



**The role of postgraduate business qualifications in the performance of  
technical managers at Alco NCP**

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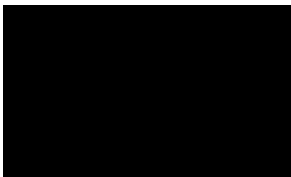
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## **ABSTRACT**

Postgraduate business qualifications can play a pivotal role in the development of a technical manager's career. The purpose of this study is to explore the role of postgraduate business qualifications on the performance of technical managers at Alco NCP. Furthermore, for the value of their postgraduate business qualifications to be recognised beyond the paper the degree is represented by. In reviewing the literature from a global perspective and other similar emerging markets to the South African market that Alco NCP is based in, there is a propensity towards those with postgraduate business qualifications that are acquired from internationally renowned universities to be trusted with senior management and executive roles.

Combined main and expanded theoretical frameworks were used in this study, as the basis of technical management lends from the broader theories attached to management and leadership. The study then explores the role of postgraduate business qualifications in the performance of technical managers at Alco NCP through on the ground data collection from existing technical managers – through conducting interviews and observation, which are qualitative data collection methods. After analysing the study results, it was found that the Alco NCP company culture is still despondent towards empowering technical managers with postgraduate business qualifications. There were varying opinions within the participants on the degree of importance of possessing a postgraduate business qualification as a technical manager. Overall, this study asserts that at Alco NCP, a technical manager who is conceptually, technically and human/socially skilled understands and better decides the actions and measures to be taken in their field of work.

### **Keywords:**

**Alco NCP**

**Postgraduate Business Qualifications**

**Technical Manager**

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## **DEFINITIONS AND ACRONYMS**

**Technical manager:** Senior managers whose primary job is to manage workers, technicians, technologists, engineers, and where minimal hands-on contribution is required but they take responsibility for the finished technical product. They are well-versed in the industrial plant's product offering as they have a history of being a technical design and operations lead.

**Postgraduate Business Qualifications:** A formal postgraduate qualification of NQF Level 8 or higher, which is in business management, business administration or business leadership. The qualifications must consist of modules that have accounting/finance, marketing, and general management and leadership.

**Performance:** Assessing the outcomes linked to the job requirements of the technical manager, including but not limited to, financial achievements, project management, transformation, research and development, accountability, and general management acumen.

**MBA:** Masters in Business Administration

**MBL:** Masters in Business Leadership

## **CHAPTER ONE**

### **1. INTRODUCTION OF THE STUDY**

Alco NCP is a multinational organisation that focuses on the production of raw alcohol products for various industries across continents. The nature of a manufacturing plant is that there are various technical managers that lead departments within the organisation to achieve the business' goals. The relevance of technical managers being equipped with the necessary skills to lead is thus essential for a business of this nature.

Management positions in industrial plants are reserved for those whose technical ability is considered specialist and astute. Those trained in the technical fraternity that is directly linked to the product that the industrial plant manufacturers, manage the technical niche of that plant – who are then considered technical managers (Haider, Wasim, & Zahid, 2009). Hence, the current trend is for engineers who are experienced in the specialized technical field to be promoted to managers (Mlangeni & Telukdarie, 2018).

A global trend in the last decade, is that engineers further their studies in business and leadership, with intentions to equip themselves with skills that are beyond just technical skills to expand their territory in business (Gay, 2019).

This study thus focuses on the role of postgraduate business qualifications on the performance of technical managers at Alco NCP.

#### **1.1. Overview of the Study**

The scope of this research explores the relevance, characteristics, and qualifications that a competent technical manager must possess, as technical management as a fraternity also involves the business aspects of the organization. Human resource managers in industrial organisations have traditionally reserved management functions for engineers or

technologists, but the competence of technical managers in leading the overall business to success depends on a multitude of factors (Riley, Cudney, & Long, 2015).

A technical manager's roles and responsibilities involve the overseeing of intricate product development, and system maintenance whilst guiding their team to explore designs and decisions informed by set technical principles (Mlangeni & Telukdarie, 2018). The competency level of technical managers is informed by them being primarily equipped with the aptitudes acquired in their undergraduate technical formal training and possessing specific business skills.

In 2019, Alco NCP began the capital project – NCP 100 - whose aim was to cease their production of alcohol from molasses - converting to maize. This was a corporate decision that was made at the Alco group board level, but its implementation lay in the South African operations, projects, and engineering teams. Alco NCP had to engage internal and external stakeholders to transition into being a maize-producing plant. The change and variety in raw materials that was presented by producing maize introduced new technical, operations, and production research and development areas for the managers responsible for the respective departments. Management was also faced with guiding the transformation of their team members into understanding the new business model, increased capacity, and raw materials (Alco NCP (Pty) Ltd, 2020).

The technical managers at Alco NCP are the engineering manager and the operations manager. The influence on their decision making in the aforementioned areas is influenced by multiple characteristics such as available technology, change management and formal education.

The management characteristics of the project manager and engineering manager respectively, have directly influenced the intricate performance of these projects and overall outputs (Demirkesen & Ozorhon, 2017). The distinct differences in various project outputs as per the leadership of technical managers with various qualifications has led to

my investigation of the role of postgraduate business qualifications on a technical manager's performance in an industrial plant.

## **1.2. Problem Statement**

The world-renowned Master of Business Administration (MBA) degree has 75% of its new entrants being engineers in the year 2021, as per the trend in India and the diaspora (Baptista, 2021). Asian engineers have decided that acquiring an MBA degree is a key aspect in the journey of their careers. Rutgers Business School in the United States has seen a trend from 2016 to 2021 where MBA candidates with engineering backgrounds comprise the second largest population of their students (Kolodiy, 2020).

In South Africa, more than 27% of engineers and/or technologists have acquired a postgraduate business qualification, showing a gloomier picture than the rest of the globe (Engineering Council of South Africa, 2019). South Africa is lagging significantly in a global context in its ability to produce internationally-acclaimed managers, if the aforementioned quantity and quality of business postgraduates is used as a metric (Business Tech, 2023).

At Alco NCP, not more than 20% of senior managers and executives have acquired postgraduate business qualifications which is similar to what the trend is in the South African diaspora. This shows a company culture that lacks motivation when it comes to the pursuit of postgraduate business studies which signals a lag in management and leadership skills within the organisation (Alco NCP, 2021; Binus University Business School, 2022; Institution of Mechanical Engineers, 2017).

The study then explores the role of postgraduate business qualifications in the performance of technical managers at Alco NCP.

### **1.3. Rationale of the Study**

Numerically, South African technical managers lack business qualifications in comparison to their global counterparts and subsequently lack the business skills that these qualifications seek to empower the technical manager with. Therefore, the study seeks to explore the role of postgraduate business qualifications in the performance of technical managers at Alco NCP. The study also contributed to the greater industry using Alco NCP as a study location and contributed to the body of knowledge.

### **1.4. Purpose of the Study**

#### **1.4.1. Aim of the Study**

The purpose of this study is to explore the role of post-graduate business qualifications on the performance of technical managers at Alco NCP.

#### **1.4.2. Focus of the Study**

The focus of the study is Alco NCP at Springfield, Durban.

### **1.5. Research Objectives**

- To determine the effectiveness of technical managers with postgraduate business qualifications at Alco NCP.
- To determine the engineering research and development abilities of technical managers with postgraduate business qualifications at Alco NCP.
- To determine impediments that technical managers have in acquiring postgraduate business qualifications at Alco NCP.
- To determine the management style and practical characteristics of technical managers with postgraduate business qualifications at Alco NCP.

### **1.6. Research Questions**

- How effective are technical managers with postgraduate business qualifications at Alco NCP?
- To what extent does a technical manager with a postgraduate business qualification contribute to the Alco NCP's engineering research and development?
- What are the impediments faced by technical managers at Alco NCP in the process of acquiring postgraduate business qualifications?
- What are the management style and leadership characteristics of a technical manager with postgraduate business qualifications at Alco NCP?

## **1.7. Outline of the Proposed Research**

### **Chapter 1**

The first chapter shall consist of the introduction and background, problem statement, as well as research questions and objectives. Here, the definitions of the main concepts are to be also provided.

### **Chapter 2**

This chapter shall consist of a critical literature review and cover the objectives of the study. The relationship between technical management and business qualifications is reviewed.

### **Chapter 3**

This chapter consists of the research methodology, which includes research design and research paradigm. It also includes data collection, data selection, and data analysis methods. The analysed data focuses on the variables.

### **Chapter 4**

This chapter presents data analysis, findings, and detailed discussions of the findings.

### **Chapter 5**

The final chapter shall consist of the conclusion and the recommendations related to the exploratory study.

### **1.8. Chapter Summary**

This chapter has provided an overview of the dissertation with the layout of the chapters, which shall be discussed in further detail. This chapter dealt with the research questions, research objectives and the aim of the study. In the next chapter, the focus is the theoretical frameworks and literature review of the study.

## CHAPTER TWO

### 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

#### 2.1. Introduction

This chapter begins with the definition of the theoretical frameworks used to conduct this study. The theoretical framework selected is then applied to the study in accordance with the key theory cornerstones of the framework. The literature relevant to the study is introduced where the empirical data from firstly a global context is detailed, then emerging countries and a relevant hone into the study area of Alco NCP.

#### 2.2. Theoretical Framework

##### 2.2.1. Definition of Main Theoretical Framework

A theoretical framework clearly illustrates and defines the parameters which bound a topic (Rahl, 2017).

The subject of effective management has been examined and published on by many authors. Particularly, the skillset that managers in various fields should possess. An effective manager directs the activities of others and undertakes responsibilities for decisions made by themselves and others (Katz, 1955 (Haider, Wasim, & Zahid, 2009)). Based on the findings, these researchers theorized that the three-skill approach (Katz, 1955) defines the execution of effective management to rest upon **technical, human, and conceptual skills**.

##### 2.2.1.1. Description of the Three-skill Approach

Engineers in the past were mainly concerned with technical aspects of engineering, but the evolving requirements of technical management have necessitated that researchers identify more specific skill sets for technical managers (Edum-Fotwe & McCaffer, 2000). The study by Edum-Fetwe and McCaffer (2000) identified leading, communicating,

negotiating and problem-solving to be the most relevant general skills for successful construction industry projects and technical managers. In the three-skill approach, effective leadership depends primarily on three basic personal skills: human, conceptual and technical skills (Northouse, 2013). Katz argued that skills are different from traits, skills are what a leader can work towards accomplishing and traits are what leaders already are (Katz, 1955).

The three skills that form the premise of the three-skill approach vary in importance across management levels. At lower management level, technical, and human skills are important. At middle management level, all three skills have equal importance and at tertiary management levels, conceptual and human skills matter the most (Northouse, 2013).

Modern construction projects are extremely complex, thus business value and risk mitigation become largely dependent on a strong technical manager being at the forefront of the project. Knowledge gained in additional education gives engineers added value to their business experience and equips them for the everchanging business environment, to analyse business issues and improve overall professional performance more effectively.

The approach was developed through Katz first-hand observation of executives in the workplace and field research in administration (Katz, 1955) to provide the leader-centred perspective three-skill approach.

The three-skill approach consists of three fundamentals that act as the framework for this research:

- a) **Technical skill:** Competence, proficiency, and knowledge in the scientific aspects of the plant process at Alco NCP, specific to the task or work at hand. This could be an engineer, scientist, or chemist, for example (Virkus, 2009).
- b) **Human skill:** Threshold in dealing and working with people. The ability to communicate and execute the different aspects of the interpersonal relations that form a working relationship within teams at Alco NCP. The technical manager

needs to understand the team at an interpersonal level, which speaks to the parts of who the team member is beyond the technical work they perform (Virkus, 2009).

- c) **Conceptual skill:** The ability to decipher ideas and concepts and create processes that enable the philosophical or scientific concept to manifest in the physical. A technical manager who is conceptually skilled understands and better decides the actions and measures to be taken in their field of work (Virkus, 2009).

### 2.2.2. Definition of Expanded Theoretical Framework

Management theorists further examined Katz’s paper and expanded on the skills, alongside Katz’s three skills to add seven more additional skills necessary for successful performance in managerial roles. These are – analytic, decision-making, human, communication, interpersonal, conceptual, diagnostic, flexible, and administrative (Connelly, et al., 2000).

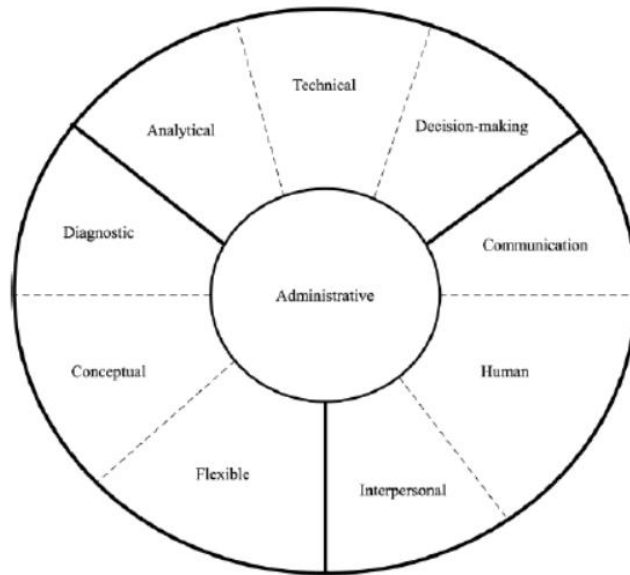


Figure 1: Managerial skills model (Peterson & Van Fleet, 2004)

### 2.2.3. Application of the Three-skill Approach and Expanded Three-skill Approach to the Performance of Technical Managers

The Three-skill Approach has been applied in the different tiers/levels of management and leadership to explain the change and maintenance of management-related behaviours for Alco NCP technical managers. It has also been applied as a guiding framework for the key skills that the technical managers should possess, and the relationship between the key skills and the role that postgraduate business qualifications played in the competence of the technical managers.

The expanded three-skill approach is also applied to this study to form a merged theoretical framework as it is more nuanced and critical factors that influence leadership and management are the central focus – such as; analytical thinking and decision-making which are a subsidiary of technical skills; communication and interpersonal skills which are a subsidiary of human skills; diagnostic and flexibility which are a subsidiary of conceptual skills. These skills all feed to a greater administrative role of a manager or leader as an enhancement to technical knowledge they already possess (Connelly, et al., 2000).

Furthermore, these secondary or expanded focus skills are largely developed through relevant structured and intentional learning – of which postgraduate business education possesses the qualities of such a structure - which plays a role in how managers/leaders perform in their respective management and leadership roles.

## **2.3. Literature Review**

### **2.3.1. Introduction**

The first step in understanding the research problem is to recognise that there is a lack of technical managers with postgraduate business qualifications in industrial sites, as it is evident in the lack of postgraduates in South Africa in comparison to global counterparts (Baptista, 2021). This review of literature shows a globalization change in the relationship between postgraduate business qualifications and the technical labour market. The global perspective, emerging countries, and Alco NCP itself is reviewed.

### **2.3.2. Global Perspective**

Global studies in the past decade show the significant influence of postgraduate business education in the advancement of technical managers' careers but there are varying notions in industry on the extent of this advancement and the value it brings to the industry – hence the widespread apathy among industry professionals (Mlangeni & Telukdarie, 2018). The existing body of research on postgraduate business qualifications among technical managers indicates the lack of in-depth understanding of the influence of postgraduate business qualifications in the performance of technical managers.

#### **2.3.2.1. Masters in Business Administration (MBA) – NQF Level 9**

The Masters in Business Administration is the traditional pathway for managers who are seeking to improve their worth and business skills, as it is a rigorous program that advances individuals from various niche sectors into being business trained. The course consists of core business modules such as finance, accounting, marketing, strategy, operations, and information systems (Demirkesen & Ozorhon, 2017). This inspires confidence in the technical manager's abilities within the organisation. Every industrial plant requires string leaders who are savvy decision makers.

Engineers are increasingly using the MBA which they acquire from various business schools to equip them for leadership roles in large organisations. The MBA is the tool used to switch from engineering operations into management. Business decisions in industrial organisations cascade down to technical and operations choices – hence the necessity to amalgamate the commercial decision-making ability with the engineer's technical acumen. Commercial choices include project development, negotiations with stakeholders, analysing consumer behaviours, demographics, understanding government policies and technology progressions, etc (Institution of Mechanical Engineers, 2017).

The MBA equips the engineer with good financial acumen, it consists of training in economics, change management, and the varying levels of data analytics. At management level this is key as the manager leads industry professionals and makes decisions on how to proportionately allocate organisational resources for the sustenance and growth of the organisation (Institution of Mechanical Engineers, 2017).

World-renowned CEO of Apple Inc. Tim Cook has an undergraduate degree in industrial engineering as well as an MBA. Satya Nadella, CEO of Microsoft has an undergraduate degree in electrical engineering and an MBA. As engineers, they are trained to produce and implement great products, but the MBA provides the business acumen to bring the products and these ideas to the market (Gay, 2019).

Finances, dynamic leadership, and management of human capital are among the core teachings of postgraduate business qualifications. The role of this formal education is to attempt to bridge the gap between technical managers' ability to function successfully in management functions, and not only technical functions (Baptista, 2021; Demirkesen & Ozorhon, 2017).

#### **2.3.2.2. Certificate – Project Management Professional (PMP)**

Business is multidisciplinary in its nature; the technical manager can opt to pursue a more focused business qualification, such as to be Certified as a Project Management Professional (PMP). The PMP is a rigorous certification examination that propels the careers of project leaders in industrial plants and validates the certificate holder in their organisation to be highly skilled in people, processes and mastering the connection between projects and organisational strategy (Project Management Institute Inc., 2021).

#### **2.3.2.3. Masters in Business Leadership (MBL) – NQF Level 9**

In the absence of competent leadership in an organisation, the organisation perishes. The Masters in Business Leadership is an alternative to the MBA, as it provides professional

management development that balances theory and practical leadership principles, in the manner in which the degree is taught. The course consists of core business modules such as finance, transformation, dynamic leadership, marketing, strategy, operations, and information systems (Demirkesen & Ozorhon, 2017) (University of South Africa - SBL, 2017).

#### **2.3.2.4. Dual Degree Programs**

To meet the needs of individuals who pursue both engineering and business degrees, Universities such as Columbia University and the University of Pennsylvania have introduced dual-degree programs (Gay, 2019). A dual degree in this case is for candidates who have identified that they are pursuing a career trajectory that leverages a strong combination of business leadership interests and strong technical skills. Columbia University offers the Master of Science in Management Science and Engineering degree, whilst in South Africa the University of Pretoria offers the Masters in Engineering Management (Gay, 2019).

#### **2.3.3. Emerging Markets/Economies Countries**

Emerging countries are those with economies that exhibit elements of both first and third-world countries, with a market or economy that is becoming more engaged with global markets as it grows. The below countries were selected on the basis of being part of the combined BRICS group of major emerging economies – which includes South Africa as the smallest member.

##### **2.3.3.1. India**

Just over 75% of newly enrolled MBA students in India have an engineering degree and career background as a base (Baptista, 2021). Institutions in India that deal with core technical processes that require maximum output and business growth, have inherently promoted technical staff members such as engineers and technologists to become department managers as they are well-versed in the technology or product of the company.

Throughout the 20<sup>th</sup> century, they were perceived as natural managers since they were highly capable of directing the technical staff in the design of the product – hence the fatal assumption that their understanding of technical work meant they can successfully run a business (Haider, Wasim, & Zahid, 2009) (Mlangeni & Telukdarie, 2018).

Technical expertise is found in abundance in such organisations, but the management of the works surrounding the technicalities and growing the business requires characteristics, qualities, and skills broader than technical ability hence over 75% of technical managers have chosen the avenue of acquiring formal postgraduate business qualifications to fill this lacuna (Ajuwon A, 2020; Institution of Mechanical Engineers, 2017; Haughton, Salazar, & Horahan, 2022).

#### **2.3.3.2. China**

In China, an MBA is considered one of the most prestigious business degrees but only if the MBA program is a joint cooperation with foreign Universities as a partnership as the Chinese programs are lacking in relevant knowledge, especially in ethical standards in comparison to the rest of the world (Javaid, Soilen, & Le, 2020). The first cohort of MBA schools in China only started in 1991. The problem with the foreign partnerships was that Chinese managers were being developed according to models such as Wharton's program, which are suitable for first world Western countries (Javaid, Soilen, & Le, 2020).

Business education in China makes it difficult for those with Chinese MBA degrees to become managers in China, as the imprudent use of Western management theories and techniques often runs opposite to the business case and requirements of the Chinese based and operating business. China as an emerging market has different political, historical, cultural, and demographic conditions than their Western counterparts. Technical managers and industry leaders who hold critical positions in China based businesses, are henceforth highly conflicted whether to pursue and MBA or not (Javaid, Soilen, & Le, 2020; Aithal, 2015).

### **2.3.3.3. Brazil**

Business in Brazil is highly hierarchical and intra-competitive as employees respond best to the top-down approach or authoritarian style of leadership. This style is related to Hofstede's Theory on power distance level, which in Brazil is medium to high (Binus University Business School, 2022). Brazilians also prefer a paternalistic and bureaucratic manager, which shows that very little transformation from archaic methods has taken place (Binus University Business School, 2022; Aithal, 2015).

Scientists and engineers are skilled in having a long-term perspective as game-changing technology and impact is usually aim and the result of their projects and assignments (Institution of Mechanical Engineers, 2017). In Brazil, 34 of the top 100 chief executives are engineers that possess an engineering undergraduate degree, and 8 possess both an engineering degree and an MBA. There is a direct skills link to engineering degrees, the work engineers do and the MBA program, particularly those who do their MBA in the United States of America or major European countries (Haughton, Salazar, & Horahan, 2022).

In 2017, MBA graduate Silvio Limo who worked for the jet manufacturer Embraer in the United States of America prior to taking an offer at Kellogg, accepted a top management position at a prominent consulting firm in Brazil, which he accepted and returned home as it offered a 50% pay increase to what he was earning in at Embraer (Corry, 2011). This affirms the value that Brazilian firms place on an individual who has completed their international MBA successfully.

The problem lies in the fact that there are no renowned business schools in Brazil, so the corporate value in the MBA is placed on the international prestige because MBA holders are perceived as having superior knowledge having lived in first world economies. All schools in Brazil that do offer postgraduate business qualifications are international schools who have placed a branch in Brazil (Maheshwari, 2023). Any business school that

has emerged in Brazil produces qualifications that are perceived to have no real-world value beyond the paper they are represented by (Maheshwari, 2023).

The management fraternity is broad, but in its essence, it is governed by the same principles regardless of what economy, capacity, and level of responsibility the manager is operating in. In organisations, all managers lead either a function or department which consists of the product, subordinates, or a combination of both (Koochi, Ghandali, Dehghan, & Ghandali, 2016).

This trend across the globe also speaks to the lack of engineers gaining entrance into the job market, as they may be deemed ill-equipped for the current skill-set the industry requires.

#### **2.3.4. South African Perspective**

The ability to work in a fast-paced technology environment, with demanding production cycles results in successful technical managers (Baptista, 2021). The engineering, production, reliability, and operations managers in an industrial plant need to ensure that they deliver a quality product ahead of schedule, at minimal operating costs, keep their respective teams motivated, and produce the highest quality product. Furthermore, skills such as leadership, collaboration, and consistent active learning are requirements to be a successful technical manager (Riley, Cudney, & Long, 2015).

As per the OECD Jobs Strategy (2018) which compares Turkey, Iceland, Greece, Denmark, Japan, Czech Republic, Mexico and Korea; the South African labour market performance and labour market quality is considerably low compared to other countries due to deep structural problems and long periods of low-growth (OECD, 2018). This means that the productivity levels of South African factories/industry are subsequently underperforming in a global context.

Industrial plants, in South Africa, operate as businesses seeking to make a profit. Business skills are soft skills that are required in running a business and are thus essential for managers to possess to ensure business growth, longevity, and competitive edge. Business skills inform management of the relevant organisational and consumer behaviour. One of the methods of acquiring these soft skills is for the technical manager to pursue formal business qualifications. A business degree is one of the manners in which to develop many of the transferable skills required. Organisations increase their performance with the better integration of principles, engineering methods, technologies and business skills into their projects, products, and processes (Demirkesen & Ozorhon, 2017).

As technology is a constantly evolving field, the primary function of the technical manager is to provide relevant and appropriate technical solutions that are in line with the organisation's vision and their product/service-offering. They do this by leading teams that develop the core company product and take responsibility for the final product (Mlangeni & Telukdarie, 2018). However, the success of a technical manager lies in being competent in the combination of business and technical organisational functions (Haider, Wasim, & Zahid, 2009).

#### **2.3.4.1. Labour Relations Act**

The underperformance of South African industrial sites is also attributed to what the global community of investors perceives as poor governance and laws that give too much power to the worker. The Labour Relations Act No. 66 of 1995 provides and promotes collective bargaining at the workplace, promotes employee participation in decision-making, regulates the right to strike and trade union and provides procedures for resolution of labour disputes (Presidency of South Africa, 2018).

The procedures make it difficult to maintain a good turnover of efficiency and competent workers, because when a worker who is inefficient is identified, the procedure protects them for being replaced. This in turn affects the entire factory's productivity.

#### **2.3.4.2. Structural reform**

Structural reform in South Africa is happening at a snail pace. Racial and gender diversity in South African leadership positions continue to be an important theme. PwC South Africa concludes in 2022 that of the South African non-executive directors in JSE listed, 59% are white male, the racial and gender diversity is only evident in middle and junior management in companies (West, 2022). Furthermore, it is only a minority of these high-ranking managers who possess postgraduate business qualifications as most of them receive leadership positions through long-standing family ties and political association to the businesses.

Only 20% of South African executives and 32% senior managers hold postgraduate business master's degrees, respectively (Moyo, 2022). For engineers and technologists specifically, 27% have postgraduate business qualifications (which includes project management) (Koochi, Ghandali, Dehghan, & Ghandali, 2016). Furthermore, for the value of their postgraduate business qualifications to be recognised beyond the paper the degree is represented by (Moyo, 2022).

Thus, the evidence exists that to be in executive or senior management, the qualifications are not a mandatory prerequisite – structural reform is still required to transform the processes that inform the career trajectory of technical managers becoming appointed into senior/executive management.

#### **2.3.5. Alco NCP**

Alco NCP is a Belgium founded multinational company operating in Durban, South Africa manufacturing and supplying high quality neutral potable ethanol and DDGS related products (Alco NCP, 2021). An industrial plant is in the business of manufacturing for the purpose of selling their product to the market. At Alco NCP, the raw alcohol product is sold to local and international markets hence to deliver quality alcohol within production deadlines, it is imperative that the quality of technical management is of a high standard.

The role of business qualifications in the skills and role execution of a technical manager and the tangible outputs of their decisions, is debatable at Alco NCP. Managers at different levels have and do not have postgraduate business qualifications but have been performing in those roles for many years. Furthermore, executive managers are predominantly still white males – this was observed in meetings during the time spent in the execution of the maize conversion and capacity increase project.

### **2.3.5.1. Types of Technical Managers at Alco NCP**

To not deviate from the focus on industrial plants, the specific technical managers found in the Alco NCP are introduced – and their specific management functions relevant to that type of technical manager are subsequently explored. For purposes of this study, the engineering manager, production manager and the operations manager are deemed relevant as technical managers that were studied.

#### **a) Production Manager**

A production manager is responsible for the organising and overseeing of the manufacturing of goods. This includes the planning, coordination management of all aspects of the product from input to output in the production line. The production manager is responsible for historical and future spending; therefore they have to constantly review resources and needs to keep the production line in full operation (Buell, 2013).

Alco NCP's main production line is to produce raw alcohol of 99% potency. This raw alcohol is sold to various international users of alcohol-based products. The production manager is constantly challenged with the changing uses of raw alcohol and needs to manage the production line to ensure that the product is readily available for the business' customers (Alco NCP, 2021).

#### **b) Engineering Manager**

When the formally trained engineer's role is to lead a team of other qualified engineers, sorting and coordinating materials, equipment and controlling funds – they are the engineering manager. An engineer who has morphed into an engineering manager, requires training in the intricate skills of being a manager (Ktoridou, Doukanari, & Karayiannis, 2019) (Mlangeni & Telukdarie, 2018). The lack thereof social sciences, business, and communications modules in the undergraduate engineering degree they possess means there is an educational void in these skills, if the engineer has not taken initiative to learn these skills in their own personal capacity (formal or informal). The engineering manager who has the technical proficiency along with the skills, stands to survive and succeed in the future, as the organisation experiences its different cycles (Mlangeni & Telukdarie, 2018).

The engineer is trained to be technical; they apply mathematical and scientific principles to solve problems. The engineer needs to deeply understand the related constraints, devise a working optimisation strategy, and apply predictive analysis methods to achieve good engineering design and ensure successful project management. The engineering manager's role is to then monitor the accuracy and inform the intricacies of the detailed design, as they are perceived to have the business and economic information related to the implementation of the design into a prototype or a fully-fledged project (Merrill, Rodney, Daugherty, Westrick, & Zeng, 2008).

The leadership acumen of the engineering manager is constantly tested for the job functions, but the effective implantation of these characteristics is dependent on the quality of training that the engineering manager has acquired relevant to these areas.

### **c) Operations Manager**

They are technically trained in the process that produces the main plant product, the operations manager performs an all-encompassing role, they are required to be involved in all key aspects that contribute towards successful daily running and production. They become directly responsible for managing the functions part of main production of the products/services – hence managing the process, embracing the design, programming and

planning, control, human capital management, performance improvement and implementing the operations strategy (Ktoridou, Doukanari, & Karayiannis, 2019). Which then translates to the indirect role of engaging with the managers of these various functional areas of the plant, which influence operations.

The main responsibilities of the operations manager can thus be concluded as:

- Asset management – the plant’s equipment, facilities, and stock. To effectively manage the industrial plant’s assets, it requires a detailed technical understanding of the process engineering that goes from raw to final product (Demirkesen & Ozorhon, 2017) (Demirkesen & Ozorhon, 2017).
- Cost management – costs directly related to the production of goods, and acquisition of preliminary funding for projects. Effective cost management gives a business-critical competitive edge. This is a function that requires critical financial and economic knowledge and applying the same knowledge to be relevant to the plant’s desired output (Riley, Cudney, & Long, 2015).
- Human resource management – human capital development and the way people are engaged results in service that can either make the organisation succeed or bring it to its degeneration. The application of effective human-centred management differentiates a business, as relevant skills retention and talent acquisition informs the quality of people that are in the organisation and thus directly involved in the implementation of operations – at various levels (Riley, Cudney, & Long, 2015).
- Strategic planning – a good operations manager understands the executive team’s organisational vision and is thus responsible for processes followed and the continuous improvement of these processes. This requires planning related to the required outputs of the industrial plant; using their detailed knowledge of the resources available at the industrial plant to inform key performance indicators and production targets (Demirkesen & Ozorhon, 2017).

#### **d) Reliability Manager**

The reliability manager is usually trained as a reliability engineer. Reliability engineering is the application of scientific knowledge to a component, plant, process, or product to ensure optimal performance in the specific environment it is intended to perform in. The reliability manager is measured against dependability in the lifecycle management of the plant (Kiran, 2017).

At Alco NCP, the reliability manager focuses on guidance, analysis, and improvement of the plant equipment across its lifecycle. They get involved in the planning phase of projects, defining of maintenance targets and establish associated asset management targets (Vorster, 2021; Alco NCP, 2021).

The factory also consists of other junior technical managers in engineering, optimisation, production, and reliability – who support smaller subsidiary teams and report to main department managers mentioned above.

### **2.4. Chapter Summary**

This chapter introduced the theoretical frameworks and explored the literature associated with the study. The combination of Katz Three-skills Approach and the Expanded Three-skill Approach forms as the theoretical framework of the study, in attempt to answer the research questions and fulfil the research objectives. The literature that was reviewed was from a global perspective, emerging markets, South African perspective and at the Alco NCP study location. As the literature is reviewed, insight was given into the different perspectives of postgraduate business qualifications in different regions and the type of technical managers relevant to the performance study at Alco NCP are detailed.

## **CHAPTER THREE**

### **3. RESEARCH DESIGN AND METHODOLOGY**

#### **3.1. Research Methodology**

Research is a systematic inquiry using scientific, disciplined methods to solve research problems that have been identified with knowledge development and expansion being the goal (Polit & Beck, 2017). This chapter describes how the research methodology was undertaken for this study by expanding on the research paradigm, research methods and research design. The research methodology guides researchers in the process of gathering and analysing a set of collected data to reach a point where themes and sub-themes emerge from the data, to reach conclusion(s) about the phenomenon of interest. (Polit & Beck, 2017). Furthermore, in this chapter the sampling strategy, the research instrument(s), the data collection procedures, and data analysis techniques employed in this research are discussed.

#### **3.2. Research Paradigm and Research Method**

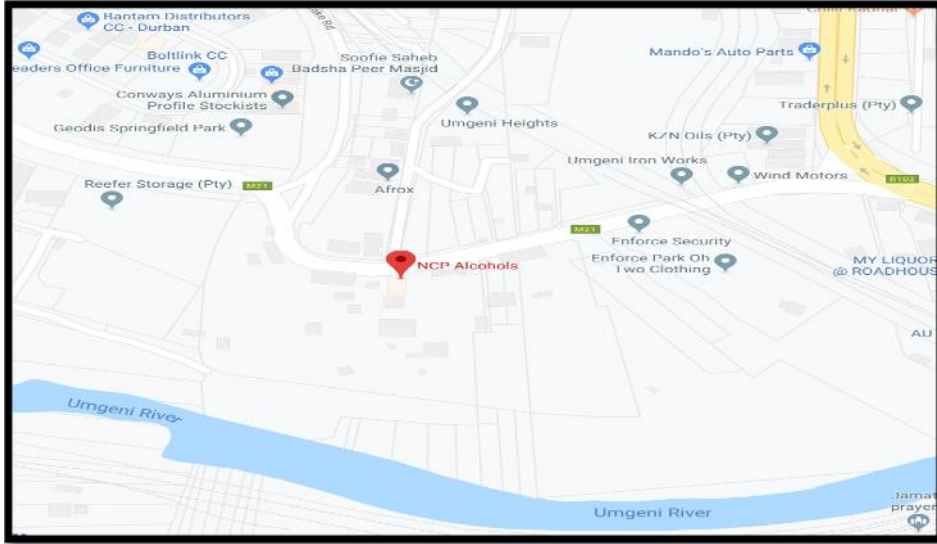
The research paradigm are the collective set of beliefs shared by scientists, on how the research problem should be undertaken that guide the research inquiries of a study (Rahl, 2017). Positivist research paradigm emphasises that science and scientific research are the only means to get to the truth – thus a stern belief in that there is an objective truth that is obtained through observation and experiment (Rahl, 2017). Constructionism is an approach that addresses the inadequacies of the positivist approach as its aim is to understand the rules people use to make sense of the world – developing subjective meanings of experiences (Rahl, 2017). Descriptive research involves direct exploration, analysis and description of the phenomenon being studied. Exploratory research refers to the investigation of the research questions without the intention to offer final solutions – the aim to create hypotheses rather than test them (Rahl, 2017) (Sekaran & Bougie, 2016).

For this study, an exploratory research paradigm was employed as the premise of this research method is the ability to explore a phenomenon in context using various forms of data collected. The research questions speak to effectiveness, contribution to the organization's research and development, impediments face by technical managers in acquiring postgraduate business qualifications and the management style of technical managers with postgraduate business qualifications. The exploratory research provides a holistic indication of the role of the business qualifications in the performance of technical managers, using a qualitative case study research method (Sekaran & Bougie, 2016).

Contrast to quantitative methods, the qualitative research method was used to conduct a detailed and focused study, in an area where there is a lack of detailed prior research to gain a deeper understanding of the phenomenon (Mills, Dureos, & Wiebe, 2010). A case study analyses specific issues within the boundaries of said organization – Alco NCP. Qualitative research describes phenomena and experiences from the inside out, which is the participant's point of view (Flick & Steinke, 2004). Qualitative research is inductive and naturalistic – the research of the phenomenon comes from the real-life experiences of the participants without changing or manipulating the experiences (Flick & Steinke, 2004).

### **3.2.1. Study Area**

The research was conducted at Alco NCP which is located at the physical address of 121 Sea Cow Lake Road, Durban, South Africa within the eThekweni Municipal area of Durban in the province of KwaZulu-Natal, South Africa, GPS Coordinates: 29°48'33.53"S 31°00'29.03" E . The investigator concentrated on all the technical managers who are full-time employees of said organization, as well as the employees of which their management directly affects, when choosing respondents to participate in this research.



**Figure 2: Alco NCP (Source: Google Maps 2020)**

### **3.2.2. Target Population**

(Mishra & Alok, 2017) define target population as a group of individuals, activities, or interesting items that the investigator wishes to explore. Alco NCP has various managers whose role is specific to the department they lead in. In selecting the target population, the aim of the study was considered. The aim of this study was to investigate the role of postgraduate business qualifications on the performance of technical managers - those who have a minimum of an undergraduate qualification and thus would be eligible to qualify for pursuing a postgraduate business qualification or have completed it already – were selected as the target population.

### **3.2.3. Sampling Method and Sample Size**

A sample can be defined as a group of smaller units selected from a population for investigative purposes. This is a method for selecting sites, documents, visual material, organisations to populate and collect data for the study (Mishra & Alok, 2017). There are two major categories of sampling methods namely, the probability sampling method and non-probability sampling method. The probability sampling method is where all subjects in the target population have equal chances to be selected in the sample. Non-probability

sampling method is where the sample population is selected in a non-systematic process that does not guarantee equal chances for each subject in the target population (Mishra & Alok, 2017) (Sekaran & Bougie, 2016).

The research study used non-probability sampling with a purposive (judgment) sampling method. The reason for using a purposive sampling method is because not all samples have criteria that fit in with the phenomenon that is being researched. Therefore, the technique of purposive (judgement) sampling specifies the considerations or specific criteria that should be met by the samples used in this research study as they are most advantageously placed to provide information (Sekaran & Bougie, 2016) (Rahl, 2017).

The criteria used as research samples are:

- (1) Technical Managers who are permanent staff members at Alco NCP.
- (2) Technical Managers who have pursued a postgraduate business qualification.
- (3) Technical employees who are direct subordinates to technical managers who fit the above criteria.
- (4) Miscellaneous documents provided by colleagues of the technical managers that provide data related to the research variables.

#### **3.2.4. Data Collection Methods**

A process where information is gathered and measured on the variables of interest in an established and systematic manner that aims to test hypotheses, answer the stated research questions, and evaluate said outcomes (Sekaran & Bougie, 2016) (Rahl, 2017). From Eisenhardt's principle of case study data collection, data collection includes primary and secondary data collection methods. Primary data collection was obtained from interviews (both in-depth and non-in-depth). Secondary data collection are internal resources and archives of the organisation such as publications, meeting minutes, media resources and documents related to the organisation, etc (Cao & Jiang, 2020).

For this study, three qualitative research techniques were employed, which are a mixture of primary and secondary data collection.

**a) Interviews**

This method is a guided and purposeful conversation between the investigator and respondents. A mixture of semi-structured and unstructured interviews was used. Unstructured interviews were conducted to gain preliminary understanding of the organisation which is the focal point of the case and link it to the research questions. Semi-structured interviews had purposeful questions that answer the research questions and probe the interviewee to divulge information aligned with the research objectives. It is important to establish rapport and credibility when conducting these interviews to inspire confidence and trust in the interview process (Sekaran & Bougie, 2016). This was done through in-person interviews for this study.

**b) Observation**

This method refers to organised recording, watching and interpretation of the behaviour of the subjects in their environment related to the case study (Sekaran & Bougie, 2016). Particularly for this study, concealed observation was used for the research subjects, the technical managers, and employees of Alco NCP, and are not influenced to change their behaviour due to knowledge that they are being studied/observed. From the observation, the investigator took field notes that include relevant detail to the study.

**c) Document Collection**

Here the investigator gathered documents related to the phenomenon under study. As the study progresses, certain documents became pertinent and were requested from the relevant platforms and contributors. Emails and meeting minutes that were used in capital projects for a certain decision were requested, and reports from suppliers, etc. The purpose of collecting data in this manner is that through signed reports, information contained is unambiguous and it is clear who published that report and what influenced the information in that report (Sekaran & Bougie, 2016) (Alco NCP (Pty) Ltd, 2020).

### 3.2.5. Data Analysis

Data analysis of qualitative research relates to extracting information about the phenomenon from often overwhelming word-form data. The aim of qualitative data analysis was to make valid inferences and seek out the relevant data from the large data. General approaches for data collection included data reduction, data display and the drawing of conclusions (Mishra & Alok, 2017) (Sekaran & Bougie, 2016). Data reduction is the process of selecting, coding, and categorizing data. Data display is the graphical representation of the categorised data. Data coding infers on data reduction, data display and even helps draw conclusions – exemplifying the non-linearity of qualitative data analysis (Rahl, 2017) (Mishra & Alok, 2017).

In the case of this research study, once interviews were conducted and questionnaire results were received, the data collected was coded and categorised according to patterns, themes, similarities, and coherence in the answers, etc. The iterative process simultaneously assists in drawing conclusions as repetition of similar results drives a narrative about the results of the study. (Sekaran & Bougie, 2016). This is known as thematic analysis of data (Braun & Clarke, 2006). In thematic analysis the focus was the qualitative analysis of themes or patterns, in relation to different epistemological and ontological positions. A theme captures a prominent aspect of data in a patterned way (Braun & Clarke, 2006; Ahmed, 2008).

To formulate themes Braun and Clarke's (2006) defined steps were used, they are:

#### *I. Data Familiarisation*

Becoming familiar with the data refers to the process of acquainting with the data as the researcher. This is an involved process as it consists of iterative cycles of reading and data immersion, with each of these cycles producing greater insight into the data (Braun & Clarke, 2006; Mihas, 2023). The researcher transcribed himself with the electronic data through reading/transcribing to initiate the

familiarisation process. The researcher continued to re-read the raw data, in preparation to note the initial codes.

*II. Generating the initial codes*

Generating codes refers to separating the data into themes and applying the code to a contextual segment, which goes beyond just being phrases (Braun & Clarke, 2006). Here the researcher generated labels to identify key features of the data which are relevant to the broad research, and then the process of grouping the raw data into coded groups occurred. This provided more content to the raw data as it was labelled and prepared for being generated into themes.

*III. Generating themes*

Generating themes refers to sorting the codes into higher level topics. This was done using mind-maps, tables or just clustering themes based on similarities in data (Braun & Clarke, 2006). Once the data was collated based on its coherent and meaningful patterns, the researcher found that at Alco NCP; it was company culture, relevance of postgraduate qualifications, colleagues' perceptions and soft skills of technical managers that were among the themes that were prevalent. The researcher grouped the themes by giving them relevant titles, furthermore some of the themes consisted of sub-themes.

*IV. Reviewing themes*

The review of themes is the interrogation of themes by revisiting the coded data, and further coining it into components (Mihas, 2023). Here the researcher may find that there are too many variances in the coded data, thus it presents an opportunity to change the high-level theme overarching titles to be more inclusive of a broader construct (Braun & Clarke, 2006).

*V. Defining and naming themes*

Refining and defining the names of the themes is to ensure that the name encompasses broadly what the data consists of in a short title (Mihas, 2023). The

researcher should ensure that the names of the themes occupy the same semantic plane (Braun & Clarke, 2006). The researcher formulated thematic statements that emphasise the research findings and are linked to relevant literature to provide clear titles that encapsulate and represent the data within the theme(s).

#### VI. *Final Write-up/locating exemplars*

The final write-up or the report involves telling the complex story of the themes by first explaining the meaning within each theme, illustrating with examples that provide meaning of the theme, thereafter analysing the data in relation the theme to finally have takeaways and learning from the themes (Braun & Clarke, 2006).

This type of data analysis was apt for this study as the thematic analysis technique hones in on extracting perceptions and reflections from participants based on raw data that is a representation of their lived experiences. Participants experiences are well represented (Mihas, 2023), instead of being imposed like other existing coding/data analysis frameworks.

#### **a) Reliability and Validity**

Conclusions drawn by the research needed to be tested for reliability and validity. Reliability in qualitative research refers to category and intrajudge reliability. Category is the extent to which judges used category definitions when classifying the collected data and intrajudge reliability refers to the degree of consistency between coders processing similar data – often measured as a percentage (Rahl, 2017) (Sekaran & Bougie, 2016).

Validity in qualitative research refers to how accurately the research findings represent the collected data (internal) and its transferability to other settings (external). Often in qualitative studies, triangulation is also used to establish validity. It involves the use of different sources of data/information. In the case of the industrial plant – the first step was to identify the relevant stakeholders (technical mangers, subordinates, suppliers,

colleagues), thereafter in-depth interviews were conducted with the relevant stakeholders and insight was retrieved from the notes taken from these interviews. The varying outcomes and their weight/percentage evidence was triangulated to deduce the outcomes (Sekaran & Bougie, 2016).

### **3.2.6. Limitations**

Due to the ending of the Maize Conversion project, the response time in gathering documentation from the participants or the organisation increased due to participants being busy with other work that does not involve interaction with the researcher.

The limitations of the research are that only engineering, production and operations managers respectively were thoroughly investigated. Other industrial plants have further and more specific technical managers who are not explored in this study. For this reason, further analysis of different kinds of technical managers relevant to other industries (such as super technology, software development, mining) would be a useful extension to the study if the findings remain consistent in the years to come.

### **3.3. Interpretive Paradigm**

Paradigms provide the rationale for research and hone in (over use of phrase) the researcher to specified data collection methods, observation and interpretation. Paradigms are techniques of interconnected epistemological, ontological, and methodological in their nature (Manti & Licari, 2018). Qualitative research is fundamentally interpretive; the researcher interprets collected data, which includes the key description of the participants, research location, and develops the research themes through examining and interpreting the collected data to be able to draw conclusions based on the findings. The researcher explored lessons, practices and behaviours expressed from the findings to draw conclusions and explored further recommendations. Adopting the interpretive paradigm honed in on the subjective experiences of the Alco NCP technical managers and other

employees with aspirations to enter into technical management, regarding the influence of postgraduate business qualifications in their execution of management functions, whether the influence is significant in the context of their environment and how they have navigated their role positions within the organisation. This asserts a subjective ontology in which the research is concerned about the perceptions, nature, and being of the participants/individuals (Ahmed, 2008).

This interpretive paradigm as a qualitative method provided a means for the researcher to collect detailed and descriptive data from the participants and understand the intricacies of their experiences.

### **3.4. Ethical Considerations**

Research ethics are particularly concerned where the process of research involves people, their privacy, and animals being involved either as participants or contributing to the research process. Prior to the commencement of the study, gatekeepers' permission was obtained and thus ethical clearance from the Ethics Board of the University of Kwa Zulu-Natal for researching human subjects. In the case of secondary data collection, data freely available to the researcher was used as well as documents made available consensually by participants. The data was used freely and fairly without any attempt to degrade it, with credit given to all sources and the final thesis was published on the University website.

#### **3.4.1. Informed Consent**

Voluntary expression of ideas and opinions by competent subjects with adequate information disclosure are key elements of collected research and essential in the informed consent process (Manti & Licari, 2018). Competent subjects are those able to comprehend the research-related information and whose participation is key for the data collection process; voluntary participation and informed consent is thus an act committed intentionally without any coercion to participate in the research (Manti & Licari, 2018). To acquire participants' informed consent, the researcher explained the aim of the study, the

nature/conduct of the study and how the research would directly benefit the research participants.

### **3.4.2. Confidentiality**

Confidentiality refers to the safeguarding of information that a research participant has disclosed in a relationship of trust that is formed through a confidentiality agreement, and the rapport that the researcher has built with the expectation that the information is not disclosed without the necessary steps to acquire permission have been taken (University of Nevada, Reno, 2021). In this study, interviews and questionnaires were the primary data collection methods thus the information that is received by the researcher, including the identity and private details of the researcher, was only accessible to the researcher and the supervisor.

Questionnaires and interview transcripts were received via email and saved on a password-protected University cloud server. Data is stored there for five years, thereafter it is destroyed. All these ethical issues are explicit in the consent form that participants received.

### **3.4.3. Non-maleficence**

The principle of non-maleficence compels the researcher to not cause any harm or alter the conditions of the participants to be worse if they cannot improve them as a result of conducting the research. The principle takes into consideration that subjects of a study can have compromised capacity to take actions to protect their own interests during the course of a study (Ajuwon A, 2020).

At Alco NCP, confidentiality was important to maintain in the study as some of the questions in the interviews and questionnaires directly challenge the culture and stance of the organisations, thus maintaining confidentiality protects the livelihoods of the participants, as the study is intended to not do any harm to the participants. The study

instruments did not impose any harm on the participants, and it was conducted in accordance with the guidelines and approval of the University Ethics Committee.

### **3.5. Chapter Summary**

This chapter introduced and discussed the research methods adopted in conducting this study. The study was conducted using a qualitative research approach and interpretive paradigm to subjectively understand the data collected from the participants, and their perceptions pertaining to the relationship between postgraduate business qualifications and the technical management labour market. The study was done at Alco NCP in Springfield, Durban, South Africa. The chapter provided details on how participants were brought on board, how data was collected, the research instruments used, the locations of data collection and study period.

## CHAPTER FOUR

### 4. DATA ANALYSIS, INTERPRETATION AND DISCUSSION OF FINDINGS

#### 4.1. Presentation of findings

The chapter begins with a tabulated representation of the research participants. The intention of the study was to answer the research questions discussed in Chapter 1. The utilisation of the specific research questions with linked research objectives resulted in the unfolding of dominant and subliminal themes, which shall be discussed further in this chapter. The major themes that emerged were as follows: the role of working experience in defining the performance of leaders, the influence of soft skills on leadership, and participants' experiences and perceptions of the influences postgraduate business studies on leadership practice. This chapter connects the fundamental aspects of the model used as a theoretical framework.

#### 4.2. Socio-demographics of the Participants

**Table 1: Socio-demographic of the participants**

<u>Pseudonyms</u>	<u>Gender</u>	<u>Age Group</u>	<u>Race</u>	<u>Undergraduate Degree</u>	<u>Current Management Level</u>
Participant 1	Male	Above 41	Black/African	Bachelor of Engineering Mechanical Engineering	Senior Manager
Participant 2	Female	Above 41	Indian	Bachelor of Technology Analytical Chemistry	Middle Manager
Participant 3	Female	Age 26 - 33	Indian	Bachelor of Sciences (Hons)	Junior Manager

				Chemical Engineering	
Participant 4	Female	Age 26 - 33	Indian	Bachelor Technology Chemical Engineering	of Junior Manager
Participant 5	Female	Age 34 - 41	Indian	Bachelor Technology Electrical Engineering	of Middle Manager
Participant 6	Male	Age 34 - 41	Black/African	Bachelor Engineering Mechanical Engineering	of Middle Manager
Participant 7	Female	Age 34 - 41	Indian	Bachelor Technology Electrical Engineering	of Middle Manager
Participant 8	Male	Age 34 - 41	Indian	Bachelor Technology Mechanical Engineering	of Middle Manager
Participant 9	Female	Age 26 - 33	Black	Bachelor Sciences Information Technology	of Junior Manager
Participant 10	Male	Above 41	Black	Bachelor Sciences Mechanical Engineering	of Middle Manager

The socio-demographics of the participants are tabulated above. The participants were selected based on being full-time employees of Alco NCP who are directly involved with technical functions at the factory and possess as a minimum an undergraduate technical degree. Fifteen participants were engaged but only 10 were responsive, which is an acceptable number for the required sample rate. The gender response was balanced with five male participants and five female participants, and race representation was relatively fair as well with a mix of Indian and Black Africans of both traditional genders. It is to be noted that there was a delay in data collection as some of the potential participants were fearful that the nature of the study could possibly directly or indirectly influence their job security, there were also no responses from any potential participants of the Caucasian race. As the researcher it was important to re-emphasize that the contents of the data collected is confidential and that clearance from the company's executive was received, to encourage responsiveness to data collection from the participants. Data was also collected through observation as the researcher spent more than 6 months' worth of working days on site/the study location for both capital project and research study purposes.

In the literature about South Africa, it was explained that structural reform at senior management levels in South Africa is happening at an unfortunate snail's pace but at middle and junior management levels the reform is more apparent. This socio-demographics data shows 40% of the participants are Black African or Indian males, and 60% of the participants are Black African or Indian females and they are all in junior to senior management positions. These managers are also considered youth, as they predominantly are below the age of 35 years old. This race and gender representation within management can also be attributed to the Broad-Based Black Economic Empowerment strategy that forms as part of South African government trade laws.

It is to be noted that though there may seem to be diversity in management, none of the above participants are in executive management, and from the literature it is known that the executive management of the South African wing of the company, Alco NCP, consists of white male South Africans. Perhaps this is also a representation of the Eurocentric culture of Alco group since the company's headquarters are in Belgium. Those at the very

top are still white males while there is more diversity prevalent in middle and junior management.

All the participants have a qualification related to STEM (Science, Technology, Engineering and Mathematics) as an undergraduate qualification but from this data, it is not clear which participants have opted to study further and obtain postgraduate business qualifications.

#### **4.3. Funding of postgraduate studies of Alco NCP technical managers**

The participants indicated a unified position when it came to the necessity of undergraduate qualifications in the formation of a competent technical manager. With postgraduate studies for technical managers, they indicated varying opinions with the Alco NCP's aptitude towards funding the postgraduate studies being highlighted as somewhat one of the deterrents to why some participants have not pursued postgraduate studies. Participant 1 is in Senior Management, and he stated:

*“Alco NCP funds postgraduate studies of its employees as long it is relevant to their job requirements. I think it is a motivator for the company to finance the studies, as there is a mutual benefit.”*

Participant 3 also believes that Alco NCP should fund postgraduate studies, especially if the content of the studies is in alignment with the technical vocation of the technical manager, she stated:

*“Yes, Alco NCP does fund postgraduate studies. It is a good idea if the studies are relevant to the development of the individual and will directly improve the company. The course content should be well understood by both employer and employee and linked to benefits/improvements that can be expected after completion of the qualification.”*

Participant 5 joined Alco NCP with a national diploma, so her post-diplomat studies were funded by Alco NCP, she understands the positive value of the company financially encouraging her to further improve her education. Participant 5 stated:

*“Yes, they do fund postgraduate studies. My BTech studies were funded by Alco NCP, at the time it was still NCP Alcohols. I am an MTech candidate right now and it is currently funded by them. I think it is beneficial for companies to fund postgraduate studies because it gives employees scope to grow within the company and not look elsewhere. This will encourage employees to grow in their fields with the added stress of funding studies from their own pockets. The payback to the company is the skills that are retained within the organization together with the improved mindset and growth of its employees.”*

Participant 4’s postgraduate studies were declined by Alco NCP, so she does not personally feel like it is fair how the company selects who and what qualification is funded. She stated:

*“I believe that the organization does fund postgraduate studies, although my further studies were privately funded as my application was declined. My current postgraduate qualification is a Postgraduate Diploma in Project Management. I believe that an organisation that funds further studies promotes the development of employees. It increases knowledge in various aspects of work.”*

From the participants’ responses above, there is a unified sentiment that technical managers should be funded in their pursuit of postgraduate studies, but they do not agree that all postgraduate degrees should be funded.

In motivating for funding, the company [Alco NCP] only funds postgraduate degrees/qualifications that they believe are directly aligned with the technical vocation of the technical manager suggesting that financial viability is only realised in technical major

degrees/qualifications. A postgraduate qualification that is focused on general business management and administration is perceived as not worth company funding.

Participant 4 privately funded her postgraduate diploma in project management as her application for internal company funding was declined on the basis that it does not contribute directly to her technical role, even though she is in middle technical management. This suggests that non-technical skills required for the management role are not perceived to be a high priority in the functions of the manager at the middle-management level at Alco NCP. Company culture is limited to perceiving that there is no value in pursuing formal education to acquire skills that are not deemed to directly translate into production and profitability. Also, globally the pursuit of postgraduate business degrees lies largely on what a company perceives of the school that the employee has chosen to enrol in. A business school that is perceived to rank lower further demotivates the company from considering funding the employee's studies.

South Africa is still suffering from deep-rooted structural problems and low periods of low growth, as noted in the literature, as the propensity to empower people within company structures is low. Companies would rather pay a lot of money to hire an experienced technical manager from another company whom they perceive performs better than theirs rather than emboldening and empowering internal staff with formal education and business skills that carves them to become the type of managers apt for the business.

Through observation it was also found that as per the literature, there is a trend in which certain racial groups are mostly in management roles throughout Alco NCP. The company has a propensity to appoint mostly white South Africans in executive management, Indian South Africans in senior management and black South Africans in junior management. This is coherent with the greater South African diaspora culture but is not in line with transformation-based legislation and a merit-based management structure that stands to provide maximum benefit to the company.

#### **4.4. Necessity for a postgraduate business degree for technical managers**

A postgraduate business degree being a requirement for a management role is a bone of contention among the participants. Some feel that management skills are learnt through experience and some feel that they can be taught through a structured academic programme. The findings demonstrate that there is still mixed emotions, perception, and beliefs towards the impact of postgraduate business degrees on management roles.

Participant 4 feels that a competent manager is formed through on-the-job experience,

*“It should not be a requirement to have a postgraduate business degree when applying for a management role. I believe this can be acquired whilst in the role of management. An individual who displays good planning, execution and supervision should be considered for a managerial role. The analysis of a business enterprise can be developed whilst in the role and studying towards a business degree.”*

Participant 3 echoed that the management skills are developed in the role and what is important are the skills you display as a prospective manager. Participant 1 does not agree with this sentiment and strongly believes in the impact of postgraduate business degrees, he states:

*“A business degree opens up the viewpoint of applying technical skills to make money. Some of the technical people like engineers sometimes get lost in being pedantic about standards and lose the pragmatic approach required to balance with making profit. The business degree develops this mindset.”*

Participant 5 emphasises that it a postgraduate management degree should be a prerequisite to enter a management role. She states:

*“To have a good comprehensive understanding of the various aspects of business since departments with a company do not work in silos. All departments need to communicate with each other and often work together as they share the common goal for business profitability and success.”*

From the literature, it is evident that developing countries have been adopting Eurocentric and Western first world methods of improving managerial skills in the workplace. High net worth businesses in Brazil, who mostly adopt use a top-down approach to leadership and management, which is similar to that of South African organisations prefer sourcing a senior manager who has spent years in the first world acquiring a postgraduate degree in business and bringing them back to Brazil to lead in the organisation, rather than sourcing talent within their country. Brazil must outsource talent Brazilian-born talent from the first world because they have lagged in creating and building renowned business schools that are in Brazil.

Conversely, South Africa is privileged to have academia that is ranked highly in the global community, business schools such as the Gordon Institute of Business Science, Henley Business School, University of Cape Town Graduate School of Business, and Skema Business School are an option for current and future managers to pursue their postgraduate business studies as they are ranked in the Top 70 globally (Business Tech, 2023). There is still a perception that a person with a postgraduate business degree, particularly a Masters in Business Administration, is thus well suited for any position of management – to the extent that it can invoke insecurity to those in similar management roles who do not possess this qualification.

Participant 4 above does not perceive the qualification to be a prerequisite for effective performance in a management role but rather that if an individual displays good planning, execution, and supervision they should be considered for management but still enrolled into business school concurrently. A manager can already be performing at the necessary level required for a manager, but a postgraduate business degree can enhance the skills.

Participant 4 is adamant that a business degree opens the viewpoint of applying technical skills to make money. Often engineers who are scientifically trained lack the pragmatic approach that is required to balance making money and creating a technically strong product. The postgraduate business degree uses scientific methods to unlock a business mindset, which has a propensity to enhance management skills.

As a production or engineering manager at Alco NCP, the balance of technical, human, and profits remains a constant high priority – as soon as one outweighs the other disproportionately, it compromises the results and performance in the role. For example, if the business is making high profits in a particular season but employee retention is low due to a poor culture in a manager's department, that profit season does not last too long as unstable teams lead to talent who were influential into bringing the profits leaving the company and thus the company losing the talent that contributed to profitability.

#### **4.5. Soft skills are key in effective management and leadership and are learned through acquiring a postgraduate business qualification**

Alco NCP is a business that is highly profitable and seeks to have the right managers in various capacities of management. Participants unanimously echoed that a good manager is one who has the attributes of a leader, and these attributes are identified by being a manager who practices the soft skills of leadership in how they execute their role and responsibilities, but they differed in how these skills are acquired. Some of the soft skills identified are time management, listening skills, appreciating, encouraging teamwork, consistency, reliability, empathy, motivating, empowering and trustworthiness. The findings demonstrate the importance of some of these soft-skills and the participants' experience in how various managers' competence is amplified or compromised by soft-skills.

Participant 5 suggests that soft skills only play a partial role in the effectiveness of managers.

*“Yes, to a certain degree. Most of these qualities need to be developed at undergraduate years, applied, and developed on the job.”*

Participant 1 agrees that postgraduate business studies are the formal qualification where most soft skills are taught to current and prospective technical managers but the onus of building these skills lies on the individual.

*“The knowledge about most of these skills is covered under postgraduate business studies. Developing the skills depends on the individual putting the knowledge into practice.”*

Participant 3 echoes similar sentiments to other participants that postgraduate business qualifications partially contribute to the acquisition of soft skills of management and leadership.

*“Yes, to a certain degree the postgraduate business qualifications teach soft skills. Most of these qualities need to be developed from undergraduate years, applied, and developed on the job.”*

Participant 7 does not believe in the contribution of postgraduate qualifications towards a technical manager’s soft skills. The participant rather views this to be already acquired during undergraduate studies and work experience.

*“No, I do not think so. Qualifications give you hard skills and soft skills are attained from experience, contribution, interaction and being open to learn.”*

Alco NCP as a multinational organisation that operates in South Africa, also adopts the top-down or authoritarian leadership style, which is bureaucratic and paternalistic as per

Brazil and China. Although, the more robust access to information, a strong freedom entrenching constitution and influence of high global ranking academia has allowed for the principles of empathetic leadership to have space in traditionally led organisations and for the authoritative nature to be less harsh.

Soft skills are often interchangeably perceived also as people skills. These are the non-tangible skills that a manager can possess where a manager recognises and places importance on the humanness of their team. Good soft skills include good communication, disciplined work ethic, time management, trustworthiness, reliability, and patience, to name a few. The South African labour climate has many unique nuances that require a manager to lead with empathy and understanding – strong soft skills. Team members suffer from economic depression, mental health issues, family dysfunctions, burnout, lack of effective education, transport failures and discrimination based on race, gender, or sexuality. All these are not indicators of an employee's technical ability but if poorly managed by the employee themselves and their line manager, it certainly negatively affects how the employee executes their technical tasks.

Undergraduate technical qualification reduces soft-skills learning to just one 8 credits elective module during the duration of a 4-year degree, but a postgraduate business qualification weaves in soft-skills in almost every module. Business school understands that businesses are made by people and teaches business managers to know how to effectively manage all facets of people. A fully autonomous business does not exist; thus, it is critical to have strong interpersonal skills as a manager. Participant 1 echoes this sentiment.

Conversely, Participant 7's experience of qualifications is that qualifications give you hard skills and soft skills are attained from experience, contribution, interaction and being open to learn. It is to be noted that Participant 7 has not pursued any postgraduate business qualification, which emphasises the point that with undergraduate studies the strong technical ethos of the degree is to not give much attention to soft skills education.

Participant 3 acknowledges the value of postgraduate business qualifications in building soft skills but also relays that they must be together with on-the-job experience. The time spent on the job helps the manager develop the soft skills that are unique to the team that they lead.

#### **4.6. Projects execution skills are improved through possession of a postgraduate business qualification**

Alco NCP has a projects department that focuses specifically on facilitating every new project that the company implements. In collaboration with other management stakeholders, the projects division works on a project from ideation/inception stage right till commissioning. It is critical that at each of these stages, the projects' team employs apt methods for the scale and nuances that define the project. The project team needs to garner inputs from finance, production, maintenance, engineering, logistics and research departments. The participants are unanimous in their sentiment that technical management requires a strong level of competence in executing projects albeit they differ in how these project execution skills are acquired. The link between project execution skills and postgraduate business qualifications was discussed.

Participant 7 agrees that a postgraduate business qualification can improve overall project execution but emphasises that some project skills require technical competences, and this qualification lacks the technical education that is required.

*“I think it will be beneficial to the fact that it will bring awareness and emphasis on the business perspective. However, some decisions made instantaneously from a business perspective are not correct in terms of technical aspects.”*

Participant 4 emphasises that a postgraduate qualification is an important means to acquire project execution skills and becoming a good project manager.

*“Yes. There are definite strategies that can be learned which aids in both management and execution.”*

Participant 1 goes into details of why postgraduate business qualifications create a well-rounded project manager.

*“For a project manager it does help. Managing/leading people/teams effectively is one of the key success factors – and that is covered in Master of Business Administration studies. Understanding the multi-dimensions of the project like financial (for non-financial people) is important because financial skills are generally not well covered in technical undergraduate studies.*

*Global business management – helps in running projects in a multinational environment. Nowadays projects are affected by many factors outside of the country of execution – thus helping in procurement strategies. The MBA also has economics studies which provides skills for managing projects in the context of market and fiscal environments. Without this the project can collapse.*

*Knowledge of statistics and data handling is useful in making data-based decisions.”*

Project management refers to the application of methods, skills, processes, knowledge, and experience to achieve very specific objectives and results. An institution of any size requires project managers to execute projects at various levels. For an institution with a multinational footprint like Alco NCP; their ability to effectively navigate the stages of project management is critical to their continued successful operations. Capital projects generally bring growth to the organisations turnover or aim to improve the equipment and systems used to keep the business on a growth trajectory. Maintenance projects protect and

safeguard equipment from getting into a state where it would negatively affect production levels, cause harm to human personnel and destabilise overall profitability.

The company's recent maize conversion and capacity increase project is a prime example, Alco NCP spent R 1.2 billion capital to undertake a capital project that would significantly improve their production levels whilst taking into cognisance changing environmental needs. Capital projects sometimes require external funding through bank loans or loans from international finance houses. This means that those in project executive roles need to understand markets, the financial and technical jargon, accounting and essentially be able to sell the project to the funder. These niche skills are not known by chance but require intentionality from key project team members so that they understand them and are able to convey it to the funding institution.

Participant 1 explained in detail why a postgraduate business qualification creates a well-rounded and suitable project manager. The degree equips the project manager with global business management skills which include procurement, fiscal management, and market monitoring. The accounting and marketing skills taught and exercised in business school equip the project manager with skills required for big projects that involve stakeholders, equipment, professionals, and currencies from different parts of the world. Many can learn these skills on the job, but a structured approach assists in conveying the skills at a global level as the terminology, jargon and skills are in the same global pool of knowledge across all internally rated business schools. These are the same business schools where many finance managers, chief executives, technical directors, and marketing executives acquire their postgraduate business qualifications.

#### **4.7. Chapter Summary**

This chapter thematically presented the findings from the collected data. It discussed the position of Alco NCP technical managers towards the role that postgraduate business qualifications plays on their careers. This chapter expanded on the sociodemographic of the participants as means to understand the prejudices and competence of the participants

suitability to provide their perceptions on technical management and its relationship with postgraduate business studies. The key theme that ran throughout the responses from the participants was that postgraduate business qualifications do have a role in how a technical manager conducts the distinct aspects of their role, but there were varying degrees of importance. Furthermore, the participants discussed the soft skills of leadership that postgraduate business qualifications equip technical managers with, and generally agreed that the qualifications enhance the skills of the manager. The participants also discussed company culture towards postgraduate studies, and thus commended Alco NCP for funding these studies when they are deemed as beneficial towards one's career. Other external sources such as on-the-job learning, mentors and informal individual learning were identified as means that also contribute to good and skilful technical management.

## **CHAPTER FIVE**

### **5. CONCLUSION AND RECOMMENDATIONS**

#### **5.1. Introduction**

This chapter concludes and provides recommendations based on the findings and results of the themes and sub-themes that were discussed in the previous chapter. The findings shall also be discussed in the context of the research questions and objectives.

#### **5.2. Research Problem**

The core problem which this study seeks to address relates to understanding the role that postgraduate business qualifications play on the job performance of technical managers at the Alco NCP raw alcohol-producing factory in Durban. Throughout the study, it has been evident that at Alco NCP there are technical managers in the various departments who both possess and do not possess postgraduate business qualifications and that their job performance varies as a result of how they approach their duties. This has subsequent effects on the plant's ability to maximise productivity and maintain the desired turnover results.

#### **5.3. Purpose and Aim of Study**

The purpose of this study is to explore the role of post-graduate business qualifications on the performance of technical managers at Alco NCP. Data was gathered in accordance with the research objectives and to seek to answer the specific research questions.

#### **5.4. Recap of the Research Questions**

The research questions that are the basis of the study were:

- How effective are technical managers with postgraduate business qualifications at Alco NCP?

- To what extent does a technical manager with a postgraduate business qualification contribute to the Alco NCP's engineering research and development?
- What are the impediments faced by technical managers at Alco NCP in the process of acquiring postgraduate business qualifications?
- What are the management style and leadership characteristics of a technical manager with postgraduate business qualifications at Alco NCP?

In answering the first research question, the study revealed that the effectiveness of technical managers with postgraduate qualifications varies in accordance with how they choose to apply themselves to the extrinsic and intrinsic elements of their work. Using job satisfaction and interpersonal relationships with subordinates as an effectiveness metric shows that at Alco NCP there is an apathy towards the leaders who already possess postgraduate business qualifications. Subordinates felt unsupported and unheard as many of the issues they express are not usually met with favour. They feel that these managers constantly remind them that they are highly educated and fail to conduct themselves in a manner that understands the nuances of human interaction and common respect. This type of technical manager is taught theoretically on the soft skills required in performing the role of a technical manager effectively but has fallen short in executing the theoretical knowledge taught.

Conversely, using the extrinsic/technical factors relating to work to measure their effectiveness, they are excelling as the Alco NCP plant continually meets its own production goals. Furthermore, there are no significant problems with the engineering assets of the plant, thus asset management of the plant is on par with the plant's first world global counterparts. A core business principle of a privately owned multinational company is to maximise profits, thus the nuances of how this profit is achieved – as long as it is within the bounds of the law – are not a concern to the executives and shareholders of the company. There are rigid turnover-based expectations on technical managers.

In answering the second research question, the study revealed that the skills acquired during the period of study to get qualified in postgraduate business studies foster an attitude of continuous research and development. Postgraduate business studies at University business schools are very vigorous in their nature and simulate the workplace environment through practical assessments and research projects that directly relate to real technical environment scenarios. Research and development are at the centre of postgraduate business studies, hence there are written assignments and dissertations required to be qualified. Likewise in industry, systems and technology necessitate continuous learning and the knowledge of how to structure information and data into meaningful pieces that contribute to the growth of the company holistically (Demirkesen & Ozorhon, 2017).

Through observation during the capital project that occurred during the study period, it was evident to the researcher that technical managers with postgraduate business qualifications were systematic in their approach of breaking down an engineering problem in seeking a solution. Their approach to developing a solution was always balanced as it considered engineering, impact technical impact, economic impact, and finances.

In answering the third research question, the study revealed the organisational apathy towards empowering the employees with postgraduate business qualifications. From the study subjects, those who have acquired postgraduate business qualifications acquired them before they joined Alco NCP or they self-funded their own studies while in the employ of the company. Some participants shared with disgruntlement that their funding requests were declined and because they had realised the value in being qualified in postgraduate business studies, they painfully endeavoured to fund their own studies.

The industry culture, as demonstrated in the literature with global counterparts is the tendency to poach talent that is already qualified in postgraduate business studies and performing in another company rather than funding the studies of an existing employee to empower them into being a technical manager that stands to perform optimally (Binus University Business School, 2022). This shows that Alco NCP believes it needs technical managers who are formally qualified in business but it impedes the internal growth of

technical managers by not funding their postgraduate business studies (Baptista, 2021). Finances and lack of confidence are a major internal impediment to the acquisition of postgraduate business qualifications at Alco NCP.

In answering the fourth research question, the study revealed the varying management styles and leadership characteristics of technical managers with postgraduate business qualifications at Alco NCP. Participant 1 is a senior technical manager who has a Masters in Business Administration, thus his management characteristics are perpetually under scrutiny from technical managers lower than him. The technical managers who report to him perceive him as a being authoritative and difficult to deal with, but in the study, he strongly expresses that postgraduate business qualifications produce a well-rounded project and technical manager. He applied an authoritarian management style to subordinates who are not strong thinkers, so that critical organisational tasks are performed in a specific manner that is expected as there is very little room for mistakes in the construction and manufacturing industry. There are staff members who have a low work ethic and are not meticulous in how they execute their work, and the authoritarian style adds value in regulating them to produce work that is of the expected standards (Baquero, 2023).

In the literature review about organisational hierarchy in emerging markets, top-down leadership and management style are the most exercised in these economies as the countries do not have the financial cushion to be able to explore other softer management styles that focus more on human satisfaction as opposed to this authoritarian approach which ensures that critical organisational tasks are performed accurately all the time (Binus University Business School, 2022; Aithal, 2015).

The same senior technical manager also employs aspects of authentic leadership when he is addressing the more experienced staff members as they are more privy to producing good work and have their subordinates that they are managing. Leader trust is the core of this management style – hence the technical manager delegates tasks heavily to their subordinates as they believe in the quality of work they produce. Authentic leadership

focuses heavily on the job satisfaction, and psychological well-being of the employees (Baquero, 2023).

Alco NCP exists in a South African economy which is unique because it has elements of excessive poverty and inequality but it also has a strong middle to upper class – thus employing authentic leadership as a technical manager to the growing middle class is important as the middle class has better access to education and skills., meaning they can be trusted to an extent to perform well in their job. The group tasks and networking in South African business schools forms a platform for the exchange of knowledge between technical managers from different backgrounds, hence the better understanding of when to employ which management and leadership style.

Participant 5 is a middle manager with a postgraduate diploma in business administration. Throughout the study period, she emphasised that a postgraduate business qualification should be a prerequisite for a technical management role as the qualification capacitates the potential technical manager with comprehensive skills required for the various business units that make up Alco NCP. The financial, technical, strategic, and human skills all operate interchangeably in business and the postgraduate qualification strengthened the knowledge that she has in how to approach each of these business aspects as a technical manager. She also qualified her position by emphasising that although these skills are learnt through the qualifications, they can only be honed and mastered by practical on-the-job time spent. Through daily tasks and facing situations, her managements characteristics are refined.

## **5.5. Recommendations**

### **5.5.1. Funding of Postgraduate Studies**

Alco NCP should use their human resources/capital department to spearhead a policy document that incorporates access to funding for postgraduate business qualifications for employees who meet the following criteria; they already possess a minimum of NQF level 7 undergraduate technical qualification, they are already in a middle or senior role, they

have subordinates who report to them for particular work tasks and have spent a minimum of three years in the employ of Alco NCP without ever being called for a disciplinary hearing due to low performance and/or any other degenerative behaviours. The attached responsibility for the employer requesting the funding should be that they will enter into a payback agreement period which is equivalent to the study period – in terms of how much longer they stay at Alco NCP after they've received the postgraduate business qualification.

It must be made clear to the employee that they are also responsible for mentoring and transferring knowledge to their subordinates during the study period and after the studies are completed.

### **5.5.2. Internal Business and Leadership Course**

All leaders who join the organisation with postgraduate business qualifications or acquire them whilst in the employ of the company shall form part of what shall be the Alco NCP Business Academy. The business academy should run regular short courses that are relevant to the operations, financial, technical, human capital, and strategic dynamics of Alco NCP with the intention to capacitate all permanently employed staff members. The courses shall vary in intensity according to the job level of the staff members attending the courses, but at the core should be a holistic knowledge transfer of business principles that are necessary to keep Alco NCP a successful multinational business.

This also bridges the knowledge gap where lack of funding might be an issue to send all employees to study postgraduate business qualifications as the transfer of knowledge still remains effective within the organisation. Therefore, effective business and management skills are made to be a company culture.

### **5.5.3. Build Meaningful Interpersonal Relationships**

The literature shows that as Alco NCP is an organisation that operates within the structural reform challenges of South Africa, it is not immune to the effects of these challenges. Though legislation states that transformation should be effected within the organisation, implementation among technical managers and subordinates depends on their intentionality. The postgraduate business qualification emphasises that managers should be appointed on merit, their performance and character judgment should be based on the skills they implement instead of basing appointments on race and gender. Those with postgraduate business qualifications are trained to be more sensitive to navigating structural reform issues and thus should be intentional in implementing transformation policies at Alco NCP. They should also map out a plan that exceeds what legislation says and focus on rewarding team members with roles according to their merit and performance.

A culture of strong interpersonal relationships, where trust that surpasses gender, race, and tribal prejudices should be created within the organisation.

### **5.6. Further Research and Interventions**

The barriers linked to the effective performance of technical managers at Alco NCP, especially those with postgraduate business qualifications are largely due to deeper structural reform issues that affect other institutions in similar markets. During observations, issues related to racial tensions in the greater city of Durban where Alco NCP is based, also contribute to the performance metric of technical managers.

More research and strategic interventions should be employed in dismantling attitudes that certain races are more deserving to become managers at Alco NCP and subsequently, resources to equip them to become managers are unequally distributed. As there is a vacuum of policy within the organisation that clearly states a merit-based metric of equipping employees with postgraduate business qualifications and other business leadership skills, the status quo of unequally distributing these positions of management to certain racial groups continues unabated.

## **5.7. Chapter Summary**

The chapter concluded the whole study and the findings thereof. The research problem was further identified and discussed with the various findings related to it. The purpose and aim of the study was emphasised, as the role of postgraduate business qualifications on the role of technical managers at Alco NCP was explored throughout the study. A recap of the research questions was provided, and then conclusive answers were provided for each research question based off what was revealed by the study. Thereafter, recommendations were provided and areas where further research and interventions are required were discussed briefly.

## Appendix A

### Ethical Clearance



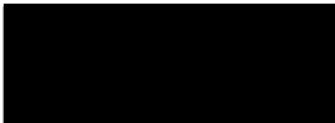
22 July 2022

Dear Lungelo

Your request for permission to conduct dissertation research using Alco NCP subjects is approved.

Student Name: *Lungelo Khayaletu Mdletshe*  
Student Number: *2103503285*  
Dissertation Topic: *The Role of Postgraduate Business Qualifications in the Performance of Technical Managers at Alco NCP*  
Supervisor: *Dr. B Yalezo*  
Campus: *University of Kwa Zulu-Natal, Graduate School of Business and Leadership, Westville*

Yours Sincerely



Stephen Kitching  
Operations Executive

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C-A Peers De Nieuwburgh \* (Chairman)  
PWB Starling (Managing Director)  
OJC van Rompaey \* BG Carels\* XZP-H van den Avenne\*  
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24 March 2023

Lungelo Khayaletu Mdletshe (213503285)  
Grad School of Bus & Leadership  
Westville Campus

Dear LK Mdletshe,

Protocol reference number: HSSREC/00004795/2022

Project title: The role of postgraduate business qualifications in the performance of technical managers at Alco NCP

Degree: Masters

### Approval Notification – Expedited Application

This letter serves to notify you that your application received on 16 November 2022 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 24 March 2024.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Yours sincerely,



Professor Dipane Hlalele (Chair)

/dd

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#### Humanities and Social Sciences Research Ethics Committee

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/3587 Email: [hssrec@ukzn.ac.za](mailto:hssrec@ukzn.ac.za) Website: <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

**INSPIRING GREATNESS**

## Appendix B

### Informed Consent Letter

#### Informed Consent Document

Dear Participant,

My name is Lungelo Khayaletu Mdletshe (213503285). I am a Masters candidate studying at the University of KwaZulu-Natal, Westville Campus. The title of my research is: ***The Role of Postgraduate Business Qualifications on the Performance of Technical Managers at Alco NCP***. The aim of the study is to explore the role of post graduate business qualifications on the performance of technical managers at Alco NCP, Springfield, Durban. I am interested in interviewing you so as to share your experiences and observations on the subject matter.

Please note that:

- The information that you provide will be used for scholarly research only.
- Your participation is entirely voluntary. You have a choice to participate, not to participate or stop participating in the research. You will not be penalized for taking such an action.
- Your views in this interview will be presented anonymously. Neither your name nor identity will be disclosed in any form in the study.
- The interview will take about 20 minutes.
- The record as well as other items associated with the interview will be held in a password-protected file accessible only to myself and my supervisors. After a period of 5 years, in line with the rules of the university, it will be disposed by shredding and burning.
- If you agree to participate please sign the declaration attached to this statement (a separate sheet will be provided for signatures)

I can be contacted at: Graduate School of Business and Leadership, University of KwaZulu-Natal, Westville Campus, Durban.

Email: [213503285@stu.ukzn.ac.za](mailto:213503285@stu.ukzn.ac.za);

Cell 

My supervisor is Dr Bhaso Yalezo who is located at Graduate School of Business and Leadership, University of KwaZulu-Natal, Westville Campus, Durban.

Contact details:

Email [yalezob@ukzn.ac.za](mailto:yalezob@ukzn.ac.za)

Phone number: 031 260 7429

Independent person and Contact Details: Nokukhanya Mthethwa, [mthethwan4@ukzn.ac.za](mailto:mthethwan4@ukzn.ac.za), 031 260 1383

Thank you for your contribution to this research.

DECLARATION

I..... *(full names of participant)* hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire. I understand the intention of the research. I hereby agree to participate.

I consent / do not consent to have this interview recorded (if applicable)

SIGNATURE OF PARTICIPANT

DATE

.....

# Appendix C

## Interview Questions Template



### GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

#### THE ROLE OF POSTGRADUATE BUSINESS QUALIFICATIONS ON THE PERFORMANCE OF TECHNICAL MANAGERS AT ALCO NCP

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### APPENDIX A

#### Section A: Demographics

1. Are you an employee that leads a technical team ALCO NCP?

Yes	
No	

(If the answer is NO, please DO NOT complete this survey)

2. Gender

Male	
Female	

3. Age

18 – 25	26 – 33	34 – 41	Above 41

4. Race

African (Black)	White	Indian	Coloured	Other (Please Specify)

**Section B: Interview Questions**

**DQ1, 3: What is the first undergraduate degree that you received?**


**DQ4: What is your current position/job title?**


**DQ1: What is current your highest degree?**


**DQ3: Does Alco NCP fund postgraduate studies of its employees and do you think it is good to for a company to fund postgraduate studies?**


**DQ1, 2 : When applying for a management role, do you think it should be a requirement to have a postgraduate business degree? Why?**


**DQ3: Does Alco NCP company culture encourage postgraduate studies among its employees?**


**DQ4: The following are soft-skills of management: Time management, Listening Skills, Appreciating and Encouraging Team Work, Consistency and Reliability, Empathy, Motivating and Empowering, Trustworthiness, do you think these are qualities that can be learnt through acquiring a postgraduate business qualification as a manager?**


**DQ2: Do you think a postgraduate business qualification can improve overall project execution/management for technical managers and why?**


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