77	.059	.080	.842	-.033	-.017
V78	.021	.042	.855	.134	.069
V79	.192	-.076	.743	.040	-.013

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Component Transformation Matrix

Component	1	2	3	4	5
1	.859	.443	.155	.170	.113
2	-.129	-.175	.931	.288	-.046
3	-.150	.017	-.304	.938	.074
4	-.451	.879	.112	-.044	-.098
5	-.138	.027	.059	-.082	.985

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

ORG PERFORMANCE

Reliability Statistics

Cronbach's Alpha	N of Items
.615	7

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.668
Bartlett's Test of Sphericity	Approx. Chi-Square	235.229
	df	21
	Sig.	.000

Communalities

	Initial	Extraction
V80	1.000	.746
V81	1.000	.738
V82	1.000	.644
V83	1.000	.627
V84	1.000	.592
V85	1.000	.676
V86	1.000	.647

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.294	32.765	32.765	2.294	32.765	32.765	2.144	30.631	30.631
2	1.205	17.218	49.983	1.205	17.218	49.983	1.280	18.286	48.917
3	1.170	16.711	66.694	1.170	16.711	66.694	1.244	17.777	66.694
4	.787	11.236	77.930						
5	.706	10.083	88.013						
6	.506	7.222	95.235						
7	.334	4.765	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component		
	1	2	3
V80	.812	-.247	-.160
V81	.841	-.165	-.054
V82	.775	-.142	-.152
V83	.357	.306	.637
V84	.322	.605	-.349
V85	.111	.771	-.264
V86	.288	.207	.721

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Rotated Component Matrix[a]

	Component		
	1	2	3
V80	.863	.025	.009
V81	.843	.156	.045
V82	.795	.055	.092
V83	.106	.779	.090
V84	.188	-.012	.746
V85	-.076	.054	.817
V86	.055	.801	-.046

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Component Transformation Matrix

Component	1	2	3
1	.930	.308	.203
2	-.305	.331	.893
3	-.208	.892	-.401

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

CLI

Reliability Statistics

Cronbach's Alpha	N of Items
.838	20

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.853
Bartlett's Test of Sphericity	Approx. Chi-Square	1524.175
	df	190
	Sig.	.000

Correlation Matrix

		V87	V88	V89	V90	V91	V92	V93	V94	V95	V96	V97	V98	V99	V100	V101	V102	V103	V104	V105	V106
Sig. (1-tailed)	V87		.428	.272	.000	.000	.001	.000	.001	.000	.026	.032	.000	.000	.074	.450	.009	.000	.265	.407	.000
	V88	.428		.000	.139	.274	.000	.000	.004	.050	.000	.000	.301	.451	.000	.022	.004	.487	.000	.002	.111
	V89	.272	.000		.160	.170	.000	.000	.291	.301	.000	.000	.120	.416	.000	.000	.000	.235	.000	.000	.360
	V90	.000	.139	.160		.000	.290	.318	.000	.000	.405	.407	.000	.000	.485	.111	.000	.000	.000	.442	.000
	V91	.000	.274	.170	.000		.125	.113	.000	.000	.084	.324	.000	.000	.290	.017	.000	.000	.086	.161	.000
	V92	.001	.000	.000	.290	.125		.000	.315	.228	.000	.000	.484	.194	.000	.000	.008	.458	.000	.000	.490
	V93	.000	.000	.000	.318	.113	.000		.235	.330	.000	.000	.405	.306	.000	.000	.480	.044	.000	.000	.195
	V94	.001	.004	.291	.000	.000	.315	.235		.000	.063	.351	.000	.000	.191	.232	.000	.000	.044	.029	.000
	V95	.000	.050	.301	.000	.000	.228	.330	.000		.158	.498	.000	.000	.078	.264	.000	.000	.040	.137	.000
	V96	.026	.000	.000	.405	.084	.000	.000	.063	.158		.000	.085	.385	.000	.002	.009	.424	.000	.000	.176
	V97	.032	.000	.000	.407	.324	.000	.000	.351	.498	.000		.069	.372	.000	.000	.064	.062	.000	.000	.169
	V98	.000	.301	.120	.000	.000	.484	.405	.000	.000	.085	.069		.000	.058	.154	.000	.000	.001	.002	.000
	V99	.000	.451	.416	.000	.000	.194	.306	.000	.000	.385	.372	.000		.454	.033	.000	.000	.013	.480	.000
	V100	.074	.000	.000	.485	.290	.000	.000	.191	.078	.000	.000	.058	.454		.000	.022	.271	.000	.000	.029
	V101	.450	.022	.000	.111	.017	.000	.000	.232	.264	.002	.000	.154	.033	.000		.247	.143	.000	.000	.028
	V102	.009	.004	.000	.000	.000	.008	.480	.000	.000	.009	.064	.000	.000	.022	.247		.000	.000	.000	.000
	V103	.000	.487	.235	.000	.000	.458	.044	.000	.000	.424	.062	.000	.000	.271	.143	.000		.110	.049	.000
	V104	.265	.000	.000	.000	.086	.000	.000	.044	.040	.000	.000	.001	.013	.000	.000	.000	.110		.000	.001
	V105	.407	.002	.000	.442	.161	.000	.000	.029	.137	.000	.000	.002	.480	.000	.000	.000	.049	.000		.101
	V106	.000	.111	.360	.000	.000	.490	.195	.000	.000	.176	.169	.000	.000	.029	.028	.000	.000	.001	.101	

Communalities

	Initial	Extraction
V87	1.000	.469
V88	1.000	.563
V89	1.000	.539
V90	1.000	.438
V91	1.000	.565
V92	1.000	.601
V93	1.000	.575
V94	1.000	.642
V95	1.000	.634
V96	1.000	.672
V97	1.000	.697
V98	1.000	.614
V99	1.000	.636
V100	1.000	.641
V101	1.000	.443
V102	1.000	.514
V103	1.000	.660
V104	1.000	.369
V105	1.000	.584
V106	1.000	.594

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.011	25.057	25.057	5.011	25.057	25.057	4.190	20.952	20.952
2	4.255	21.274	46.331	4.255	21.274	46.331	2.970	14.849	35.801
3	1.171	5.856	52.188	1.171	5.856	52.188	2.576	12.878	48.678
4	1.012	5.062	57.250	1.012	5.062	57.250	1.714	8.572	57.250
5	.981	4.907	62.156						
6	.872	4.361	66.517						
7	.754	3.772	70.289						
8	.723	3.616	73.905						
9	.681	3.405	77.310						
10	.627	3.137	80.448						
11	.594	2.969	83.417						
12	.492	2.461	85.878						
13	.483	2.416	88.294						
14	.441	2.205	90.498						
15	.381	1.905	92.403						
16	.365	1.825	94.228						
17	.331	1.656	95.885						
18	.305	1.523	97.408						
19	.277	1.384	98.792						
20	.242	1.208	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component			
	1	2	3	4
V87	.426	-.493	.165	-.129
V88	.382	.471	-.402	-.185
V89	.341	.470	.115	.434
V90	.569	-.282	.184	-.022
V91	.572	-.354	.329	-.067
V92	.333	.693	-.028	.097
V93	.278	.695	.089	.081
V94	.545	-.238	-.492	.213
V95	.603	-.373	-.362	-.005
V96	.351	.568	-.355	-.316
V97	.368	.692	-.010	-.289
V98	.707	-.305	.077	-.124
V99	.647	-.414	.070	-.204
V100	.364	.630	.156	-.296
V101	.344	.338	.458	.003
V102	.574	-.048	-.167	.393
V103	.655	-.441	-.052	.185
V104	.496	.343	.048	.050
V105	.434	.466	.177	.384
V106	.669	-.312	.099	-.201

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
V87	.657	-.146	-.110	.057
V88	-.019	.691	.123	.265
V89	-.047	.150	.706	.127
V90	.640	-.022	.134	.096
V91	.735	-.092	.126	-.024
V92	-.123	.532	.549	.036
V93	-.125	.481	.566	-.084
V94	.329	.094	.028	.724
V95	.538	.108	-.107	.567
V96	-.043	.801	.098	.137
V97	.009	.756	.325	-.144
V98	.751	.108	.069	.185
V99	.777	.062	-.066	.156
V100	.090	.661	.353	-.267
V101	.237	.192	.500	-.315
V102	.312	.018	.384	.519
V103	.659	-.131	.121	.441
V104	.213	.365	.429	.082
V105	.058	.189	.733	.087
V106	.751	.126	.010	.121

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 10 iterations.

Component Transformation Matrix

Component	1	2	3	4
1	.768	.373	.395	.340
2	-.498	.653	.531	-.208
3	.311	-.340	.398	-.793
4	-.256	-.565	.635	.461

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.