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An assessment of employee perception on the procurement process of a Southern African sugar company

By

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Declaration

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Dedication

I wish to express my sincere appreciation and gratitude to the following individuals, without whose assistance, this study would not have been possible:

- I would like to thank my loving wife, Sherika Gopal, and son, Kailash Gopal, for their support and understanding.

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Abstract

In today's business landscape, competition is fierce, and procurement is a critical component of any organisation's success. Efficient and cost-effective procurement of goods and services, along with streamlined procurement processes, are crucial in helping businesses gain a competitive edge. However, the success of any procurement process depends not only on its technical aspects but also on how the people involved perceive and experience the process. Therefore, to gain valuable insights into the procurement practices of a Southern African sugar company, this study aims to explore the perceptions of its employees regarding its procurement process. To achieve the aim the researcher conducted a comprehensive literature review and used a mixed-methods research approach. This approach was deemed most suitable for the study. Considering the research design an online survey consisting of both open-ended and closed-ended questions was designed and disseminated to participants recruited for the study. To ensure that the study covered all aspects of the procurement process, the survey tested the perceptions of four departments, namely agricultural, engineering, operational support, and procurement. Each department was divided into three groups of employees, including line managers, middle managers, and senior managers. Participants were from three geographical locations, namely local, foreign, and the head office. Furthermore, participant data was evaluated according to years of work experience, specifically up to five years, five to ten years, ten to fifteen years, and greater than fifteen years.

The online survey was designed using the principles of a mixed-method research approach. The survey questions were categorised according to the following themes: planning, supplier selection, specific management and contract management. The close-ended questions used a 5-point Likert scale, analysed quantitatively and used Factor Analysis. The open-ended questions were designed and analysed using NVivo version 14.

The study recommends regular feedback and updates to bridge communication gaps, tailored training programmes to enhance planning skills, evaluating, and enhancing procurement systems, addressing skills gaps, enhancing awareness of procurement function, better communication between departments, and regular performance evaluations.

Key Words: Planning, Specification management, Supplier selection, Contract Management

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Chapter 1

1.1 Introduction

Presently in the increasingly competitive business landscape, procurement plays a crucial role in the overall success of a company (Andrea, 2023). Efficient and cost-effective procurement of goods and services, along with streamlined procurement processes, are essential in facilitating a business's competitive advantage (Peter, et al., 2014). However, the success of any procurement process relies not only on its technical aspects but also on how the people involved perceive and experience the process. According to Hong et al. (2018), procurement refers to a set of coordinated processes that involve obtaining resources, including materials, skills, capabilities, and facilities that are necessary for carrying out core business functions. However, the supply chain is not free from risks, as defined by Chambers and Quiggin (2000), as the potential for changes associated with disruptions in supplies may lead to unfulfilled demand and pose threats during production. Therefore, Qi (2007) and Soundrapandian (2008) argue that when making sourcing decisions, it is crucial for a customer or industry to consider a variety of sourcing risks, such as climate change, natural disasters, and political and socio-economic factors. Although these risks may not always be predictable or frequent, they can significantly impact a business. As a result, efficient sourcing practices that enable dealing with both external and internal disturbances become increasingly important (Monostori, 2018). Additionally, managing an organisation's purchasing risk is crucial for its sustainability (Naude & Naude, 2022) .

Through an examination of specific aspects mentioned above, this research aims to provide valuable insights into the current procurement practices of a Southern African sugar company as perceived by its employees. The outcomes of this research will not only benefit the company under investigation but also contribute to the existing body of knowledge on procurement processes in the sugar industry, particularly in Southern Africa. The findings could provide valuable insights into the development of strategic plans, the creation of policies, and the execution of effective procurement procedures in the sugar industry across the region.

1.2 Problem statement and study context

The purpose of this research is to help a Southern African sugar company improve its operations by identifying areas for enhancement, increasing employee satisfaction, and optimising its procurement process for greater efficiency, transparency, and effectiveness. The

study aims to comprehensively understand employee perceptions regarding the procurement process within a sugar manufacturing company. Investigating employee perceptions of the procurement process will enable the development of more effective and employee-centric procurement strategies by the procurement team, as the employees who participated in the study are the customers of the procurement department. The viewpoints of those involved in the procurement process will be considered to achieve this objective. Specifically, effective procurement processes are essential for the success and sustainability of organisations since they ensure the timely acquisition of goods and services while maintaining cost-efficiency and quality standards (Kakwezi & Nyeko, 2010). In the context of this research site namely a Southern African sugar company, where specific industry requirements and regional challenges prevail, understanding employee perceptions of the procurement process is vital. Thus, this study assesses employee perceptions of the procurement process in Southern African sugar company, focusing specifically on four key areas: planning, supplier selection, specification management, and contract management.

Planning is the first stage of procurement. Thus, it involves identifying the needs of an organisation, allocating budgets and formulating strategies to achieve procurement objectives. The success of this process depends on the end users' ability to plan their requirements efficiently and promptly. Therefore Basheka (2008) maintains that when the procurement process is planned effectively, it minimises potential disruptions in the supply chain.

Supplier selection which is another critical aspect of the procurement process that directly impacts the quality of services and goods procured and the overall performance of the factory is the second key factor that will be unpacked with respect to employee perceptions of the procurement process. Choosing the right suppliers requires a rigorous evaluation and decision-making process to identify vendors or partners who can meet the company's needs effectively. Some criteria may include factors such as quality standards, pricing, delivery capabilities, and the supplier's overall reliability (Kannan & Tan, 2006).

Another critical aspect in the procurement process is specification management which ensures that procured goods or services meet the desired quality standards (Kakwezi & Nyeko, 2010). To avoid misunderstandings, potential conflicts and/or ambiguities there should be clear and comprehensive specifications or requirements. For effective specification management collaboration between end users, procurement teams, and suppliers it is necessary to establish

mutually agreed-upon specifications which in turn will ensure alignment with the organisational needs of the business (Kakwezi & Nyeko, 2010).

The final area of focus in this study is contract management, specifically related to the interaction between the contract owner and the chosen supplier. Both parties should have open and honest discussions about any concerns and establish Key Performance Indicators (KPIs) to hold the supplier accountable (Zhao, Pan, & Song, 2018). The contract owner must also communicate information about the supplier's performance to end-users or employees, gather feedback, and ensure that the supplier's obligations are met.

The purpose of this research is to help a Southern African sugar company improve its operations by identifying areas for enhancement, increasing employee satisfaction, and optimising its procurement process for greater efficiency, transparency, and effectiveness.

Examining the procurement process in the sugar industry is critical due to its substantial impact on cost management, quality control, supply chain reliability, and regulatory compliance. Effective procurement strategies enable significant cost reductions through strategic sourcing and favourable supplier negotiations, which are crucial for financial stability and competitive positioning. Ensuring that acquired goods and services meet stringent quality standards is vital for maintaining consistent product quality, which safeguards the company's reputation (Zolghadri, et al., 2011).

Understanding employees' perceptions within the procurement process offers valuable insights for pinpointing inefficiencies and fostering process improvements. Employee engagement in these processes increases motivation, productivity, and a sense of ownership, leading to better performance and smoother implementation of changes. Aligning procurement practices with company goals and culture ensures coherence and strategic alignment, facilitating adaptability to market changes (Peter, et al., 2014). Overall, a thorough analysis and improvement of the procurement process, supported by employee feedback, enhances system reliability and competitiveness, ensuring the company's long-term success in the market by reducing the cost directly impacting the profit of the company.

1.3 Research Questions

The research questions addressed in the present study are;

1. What are employee perceptions on planning the procurement process within a Southern African sugar company?
2. What are employee perceptions on supplier selection in the procurement process within a Southern African sugar company?
3. What are employee perceptions of specification management on the procurement process within a Southern African sugar company?
4. What are employee perceptions of contract management in the procurement process within a Southern African sugar company?

1.4 Research Objectives

The overall objectives of this study are as follows:

1. To assess employee perception on planning the procurement process within a Southern African sugar company.
2. To assess employee perception of supplier selection in the procurement process within a Southern African sugar company.
3. To assess employee perception of specification management on the procurement process within a Southern African sugar company.
4. To assess employee perception of contract management in the procurement process within a Southern African sugar company.

1.5 Research Methodology

The study aimed to comprehensively understand employee perceptions regarding the procurement process within a sugar manufacturing company. The researcher conducted a mixed-methods approach combining qualitative and quantitative data collection techniques to achieve this via an online questionnaire with close-ended questions and open-ended questions.

The potential target population was 4000 employees (all permanent staff), out of which a purposive sampling technique was used to recruit 97 participants from the Factory,

Procurement, and Agriculture teams who placed orders of over R 1 million over the last two years (the sugar company had permitted the participation of only 97 employees to avoid disruption to business continuity. Therefore, the sample size was 97 participants). These teams were selected as they play a direct role in procurement activities and have valuable insights into the processes, thus understanding their perceptions will allow for the procurement policy to be updated if found to impact the company negatively.

An online survey was designed and disseminated to the participants over four weeks using Google Forms. The study aimed to capture information on current practices, challenges, and perceived impacts on the procurement process of goods and services. The survey included open-ended and closed-ended questions focused on planning, supplier selection, specification management, and contract management.

Before participation, informed consent was obtained from the participants, and special permission was obtained from the Group Managing Director. Additionally, an online system test was conducted to mitigate delays.

The study achieved a more nuanced understanding of employee perceptions towards the procurement process within the sugar manufacturing company by conducting a comprehensive literature review and using a mixed-methods research approach.

The open-ended data analysis was analysed thematically using NVivo version 14 software, while the closed-ended Likert scale questions were analysed using the software programme Stata Version 18. In analysing the quantitative data, a correlation pattern matrix was created using factor analysis to identify statistically significant correlations and uniqueness. Factors related to each objective were then discussed under their respective headers. The researcher also used the Cronbach Alpha values and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy to assess the overall measure of sampling adequacy for each of the four objectives presented below.

To ensure ethical adherence to the study an ethics application was made to the University of KwaZulu Natal research office. The protocol was submitted to and approved by the University of KwaZulu-Natal Ethics Committee (HSSREC 00005800/2023) (See Appendix 3).

1.6 Overview of chapters

The dissertation will consist of six chapters. The first chapter will introduce the study, followed by a discussion of the problem statement and study context, as well as the research questions and objectives. Lastly, it will cover the research methodology, including the ethical approval process.

Chapter two critically reviews the literature on procurement planning, supplier selection, specification management, and contract management.

Chapter Three of this study focuses on the research methodology employed in this research. The chapter begins with an introduction and outlines the study objectives. It then discusses the research design, including the case study approach, research methods, research paradigm, target population, and sampling strategy. The chapter also covers the research process, including data collection, data analysis, validity and reliability, ethical clearance, and informed consent. The study's limitations are presented, followed by a conclusion for the chapter.

Chapter Four focuses on the quantitative data of the study. It starts with an introduction and then describes how Factor Analysis is related to procurement planning, supplier selection, contract management, specification management, and the findings on certain aspects. The chapter then focuses on a discussion of employee perceptions regarding planning, supplier selection and contract management. Lastly, it concludes by summarising the main debates highlighted in the chapter.

Chapter Five is dedicated to the qualitative data. The primary goal of this chapter is to present the main themes and sub-themes that were identified during the analysis of the data. The data will be presented in direct quotes, following the qualitative data approach. This data was generated from the open-ended survey questions.

Chapter six presents the conclusion and recommendations of the study, focusing on the literature review and the data generated. The chapter provides a detailed discussion of how each of the four objectives of the study was achieved and recommendations based on the findings. The limitations, as well as the areas for future research, are discussed before concluding the study.

1.7 Conclusion

The aim of the first chapter was to introduce the study's research objectives. The chapter included discussions on the problem statement and study context to achieve this, followed by the research questions and objectives. It also covered the research methodology, including the ethical approval process. The chapter concludes with an overview of each of the upcoming chapters in the study.

The next chapter will present a critical discussion of the literature review chapter.

Chapter 2 Literature Review

2.1 Introduction

Procurement as an essential process in a business environment involves a multitude of activities, from supplier selection to contract management (Zhao, Pan, & Song, 2018, Kannan & Tan, 2006). Thus, it is crucial to understand how employees perceive this process, as it provides valuable insights into its effectiveness, challenges, and opportunities for improvement (Kakwezi & Nyeko, 2010) .

In a study by Jones, et al., (2018), they found that employee satisfaction and perceptions of fairness and transparency in procurement processes positively influenced overall job satisfaction and commitment to the organisation. Employees who perceive the procurement process as fair and transparent are more likely to trust the process, leading to increased motivation, productivity, and organisational loyalty. Lysons, (2000) points out that the primary purpose of the procurement function is to manage the process used to purchase goods and services by the organisation.

Therefore, this literature review explores relevant studies that examined employee perceptions in the context of procurement processes, specifically within the Southern African sugar industry, with a focus on planning, supplier selection, specification management, and contract management. This chapter is organised in the following manner: it commences with the planning of procurement requirements, then delves into the selection of suppliers, examines contract management, and concludes with an exploration of specification management.

2.2 Planning of Procurement Requirements

Undoubtedly the end-users planning of their requirements plays a vital role in the procurement process, ensuring that the procured goods or services meet their specific needs (Rivera, Baguec, & Yeom, 2020). Therefore, according to Rahman, et al. (2017) and Munyimi (2019), the significance of accurate and clear requirement specifications provided by end-users cannot be over-emphasised to help minimise misunderstandings maintained by Rungtusanatham, Salvador, Forza, & Choi (2003) and to ensure that the procured items meet the desired standards. Vincent & Hsuan-Chih (2022 add that accurate specifications also enable the procurement team to select appropriate suppliers and negotiate better pricing.

According to Giuseppe, et al. (2019), effective communication between end-users and the procurement team too is crucial for successful requirement planning. He further maintains that

studies have highlighted challenges such as misalignment of expectations, lack of clarity, and insufficient information sharing that have impacted the procurement process (Giuseppe, Daniela, Mara, & Jari, 2019). Therefore, to address these challenges establishing clear communication channels and fostering collaboration between end users and the procurement team is crucial (Adinyira, Agyekum, Manu, Mahamadu, & Olomolaiye, 2021).

Nonetheless over time the end-users' requirements may change due to factors such as evolving business needs, technological advancements, or market dynamics. Research by Wynstra, et al. (2018) emphasise the importance of flexibility and agility in the procurement process to accommodate evolving end-user requirements. Thus, procurement teams should be adaptable and responsive to these changes.

Against the preceding argument it might be considered crucial for the early involvement of end-users in the procurement process for effective requirement planning since collaborating with end-users during the planning phase allows for a better understanding of their needs and expectations (Monczka, Handfield, Giunipero, & Patterson, 2019). This early involvement also facilitates proactive problem-solving, reduces reworking, and enhances overall procurement efficiency (Fabry & Higgs, 1997).

Accordingly, it is critical for end-users to provide clear and comprehensive documentation of their requirements such as technical specifications, performance criteria, quality standards, and any specific features or customisation (Prajogo, Oke, & Olhager, 2016). Clear and precise documentation serves as a point of reference for the procurement team, ensuring the procurement process aligns with the end-users' needs and minimising ambiguities (Vincent & Hsuan-Chih, 2022). Additionally, for continuous improvement in requirement planning regular reviews and feedback sessions help end users to identify gaps or areas for enhancement, so that the procurement team may address these issues and the end users can refine the planning process (Croom, Romano, & Giannakis, 2000). These feedback sessions serve as an effective form of strengthening the collaboration between end-users and the procurement team (Monostori, 2018).

Another crucial dimension is training and empowering end-users on the procurement process. This, coupled with effective requirement planning can contribute to improved outcomes. Morrison, Ross, & Corcoran (2015) report that education initiatives enhance end user's understanding of their role in the procurement process and their ability to provide accurate and actionable requirements.

Thus, Giuseppe, Daniela, Mara, & Jari (2019) point out that effective procurement planning ensures clear objectives, stakeholder engagement, and alignment with organisational goals. Monostori (2018) adds that employee perceptions of the planning process influence overall satisfaction and procurement outcomes. Studies have shown that involving employees in the planning phase improves their engagement thus leading to better decision-making and goal attainment (Shefer, Carmeli, & Meitar, 2018). Additionally, allocating sufficient resources, including time, budget, and expertise, is critical for successful procurement planning (Cousins, Lawson, Petersen, & Handfield, 2019). Shefer, Carmeli, & Meitar (2018) maintain that an employee's perception of resource availability and adequacy significantly affects their overall satisfaction.

2.3 Supplier Selection

Yu, et al. (2019) explain that choosing the wrong supplier can adversely affect procurement results and organisational performance. Therefore, to minimise the risks associated with supplier misuse employees must have an awareness of the supplier selection and evaluation process. Suppliers might be over-used due to their relationship with the employee rather than the product being sought or service provided. This can include unethical behaviour such as kickbacks or other added benefits to the employee. Thus Kaviani, et al. (2019) argues that supplier selection as a crucial process in procurement identifies and chooses the most suitable suppliers to meet an organisation's needs (Kaviani, Karbassi Yazdi, Ocampo, & Kusi-Sarpong, 2019). When selecting potential suppliers, criteria such as quality, price, reliability, capacity, financial stability, and alignment with the organisation's goals are evaluated (Vincent & Hsuan-Chih, 2022). Research shows that involving employees in supplier selection decisions increases their sense of ownership and responsibility (Akhavan, Elahi, & Jafari, 2014). Akhavan, Elahi, & Jafari (2014) add that employee feedback and insights contribute to stronger criteria for supplier selection, including factors such as quality, reliability, cost, and sustainability. In addition, Pienaar (2013) avers that understanding employee perceptions of the supplier selection process is key to improving supplier management practices. Similarly, supplier selection too plays a critical role in the quality of goods and services procured, directly impacting organisational performance (Bwana & Muturi, 2018).

Khedhaouria & Gurau (2018) found that employee involvement in supplier selection positively influenced their perceptions of supplier performance and subsequent job satisfaction. When employees have a voice in supplier selection, they feel more invested in the process and have

power, a sense of control and influence (Pienaar, 2013). Furthermore, studies emphasise the importance of clear evaluation criteria, such as quality standards, pricing, and delivery capabilities, in selecting the most suitable suppliers (Bwana & Muturi, 2018). In order to ensure fairness, consistency, and the identification of suppliers who can meet the organisation's specific requirements, it is important to establish a structured and transparent supplier evaluation process based on objective criteria (Podmoskovnov, 2018).

Numerous studies (Podmoskovnov, 2018; Zolghadri, et al. 2011) have highlighted the importance of selecting suppliers based on specific criteria. These authors further maintain that quality and reliability are often cited as key factors, with organisations prioritising suppliers who consistently deliver high-quality products or services and demonstrate reliability in meeting delivery schedules and specifications. Likewise, Choi & Hartley (2019) emphasised the need for robust quality management systems and performance monitoring to ensure supplier compliance with quality requirements.

Notably the Total Cost of Ownership (TCO) approach has gained prominence in supplier selection literature (Lenny Koh & Simpson, 2011). This approach considers not only the supplier's price but also various cost components throughout the procurement lifecycle, such as transportation costs, inventory carrying costs, and maintenance costs. By considering the TCO, organisations can make more informed decisions and select suppliers that offer the best value proposition in terms of cost-effectiveness and long-term benefits. One of the key benefits of TCO analysis is the ability to provide a more accurate cost assessment. By considering all direct and indirect costs associated with an asset, organisations can avoid the common pitfall of focusing only on the initial purchase price. TCO safeguards hidden or long-term costs, leading to more accurate financial assessments (Vaidya, Khjola, & Kumar, 2013). Furthermore, TCO permits organisations to make informed decisions when comparing different investment options. TCO analysis often reveals cost reduction opportunities. Hence by identifying areas where costs can be optimised, organisations can take steps to reduce costs. This could involve improving procurement practices, investing in more efficient maintenance, or choosing more sustainable assets, which will deliver significant savings (Lenny Koh & Simpson, 2011).

TCO reduces risk by identifying in advance potential risks associated with investments. These risks include not only the possibility of higher-than-expected costs, but also risks related to asset downtime, product obsolescence, and other factors that could impact operations and financial performance (Kerzner, 2014). TCO analysis also encourages organisations to better

manage their assets throughout their lifecycle. This drives investment in preventative maintenance, replacement planning and efficiency improvements. This proactive approach to asset management helps extend asset life and reduce operational disruptions (Van Wee, Geurs, & Chorus, 2013). Additionally, TCO enables a more strategic approach to asset management. By considering costs and long-term impact, organisations can align their investments with broader strategic goals. This strategic direction promotes sustainability and the achievement of long-term goals (Srivastava, Jain, & Rao, 2016). TCO serves the interest of Organisations when it is used to evaluate suppliers and contracts. TCO analysis allows organisations to consider not only the initial purchase costs but also the long-term costs associated with a supplier's product or service. This assessment helps select the most reliable and cost-effective suppliers (Yu, Li, Wang, & Li, 2018). TCO gives confidence to organisations to prioritise asset quality and reliability. While high-quality assets may have higher upfront costs, they typically result in lower long-term costs and less disruption to operations. TCO analysis protects asset quality by ensuring that it is not sacrificed for short-term cost savings (Chan, Chan, & Chan, 2017) .

Similarly, supplier evaluation and performance measurement play a crucial role in supplier selection processes (Ghodsypour & O'Brien, 1998). Organisations often employ evaluation methods such as supplier scorecards, performance metrics, and Key Performance Indicators (KPIs) to assess suppliers objectively (Podmoskovnov, 2018). These measurements in turn help organisations identify the strengths and weaknesses of potential suppliers, enabling them to make informed decisions. Şen, Başligil, Şen C, & BaraÇli (2008) highlighted the importance of employing a comprehensive supplier evaluation framework inclusive of qualitative and quantitative factors.

Building strong and collaborative relationships with suppliers is essential for long-term success and is closely linked to supplier selection. Furthermore, Daniela, Sanna, & Jukka (2014) emphasise the importance of effective communication, trust, and shared goals in supplier partnerships. Mandal & Deshmukh (1994) emphasise the role of supplier relationship management practices, such as information sharing, joint problem-solving, and mutual benefits, to enhance supplier performance and overall procurement outcomes.

Risk management is a critical aspect of supplier selection to ensure operational continuity, quality assurance, financial stability, legal compliance, reputation management, and strategic alignment. Where organisations fail to assess and mitigate risks associated with potential suppliers it could disrupt the supply chain (Gunasekaran & Ngai, 2007). Likewise, Phusavat,

et al. (2015) highlight the need for risk identification, evaluation, and mitigation strategies in the supplier selection process. Turban, et al. (2007) point out the importance of considering various risk factors, such as financial risks, operational risks, and supply chain risks, when evaluating potential suppliers.

Increasingly a focus on supplier diversity and sustainability in supplier selection literature (Adobor & McMullen, 2007; Teague & Hannon, 2005; Rogerson, 2012) suggests organisations are recognising the importance of promoting diversity in their supply chains, including minority-owned or women-owned businesses (Caminiti, 2006 ; Juggernath, et al., 2011). The significance of sustainable procurement practices has been on the rise. This includes the process of choosing suppliers who endorse environmentally friendly practices and exhibit social responsibility initiatives. It is noteworthy to consider such practices as it could benefit organisation in terms of moral, financial, and environmental aspects (Tinglong Dai & Tang, 2022). Carter and Rogers (2008) emphasised the benefits of supplier diversity and sustainability in terms of innovation, social impact, and long-term business viability.

2.4 Specification management

Notably specification management that involves defining and managing the specifications and requirements for goods or services is an equally crucial aspect of the procurement process (Munyimi, 2019). Organisations can maintain their quality standards, operational needs, and strategic objectives by ensuring that the items they procure align with the correct specifications which are professionally and ethically managed (Pienaar, 2013).

Clear and precise specifications are essential to successful procurement, as they ensure that the purchased goods or services meet the organisation's requirements (Pienaar, 2013). The effectiveness of the procurement process can be influenced by the employee's perception regarding the precision and accessibility of specifications. Therefore, it is essential to ensure that the specifications provided are accurate and easily available to enhance the efficiency of the procurement process (Giuseppe, Daniela, Mara, & Jari, 2019). Studies have shown that unclear or incomplete specifications lead to difficulties and delays in procurement (Wynstra, et al., 2018). Employees' understanding of specifications, as well as their ability to provide feedback and clarify any inaccuracies, is critical to mitigating against supply-related risks (Ibrahim, et al., 2023). Hence, Pienaar (2013) contends that addressing employee perceptions of specifications improves communication, reduces errors, and improves overall sourcing efficiency. Effective specification management is critical to ensure that procured goods and

services meet organisational requirements (Govil & Proth, 2002). However, collaboration between procurement teams, end users, and suppliers in establishing comprehensive and clear specifications is just as important is essential for establishing clear and comprehensive specifications. This collaborative approach ensures that end user needs are understood, feasibility and innovation are considered, ambiguity is minimised, costs are aligned, and timely delivery and quality assurance are prioritised (Wynstra, et al., 2018). Reinartz and Krafft (2020) suggest that involving end users in specification development improves their understanding of their needs and facilitates better alignment with supplier capabilities. This collaborative approach helps to avoid misunderstandings and ambiguity in specifications, which can lead to inefficiencies, reworking, and delays in the procurement process (Wynstra, Rooks, & Snijders, 2018). Thus, clear specifications minimise the risk of receiving goods or services that do not meet expectations and increase the likelihood of successful supplier performance (Giuseppe, Daniela, Mara, & Jari, 2019).

Clear specifications help suppliers understand the organisation's expectations and facilitate effective communication. In their study, Handfield, et al., (2002) highlight the significance of well-defined specifications in reducing the risk of misunderstandings and ensuring the delivery of desired goods or services.

However, for effective specification management there must be collaboration among various stakeholders, including procurement professionals, end-users, engineers, and quality assurance teams. Research by Kraljic (1983) emphasises the importance of cross-functional collaboration in specification development to gather diverse perspectives, align with operational needs, and identify any unique requirements or constraints.

Moreover, specification management encompasses continuous improvement and adaptability. Therefore, specifications may need periodic review and refinement to accommodate transforming business needs, advancements in technology, or evolving industry standards. Thus Srinivasan et al. (2014) highlight the importance of adapting specifications to market trends and technological advancements to ensure competitiveness and innovation.

Efficient specification management also requires maintaining a structured and centralised repository of specifications to streamline the procurement process and ensure consistency. Similarly, Reed & Harris (2023) aver that standardisation of specifications facilitates comparability across suppliers and simplifies the evaluation process.

Specification management should include quality assurance and conformance verification mechanisms. Organisations may implement quality control procedures, inspections, or testing protocols to ensure purchased goods or services meet specified requirements. Compliance with industry regulations, safety standards and legal obligations should also be considered (Van Weele, 2017). Quality assurance and compliance assurance minimise risk and increase the reliability of the items ordered.

Collaboration with suppliers is essential when managing specifications. Involving suppliers early in the process helps to validate feasibility of specifications, gather supplier information, and optimise design and performance. Working with suppliers improves communication, minimises misunderstandings, and fosters partnerships that result in the delivery of quality goods or services (Daniela, et al., 2014).

Advances in technology have led to the development of various tools and software solutions to facilitate specification management. These tools facilitate document management, version control, collaboration, and specification tracking.

2.5 Contract management

Employee perceptions of contract management practices influence their satisfaction and successful performance of supply contracts. Contract management includes activities such as contract negotiation, implementation, and monitoring. Research shows that clear and comprehensive contracts are essential for managing supplier relationships, ensuring compliance, and minimising disputes (Andrea & Ana-Maria, 2023). Employee satisfaction with the contract management process is closely related to their perception of contract clarity, completeness, and fairness (Ahmed & Omwenga, 2023). To ensure smooth procurement outcomes, it is essential to gain a deep understanding of the employee perspectives on contract management especially since contract management is a crucial aspect of the procurement process, encompassing several critical aspects such as supplier engagement, problem-solving, and performance tracking. Studies have highlighted the importance of fostering an open and honest dialogue between the policyholder, who is usually a member of the procurement team, and the supplier to address concerns and maintain healthy relationships.

Likewise clear and effective communication channels and regular interaction between policyholders and suppliers play an integral role in promoting transparency and trust. By encouraging open communication, potential issues can be identified and resolved in a timely

manner, leading to better procurement outcomes. Additionally, regular interaction between policyholders and suppliers helps build strong working relationships, which can lead to mutual benefits and long-term collaborations.

Understanding employee perspectives on contract management is crucial for identifying areas of improvement and enhancing procurement outcomes. Effective communication and regular interaction between policyholders and suppliers are key elements that promote transparency, trust, and successful procurement outcomes (Daniela, et al., 2014). Boon-itt & Wong (2011) emphasise the importance of identifying KPIs to measure supplier performance and hold them accountable for meeting contractual obligations. Clear and measurable KPIs allow contract owners to objectively evaluate supplier performance and quickly resolve any discrepancies or issues. In addition, engaging end users in evaluating supplier performance and providing feedback improves transparency and accountability in the contract management process (Mwendwa & Ochiri, 2019). Regular discussion with end users about supplier performance provide valuable insight and enable continuous improvement and alignment with organisational goals.

Contract management plays an important role in the procurement process by ensuring effective management of contracts and supplier relationships. It includes a variety of activities, including contract development, supplier relationship management, performance tracking, problem solving, and contract renewal or termination (Changalima, et al., 2023).

Akamp and Muller (2013) recognises contract management as an important aspect of procurement that contributes to the overall success of the procurement process. Studies have highlighted the importance of effective contract management to maximise the value derived from supplier relationships. Changalima, et al. (2023) show that effective contract management practices will help improve supplier performance, reduce costs, and improve the quality of goods or services. Furthermore, they maintain that effective contract management helps organisations maintain control over procurement activities, reduce risk, and ensure contract obligations are met.

Research has highlighted the importance of building and maintaining strong relationships with suppliers to achieve successful procurement outcomes. Daniela, et al. (2014) emphasise the need for open communication, cooperation and trust between purchasing teams and suppliers. Effective supplier relationship management promotes transparency, facilitates problem-

solving, and promotes alignment of goals and objectives between the organisation and its suppliers (Baily, et al., 2022).

Performance monitoring is an essential part of contract management in procurement. Organisations need to evaluate supplier performance and ensure compliance with contract terms and Service Level Agreements (SLAs) (Chin, et al., 2006). Studies have focused on using KPIs to measure supplier performance and assess their ability to meet predefined parameters. Dixit (2022) emphasises the importance of establishing clear performance indicators and conducting regular performance reviews. Performance tracking allows organisations to identify areas for improvement, close performance gaps, and hold suppliers accountable (Chin, et al., 2006).

Contract management is also concerned with identifying and effectively resolving issues that may arise during the term of the contract. This includes managing disputes, conflicts, and deviations from contractual obligations. Research has highlighted the importance of proactive problem solving and timely communication to maintain healthy supplier relationships (Daniela, et al., 2014). In addition, contract management may involve managing changes in contract scope, pricing, or deliverables (Gracious, et al., 2020). Tony & Sarrah (2020) emphasised the need for a structured change management process to ensure that changes in the contract are properly documented, accepted by all parties, and in line with the organisation's goals and objectives.

The decision-making process regarding contract renewal or termination is an important aspect of contract management in procurement. Organisations need to evaluate supplier performance, value delivered, and suitability to changing business requirements. Studies have highlighted the need to strategically evaluate supplier relationships during contract renewal. Choi and Golicic (2018) emphasise the importance of conducting a thorough analysis of supplier performance, market conditions, and alternative sourcing options. Contract renewal or termination decisions should be based on the strategic goals, profitability of the organisation, and the supplier's ability to continue to deliver value (Akamp & Muller, 2013).

Other essential aspects of contract management in procurement are namely compliance with legal, regulatory, and ethical standards facilitate supplier relationships. In addition, effective contract management includes proactive risk identification, mitigation strategies, and periodic contract audits (Podmoskovnov, 2018). Studies have highlighted the importance of risk management in contract management to minimise potential risks, such as supply chain

disruptions, legal disputes, and financial losses (Dixit, 2022). Hong et al. (2018) emphasises the importance of integrating risk management measures into the contract management process to improve organisational resilience and reduce potential vulnerabilities.

2.6 Conclusion

Assessing employee perceptions of planning, supplier selection, specifications, and contract management is key to improving purchasing process satisfaction at a South African sugar company. This chapter emphasised the importance of engaging employees, ensuring adequate resources, and addressing concerns related to supplier selection, specification accuracy, and proper management. By taking employee perceptions into account and implementing strategies based on their feedback, organisations can increase employee engagement, improve procurement outcomes, and drive overall success in all their projects.

This literature review has further examined key research findings related to employee perceptions of the procurement process in the Southern African sugar industry, specifically focusing on planning, supplier selection, specification management, and contract management. The literature suggests that employee perceptions significantly influence overall job satisfaction, organisational commitment, and procurement outcomes. Involving employees in planning and supplier selection processes, ensuring clear specifications, and establishing effective contract management practices are identified as important factors for enhancing employee satisfaction and overall process efficiency. This literature review highlights the need for organisations to address employee perceptions and actively involve them in procurement decision-making to optimise the procurement process and achieve organisational objectives.

Supplier selection is a critical procurement process that impacts the overall success of a company's supply chain operations. This chapter further highlights the importance of criteria-based supplier selection, a total cost of ownership approach, supplier evaluation and performance measurement, supplier relationship management, risk management and supplier diversity, and sustainability considerations. By adopting the best practices outlined in the industry literature, companies can improve supplier selection processes, build strong partnerships with suppliers, and improve sourcing outcomes. However, for best results, organisations should tailor these practices to their specific industry, context, and strategic goals.

Specification management is an essential aspect of the procurement process to ensure that the goods or services purchased meet the needs and requirements of the organisation. This

literature review highlights the importance of clear and comprehensive specification, working with stakeholders, continuous improvement, documentation and standardisation, quality assurance and compliance, working with suppliers, and leveraging technology and tools.

By adopting the best practices outlined in industry and academic literature, companies can improve their specification management processes, improve communication with suppliers, streamline purchasing activities, and achieve positive sourcing outcomes. However, companies should consider their industry specifics, context, and strategic goals during implementation. Specification management practices emphasises the importance of supplier relationship management, performance monitoring and evaluation, problem resolution and change management, contract renewal and termination, compliance, and risk management. Effective contract management practices contribute to the success of procurement activities, including reducing costs, improving supplier performance, and improving the quality of goods or services. By overcoming the challenges and adopting the best practices outlined in the literature, companies can streamline procurement contract management and achieve positive procurement outcomes. The next chapter provides an in-depth discussion on research methodology followed in this study.

Chapter 3 Research Design and Methodology

3.1 Introduction

While chapter two (literature chapter) conceptualised relevant terms, notions on procurement and key concepts relevant to the study, this chapter will focus on the research design, research paradigm, and the type of research that was chosen to conduct the study. Moreover, the research design will be explained in detail and specific reasons for the case study as the most appropriate paradigm for this study will be discussed. The sampling methods and the three different target population groups (engineering, support, agricultural and procurement staff) selected for the study will be described. Additionally, emphasis will be placed on the reasons why a mixed methods approach was chosen to be part of the study. The chapter will also discuss the data analysis processes and the measures taken to ensure data quality. Lastly, ethical considerations will be explained in detail, with emphasis on their importance in terms of the study.

3.2 Study Objectives

The overall aim of this study is to assess employee perception of the procurement process of a Southern African sugar company. The following specific objectives were developed to contribute to this overall general aim.

1. To assess employee perception on planning the procurement process within a Southern African sugar company.
2. To assess employee perception of supplier selection in the procurement process within a Southern African sugar company.
3. To assess employee perception of specification management on the procurement process within a Southern African sugar company.
4. To assess employee perception of contract management in the procurement process within a Southern African sugar company.

3.3 Research Design

The following sections provide the research approach and methodology for the study.

3.3.1 Research Approach

As a methodology, a mixed-methods approach was utilised to investigate this phenomenon. Since the objective is to obtain accurate and observable empirical evidence to analyse and identify employee perception of the procurement process of a Southern African sugar company, this approach is the most suitable research strategy to explore and evaluate the research problem. A mixed methods research design integrates both qualitative (open-ended) and quantitative (closed-ended) data collection and analysis to comprehensively address research questions or hypotheses. This methodology employs rigorous procedures for collecting, analysing, and interpreting both types of data, thereby ensuring the validity and reliability of the findings. The integration of qualitative and quantitative data occurs through various strategies, including merging datasets, using qualitative data to explain quantitative findings, building subsequent data collection phases from initial data, or embedding one type of data within a larger framework dominated by the other type. These integration procedures are systematically incorporated into distinct mixed methods designs, such as convergent parallel, explanatory sequential, exploratory sequential, or embedded designs. Each design specifies how qualitative and quantitative data will be utilized together to provide a richer, more nuanced understanding of the research problem (Creswell & Creswell, 2018). Through a thorough review of literature on the study area demonstrated the researcher noticed a lacuna of triangulated information to understand the study phenomenon. Thus, a mixed-method approach was selected as the research method.

The qualitative aspect involves the collection of non-numerical data and is often obtained by making use of interviews, open-ended questionnaires and the analysis of written information and the characteristics of the individuals being interviewed (Christensen, et al., 2015). Additionally, it is focused on gathering data from real-life situations and people's surroundings with the aim of describing and explaining social phenomenon in society (Flick, 2018). Because the study was focused specifically on employee perception of the procurement process of a Southern African sugar company the qualitative aspect was affected by gathering data via open ended questions. Open-ended questions were utilised in the questionnaire to let individuals express opinions freely. On the other hand, quantitative research is concerned with component control and is numerical in nature (Neuman, 2014). To triangulate the data for a comprehensive

understanding of employee perception on the procurement process, the study focus on the quantitative dimension was equally necessary. Triangulation is a research technique that involves the use of multiple approaches to investigate a specific question. The main purpose of this technique is to confirm a proposition by using two or more independent measures, thereby increasing confidence in the findings (Heale & Forbes, 2013). By utilising multiple rigorous approaches, the outcome becomes more comprehensive, and biases that could result from the use of a single approach are eliminated. The process of triangulation involves using multiple sources of data to study a single phenomenon, ensuring that the findings are corroborated (Heale & Forbes, 2013). Furthermore, this technique can be used to verify the completeness of research data, which may involve both qualitative and quantitative data-gathering methods. Mixed methods research, which involves the use of both quantitative and qualitative methodologies to answer a research question, is often described as triangulation (Heale & Forbes, 2013). This approach enables researchers to overcome the limitations of each method by comparing data from multiple angles. Overall, triangulation is an effective technique that can enhance the accuracy and validity of research findings. It is highly recommended for researchers who wish to produce comprehensive and unbiased results.

3.3.1.1 Case Study Approach

This study utilised a case study approach which was informed by the research topic and objectives. The case study design provided the opportunity to study the organisation in depth through the employee perception in the four selected areas of focus namely planning, supplier management, specification management and contract management.

Case studies are a powerful tool for exploring the intricacies of unfamiliar topics. By delving deeper into the "why" and "how" questions, they help to develop a more comprehensive understanding (Baxter & Jack.S., 2008, Njie & Asimiran, 2014). Simons (2009) concurs that a case study is a comprehensive examination of a project, policy, institution, programme, or system that is unique and complex, viewed from multiple perspectives in a real-world context. It is research-oriented, employs various techniques, and is driven by evidence. The aim is to gain a detailed comprehension of a specific subject (Simons, 2009). Case studies are a type of design inquiry used in many fields, especially in evaluation. In this method, researchers conduct in-depth analyses of cases, which could be a programme, event, activity, process, or one or more individuals. These cases are bounded by time and activity, and researchers collect detailed information using various data collection procedures over an extended period (Creswell & Creswell, 2018).

One of the main advantages of case study research is that it tends to take the descriptive interpretive elements very seriously and they also attempt to determine what causes the phenomenon. Case studies can effectively be compared to look for patterns, which are similarities of differences by making use of cross-case analysis (Christensen, et al., 2015). The case study conducted was analysed to identify how the perceptions of the various target groups might differ as well as differences along demographic lines.

Additionally, case study research tends to have a heuristic impact because it provides further learning on a topic and assists in making sense of theoretical frameworks (Neuman, 2014). What is worth noting is that case study research has a few disadvantages which were counteracted by making use of alternative methods to improve the quality of the study that was conducted.

One main disadvantage of case study research is that it has the potential to lack rigour, meaning that the researcher could allow their own opinions or views to influence both the research conclusions and the findings of the research. Another disadvantage of case study research is that it is difficult to generalise because of the small samples that are often present when conducting case study research. Some researchers also feel that case study research is difficult to conduct since case studies tend to take longer to complete (Krusenvik, 2016). The disadvantages were combatted by first addressing researcher bias. To combat researcher bias, closed-ended questions are employed due to their ability to provide consistency, quantifiable data, and minimised interpretation. These questions offer standardised response options, reducing the risk of bias in question formulation and ensuring a uniform approach across participants. Researcher bias was combatted by making use of closed ended questions (Kabir, 2016).

3.4 Research Methods

Research methods are the techniques researchers use to do research. The methods represent the tools of the trade and provide ways to collect, sort and analyse information for specific conclusions. Therefore, using the right methods supports the validity of your research (Walliman, 2010). To ask the individuals questions more consistently, the researcher employed a survey with open-end questions and closed-ended, 5-point Likert scale questions (Joshi, et al., 2015). The purpose of the survey was to collect participants' perceptions of the procurement process of a Southern African sugar company.

3.4.1 Research Paradigm

As per Bryman (2012), the research paradigm involves a comprehensive approach to comprehending the connection between behaviour and cognition, which lays the groundwork for investigation. Ontology supposes that there are different realities that can be explored and established through human interactions. In agreement with ontology, the diversity of human experiences, such as knowledge, perspectives, and encounters, shapes the reality that we perceive (Davis, 1998). Epistemology proposes that events are the outcome of a mental interpretation process that is influenced by social relationships. This interactive process closely links the inquirer and the inquired-into. The term "methodology" refers to the approach of collecting data through group discussions, interviews, and statistical analysis (Kumar, 2019).

Bryman (2012) defined a paradigm as a research tradition or global perspective that helps to simplify the complexity of the real world. Insights on social, organisational, and managerial concerns are derived from recent research. The worldview, information sought, and techniques for acquiring and processing data within paradigms are all critical elements of these three viewpoints.

When a researcher selects a paradigm, they are choosing a specific approach for exploring relevant events. In this study, the mixed methods approach was used that draws upon a pragmatic paradigm due to its interpretive nature and the richness of data it generates (Creswell & Creswell, 2018).

3.4.2 Target Population

The concept of target population is crucial in research, intervention, and marketing, as it helps define a specific subset of individuals who meet certain criteria or possess specific characteristics. This group of individuals is the primary focus of a study or initiative, and its identification is based on the research question or objectives. By narrowing down the population, it becomes possible to obtain more accurate and relevant data, which can lead to better decision-making and more effective outcomes. (Willie, 2023)

In research studies, it is crucial to specify the population being studied, whether it is a qualitative or quantitative study. However, the process of population specification differs between qualitative and quantitative research and is not guided by the same principles (Creswell, 2003). Qualitative research is characterised by a narrow focus on a small number of

participants who can provide detailed descriptions of their experiences and/or knowledge related to specific research inquiries or phenomena (Creswell, 2003; Baškarada, 2014).

Qualitative research aims are addressed by participants' detailed experience descriptions, while quantitative studies require a considerable number of individuals who are not obligated to provide extensive descriptions of experiences or phenomena. (Creswell & Creswell, 2018;Williams, 2007).

Qualitative and quantitative research designs employ distinct methodologies and standards for identifying and selecting sample participants. As such, each design follows specific protocols and criteria to ensure the appropriate representation of the population under investigation.

The first step in survey design is to create objectives (Mthembu, 2014). Research objectives are crucial in helping to determine the population by identifying the best resources and methods to gather the necessary information (Mthembu, 2014). Mthembu suggests that the study objectives should be set after identifying the target population (Mthembu, 2014). As this study focuses on employee perceptions of procurement processes in a southern African sugar company, the target population was selected from the company's various sites. All participants were chosen based on their expertise in the subject matter under investigation.

3.4.3 Sampling Strategy

Sampling is a statistical technique that aims to make inferences about a population based on a smaller subset of data. The ultimate goal of sampling is to generalise the findings obtained from the sample to the larger population. Sampling is critical for researchers to obtain valid and reliable results while optimising the use of available time and resources (Creswell & Creswell, 2018).

Originally a quantitative approach using probability (random) sampling was selected, however, due to challenges in recruiting the appropriate number of participants imposed by the sugar manufacturing company a stratified non-probability approach was utilised. A mixed methods approach was used with a 5-point Likert scale questionnaire and 8 open-ended questions (Creswell & Creswell, 2018). Purposeful sampling/ judgmental sampling was used which includes selecting individuals who possess specific criteria or experiences that are important to answer the research objectives (Creswell & Creswell, 2018).

The potential target population was 4000 employees which included 899 employees who place orders via procurement. Of these 244 employees placed orders of over R 1 million over the last two years. However, the sugar company had permitted the participation of only 97 employees to avoid disruption to business continuity. Therefore, the sample size was 97 participants.

A purposive sampling technique was selected for this study. Purposive sampling techniques have been defined as a non-random sampling technique that is focused on identifying and reaching specific individuals who might be hard to reach but whom the researcher would like to include in the study (Neuman, 2014). It is important to note that purposive sampling does not accurately reflect the entire population but rather is focused on only specific and sometimes unique cases which are observed to be informative (Neuman, 2014; Campbell, et al., 2020). Purposeful sampling involves selecting individuals who possess specific characteristics or experiences that are important to the research objectives. The selection is based on the researcher's judgment about which participants will provide the most relevant information and informative data was used in order to highlight the aims delineated above (Neuman, 2014).

The sample of 97 employees, was recruited from the Factory, Procurement, and Agriculture teams. These teams were chosen because they are directly involved in procurement activities and can provide valuable perspectives on the impact of procurement upon the core business.

The Sugar Factory workforce is composed of engineers, foremen, and factory managers, along with procurement staff, store controllers, procurement managers, and agriculture teams that include farm managers and workshop managers. These teams play a direct role in procurement activities and offer valuable insights into the procurement process. The end users are the foremen, while the engineers are responsible for the section foremen. The procurement staff provides an additional perspective on the procurement process, as they are responsible for executing procurement-related tasks.

3.5 Research Process

3.5.1 Data Collection

Henning (2013) advocates that interviews, structured questionnaires, and systematic observations are the primary data collection techniques. The most appropriate data collection method for this study was online surveys. They are useful for collecting quantitative data and obtaining information about attitudes, opinions, behaviours, or characteristics of a population. The survey was administered using Google Forms which is an online platform. The survey

was designed to gather quantitative and qualitative data from the selected employees. The questionnaire focused on the four key areas of planning, supplier selection, specification management, and contract management, capturing information on current practices, challenges, and perceived impacts upon the procurement process of goods and services (See Appendix 2).

Special permission was obtained from the Group Managing Director at the sugar manufacturing company to access the sample and administer the survey. An online system test was conducted to assess potential company security system challenges. There were no issues. This was undertaken to mitigate possible delays. The survey was conducted over four weeks, and all respondents who have not responded were sent reminders to prompt completion. Each respondent was required to provide informed consent before participation.

Permission was provided to allow the researcher to email the Google form link to the questionnaire, to the 97 selected participants. The HR department provided a list of the relevant names and email addresses.

Using a stratified non-probability approach, participants were recruited as follows: 28 mechanical foremen, 8 electrical foremen, 8 instrumentation foremen, 11 engineers, 8 construction foremen, 5 farm managers, 7 agriculture vehicle workshop foremen and 22 procurement staff.

The included participants are from departments that have an impact on the sugar manufacturing process. Factory staff responsible for maintaining equipment influence the efficiency of sugar production. Additionally, farm workers are accountable for growing sugarcane with the highest sugar yield per ton. Any delays in equipment or supplies will hinder sugar production.

3.5.2 Data Analyses

Qualitative data analysis, as defined by De Vos et al. (2011), involves organising and making sense of acquired data. To analyse qualitative data, a range of strategies can be used, with most approaches following similar patterns, including data reduction, organisation, interpretation, and subtraction (Storey et al., 2019). The study used triangulation to corroborate findings and verify the completeness of data research. This involves using two separate data-gathering methods - qualitative and quantitative - to corroborate the findings and improve the validity and credibility of the results. Combining the findings from multiple rigorous approaches

provides a more comprehensive view of the results. Finally, the data was presented graphically, allowing for a visual representation of the quantitative data collected.

The data used in this study was collected using an online survey and collated in an Excel file. The Excel file was imported into Stata version 18 software for data management in preparation to undertake statistical analysis for the closed ended questions. In the management of the data, attention was paid to data cleaning, feature selection, and data transformation. The analysis of the opened ended data was conducted using NVivo version 14 software for qualitative data analysis.

The Excel data file contained both qualitative and quantitative data, which was initially sorted by collating the qualitative data in word-based text files. Variables that were measured at nominal and ordinal levels were retained in the Excel file, while variable names were shortened for ease of reference. However, the original variable names were retained as variable labels for the new variables. This approach ensured that the explanation for each variable in the questionnaire was retained for ease of interpretation, and the reliability of the data analysis was not affected.

The first step in analysing the dataset was to use univariate statistical tables to assess each variable for any missing values. The analysis reported complete cases for both rows and columns of the dataset. Variables that were irrelevant to the analysis, such as autogenerated time stamps and variables capturing consent to participate in the survey, were removed.

The variable measuring the business operations or sugar mill location was a 13-level categorical variable, collapsed into three categories for comparative analysis using ANOVA. These categories were Local (within South Africa), foreign (the rest of Africa) and Head Office.

A 23-level categorical variable measured the participants' working departments. However, this variable was collapsed into four main departments: Agriculture, Engineering, Business Support, and Procurement. This was done to facilitate a comparative analysis of the indices generated through factor analysis.

The variable used to measure the reported number of years an employee has worked for the organisation was categorised into six levels. However, the frequencies of these categories were uneven, with some falling below the minimum values required for basic non-parametric tests like Chi-square tests of association. Therefore, to improve the frequency distribution and enable the use of non-parametric tests that depend on the distribution of values across rows and

columns, such as Chi-square and Fischer tests, it was more effective to collapse this variable into four categories, which are 0 to 5 years, 5 to 10 years, 10 to 15 years and greater than 15 years.

The dataset included various variables that were measured using the Likert Scale. These variables were related to strategic planning at different levels, supplier selection, management of contracts, and specification.

The overarching analytical approach encompassed frequency analysis, descriptive and factor analyses to extract nuanced insights from the comprehensive dataset. Additionally, the dataset underwent segmentation into four distinct categories, namely work experience levels, job positions, locations, and departments, laying the foundation for a granular examination of these critical dimensions management (the results are available from the author on request).

The implementation of frequency analysis enabled an accurate examination of the occurrence and distribution of variables, while descriptive analyses provided a detailed portrayal of the central tendencies and variability inherent in the dataset (Kumar, 2019). The ensuing segmentation allowed for targeted investigations into specific aspects of the workforce, facilitating a more profound understanding of the interplay between work experience, job roles, geographic locations, and departmental affiliations.

Before conducting a factor analysis, missing data was checked and confirmed that all variables were complete cases after reverse coding. Reverse coding is a statistical technique that helps to assess whether the respondents were giving consistent answers, thus reducing any potential bias and improving the psychometric representation of responses in the dataset (Suárez-Álvarez, et al., 2018). The technique is also useful in improving the implementation of the factor analysis procedure.

The composite variables, which measure aspects of planning, supplier selection, contract management and specification management, were reverse coded and used in factor analysis. To implement factor analysis, Iterated Principal Factoring was used, which iterates solutions to obtain better estimates of the latent factors in the data (Trevor, et al., 2009).

The current study adopts exploratory factor analysis (EFA) as the primary statistical method due to its objective nature. Unlike confirmatory approaches, EFA avoids imposing any a priori assumptions on the data and, therefore, enables a non-biased exploration of latent factors. The analysis was conducted using Stata version 18 software, which facilitates the examination of

patterns of covariation among observed variables and the extraction of underlying factors. Latent factors, which are not directly observable but inferred from patterns in the data, account for the observed correlations among variables.

Factor analysis was used to develop a measurement model for generating latent variables, instead of principal components analysis which only develops a linear combination of variables to explain how correlated variables are contributing to observed variance. To compare the results, factor analysis was used to generate latent variables from the calculated factor scores which were then used in the post-estimation analysis. Although the results of the factor analysis are not presented, the correlation pattern matrix with loadings greater than 0.3 is presented for each of the constructs to aid in the interpretation of the latent variables.

Eigenvalues assume a critical role in determining the significance of factors. In the context of factor analysis, an eigenvalue represents the amount of variance explained by a factor. Substantial factors are those with eigenvalues greater than 1 and are retained for further analysis (Fabrigar & Wegener, 2012). Eigenvalues assist researchers in identifying the number of latent factors that significantly contribute to the dataset. A higher eigenvalue indicates a greater amount of variance in the data is accounted for by the corresponding factor, guiding the selection of influential factors for interpretation. Additionally, the cumulative variance explained by the retained factors is examined to ensure a comprehensive understanding of the data's overall structure.

Factor loading is an important concept in factor analysis. Each observed variable is associated with each latent factor through a factor loading, representing the strength and direction of the relationship. Factor loadings indicate the extent to which an observed variable contributes to a specific latent factor. High factor loadings indicate a strong association, while low loadings indicate a weaker connection (Fabrigar & Wegener, 2012).

By incorporating these aspects of factor analysis - exploration of latent factors, consideration of eigenvalues, and examination of factor loadings - this study aims to reveal the underlying structure influencing the observed variables. The systematic application of these techniques ensures a comprehensive and rigorous analysis, leading to a nuanced understanding of the relationships within the dataset.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is a statistic used to assess the suitability of data for factor analysis. It helps researchers determine whether the dataset is

appropriate for extracting meaningful factors. The KMO statistic is particularly relevant in the context of exploratory factor analysis (EFA) and is often computed as part of the preliminary analysis before conducting factor analysis.

The KMO statistic ranges from 0 to 1, with higher values indicating better suitability for factor analysis. The interpretation of KMO values is generally as follows (Trevor, et al., 2009) :

- to 0.50: Unacceptable.
- 0.50 to 0.60: Poor.
- 0.60 to 0.70: Mediocre.
- 0.70 to 0.80: Reasonable.
- 0.80 to 0.90: Good.
- 0.90 and above: Excellent.

Researchers typically use the KMO statistic in conjunction with other diagnostics to ensure the robustness of the dataset for factor analysis. A higher KMO value suggests that the observed variables share a sufficient amount of common variance, making them suitable for the identification of underlying factors.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was computed to assess the suitability of the dataset for factor analysis. The KMO statistic provides an indication of the proportion of variance in the observed variables that might be common variance. A KMO value greater than 0.70 is generally considered acceptable for factor analysis, indicating a reasonable degree of shared variance among the variables. The computation of the KMO statistic adds an additional layer of validation to the factor analysis process, ensuring that the dataset is appropriate for extracting meaningful latent factors (Trevor, et al., 2009).

Including such information helps to convey the thoroughness of your data analysis process and ensures that the data's suitability for factor analysis is properly addressed in the methodology.

To assess the internal consistency of the observed variables used in the factor analysis, Cronbach's alpha was computed. Cronbach's alpha provides a measure of reliability, indicating the extent to which the items within a factor consistently measure the same underlying construct. A Cronbach's alpha value exceeding 0.70 is generally considered acceptable, suggesting a satisfactory level of internal consistency among the observed variables. This

analysis ensures that the variables included in the factor analysis are reliable indicators of the underlying factors (Lavrakas, 2008).

Including information on Cronbach's alpha adds a layer of validation to the factor analysis results, demonstrating that the observed variables are internally consistent and, therefore, suitable for further exploration of latent factors (Mohd, et al., 2019).

Using the quantitative data, a correlation pattern matrix was created using factor analysis to identify statistically significant correlations with values above 0.3 and uniqueness. Factors related to each objective were then discussed under their respective headers. The researcher also used the Cronbach Alpha values and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy to assess the overall measure of sampling adequacy for each of the four objectives presented below. The Cronbach Alpha value and the KMO value should be greater than 0.5 to be statistically significant (Lavrakas, 2008).

The Excel data file contained both qualitative and quantitative data, with the preliminary steps being to collate qualitative data in word-based text files and retain variables measured at the nominal and ordinal levels in the Excel file. For ease of reference, variable names were shortened while original variable names were retained as variable labels for the new variables. This ensured that the explanation for each item/variable in the questionnaire was retained for ease of interpretation.

Thematic analysis of the opened ended data was conducted using NVivo version 14 software for qualitative data analysis. Thematic analysis is the primary method for analysing the collected data. This method involves a systematic and iterative process of identifying, analysing, and reporting patterns (themes) within the dataset (Greg, et al., 2012).

Open coding was employed to generate initial codes that capture various aspects of the data. This process involves labelling and categorising segments of the data with short, descriptive codes.

Themes were reviewed and refined by comparing them against the coded data to ensure accuracy and meaningful representation. Each theme was defined and described, and a descriptive and interpretable name is assigned to summarise its content. The findings are presented in a narrative that includes the identified themes along with supporting evidence from the data. Context is provided to help interpret the themes in relation to the research question.

3.5.3 Validity and Reliability

The concept of validity in research refers to the process of accurately measuring what is supposed to be measured. There are two main types of validity examined in research studies, internal and external validity. Internal validity is the study's ability to respond to the research questions while external validity is the study's ability to extrapolate its results to a larger population (Cohen, et al., 2011). To establish trustworthiness, researchers must produce comparable outcomes that apply to the wider community. They can achieve this by obtaining statements from individuals and document citations. The elements of trustworthiness, such as credibility, dependability, confirmability, and transferability, are used to establish trustworthiness in research studies.

Cohen, et al. (2011) argue that the concept of credibility is one's confidence in the accuracy of the research findings. Cohen additionally maintains that data saturation involves questioning participants until they repeatedly mention the same themes and offer no new information. In a quantitative study, validity refers to the accuracy with which a concept is measured, while reliability refers to the consistency of a measure (Heale and Twycross, 2015). Reliability is achieved when a measurement tool consistently yields similar results during testing. Instrument dependability, or the consistency with which a research tool produces the same results when used in the same situation multiple times, is the second criterion for evaluating the quality of a quantitative study (Cohen, et al., 2011). To ensure the validity of the survey, the researcher consulted with senior management from the procurement unit of the sugar company. They were asked to provide feedback on the survey, which was then incorporated into the final version of the survey. This process helped to ensure that the survey accurately captured the necessary information. In terms of reliability, which is defined by Cohen, et al. (2011) as a synonym for dependability, consistency and replicability is concerned with accuracy and precision.

One of the key characteristics of reliability is homogeneity, which refers to the degree to which all items on a scale evaluate the same construct. This implies that if all items on the scale measure different constructs, the reliability of the scale is compromised (Guba & Lincoln, 1989).

In addition to homogeneity, reliability also comprises equivalence and stability. Equivalence refers to the consistency of responses obtained by multiple users of a tool or other forms of an instrument. On the other hand, stability refers to the consistency of results obtained through repeated testing using a particular tool (Guba & Lincoln, 1989). To ensure reliability the

researcher elected participants from the same organisation, provided all with the same survey using an online platform, gave the same time for completion of the survey and did not make responses available to any participant during the survey administration period.

3.5.4 Ethical Clearance and Informed Consent

Ethical considerations and informed consent were very important in the research to avoid causing the participants harm as the participants should not intentionally be caused harm during the study. Not causing a participant harm is known as non-maleficence (Christensen, et al., 2015; Cohen, et al., 2007). To ensure ethical adherence to the study an ethics application was made to the University of KwaZulu Natal research office. The protocol was submitted to and approved by the University of KwaZulu-Natal Ethics Committee (HSSREC 00005800/2023) (See Appendix 3).

The university ethics protocol dictated the ethical guidelines that the researcher had to follow throughout the study. Hence confidentiality and anonymity were maintained throughout the study and data protection was appropriately implemented throughout the data generation process.

Special permission was obtained from the Group Managing Director at the sugar manufacturing company to access the sample and administer the survey. The HR department provided a list of the relevant names and email addresses. However, the sugar company had permitted the participation of only 97 employees to avoid disruption to business continuity. Therefore, the sample size was 97 participants and the other condition for the study to continue what that the company remain anonymous.

Informed consent was obtained before the individuals participated in the research study. The process of informed consent involves providing comprehensive information to a research participant regarding all aspects and procedures of the study that may have an impact on their decision to participate (Christensen, et al., 2015; Cohen, et al., 2007; Gelling & Munn-Giddings, 2011). Therefore, prior to participating all individuals were given the opportunity to agree to the study by clicking an acceptance box, to process to the questionnaire, however if the individuals disagreed the questionnaire was ended.

Although participants were not allowed the opportunity to ask questions owing to the format of the informed consent namely an online form, they had the opportunity to decline to participate.

Voluntary participation**,** which goes hand in hand with informed consent, required that the participants in the study be made aware that the choice to participate is voluntary and that they could withdraw from the study whenever they liked without any negative consequences. Because the research was purely voluntary, no participant was forced to participate, and they were allowed to decline their participation.

No personal information was recorded such as email addresses or names of the participants, all participants were anonymous. To ensure their privacy, a confidentiality agreement was included in the informed consent form to explain that their personal information would be kept private. Confidentiality was ensured by providing vague descriptions of the participants' demographic information and by providing the participants with a number. Participants are referred to by a number (Respondent 1) rather than by their name. According to Mayer (2015) ethical behaviour involves making sure that the study does not conflict with the interests of the participants. The above ethical considerations were used to protect participants.

3.5.5 Limitations of the Research Process

The primary limitation of the research process was the restricted number of participants that were permitted to take part in the study. This number was mandated by the Human Resources department. Another limitation was the use of a neutral response in the Likert scale that was frequently selected and contributed little to the study. The issue of whether a middle or neutral point should be included in a scale and whether it should be used is a topic of ongoing debate. Studies have shown that removing the middle point can reduce social desirability bias, as retaining it can lead to distorted results (Garland, 1991). However, removing it can also introduce a "forced choice" scenario, where respondents may be compelled to take a stand instead of remaining neutral, which may not be desirable in politically or socially sensitive cases (Allen & Seaman, 2007). Overall, the use or non-use of a neutral point in a scale remains a contentious issue with no clear consensus (Leung, 2011).

3.6 Conclusion

Chapter 3 of the study provides a comprehensive overview of the research methods and design that were implemented in the research project. The chapter begins by discussing the research

plan, which was developed using a mixed-methods approach. The rationale behind this decision is then explained in detail, highlighting the benefits of using a combination of quantitative and qualitative research methods.

The chapter goes on to cover various aspects of the research project, including its purpose, objectives, research design, methodology, demographic and sampling plan, considerations for validity and reliability, data analysis which included factor analysis and thematic analysis. Each of these aspects is discussed in detail, providing a clear and comprehensive understanding of the research project to the reader.

The section on research design provides a detailed account of the various research strategies and techniques that was used in the study. It explains how the research design was developed to meet the specific objectives of the study, and how it was refined over time to ensure that it remained relevant and effective.

The demographic and sampling plan section discusses the target population, the sample size used, and the sampling technique used in the study. The section also explains how the sample was selected and how the sample size was determined to ensure that the sample was representative of the target population.

The section on validity and reliability discusses the measures that were taken to ensure that the data collected was accurate and reliable. The section explains the various techniques used to ensure the validity and reliability of the data, and how these techniques were applied throughout the research project.

To ensure ethical adherence to the study an ethics application was made to the University of KwaZulu Natal research office. Special permission was obtained from the Group Managing Director at the sugar manufacturing company to access the sample and administer the survey. However, the sugar company had permitted the participation of only 97 employees to avoid disruption to business continuity. The next chapter provides a robust discussion on empirical findings of the quantitative aspect of the research followed in this study.

Chapter 4 Quantitative Data Presentation and Analysis

4.1 Introduction

Chapter four of the study presents the empirical findings of the quantitative aspect of the research, which is divided into four sections. These sections include planning, supplier selection, contract management and specification management. The quantitative data is presented to address each of the four objectives of the study. The variables represent the questions that were included in the online questionnaire.

4.2 Quantitative Data

The analysis section of this report delves into a comprehensive examination of the gathered data, employing a combination of frequency analysis and descriptive analyses. Through these analytical methodologies, we aim to extract meaningful insights and patterns within the dataset. The information was further enhanced by segmenting the data into four key categories: work experience levels, job positions, locations, and departments.

The analytical process involved analysis of each category, facilitating a detailed evaluation of the distribution and relationships within the dataset. *Please make a note of the following text: "The numbers in brackets indicate the percentage."*

4.2.1 Planning

The table below provides the section. responses on the planning section of the question closed-ended questions.

Table 4.1. Responses on planning

Variable	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My department often interacts with the procurement department	--	1 (1.03%)	2 (2.06%)	35 (36.08%)	59 (60.82%)
The procurement department adds value to my department	--	1 (1.03%)	10 (10.31%)	45 (46.39%)	41 (42.27%)

I am satisfied with the procurement department's communication with the end user	3 (3.09%)	12 (12.37%)	26 (26.80%)	40 (41.24%)	16 (16.49%)
Procurement understands my department and its needs	1 (1.03%)	9 (9.28%)	28 (28.87%)	43 (44.33%)	16 (16.49%)
I understand the role of procurement	--	2 (2.06%)	3 (3.09%)	46 (47.42%)	46 (47.42%)
I often participate in the tender process	9 (9.28%)	18 (18.56%)	22 (22.68%)	31 (31.96%)	17 (17.53%)
The procurement department is a roadblock to my department	20 (20.62%)	29 (29.90%)	27 (27.84%)	19 (19.59%)	2 (2.06%)
The engineering department plans its procurement needs well	1 (1.03%)	10 (10.31%)	32 (32.99%)	43 (44.33%)	11 (11.34%)
The agricultural department plans its procurement needs well	--	7 (7.22%)	50 (51.55%)	32 (32.99%)	8 (8.25%)
The garage workshop department plans its procurement needs well	1 (1.03%)	7 (7.22%)	56 (57.73%)	27 (27.84%)	6 (6.19%)
Capex project managers plan their procurement needs well	2 (2.06%)	6 (6.19%)	33 (34.02%)	46 (47.42%)	10 (10.31%)
Since the restructuring, the planning of my department's procurement requirements has improved	5 (5.15%)	19 (19.59%)	41 (42.27%)	28 (28.87%)	4 (4.12%)
Late delivery of goods and services has a negative impact on my department	3 (3.09%)	2 (2.06%)	6 (6.19%)	31 (31.96%)	55 (56.70%)
The effectiveness of the end user's planning impacts the procurement process	--	1 (1.03%)	8 (8.25%)	44 (45.36%)	44 (45.36%)

These insights provide a more detailed view of the responses and perceptions regarding various aspects of planning procurement needs and interactions with the procurement department as per the above table.

My department often interacts with the procurement department:

Most respondents (60.82%) strongly agree that their department often interacts with the procurement department. This indicates a high level of engagement and collaboration.

The procurement department adds value to my department:

Responses are mixed. While 46.39% agree that the procurement department adds value, 42.27% strongly agree. However, there's a notable 10.31% who are neutral, suggesting a need for further exploration into perceived value.

I am satisfied with the procurement department's communication with the end user:

Satisfaction with communication varies, with 41.24% agreeing and 16.49% strongly agreeing. However, a significant 26.80% are neutral, indicating potential areas for improvement in communication.

Procurement understands my department and its needs:

A significant proportion (44.33%) agrees, and 28.87% are neutral. This suggests there may be room for improvement in ensuring procurement fully understands the needs of various departments.

I understand the role of procurement:

The majority (47.42%) agrees, and an equal percentage (47.42%) strongly agrees, indicating a high level of understanding of the role of procurement among respondents.

I often participate in the tender process:

There's active participation, with 31.96% agreeing and 17.53% strongly agreeing. However, it's worth exploring the reasons behind the 22.68% who are neutral.

The procurement department is a roadblock to my department:

A significant portion disagrees (29.90%), but there's also a considerable neutral response (27.84%). Understanding the reasons behind these perceptions can provide insights into potential improvements.

The engineering department plans its procurement needs well:

Responses are varied, with 44.33% agreeing and 32.99% being neutral. Further exploration can reveal specific areas for improvement in the planning process.

The agricultural department plans its procurement needs well:

The majority (51.55%) is neutral, indicating a potential area for improvement in the planning process of the agricultural department.

The garage workshop department plans its procurement needs well:

The garage workshop department stands out with a high percentage (57.73%) agreeing, indicating effective planning. However, understanding the reasons behind the 7.22% who disagree could be valuable.

Capex project managers plan their procurement needs well:

A significant portion (47.42%) agrees, and 34.02% are neutral. Exploring the reasons behind the neutral responses can uncover areas for improvement.

Since the restructuring, the planning of my department's procurement requirements has improved:

While 42.27% agree, a considerable 28.87% are neutral. Understanding the factors contributing to the neutral responses can guide further improvements post-restructuring.

Late delivery of goods and services has a negative impact on my department:

A substantial majority (56.70%) strongly agrees, highlighting the critical importance of timely deliveries. Addressing this concern may lead to improved overall satisfaction.

The effectiveness of the end user's planning impacts the procurement process:

An equal percentage (45.36%) strongly agrees and agrees. This emphasises the interdependence between end user planning and the effectiveness of the procurement process.

4.2.1.1 Planning descriptive analysis

The below table is the planning descriptive analysis that was completed.

Table 4.2. Descriptive statistics on planning

Variable	Mean	Median	Mode	Range	Standard Deviation
My department often interacts with the procurement department	2.64	Agree	Agree (60.82%)	4	1.68
The procurement department adds value to my department	3.43	Agree	Agree (46.39%)	4	1.66
I am satisfied with the procurement department's communication with the end user	2.77	Neutral	Agree (41.24%)	4	1.46
Procurement understands my department and its needs	3.19	Agree	Agree (44.33%)	4	1.37
I understand the role of procurement	3.87	Agree	Agree (47.42%)	4	1.18
I often participate in the tender process	3.39	Neutral	Agree (31.96%)	4	1.51
The procurement department is a roadblock to my department	2.78	Neutral	Disagree (29.90%)	4	1.53
The engineering department plans its procurement needs well	3.86	Agree	Agree (44.33%)	4	1.38
The agricultural department plans its procurement needs well	3.64	Agree	Agree (51.55%)	4	1.38
The garage workshop department plans its procurement needs well	3.82	Agree	Agree (57.73%)	4	1.45
Capex project managers plan their procurement needs well	3.71	Agree	Agree (47.42%)	4	1.43
Since the restructuring, the planning of my department's	3.19	Neutral	Agree (42.27%)	4	1.42

procurement requirements has improved					
Late delivery of goods and services has a negative impact on my department	3.84	Strongly Agree	Strongly Agree (56.70%)	4	1.49
The effectiveness of the end user's planning impacts the procurement process	3.79	Agree	Agree (45.36%)	4	1.44

These insights provide a more detailed view of the responses and perceptions regarding various aspects of contract management by the procurement department as per above table.

Interaction with Procurement Department: The statement "My department often interacts with the procurement department" has a relatively high mean and a mode indicating agreement. The range and standard deviation suggest moderate variability, possibly indicating varied experiences among respondents.

The statement "Late delivery of goods and services has a negative impact on my department" has a high mean and a strong mode of "Strongly Agree." This indicates a consistent and strong sentiment among respondents about the negative impact of late deliveries.

The statement "I understand the role of procurement" has a high mean and mode, indicating strong agreement. The low standard deviation suggests a high level of consensus among respondents about understanding the role of procurement.

The statement "The procurement department is a roadblock to my department" has a moderate mean and mode. The range and standard deviation suggest some variability in responses, with some respondents perceiving procurement as a roadblock and others not.

4.2.1.2 Planning analysis by category

Here are the findings obtained by segmenting the data into four categories work experience levels, job positions, locations, and departments.

My department often interacts with the procurement department:

Work Experience Levels: Across all work experience levels, the majority (ranging from 31.82% to 67.74%) agree that their department often interacts with the procurement

department. A positive trend is observed, with higher agreement percentages as work experience levels increase.

Job Positions: Line Management (44.68%) and Senior Management (75.86%) show higher agreement percentages compared to Middle Management (33.33%).

Locations: Responses are consistent across locations, with similar agreement percentages observed in different regions.

Departments: Overall, a positive trend with higher agreement percentages is observed across various departments.

The Procurement Department Adds Value to My Department

Work Experience Levels: Respondents with 10-15 years of experience express the highest agreement (61.90%) that the procurement department adds value to their department.

Job Positions: Senior Management (55.17%) and Line Management (42.55%) exhibit higher agreement percentages than Middle Management (38.10%).

Locations: Similar positive trends are observed across locations, with relatively consistent agreement percentages.

Departments: Positive sentiments are shared across different departments, with varying agreement percentages.

I am Satisfied with the Procurement Department's Communication with the End User

Work Experience Levels: Across experience levels, satisfaction with the procurement department's communication increases with experience. Respondents with 15-20 years of experience show the highest agreement (54.55%).

Job Positions: Senior Management (34.48%) and Line Management (21.28%) express higher satisfaction compared to Middle Management (33.33%).

Locations: Positive trends are consistent across locations, emphasising the importance of effective communication.

Departments: Satisfaction with communication is generally positive across different departments.

Procurement Understands My Department and Its Needs

Work Experience Levels: Respondents with 15-20 years of experience exhibit the highest agreement (40.91%) regarding their understanding of the procurement department's needs.

Job Positions: Senior Management (37.93%) and Line Management (51.06%) show higher agreement percentages compared to Middle Management (28.57%).

Locations: Positive trends in understanding procurement needs are consistent across various locations.

Departments: Understanding of procurement needs is generally positive across different departments.

I Understand the Role of Procurement

Work Experience Levels: Respondents with 15-20 years of experience exhibit the highest agreement (59.09%) regarding their understanding of the role of procurement.

Job Positions: Senior Management (51.72%) and Line Management (48.94%) express higher agreement percentages compared to Middle Management (38.10%).

Locations: Positive trends in understanding the role of procurement are consistent across locations.

Departments: Understanding of the role of procurement is generally positive across different departments.

I Often Participate in the Tender Process

Work Experience Levels: Respondents across experience levels, especially those with 15-20 years (45.16%), participate in the tender process.

Job Positions: Senior Management (51.72%) and Line Management (47.62%) show higher agreement percentages compared to Middle Management (23.81%).

Locations: Positive trends in participation in the tender process are consistent across locations.

Departments: Participation in the tender process is generally positive across different departments.

The Procurement Department Is a Roadblock to My Department

Work Experience Levels: No strong consensus; responses vary across experience levels.

Job Positions: Senior Management (13.79%) and Line Management (21.28%) show lower agreement percentages compared to Middle Management (27.59%).

Locations: Variability in responses is observed across locations, with no strong consensus.

Departments: Responses vary across departments, with no strong consensus on the perception of the procurement department as a roadblock.

The Engineering Department Plans Its Procurement Needs Well

Work Experience Levels: Respondents with 15-20 years of experience exhibit the highest agreement (57.14%) regarding the engineering department's procurement planning.

Job Positions: Line Management (38.30%) and Middle Management (47.62%) show higher agreement percentages compared to Senior Management (17.24%).

Locations: Positive trends in engineering department procurement planning are consistent across locations.

Departments: Positive sentiments regarding engineering department procurement planning are shared across different departments.

The Agricultural Department Plans Its Procurement Needs Well

Work Experience Levels: Respondents with 15-20 years of experience exhibit the highest agreement (45.45%) regarding the agricultural department's procurement planning.

Job Positions: Line Management (53.19%) and Middle Management (47.62%) show higher agreement percentages compared to Senior Management (27.59%).

Locations: Positive trends in agricultural department procurement planning are consistent across locations.

Departments: Positive sentiments regarding agricultural department procurement planning are shared across different departments.

The Garage Workshop Department Plans Its Procurement Needs Well

Work Experience Levels: Respondents with 15-20 years of experience exhibit the highest agreement (54.84%) regarding the garage workshop department's procurement planning.

Job Positions: Line Management (59.57%) and Middle Management (66.67%) show higher agreement percentages compared to Senior Management (31.03%).

Locations: Positive trends in garage workshop department procurement planning are consistent across locations.

Departments: Positive sentiments regarding garage workshop department procurement planning are shared across different departments.

Capex Project Managers Plan Their Procurement Needs Well

Work Experience Levels: No strong consensus; responses vary across experience levels.

Job Positions: Line Management (38.30%) and Middle Management (47.62%) show higher agreement percentages compared to Senior Management (17.24%).

Locations: Variability in responses is observed across locations, with no strong consensus.

Departments: Positive sentiments regarding Capex project managers' procurement planning are generally shared across different departments.

Since the Restructuring, the Planning of My Department's Procurement Requirements Has Improved

Work Experience Levels: Respondents with 10-15 years of experience exhibit the highest agreement (36.36%) regarding the improvement in procurement planning post-restructuring.

Job Positions: Middle Management (61.90%) shows the highest agreement percentage compared to Senior Management (37.93%) and Line Management (42.55%).

Locations: Positive trends in improved procurement planning are consistent across locations.

Departments: Positive sentiments regarding improved procurement planning post-restructuring are generally shared across different departments.

Impact of Late Delivery on Departments

Work Experience Levels: Respondents across experience levels express concern about the impact of late delivery on their departments.

Job Positions: Senior Management (31.03%) and Line Management (29.79%) show higher agreement percentages compared to Middle Management (9.52%).

Locations: Variability in responses is observed across locations, with no strong consensus.

Departments: Concerns about the impact of late delivery are generally shared across different departments.

Impact of End User's Planning on Procurement Process

Work Experience Levels: Respondents with 15-20 years of experience exhibit the highest agreement (48.39%) regarding the impact of end user's planning on the procurement process.

Job Positions: Line Management (48.94%) and Middle Management (48.94%) show higher agreement percentages compared to Senior Management (34.04%).

Locations: Positive trends in the impact of end user's planning on the procurement process are consistent across locations.

Departments: Positive sentiments regarding the impact of end users' planning on the procurement process are generally shared across different departments.

Overview

The challenges of procurement planning vary in importance among senior and line management. Effective planning and poor work organization are the most significant challenges for senior management. Meanwhile, lesser challenges for senior management include communication, external shocks, managerial issues, procurement systems design, and skills. On the other hand, line management faces important challenges such as communication, lack of effective planning, and poor work organization.

Procurement planning challenges are more concentrated in foreign regions and remain a major concern for senior and line management. The lack of effective planning is a key challenge, more significant in foreign regions and less critical at the local level and head office. Poor work organization and managerial issues affect procurement effectiveness across all location areas.

External shocks are present at the local and foreign levels but not at the head office. The departments most affected by the challenges to procurement effectiveness are the factory engineering department, procurement department, agriculture, and workshop, in that order. Within the factory engineering department, lack of effective planning, poor work organization, procurement systems design, and communication are significant challenges. Skills challenges are crucial in the factory engineering, agriculture, and procurement departments, contributing to the challenges affecting procurement effectiveness.

Participants with 1 to 5 years of experience were mostly concerned with communication challenges and lack of effective planning. Among these participants, other challenges included poor work organization and performance. Among participants with 5 to 10 years of experience, lack of effective planning, managerial issues, and skills were the biggest concerns affecting procurement effectiveness. For participants with 10 to 15 years of experience, poor work organization and performance, lack of effective planning, communication, and skills were the top concerns. Participants with 15 to 20 years of experience reported external shocks and lack of effective planning as the most salient challenges. Finally, participants with over 20 years of experience reported communication challenges and poor work organization as the most salient challenges, while procurement systems design had a larger relative representation, and lack of planning and managerial issues were also important.

4.2.2 Supplier selection

The table below provides the section. responses on the supplier selection section of the question closed-ended questions.

Table 4.3. Responses on supplier selection

Variable	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The procurement department engages effectively with suppliers	1 (1.03%)	8 (8.25%)	23 (23.71%)	52 (53.61%)	13 (13.40%)
My department follows up with suppliers	4 (4.12%)	15 (15.46%)	20 (20.62%)	42 (43.30%)	16 (16.49%)

My department often experiences delays or issues due to the procurement department's management of suppliers.	4 (4.12%)	15 (15.46%)	22 (22.68%)	41 (42.27%)	15 (15.46%)
The procurement department performs well in terms of negotiating prices with suppliers	1 (1.03%)	5 (5.15%)	34 (35.05%)	44 (45.36%)	13 (13.40%)
My department is involved in the adjudication process of the selection of the supplier to be used for goods and services	1 (1.03%)	14 (14.43%)	29 (29.90%)	31 (31.96%)	22 (22.68%)
The procurement department frequently conducts performance evaluations of suppliers	3 (3.09%)	14 (14.43%)	40 (41.24%)	35 (36.08%)	5 (5.15%)
The three-quote process at my organisation is fair	3 (3.09%)	7 (7.22%)	24 (24.74%)	42 (43.30%)	21 (21.65%)
The procurement department manages supplier risk well for e.g. Financial stability	4 (4.12%)	5 (5.15%)	38 (39.18%)	40 (41.24%)	10 (10.31%)
The procurement department takes accountability for the management of suppliers	4 (4.12%)	10 (10.31%)	25 (25.77%)	46 (47.42%)	12 (12.37%)

These insights provide a more detailed view of the responses and perceptions regarding various aspects of planning procurement needs and interactions with the procurement department as per above table.

The procurement department engages effectively with suppliers:

Over half of the respondents (53.61%) agree that the procurement department effectively engages with suppliers, with an additional 13.40% strongly agreeing. However, around a quarter (24.74%) remains neutral or disagrees.

My department follows up with suppliers:

A substantial portion (43.30%) agrees that their department effectively follows up with suppliers, with 16.49% strongly agreeing. There is a relatively smaller percentage (19.58%) in disagreement or strongly disagreement.

My department often experiences delays or issues due to the procurement department's management of suppliers:

The responses here are somewhat evenly distributed, with 22.68% neutral. However, a significant portion (15.46% strongly disagree and 42.27% agree) indicates a tendency for delays or issues due to the procurement department's management.

The procurement department performs well in terms of negotiating prices with suppliers:

A notable portion (45.36%) agrees that the procurement department performs well in negotiating prices with suppliers. However, a combined 6.18% are in disagreement, and 36.08% are neutral.

My department is involved in the adjudication process of the selection of the supplier:

Responses are diverse, but a significant percentage (31.96%) agrees that their department is involved in the supplier selection process. Another substantial portion (22.68%) strongly agrees, but 15.46% disagree to some extent.

The procurement department frequently conducts performance evaluations of suppliers:

A balanced response, with 41.24% neutral or agreeing that performance evaluations are frequent. There is a small percentage (8.24%) in strong disagreement or disagreement.

The three-quote process at my organisation is fair:

A plurality (43.30%) agrees that the three-quote process is fair, with an additional 21.65% strongly agreeing. On the other hand, 10.31% strongly disagree or disagree.

The procurement department manages supplier risk well (e.g., Financial stability):

A significant majority (51.55%) either agree or strongly agree that the procurement department manages supplier risk well. However, 9.27% disagree to some extent.

The procurement department takes accountability for the management of suppliers:

Almost half (47.42%) agree that the procurement department takes accountability for supplier management, with 12.37% strongly agreeing. A smaller percentage (14.43%) disagrees.

4.2.2.1 Supplier selection deceptive analyses

The means provide an indication of the central tendency of responses for each statement. Standard deviations show the extent of variability or dispersion in the responses.

Table 4.4. Supplier selection deceptive analyses

Variable	Mean	Median	Mode	Range	Standard Deviation	Key Observations
The procurement department engages effectively with suppliers	3.47	4	5	4	~1.00	Moderate to high agreement; some respondents express disagreement or neutrality.
My department follows up with suppliers	3.54	4	4	4	~1.02	Moderate to high agreement; some respondents express disagreement.
My department often experiences delays or issues due to the procurement department's management of suppliers	3.54	4	4	4	~1.03	Moderate agreement: some respondents express disagreement or neutrality.

The procurement department performs well in terms of negotiating prices with suppliers	3.50	4	4	4	~1.05	Moderate to high agreement; some respondents express disagreement or neutrality.
My department is involved in the adjudication process of the selection of the supplier to be used for goods and services	3.57	4	4	4	~1.03	Moderate to high agreement; some respondents express disagreement.
The procurement department frequently conducts performance evaluations of suppliers	3.47	4	4	4	~1.00	Moderate to high agreement; some respondents express disagreement.
The three-quote process at my organisation is fair	3.62	4	4	4	~1.04	Moderate to high agreement; more evenly distributed responses.
The procurement department manages supplier risk well for e.g. Financial stability	3.46	4	4	4	~1.04	Moderate to high agreement; some respondents express disagreement or neutrality.
The procurement department takes accountability for the management of suppliers	3.59	4	4	4	~1.03	Moderate to high agreement; some respondents express disagreement.

There is a generally positive sentiment across various aspects of the procurement department's activities, with mean values ranging from 3.46 to 3.62 on a scale of 1 to 5. The median values, often around 4, suggest that a significant number of respondents lean towards agreement or strong agreement, indicating consistency in positive perceptions. The mode being 4 for most variables indicates that "Agree" is often the most frequent response. The narrow range (mostly 4) suggests a concentration of responses, indicating that opinions are not widely dispersed.

While overall positive, there are consistent areas of concern, particularly in statements related to potential delays or issues due to the procurement department's management and the negotiation process.

Respondents express involvement in supplier selection and adjudication processes, indicating a perceived level of engagement and participation.

The statement "The three-quote process at my organisation is fair" has the highest mean and a more even distribution, suggesting that respondents generally feel positive about the fairness of the process.

Statements with a moderate level of agreement or areas of concern can be opportunities for improvement. For instance, addressing concerns related to potential delays or issues and improving the negotiation process may enhance overall satisfaction.

The statement "The procurement department takes accountability for the management of suppliers" has a high mean and mode, suggesting that respondents consistently perceive accountability in supplier management.

Key observations, statements 2, 4, 7, 8, and 9 have relatively higher mean scores, suggesting a general agreement or positive perception. Statement 5 has a lower mean, indicating a lower level of agreement compared to other statements. Standard deviations are generally moderate, suggesting moderate variability in responses for most statements.

4.2.2.2 Supplier selection analysis by category

Here are the findings obtained by segmenting the data into four categories work experience levels, job positions, locations, and departments.

The procurement department engages effectively with suppliers:

Location: Foreign Factory: The sentiment is overwhelmingly positive, with 72.41% indicating agreement (31.03% "Agree" and 41.38% "Strongly Agree"). Local Factory: Positive sentiment, with 43.75% "Agree" and 43.75% "Strongly Agree." Head Office: Positive sentiment, with 48.28% "Agree" and 48.28% "Strongly Agree."

Organisation's Departments: Positive sentiment across departments, with Procurement having the highest agreement at 62.07% ("Strongly Agree").

Work Experience: Positive sentiment across all experience levels, with the highest agreement from those with more than 15 years of experience (58.06% "Strongly Agree").

Job Position: Positive sentiment across all job positions, with Senior Management showing the highest agreement at 62.07% ("Strongly Agree").

My department follows up with suppliers:

Location: Positive sentiment across locations, with the Head Office having the highest agreement at 50.00% ("Strongly Agree").

Organisation's Departments: Positive sentiment, with Procurement having the highest agreement at 54.18% ("Strongly Agree").

Work Experience: Positive sentiment across all experience levels, with the highest agreement from those with more than 15 years of experience (54.18% "Strongly Agree").

Job Position: Positive sentiment across all job positions, with Senior Management showing the highest agreement at 54.18% ("Strongly Agree").

My department often experiences delays or issues due to the procurement department's management of suppliers:

Location: Positive sentiment across locations, with the Foreign Factory having the highest agreement at 53.57% ("Strongly Agree").

Organisation's Departments: Positive sentiment, with Procurement having the highest agreement at 52.38% ("Strongly Agree").

Work Experience: Positive sentiment across all experience levels, with the highest agreement from those with more than 15 years of experience (48.39% "Strongly Agree").

Job Position: Positive sentiment across all job positions, with Senior Management showing the highest agreement at 48.39% ("Strongly Agree").

The procurement department performs well in terms of negotiating prices with suppliers:

Location: Positive sentiment across locations, with the Head Office having the highest agreement at 50.00% ("Strongly Agree").

Organisation's Departments: Positive sentiment, with Procurement having the highest agreement at 55.17% ("Strongly Agree").

Work Experience: Positive sentiment across all experience levels, with the highest agreement from those with more than 15 years of experience (45.16% "Strongly Agree").

Job Position: Positive sentiment across all job positions, with Senior Management showing the highest agreement at 45.16% ("Strongly Agree").

My department is involved in the adjudication process of the selection of the supplier to be used for goods and services:

Location: Positive sentiment across locations, with the Head Office having the highest agreement at 55.56% ("Strongly Agree").

Organisation's Departments: Positive sentiment, with Procurement having the highest agreement at 41.67% ("Strongly Agree").

Work Experience: Positive sentiment across all experience levels, with the highest agreement from those with 5-10 years of experience (41.67% "Strongly Agree").

Job Position: Positive sentiment across all job positions, with Senior Management showing the highest agreement at 41.67% ("Strongly Agree").

The procurement department frequently conducts performance evaluations of suppliers:

Location: Positive sentiment across locations, with the Head Office having the highest agreement at 38.89% ("Strongly Agree").

Organisation's Departments: Positive sentiment, with Procurement having the highest agreement at 44.44% ("Strongly Agree").

Work Experience: Positive sentiment across all experience levels, with the highest agreement from those with more than 15 years of experience (43.75% "Strongly Agree").

Job Position: Positive sentiment across all job positions, with Senior Management showing the highest agreement at 43.75% ("Strongly Agree").

The three-quote process at my organisation is fair:

Location: Positive sentiment across locations, with the Head Office having the highest agreement at 55.56% ("Strongly Agree").

Organisation's Departments: Positive sentiment, with Procurement having the highest agreement at 55.56% ("Strongly Agree").

Work Experience: Positive sentiment across all experience levels, with the highest agreement from those with more than 15 years of experience (55.56% "Strongly Agree").

Job Position: Positive sentiment across all job positions, with Senior Management showing the highest agreement at 55.56% ("Strongly Agree").

The procurement department manages supplier risk well for e.g. financial stability:

Location: Positive sentiment across locations, with the Head Office having the highest agreement at 60.34% ("Strongly Agree").

Organisation's Departments: Positive sentiment, with Procurement having the highest agreement at 36.59% ("Strongly Agree").

Work Experience: Positive sentiment across all experience levels, with the highest agreement from those with more than 15 years of experience (45.16% "Strongly Agree").

Job Position: Positive sentiment across all job positions, with Senior Management showing the highest agreement at 55.17% ("Strongly Agree").

The procurement department takes accountability for the management of suppliers:

Location: Positive sentiment across locations, with the Head Office having the highest agreement at 60.34% ("Strongly Agree").

Organisation's Departments: Positive sentiment, with Procurement having the highest agreement at 41.46% ("Strongly Agree").

Work Experience: Positive sentiment across all experience levels, with the highest agreement from those with more than 15 years of experience (41.94% "Strongly Agree").

Job Position: Positive sentiment across all job positions, with Senior Management showing the highest agreement at 48.28% ("Strongly Agree").

Overview

Participants in head office face challenges related to supplier selection. Foreign participants encounter difficulties with supplier quality issues, managerial issues, workflow efficiency, supplier selection and evaluation. Local participants, on the other hand, face challenges with supplier selection and evaluation, supplier quality issues, managerial issues, and workflow efficiency.

Head office participants encounter similar challenges, namely managerial issues, supplier quality issues, supplier selection and evaluation, and difficulties with workflow efficiency.

The engineering department's main challenges are managerial issues, workflow quality and efficiency, supplier quality issues, and supplier selection and evaluation. In the procurement department, participants identified managerial issues, supplier quality issues, and supplier selection and evaluation as the primary challenges affecting supplier selection.

Senior management participants are primarily concerned with supplier selection and evaluation, managerial issues, supplier quality issues, and workflow efficiency. Middle management participants are primarily concerned with supplier quality issues and managerial issues, while line managers are concerned with a range of challenges affecting supplier selection, including managerial issues, supplier selection and evaluation, supplier quality issues, and workflow efficiency.

Work experience also plays a significant role in participants' concerns related to supplier selection. Participants with up to one year of work experience did not express any concerns related to supplier selection. Participants with one to five years of work experience were concerned with managerial issues, supplier selection and evaluation, and supplier quality issues. Participants with five to ten years of work experience were similarly concerned with supplier quality and managerial issues, as well as supplier selection and evaluation. Participants with ten to fifteen years of work experience were primarily concerned with the impact of supplier quality, managerial issues, and issues related to supplier selection and evaluation.

Participants with over 15 years of work experience were primarily concerned with the impact of managerial issues and supplier selection and evaluation on supplier selection.

The variable "The procurement department engages effectively with suppliers," it is evident that respondents across different locations, organisational departments, work experience levels, and job positions consistently expressed a positive sentiment. Particularly noteworthy is the high agreement among senior management, with 62.07% strongly agreeing. This unanimity suggests a robust and positive perception of the procurement department's efficacy in supplier engagement.

The variable "My department follows up with suppliers" similarly reflects a positive sentiment, with the Head Office and procurement department recording the highest agreement at 50.00% and 54.18% "Strongly Agree," respectively. This underscores the collective commitment to supplier relationship management and proactive communication practices within the organisation.

The occurrence of delays or issues due to the procurement department's management of suppliers, explored through the relevant variable, revealed a nuanced perspective. While the overall sentiment is positive, with the highest agreement recorded at 53.57% in the Foreign Factory location, it also suggests areas where improvements in procurement management may enhance operational efficiency, especially in the Local Factory.

Negotiation effectiveness, as gauged by the variable "The procurement department performs well in terms of negotiating prices with suppliers," showcases a predominantly positive sentiment across locations, organisational departments, and job positions. Notably, the Head Office and procurement department again lead with 50.00% and 55.17% "Strongly Agree," respectively, indicating a proficient negotiation process.

The variable "My department is involved in the adjudication process of the selection of the supplier to be used for goods and services" portrays positive sentiments, with senior management exhibiting the highest agreement at 41.67% "Strongly Agree." This suggests an inclusive decision-making process in supplier selection, contributing to organisational transparency.

Performance evaluations of suppliers, assessed through the corresponding variable, displayed positive sentiments, particularly at the Head Office and within the procurement department,

where 38.89% and 44.44% "Strongly Agree," respectively. This indicates a robust evaluation mechanism, contributing to the continuous improvement of supplier performance.

The fairness of the three-quote process, analysed through the variable "The three-quote process at my organisation is fair," reflected an overwhelmingly positive sentiment. The Head Office and procurement department again recorded the highest agreement at 55.56% "Strongly Agree." This underscores a perceived equity in the procurement procedures, fostering trust among respondents.

The procurement department's ability to manage supplier risk, especially concerning financial stability, showed positive sentiments across locations, organisational departments, work experience levels, and job positions. Senior management, once again, demonstrated the highest agreement at 55.17% "Strongly Agree."

Lastly, the variable "The procurement department takes accountability for the management of suppliers" reveals a positive sentiment across various dimensions, with senior management exhibiting the highest agreement at 48.28% "Strongly Agree." This suggests a robust accountability framework within the procurement department.

4.2.3 Contract Management

The table below provides the section. responses on the contract management section of the question closed ended questions.

Table 4.5 Responses on contract management

Variable	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The procurement department communicates when contracts are put in place	3 (3.09%)	13 (13.40%)	22 (22.68%)	42 (43.30%)	17 (17.53%)
I am comfortable reporting potential ethical issues related to tenders within the organisation	1 (1.03%)	2 (2.06%)	18 (18.56%)	34 (35.05%)	42 (43.30%)

I am familiar with the tender process	1 (1.03%)	9 (9.28%)	17 (17.53%)	46 (47.42%)	24 (24.74%)
The procurement department effectively manages contract	3 (3.09%)	9 (9.28%)	24 (24.74%)	43 (44.43%)	18 (18.56%)
My department experience delays due to the contract management process	6 (6.19%)	9 (9.28%)	22 (22.68%)	44 (45.36%)	16 (16.49%)
The procurement department holds suppliers accountable regarding the terms of the contract	6 (6.19%)	8 (8.25%)	38 (39.18%)	33 (34.02%)	12 (12.37%)
The organisation is ethical during tenders	1 (1.03%)	--	19 (19.59%)	42 (43.30%)	35 (36.08%)
The contracts add value to my department	1 (1.03%)	4 (4.12%)	17 (17.53%)	46 (47.42%)	29 (29.90%)
I have been involved in a tender process where I felt that the winning bid was suspicious	31 (31.96%)	35 (36.08%)	22 (22.68%)	7 (7.22%)	2 (2.06%)

These insights provide a more detailed view of the responses and perceptions regarding various aspects of contract management by the procurement department as per above table.

Communication when Contracts are Put in Place:

A notable 60.83% express agreement or strong agreement, indicating a generally positive perception of communication practices. Further investigation can focus on the 17.53% who strongly agree to understand what specific communication aspects contribute to their satisfaction.

Comfort Reporting Ethical Issues:

An overwhelming 78.35% are comfortable reporting ethical issues, showcasing a strong ethical culture. The 18.56% neutral responses could be explored to identify any reservations or uncertainties in reporting ethical concerns.

Familiarity with the Tender Process:

A majority (71.16%) are familiar with the tender process, indicating a solid understanding within the organisation. For the 24.74% who strongly agree, their insights could be valuable in identifying best practices that contribute to familiarity.

Effective Management of Contracts:

A positive response of 62.99% suggests a perceived effectiveness in contract management. A closer examination can be conducted to identify specific areas of strength and areas that may require improvement.

Departmental Delays Due to Contract Management:

The concern raised by 68.85% regarding delays in contract management needs in-depth exploration. Identifying the specific stages or reasons for delays can guide targeted improvements.

Supplier Accountability Regarding Contract Terms:

76.40% express agreement or strong agreement in holding suppliers accountable, indicating a robust supplier management process. For the 12.37% who strongly agree, their insights can provide valuable information on effective practices.

Organisation Ethical Conduct During Tenders:

79.38% perceive the organisation as ethical during tenders, indicating a strong ethical framework. Investigating the 36.08% who only agree (rather than strongly agree) can reveal nuances in ethical practices during the tender process.

Contracts Adding Value to Departments:

76.32% find contracts adding value to their departments, indicating a positive impact. Further discussions with the 29.90% who strongly agree can offer insights into specific ways contracts contribute to value.

Suspicion in Winning Bids:

The low suspicion rate (39.04%) indicates trust in the integrity of the bidding process. Investigating the 31.96% who strongly disagree can provide insights into the factors contributing to this high level of trust.

Participants at the head office encounter challenges in supplier selection. Foreign participants experience difficulties related to supplier quality, managerial issues, workflow efficiency, and supplier selection and evaluation. Conversely, local participants face challenges in supplier selection and evaluation, supplier quality, managerial issues, and workflow efficiency. Head office participants confront similar challenges, including managerial issues, supplier quality, supplier selection and evaluation, and workflow efficiency.

The engineering department's primary challenges encompass managerial issues, workflow quality and efficiency, supplier quality, and supplier selection and evaluation. In the procurement department, participants identified managerial issues, supplier quality, and supplier selection and evaluation as the main challenges affecting supplier selection. Senior management participants are mainly concerned with supplier selection and evaluation, managerial issues, supplier quality, and workflow efficiency. Middle management participants primarily focus on supplier quality and managerial issues, whereas line managers face a variety of challenges affecting supplier selection, including managerial issues, supplier selection and evaluation, supplier quality, and workflow efficiency.

Work experience significantly influences participants' concerns regarding supplier selection. Participants with up to one year of work experience did not express concerns related to supplier selection. Those with one to five years of experience were concerned with managerial issues, supplier selection and evaluation, and supplier quality. Participants with five to ten years of experience shared similar concerns, including supplier quality, managerial issues, and supplier selection and evaluation. Those with ten to fifteen years of experience were primarily concerned with supplier quality, managerial issues, and supplier selection and evaluation. Participants with over fifteen years of experience were mainly focused on managerial issues and supplier selection and evaluation.

The variable "The procurement department engages effectively with suppliers" indicates a consistently positive sentiment among respondents across various locations, organizational departments, work experience levels, and job positions. Notably, 62.07% of senior

management strongly agreed, reflecting a robust positive perception of the procurement department's efficacy in supplier engagement.

The variable "My department follows up with suppliers" similarly demonstrates positive sentiment, with the head office and procurement department showing the highest agreement at 50.00% and 54.18% "Strongly Agree," respectively. This highlights a collective commitment to supplier relationship management and proactive communication within the organization.

Exploring the variable concerning delays or issues due to the procurement department's management of suppliers reveals a nuanced perspective. Despite overall positive sentiment, with the highest agreement at 53.57% in the Foreign Factory location, there are areas for improvement in procurement management to enhance operational efficiency, particularly in the Local Factory.

The effectiveness of negotiation, as measured by the variable "The procurement department performs well in negotiating prices with suppliers," shows predominantly positive sentiment across locations, departments, and job positions. The head office and procurement department lead with 50.00% and 55.17% "Strongly Agree," respectively, indicating a proficient negotiation process.

The variable "My department is involved in the adjudication process of selecting suppliers for goods and services" reflects positive sentiments, with senior management showing the highest agreement at 41.67% "Strongly Agree." This suggests an inclusive decision-making process in supplier selection, enhancing organizational transparency.

Supplier performance evaluations, assessed through the corresponding variable, reveal positive sentiments, particularly at the head office and within the procurement department, where 38.89% and 44.44% "Strongly Agree," respectively. This indicates a robust evaluation mechanism, promoting continuous improvement in supplier performance.

The fairness of the three-quote process, analysed through the variable "The three-quote process at my organization is fair," shows overwhelmingly positive sentiment. The head office and procurement department recorded the highest agreement at 55.56% "Strongly Agree," underscoring perceived equity in procurement procedures and fostering trust among respondents.

The procurement department's ability to manage supplier risk, especially regarding financial stability, received positive sentiments across locations, departments, work experience levels, and job positions. Senior management demonstrated the highest agreement at 55.17% "Strongly Agree."

Lastly, the variable "The procurement department takes accountability for the management of suppliers" shows positive sentiment across various dimensions, with senior management exhibiting the highest agreement at 48.28% "Strongly Agree." This suggests a robust accountability framework within the procurement department.

4.2.3.1 Contract Management Descriptive Analysis

Table 4.6 Contract management descriptive analysis

Variable	Mean	Median	Mode	Range	Standard Deviation
Communication of contracts by procurement department	3.81	4 (Agree)	4 (Agree)	4	1.08
Comfort reporting ethical issues related to tenders	4.13	5 (Strongly Agree)	5 (Strongly Agree)	4	1.18
Familiarity with the tender process	3.89	4 (Agree)	4 (Agree)	4	1.03
Effectiveness of procurement department in managing contracts	4.06	4 (Agree)	4 (Agree)	4	0.95

Delays in department due to contract management process	3.88	4 (Agree)	4 (Agree)	4	1.07
Procurement department holding suppliers accountable	3.47	3 (Neutral)	-	4	1.18
Ethical conduct of the organisation during tenders	4.15	4 (Agree)	4 (Agree)	4	0.89
Contracts adding value to the department	4.05	4 (Agree)	4 (Agree)	4	0.98
Involvement in suspicious winning bids in tender process	2.94	3 (Neutral)	2, 3 (Neutral)	4	1.27

Communication of contracts by procurement department, the mean of 3.81 suggests a generally positive outlook on the communication practices. The median and mode, both registering at 4 (Agree), signify a prevailing consensus that the procurement department effectively communicates when contracts are instituted. A standard deviation of 1.08 indicates moderate variability in respondent perceptions.

Comfort reporting ethical issues related to tenders, A mean of 4.13 reflects a high level of comfort in reporting ethical concerns. The median and mode, both at 5 (Strongly Agree), underscore a substantial consensus among respondents. A standard deviation of 1.18 indicates a moderate degree of variability.

Familiarity with the tender process, the mean of 3.89 denotes a generally positive level of familiarity. The median and mode, both at 4 (Agree), convey an overall agreement with being well-acquainted with the tendering process. A standard deviation of 1.03 highlights some variability in responses.

Effectiveness of procurement department in managing contracts, A mean of 4.06 indicates a positive perception of the procurement department's efficacy. The median and mode, both at 4 (Agree), affirm a widespread consensus on the department's effectiveness. A standard deviation of 0.95 suggests relatively low variability.

Delays in department due to contract management process, A mean of 3.88 signals a moderately positive perception of delays. The median and mode, both at 4 (Agree), signify a

general consensus on the existence of delays. A standard deviation of 1.07 implies some variability in responses.

Procurement department holding suppliers accountable, the mean of 3.47 denotes a moderately positive perception. The median, situated at 3 (Neutral), reflects a more varied sentiment, and a lack of a clear mode further underscores the diversity of opinions. A standard deviation of 1.18 indicates considerable variability.

Ethical conduct of the organisation during tenders, A mean of 4.15 reflects a positive perception of the organisation's ethical conduct. The median and mode, both at 4 (Agree), affirm a robust consensus. A standard deviation of 0.89 indicates relatively low variability.

Contracts adding value to the department, A mean of 4.05 indicates a positive perception of contracts contributing value. The median and mode, both at 4 (Agree), signify a widespread agreement. A standard deviation of 0.98 suggests relatively low variability.

Involvement in suspicious winning bids in tender process, A mean of 2.94 denotes a somewhat lower perception of involvement in suspicious bids. The median at 3 (Neutral) suggests a more diverse opinion, and the absence of a clear mode further emphasises variability. A standard deviation of 1.27 indicates heightened variability.

4.2.3.2 Contract management analysis by category

Here are the findings obtained by segmenting the data into four categories work experience levels, job positions, locations, and departments.

The procurement department communicates when contracts are put in place:

Location Perspective: Foreign Factory: About half of the respondents (49.18%) expressed positive sentiments regarding communication when contracts are put in place. A notable percentage (29.51%) strongly disagreed or disagreed. Local Factory: Communication satisfaction is higher (62.30%), with only 6.56% expressing dissatisfaction. Head Office: Positive responses are dominant (68.85%), indicating effective communication.

Organisation Departments Perspective: Procurement stands out with the highest positive responses (77.05%), showcasing strong communication practices. Agriculture and Operations Support also exhibit satisfactory communication levels (50.00% and 50.82%, respectively). Engineering, while positive, lags behind Procurement and Operations Support (58.90%).

Work Experience Perspective: Communication satisfaction generally improves with experience, reaching 89.25% for those with >15 years of experience.

I am comfortable reporting potential ethical issues related to tenders within the organisation:

Location Perspective: Respondents from the Head Office (62.90%) express higher comfort levels in reporting ethical issues compared to Foreign (50.00%) and Local Factories (58.06%).

Organisation Departments Perspective: Procurement and Operations Support departments exhibit high comfort levels in reporting ethical issues (79.03% and 72.50%, respectively). Engineering, while positive, has a slightly lower comfort level (68.75%).

Work Experience Perspective: Comfort levels improve with experience, reaching 80.65% for those with 15-20 years of experience.

I am familiar with the tender process:

Location Perspective: Head Office respondents are more familiar with the tender process (76.80%) compared to Foreign (46.72%) and Local Factories (57.38%).

Organisation Departments Perspective: Procurement stands out with the highest familiarity (85.48%), emphasising its understanding of the tender process. Agriculture and Operations Support also exhibit satisfactory familiarity (75.00%).

Work Experience Perspective: Familiarity with the tender process increases with experience, reaching 87.10% for those with >15 years.

The procurement department effectively manages contract:

Location Perspective: Respondents from the Head Office (74.19%) feel the procurement department effectively manages contracts, followed by Local Factory (66.10%) and Foreign Factory (60.49%).

Organisation Departments Perspective: Procurement maintains a high positive response (88.71%) regarding effective contract management. Engineering and Agriculture also express satisfaction, though at slightly lower percentages (72.41% and 68.75%, respectively).

Work Experience Perspective: Positive responses increase with experience, reaching 88.71% for those with 15-20 years.

My department experience delays due to the contract management process:

Location Perspective: Delays are reported more in the Head Office (56.41%), followed by Local Factory (48.78%) and Foreign Factory (29.51%).

Organisation Departments Perspective: Procurement (68.75%) and Operations Support (68.75%) departments experience delays, while Agriculture (50.82%) and Engineering (56.10%) have a relatively lower impact.

Work Experience Perspective: Delays are perceived more by those with less experience, with 67.74% among respondents with 15-20 years.

The procurement department holds suppliers accountable regarding the terms of the contract:

Location Perspective: The Head Office (64.52%) stands out in holding suppliers accountable, followed by Local Factory (54.76%) and Foreign Factory (43.58%).

Organisation Departments Perspective: Procurement (66.13%) and Operations Support (61.90%) maintain a higher level of satisfaction in holding suppliers accountable. Agriculture and Engineering also express satisfaction, though at slightly lower percentages (58.73% and 58.54%, respectively).

Work Experience Perspective: Those with more experience (15-20 years) tend to have higher satisfaction (77.42%) in holding suppliers accountable.

The organisation is ethical during tenders:

Location Perspective: The Head Office (50.82%) has a higher perception of organisational ethical conduct during tenders compared to Local Factory (39.02%) and Foreign Factory (29.51%).

Organisation Departments Perspective: Procurement (68.75%) maintains a positive perception of organisational ethics during tenders. Operations Support also expresses a positive sentiment (50.00%). Agriculture and Engineering exhibit lower percentages (45.08% and 63.41%, respectively).

Work Experience Perspective: Ethical perceptions during tenders improve with experience, reaching 90.32% for those with 15-20 years.

The contracts add value to my department:

Location Perspective: The Head Office (45.74%) sees contracts adding more value, followed by Local Factory (42.62%) and Foreign Factory (33.33%).

Organisation Departments Perspective: Procurement (56.45%) and Engineering (54.55%) express satisfaction with contracts adding value, while Operations Support (50.85%) and Agriculture (46.58%) lag slightly behind.

Work Experience Perspective: Those with more experience (15-20 years) tend to find contracts adding more value (58.06%).

I have been involved in a tender process where I felt that the winning bid was suspicious:

Location Perspective: The Head Office (28.05%) reports lower suspicion in winning bids compared to Local Factory (34.43%) and Foreign Factory (34.43%).

Organisation Departments Perspective: Procurement (10.48%) reports the least suspicion in winning bids, while Operations Support (28.05%) and Engineering (22.81%) show higher suspicion percentages. Agriculture maintains a moderate suspicion level (28.05%).

Work Experience Perspective: Those with more experience (>15 years) report the least suspicion (6.45%).

Overview

Participants identified several challenges in contract management across all organizational levels. These challenges include communication issues related to signed contracts, contract awarding, contract rigidity, scheduling and timing, and poor contract design. Notably, foreign locations experienced communication problems primarily related to signed contracts and contract awarding. Conversely, local locations faced similar communication issues, alongside challenges in contract scheduling, timing, and poor design. The head office reported significant challenges with contract rigidity, contract awarding, and communication related to signed contracts. The engineering department encountered issues with contract awarding, contract rigidity, and communication concerning signed contracts. The agriculture department reported difficulties in communication regarding signed contracts and contract awarding, as well as challenges in contract rigidity and poor design. Other departments, such as human resources (contract awarding), inventory (contract scheduling and poor design), and expansion projects,

also reported contract management challenges. Senior management personnel expressed primary concerns regarding contract awarding and communication issues related to signed contracts, while also acknowledging challenges in contract scheduling, timing, and poor design, albeit to a lesser extent. Line management personnel, in contrast, were equally concerned about communication issues related to signed contracts, contract awarding, scheduling, timing, and contract rigidity.

Furthermore, some middle management team members reported difficulties with communication regarding signed contracts. They highlighted issues with contract rigidity and poor design, though these concerns were less frequently mentioned. The responses varied according to the participants' tenure in the organization. Those with less than a year of experience expressed concerns about the contract awarding process and substandard contract design. Employees with 1-5 years of experience cited communication issues regarding signed contracts, contract scheduling, and timing as primary challenges. Participants with 5-10 years of experience identified major challenges in communication related to signed contracts, scheduling, timing, contract rigidity, and contract awarding. Employees with 10-15 years of experience highlighted challenges with contract awarding, rigidity, scheduling, and poor design. Those with more than 15 years of experience identified significant challenges in contract awarding, scheduling, and poor design. Additionally, employees with over 20 years of experience reported communication challenges related to contracts, including issues with awarding, rigidity, scheduling, and poor design.

4.2.4 Specification Management

The table below provides the section. responses on the specification management section of the question closed-ended questions.

Table 4.7 Responses on specification management

Variable	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The material item description in the group catalogue assists my department when placing orders	1 (1.03)	6 (6.19)	4 (4.12)	56 (57.73)	30 (30.93)

The scope of work (specifications) sent to suppliers are accurate	--	9 (9.28)	30 (30.93)	50 (51.55)	8 (8.25)
The quality of material item descriptions/scope of work affects the quality of goods and services the supplier provides	--	--	12 (12.37)	54 (55.67)	31 (31.96)
Supplier performance impacts the company's performance	1 (1.03)	--	2 (2.06)	43 (44.33)	51 (52.58)
The end user is responsible for providing the correct scope of work(specifications) for goods or services	2 (2.06)	1 (1.03)	4 (4.12)	36 (37.11)	54 (55.67)

These insights provide a more detailed view of the responses and perceptions regarding various aspects of specification management as per above table.

The material item description in the group catalogue assists my department when placing orders:

The majority of respondents (88.66%) either agreed or strongly agreed that the material item description in the group catalogue helps their department when placing orders. This suggests a positive perception among participants regarding the usefulness of the group catalogue for order placement.

The scope of work (specifications) sent to suppliers are accurate:

A substantial portion of respondents (80.5%) either agreed or strongly agreed that the scope of work sent to suppliers is accurate. This indicates a generally positive sentiment towards the accuracy of specifications provided to suppliers.

The quality of material item descriptions/scope of work affects the quality of goods and services the supplier provides:

A majority of participants (87.63%) either agreed or strongly agreed that the quality of material item descriptions or scope of work has an impact on the quality of goods and services provided

by suppliers. This underscores the perceived importance of clear and accurate specifications in influencing supplier performance.

Supplier performance impacts the company's performance:

The majority of respondents (96.91%) either agreed or strongly agreed that supplier performance has an impact on the company's performance. This indicates a high level of awareness among participants about the interconnectedness of supplier performance and overall company success.

The end user is responsible for providing the correct scope of work (specifications) for goods or services:

A significant majority (92.78%) either agreed or strongly agreed that the end user is responsible for providing the correct scope of work or specifications for goods or services. This suggests a consensus that the responsibility for providing accurate specifications lies with the end user.

4.2.4.1 Specification management descriptive analysis

Table 4.8 Specification management descriptive analysis

Variable	Mean	Median	Mode	Range	Standard Deviation
The material item description in the group catalogue assists my department when placing orders	3.68	4 (Agree)	5 (Strongly Agree)	4	1.31
The scope of work (specifications) sent to suppliers are accurate	3.67	4 (Agree)	3 (Neutral)	4	1.47
The quality of material item descriptions/scope of work affects the quality of goods and services the supplier provides	4.02	4 (Agree)	5 (Strongly Agree)	3	1.31
Supplier performance impacts the company's performance	4.49	5 (Strongly Agree)	5 (Strongly Agree)	4	1.72

The end user is responsible for providing the correct scope of work (specifications) for goods or services	4.27	5 (Strongly Agree)	5 (Strongly Agree)	4	1.23

The material item description in the group catalogue assists my department when placing orders:

On average, respondents rated this statement at 3.68, leaning towards the "Agree" category. The median is 4 (Agree), and the mode is 5 (Strongly Agree). The responses have a range of 4, indicating a moderate spread of opinions with a standard deviation of 1.31, suggesting some variability.

The scope of work (specifications) sent to suppliers are accurate:

The average rating for this statement is 3.67, indicating a tendency towards agreement. The median is 4 (Agree), and the mode is 3 (Neutral). The responses have a range of 4, with a standard deviation of 1.47, suggesting a moderate level of variability.

The quality of material item descriptions/scope of work affects the quality of goods and services the supplier provides:

On average, respondents strongly agree with this statement, giving it a rating of 4.02. The median is 4 (Agree), and the mode is 5 (Strongly Agree). The responses have a range of 3, with a standard deviation of 1.31, indicating a consistent positive sentiment with some variability.

Supplier performance impacts the company's performance:

Respondents, on average, strongly agree with this statement, giving it a rating of 4.49. The median and mode are both 5 (Strongly Agree). The responses have a range of 4, with a standard deviation of 1.72, suggesting a higher level of variability and diverse opinions.

The end user is responsible for providing the correct scope of work (specifications) for goods or services:

On average, respondents strongly agree with this statement, giving it a rating of 4.27. The median and mode are both 5 (Strongly Agree). The responses have a range of 4, with a standard deviation of 1.23, indicating a generally consistent positive sentiment with lower variability.

4.2.4.2 Specification management analysis by category

Here are the findings obtained by segmenting the data into four categories - Work Experience Levels, Job Positions, Locations, and departments.

The material item description in the group catalogue assists my department when placing orders:

Overall Analysis: The analysis reveals that a substantial proportion of respondents acknowledge the utility of material item descriptions in the group catalogue for order placement. The majority, constituting 59.86%, either agree or strongly agree. Interestingly, senior management exhibits a higher inclination (66.29%) towards strongly agreeing compared to other managerial levels.

Work Experience Insights: Upon dissecting responses by work experience, a noteworthy trend emerges. Respondents with over 15 years of experience exhibit a consistent pattern of stronger agreement, with 48.89% strongly agreeing, suggesting a positive correlation between experience and the perceived usefulness of material item descriptions.

Location and Department Disparities: Differences across locations are discernible, particularly at the Local Factory, where 48.89% strongly agree. In terms of departments, Engineering demonstrates the highest affinity, with 29.03% strongly agreeing. These variations underscore the impact of contextual factors on perceptions regarding specification management.

The scope of work (specifications) sent to suppliers are accurate:

Overall Analysis: The data portrays a favourable disposition towards the accuracy of specifications sent to suppliers, with 67.14% either agreeing or strongly agreeing. Interestingly, senior management once again exhibits a higher inclination (58.37%) towards strongly agreeing compared to other managerial levels.

Work Experience Insights: While respondents with 5-10 years of experience demonstrate a balance in agreement, those with over 15 years of experience showcase a higher tendency towards strong agreement, implying a potential correlation between extensive experience and confidence in specification accuracy.

Location and Department Disparities: Within the Local Factory and Engineering departments, there is a notable prevalence of strong agreement, emphasising the role of both location and department in shaping perceptions about the accuracy of specifications.

The quality of material item descriptions/scope of work affects the quality of goods and services the supplier provides:

Overall Analysis: A majority of respondents (50.55%) affirm that the quality of material item descriptions significantly influences the quality of goods and services provided by suppliers. Senior management consistently expresses a stronger alignment with this viewpoint, with 40.68% strongly agreeing.

Work Experience Insights: An intriguing pattern emerges, particularly among respondents with over 15 years of experience, where 42.22% strongly agree. This suggests a nuanced understanding among seasoned professionals regarding the intricate relationship between specification quality and supplier performance.

Location and Department Disparities: Analysis across locations showcases a substantial agreement at the Local Factory, indicating contextual nuances in understanding the impact of specification quality. Furthermore, the Engineering department exhibits the highest affinity, with 28.23% strongly agreeing.

Supplier performance impacts the company's performance:

Overall Analysis: The data indicates a prevailing consensus (79.47%) regarding the impact of supplier performance on overall company performance. Senior management once again emerges as the cohort with the highest inclination (46.94%) towards strong agreement.

Work Experience Insights: Noteworthy trends are discernible, with respondents having over 15 years of experience exhibiting a higher tendency (35.56%) towards strong agreement. This trend underscores the perceived importance of supplier performance among more seasoned professionals.

Location and Department Disparities: While disparities across locations are moderate, the Head Office demonstrates a higher prevalence of strong agreement. Within departments, Procurement stands out with 23.08% strongly agreeing, shedding light on department-specific perspectives.

The end user is responsible for providing the correct scope of work (specifications) for goods or services:

Overall Analysis: A predominant sentiment (73.25%) suggests that the end user bears the responsibility for accurate specifications. Notably, senior management consistently expresses a higher inclination (34.02%) towards strong agreement.

Work Experience Insights: Respondents with over 15 years of experience exhibit a heightened tendency (42.22%) towards strong agreement, implying a correlation between experience and the belief in end user responsibility for specifications.

Location and Department Disparities: Disparities across locations are minimal, yet the Head Office stands out with a higher prevalence of strong agreement. Within departments, Engineering demonstrates the highest affinity, with 29.03% strongly agreeing, shedding light on department-specific perspectives.

Overview

Participants across all groups expressed concerns about challenges related to Specification Management within their respective domains. Those working in foreign locations cited issues such as inadequate work descriptions, ineffective planning, lack of standardization in material descriptions, and problems with inventory ordering and management. Similarly, participants working locally identified analogous issues, including poor communication, poor job design, and the aforementioned problems with planning, standardization, and inventory management. Participants from the head office also highlighted ineffective planning, lack of standardization in material descriptions, and issues with inventory ordering and management as primary concerns.

Regarding material description challenges by department, procurement department participants emphasized poor work descriptions and inventory management issues as key challenges affecting materials management. Participants from the engineering department pointed out ineffective planning, absence of standardization in material descriptions, poor communication, and suboptimal job design as their main concerns.

Participants across different management levels—senior, middle, and line management—voiced concerns about Specification Management challenges, such as lack of standardization in material descriptions, difficulties in inventory ordering and management, poor work descriptions, and poor communication.

Further analysis revealed that participants' perspectives on Specification Management challenges varied with their years of work experience. Those with up to one year of experience identified poor communication as the main issue. Participants with one to five years of experience faced significant challenges, including ineffective planning, lack of standardization in material descriptions, poor communication, and suboptimal job design. Participants with five to ten years of experience reported that lack of standardization in material descriptions and inventory management issues were the primary challenges. Those with ten to fifteen years of experience highlighted lack of standardization, poor job design, and inventory management problems as the main concerns. Participants with fifteen to twenty years of experience pointed to poor job design as the main challenge. Finally, those with over twenty years of experience identified ineffective planning, lack of standardization in material descriptions, poor communication, and inventory management issues as key challenges.

Overall, these responses underscore the need for standardized material descriptions, effective planning, and clear job design to ensure efficient management of materials and work specifications across different job grades and levels of work experience.

In technical contexts, Specification Management is significantly influenced by two critical factors: supplier performance and end-user requirements. These variables are vital in determining how specifications are handled and implemented, making their consideration crucial for efficient management and successful project completion.

The scores of participants varied significantly across different locations. Specification Management, encompassing supplier performance and end-user requirements, was handled optimally, with scores increasing in magnitude from foreign to local locations and then to the head office. As employees ascend the management hierarchy, their perception of Specification Management improves. Despite the general perception that Specification Management is well-conducted across all levels, there is notable variation in feedback, indicating a potential misalignment between lower-level employees and senior management perspectives that needs addressing.

In data analysis, the distribution of values in a negatively skewed distribution is crucial. Specification Management is generally considered well-implemented, as indicated by relatively high positive median scores throughout the distribution. However, the use of varying magnitudes of scores may conceal certain participant perceptions, warranting further qualitative analysis.

Specification Management is a critical aspect of procurement, essential for achieving project success. This study found it to be generally perceived as operational and well-managed across all levels of work experience. Despite its technicalities, Specification Management is essential and involves the creation, maintenance, and communication of project requirements and specifications to ensure project objectives are met (Pienaar, 2013).

4.3 Factor analysis

4.3.1 Procurement planning

Below are the results from Stata for the factor analysis that was completed on the first section

Table 4.9 Correlation Pattern Matrix for Planning.

Table 4.9 Correlation Pattern Matrix for Planning

Variable	Factor 1	Factor 2	Uniqueness
My department often interacts with the procurement department	-0.0203	**0.5848**	**0.6576**
The procurement department adds value to my department	0.1956	**0.5758**	**0.6302**
I am satisfied with the procurement department's communication with the end user	0.1968	0.2475	**0.9000**
Procurement understands my department and its needs	0.2462	**0.3094**	**0.8437**
I understand the role of procurement	0.0134	**0.7056**	0.5020
I often participate in the tender process	-0.0221	0.1996	**0.9597**
The procurement department is a roadblock to my department	0.0333	0.2902	**0.9147**
The engineering department plans its procurement needs well	**0.6011**	0.1357	**0.6202**
The agricultural department plans its procurement needs well	**0.7110**	0.0085	0.4943
The garage workshop department plans its procurement needs well	**0.6994**	-0.0133	0.5107

Capex project managers plan their procurement needs well	**0.4997**	0.1417	**0.7302**
Since the restructuring, the planning of my department's procurement requirements has improved	**0.4320**	-0.0021	**0.8134**
Late delivery of goods and services has a negative impact on my department	0.0956	0.1950	**0.9528**
The effectiveness of the end user's planning impacts the procurement process	0.0309	**0.5049**	**0.7442**

Several important points can be observed from the table of the correlation pattern matrix for factor loadings associated with factors 1 and 2. In statistical analysis, variables loading to a factor with values of uniqueness above 60% (> 0.6) have insignificant contribution towards explaining or influencing the constitution of the latent factor (Trevor, et al., 2009). It is observed that most of the variables in the table above have very low factor loadings and marginally high values of uniqueness. Variables with very high levels of uniqueness have insignificant loadings below 0.3. Factor 1 is associated with good procurement planning, while factor 2 is associated with perceived role of procurement planning. The sum of factor loadings and observation were summed horizontally with factor loadings as weights measuring contribution to explaining the latent factor variable to produce two index variables namely *"procurement planning",* and *"perceived role of procurement"*. These factors were used in subsequent analyses.

Calculating Cronbach alpha values and overall measure of sampling adequacy using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy shows that the interitem correlations were slightly weak with the value of alpha falling below the threshold.

Table 4.10 Cronbach alpha and Kaiser-Meyer-Olkin (KMO) measure

Reliability Metric	Aspect	Estimates
Cronbach Alpha	Average inter-item covariance	0.224
	Number of items in the scale	14
	Scale reliability coefficient	0.6881
Kaiser Meyer Olkin	Average KMO across all variables	0.6175

The reliability estimates show that the results of the factor analysis are mediocre and should be accepted with caution. The covariances in the variables in each factor are small while average correlation is below the 0.7 threshold. Cronbach alpha values between 0.6 and 0.7 are labelled as questionable, however it should be observed that Cronbach alpha is very sensitive to the number of variables/items in the test, many variables may result in high alpha values (Lavrakas, 2008). In terms of sampling adequacy, the sample data is mediocre and might be improved with increased sampling and data collection (Mohd, et al., 2019).

4.3.2 Supplier Selection

Below are the results from Stata for the factor analysis that was completed on the section two Table 4.11 Correlation Pattern Matrix for Supplier Selection.

The process of selecting a supplier involves considering nine different factors. Using iterated principal factoring, it was discovered that these nine factors could be explained by one factor. This factor is supplier risk management all the variation in the original nine factors. However, when looking at the correlation pattern matrix and individual KMO values, it became apparent that the contribution of the individual factors to this factor was generally poor.

Table 4.11 Correlation Pattern Matrix for Supplier Selection

Variable	Factor Loading	Uniqueness	KMO
The procurement department engages effectively with suppliers	**0.5049**	**0.7451**	**0.8279**
My department follows up with suppliers	**0.5115**	**0.7384**	**0.7964**
My department often experiences delays or issues due to the procurement department's management of suppliers.	0.1581	**0.9750**	**0.6420**
The procurement department performs well in terms of negotiating prices with suppliers	**0.5766**	**0.6675**	**0.8402**
My department is involved in the adjudication process of the selection of the supplier to be used for goods and services	**0.4673**	**0.7816**	**0.7921**

The procurement department frequently conducts performance evaluations of suppliers	**0.5081**	**0.7419**	**0.8443**
The three-quote process at my organisation is fair	**0.4774**	**0.7721**	**0.8613**
The procurement department manages supplier risk well for e.g. Financial stability	**0.6350**	**0.5968**	**0.7936**
The procurement department takes accountability for the management of suppliers	**0.5970**	**0.6436**	**0.7746**

Table 4.12 Cronbach alpha and Kaiser-Meyer-Olkin (KMO) measure for Supplier Selection

Reliability Metric	Aspect	Estimates
Cronbach Alpha	Average inter-item covariance	0.3586
	Number of items in the scale	9
	Scale reliability coefficient	0.7385
Kaiser Meyer Olkin	Average KMO across all variables	0.8092

Concerning the data presented above the scale reliability coefficient is slightly above 0.7, while the overall KMO is deemed very good, which makes the data a good candidate for factor analysis. The correlation matrix of variables with the single factor model show that the values of uniqueness are very high. The most important loading of 0.6350 with a marginally significant value of uniqueness shows that '*supplier risk management*' was an important consideration among the participants. The newly generated latent variable was termed supplier evaluation and used in subsequent analyses.

4.3.3 Contract Management

Below are the results from Stata for the factor analysis that was completed on the section two Table 4.13 Correlation Pattern Matrix for Contract Management.

The construct measuring contract management had a scale of nine (9) items. Using factor analysis, the nine items coalesced into a single latent variable "ethical tendering" accounting

for 100% proportion of the covariance in the original items. The results are summarised in the pattern matrix table below.

Table 4.13 Correlation Pattern Matrix for Contract Management

Variable	Factor Loading	Uniqueness	KMO
The procurement department communicates when contracts are put in place	**0.4232**	**0.8209**	**0.8022**
I am comfortable reporting potential ethical issues related to tenders within the organisation	**0.5935**	**0.6478**	**0.7861**
I am familiar with the tender process	**0.4119**	**0.8304**	**0.7964**
The procurement department effectively manages contract	**0.4833**	**0.7664**	**0.6917**
My department experience delays due to the contract management process	0.2923	**0.9146**	**0.7039**
The procurement department holds suppliers accountable regarding the terms of the contract	0.2974	**0.9116**	**0.6670**
The organisation is ethical during tenders	**0.6954**	**0.5164**	**0.7252**
The contracts add value to my department	**0.5285**	**0.7207**	**0.7521**
I have been involved in a tender process where I felt that the winning bid was suspicious	**0.3208**	**0.8971**	**0.6746**

Table 4.14 Cronbach alpha and Kaiser-Meyer-Olkin (KMO) measure for Contract Management

Reliability Metric	Aspect	Estimates
Cronbach Alpha	Average inter-item covariance	0.3185
	Number of items in the scale	9
	Scale reliability coefficient	0.6832

Kaiser Meyer Olkin	Average KMO across all variables	0.7360

Comparing reported values of uniqueness, it can be observed that most are significantly greater than 0.6 except for variable 8 with a value of uniqueness below 0.6 and possess the largest loading showing high correlation with the single predicted factor. The Cronbach alpha coefficient is questionable such that the printed results should be received cautiously, although the Kaiser-Meyer-Olkin measure of sampling adequacy is meritorious. Using factor loadings in table 5 as weights, and summing across, an index variable was created and named "*ethical tendering*". The new latent variable captured processes of recruiting vendors into the company's database who supplies the business requirements.

4.3.4 Specification Management

Below are the results from Stata for the factor analysis that was completed, Table 4.15 Correlation Pattern Matrix for Specification Management.

The construct measuring specification of work/products had 5 items. Using factor analysis dimension reduction, a single factor "scope of work" accounting for a proportion of 100% of the explained variance in the original variables was calculated. However, it can be observed that variables four and five, had values of uniqueness below 0.6 and significantly contributing to or associated with the predicted factor. The item measuring Supplier performance impacts the company's performance was a significant item contributing towards understanding product specification, and based on reported values of uniqueness, end user responsibility for providing scope of work can be observed to have influence as well.

Table 4.15 Correlation Pattern Matrix for Specification Management

Variable	Factor Loading	Uniqueness	KMO
The material item description in the group catalogue assists my department when placing orders	**0.4470**	**0.8002**	**0.7936**
The scope of work (specifications) sent to suppliers are accurate	0.2491	**0.9380**	**0.5768**
The quality of material item descriptions/scope of work affects the	**0.5378**	**0.7108**	**0.7596**

quality of goods and services the supplier provides			
Supplier performance impacts the company's performance	**0.7629**	0.4180	**0.6790**
The end user is responsible for providing the correct scope of work(specifications) for goods or services	**0.6338**	0.5983	**0.6451**

Table 4.16 Cronbach alpha and Kaiser-Meyer-Olkin (KMO) measure for Specification Management

Reliability Metric	Aspect	Estimates
Cronbach Alpha	Average inter-item covariance	0.3654
	Number of items in the scale	5
	Scale reliability coefficient	0.6344
Kaiser Meyer Olkin	Average KMO across all variables	0.6911

The Cronbach alpha coefficient was questionable, while the measure of sampling adequacy was acceptable between the range of 0.6 and 0.7. Using factor loadings as weights and horizontal summation across the total observations for each participant, a new index variable termed "scope of work" was created and utilised in subsequent analyses.

4.4 Factor analysis findings

4.4.1 Introduction

The analysis focused on comparing differences in means across groups of organisational demographics such as location, years working, job position and organisational department. Mean values for each metric are presented using bar graphs. This is followed by tests of statistical significance using ANOVA, which are reported in the statistical tables. Where the mean differences were found to be statistically significant, marginal analysis and other post-estimation techniques were employed to assess the strength and direction of change.

4.4.2 Employee perceptions on planning

Perceptions on planning were explained by two factor analysis derived variables, measuring perceptions on procurement planning and role of procurement. These indices represented

overall scores based on responses to the 14 items making up the construct measuring planning. The distribution of these values is presented in the figure 4.1 below.

To improve the distribution and presentation, the values were transformed using logarithms. The bars on the histogram were also labelled with the participant frequencies, so that the actual number of participants can be associated with a particular range of values on the histogram. The factor analysis index which is the outcome of linear aggregation of weighted contribution of each item is included in the analysis, with the weight of each variable being relative to the contribution of each item to the latent factor. Items with high factor loadings will result in large index scores, while those with lower factor loadings will yield lower index scores. As a result, a high index score/value show high performance on the index, while a low value shows lower performance. Thus, participants with higher scores have their perceptions more aligned with the latent factor than those with lower scores.

Comparing the frequencies associated with the index of perceived procurement planning, it can be observed that 58.76% (57/97) of the participants had positive scores, when compared to the rest as shown in figure 1 left. Participants perceived their departments as managing planning well. Concerning the perceived role of procurement in figure 4.1 right, most participants scored positively on the x-axis. Participants perceived their departments as understanding the role of procurement and interacted efficiently with procurement. They understood the role of procurement, engaged with the procurement department, and understood the value contribution of procurement to their departments as shown in

Table 4.9 Correlation Pattern Matrix for Planning.

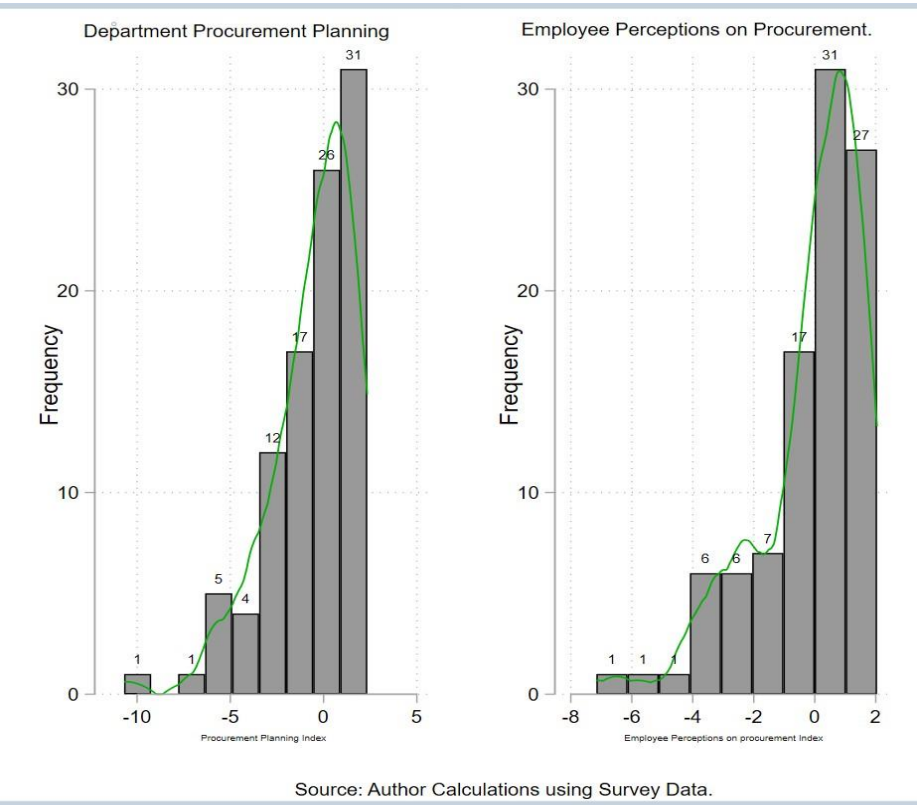

Figure 4.1. Procurement Planning Indices

Table 4.17 below depicts the Mean of perceived Planning by Location among participants.

Table 4.17. Mean of perceived Planning by Location among participants.

Variable	Freq	Mean	Std	CV	Median
Location: Foreign	61	-0.495	2.662	5.376	0.287
Location: Domestic	18	-0.891	1.986	2.228	-0.817
Location: Head Office	18	-0.720	1.377	1.912	-0.628

Table 4.18. Mean of perceived role of procurement by Location among participants.

Variable	Freq	Mean	Std	CV	Median
Location: Foreign	61	-0.320	1.998	6.251	0.281
Location: Domestic	18	0.128	1.378	10.764	0.536
Location: Head Office	18	0.088	1.471	16.623	0.198

In Table 4.17 and Table 4.18 above, the average values of the perceived index of procurement planning and role of procurement are tabulated. In both tables, the number of participants, the mean, standard deviation, Coefficient of Variation (CV) and the median are shown. The median is a preferred measure of central tendency where the underlying distribution is not symmetrical as in the cases in figure 1 above.

In both tables, the CV measure is larger than one (1). This shows that the calculated scores for each of the participants for the index variables differ widely, the larger the calculated CV, the larger the observed variation. In table 9, while the mean is negative for foreign (-0.495), the median is positive (0.287), which agrees with the data, which shows the bulk of values concentrated towards positive values.

Concerning average value of planning, participants in location foreign with a mean of -0.495 show relatively low average perceptions of planning effectiveness. The perceptions of poor performance planning at location level can be seen to worsen over location local (-0.891) and location head office (-0.720).

The variable with the highest loading on the index of perceived role of procurement was awareness of the procurement function as shown by Table 4.18. The mean scores on the index are very low for employees in location external (-0.320) and are positive although small for location local (0.128) and location head office (0.088). On the distribution of values, there are very large negative index scores for both variables which are exerting an influence. The median values capture the true centre of the data given the distribution. Similarly, Rivera, Baguec, & Yeom (2020) aver that the end-users' planning of their requirements plays a vital role in the procurement process, ensuring that the procured goods or services meet their specific needs (Rivera, Baguec, & Yeom, 2020). Therefore, according to Rahman, et al., (2017) and Munyimi (2019) the significance of accurate and precise requirement specifications provided by end-users cannot be over-emphasised to help minimise misunderstandings (Rungtusanatham, Salvador, Forza, & Choi, 2003) and to ensure that the procured items meet the desired standards. Vincent & Hsuan-Chih (2022) add that accurate specifications also enable the procurement team to select appropriate suppliers and negotiate better pricing.

4.4.2.1 Planning across organisation's departments.

Table 4.19 below shows the mean of perceptions of planning over the organisation's departments.

Table 4.19. Mean of perceptions planning over organisation's departments.

Variable	Freq	Mean	Std	CV	Median
Agriculture	28	-0.382	3.038	7.957	0.644
Operations support	12	-0.184	1.651	8.970	-0.200
Engineering	41	-0.896	2.081	2.323	-0.808
Procurement	16	-0.599	2.123	3.542	0.005

In Table 4.19 above the average values of index of perceptions of planning differ across organisation's departments although the calculated values are negative. The CVs are large, showing that the scores for the index among the participants are highly variable. The median captures this variation, given the distribution of the index value, as shown in Figure 4.1 above. The median score for perceptions of procurement planning is highest for the agriculture department (0.644) and lowest for the Engineering department (-0.808). Participants in engineering and operations support departments perceive procurement planning negatively. Interestingly, when discussing procurement planning, Monostori (2018) maintains that employee perceptions of the planning process influence overall satisfaction and procurement outcomes. Monostori (2018) adds that employee perceptions of the planning process influence overall satisfaction and procurement outcomes. Studies have shown that involving employees in the planning phase improves their engagement thus leading to better decision-making and goal attainment (Shefer, Carmeli, & Meitar, 2018). Additionally, allocating sufficient resources, including time, budget, and expertise, is critical for successful procurement planning (Cousins, Lawson, Petersen, & Handfield, 2019). Shefer, Carmeli, & Meitar (2018) maintain that an employee's perception of resource availability and adequacy significantly affects their overall satisfaction.

Table 4.20. Mean of perceptions of role of procurement over organisation's departments. below depicts the mean of perceptions of role of procurement over organisation's departments.

Table 4.20. Mean of perceptions of role of procurement over organisation's departments.

Variable	Freq	Mean	Std	CV	Median
Agriculture	28	-0.398	1.933	4.857	0.040
Operations support	12	0.142	1.360	9.554	0.365
Engineering	41	-0.308	1.942	6.301	0.276

Procurement	16	0.404	1.461	3.612	0.942

In considering the index perceptions of role of procurement across the four departments, given the distribution of the index values in Table 4.20 above, the CV and the median are variables that are informative. The individual scores are variable, with greatest variation in scores being in operations support department (9.554) relative to other departments. The median index score is largest for the procurement department (0.942), followed by operations support department (0.365) with the smallest score in the agriculture department (0.04). Agriculture department personnel have lower perceptions of the role of procurement and its value propositions in the organisation.

4.4.2.2 Planning indices over Work experience.

In the tables, the mean and median of index of perceptions of planning and perceptions of role of procurement are assessed over reported years of participants' work experience. Given the negatively skewed distribution of the indices in figure 1 above, the median is the parameter of interest.

The median score for the index in Table 4.21 of perceived planning is small and negative for participants with up to 5 years, and even smaller for participants with between 5-10 years of work experience (-0.820). For participants with work experience between 10-15 years, the median value is a very small negative. The large coefficients of variation reported for each category of work experience shows the high variability of index scores among participants in each level of work experience. The very low median scores for the index of procurement planning by work experience, shows that participants do not perceive procurement planning as being carried out optimally.

Table 4.21. index of perceived procurement planning over participants' work experience.

Variable	Freq	Mean	Std	CV	Median
Up to 5 years	22	-0.476	2.272	4.772	-0.099
5-10 years	23	-0.831	2.157	2.596	-0.820
10-15 years	21	-0.744	3.032	4.078	0.007
>15 years	31	-0.452	2.079	4.599	-0.132

In Table 4.22 below, the median and coefficient of variation calculated for the index of perceptions of the role of procurement over work experience are presented. The median scores are large and positive for participants in the >15 years (0.548), the 5-10 years (0.370) and the up to 5 years (0.375) categories of participants work experience. The coefficient of variation values is very large particularly for participants in the category >15 years (41.287), showing that participants in this category have highly variable scores. The participants perceive that they have a strong understanding of the role of procurement, for their departments and in the value that procurement generate for the company (see correlation matrix table).

Table 4.22. Index of perceived role of procurement over participants' work experience.

Variable	Freq	Mean	Std	CV	Median
Up to 5 years	22	0.184	1.408	7.648	0.375
5-10 years	23	-0.534	2.287	4.284	0.370
10-15 years	21	-0.407	1.931	4.743	0.077
>15 years	31	0.038	1.563	41.287	0.548

4.4.2.3 Planning over Job Position

The average values of the index of perceived planning were compared across reported job categories of the participants. The job categories were divided into line management, middle management and senior management as shown in Table 4.23.

Table 4.23. Index of perceptions of planning over job positions.

Variable	Freq	Mean	Std	CV	Median
Line management	47	-0.242	1.937	7.989	0.004
Middle management	21	-0.924	3.176	3.438	0.320
Senior management	29	-0.980	2.238	2.284	-0.804

The median value of the index of perceived planning for line managers is small and positive at 0.004, although the large CV shows that individual scores for participants identifying with the line management category are highly variable.

The median score for index of perceived planning is slightly higher for middle management (0.320) and roughly half as variable as individuals scores for participants with middle management job positions. For participants with senior management roles, the median score is

negative and large in absolute value (-0.804), and relatively less variable when compared to other job position categories.

Employees in the line and middle management perceive that planning is being carried out relatively well given the positive median scores. However, employees in senior positions, hold that planning is not being carried out well as shown by the relatively large negative score on index of perceived procurement planning.

In Table 4.24 below, the median values of the index of perceived role of procurement are compared for levels of job position. The median score is relatively large and positive for line managers, positive and small for senior management and negative for middle management. The associated large CVs show that individual participant scores within these job position categories are highly variable.

Table 4.24. Perceptions of role of procurement over job positions

Variable	Freq	Mean	Std	CV	Median
Line management	47	0.295	1.333	4.521	0.656
Middle management	21	-0.979	2.208	2.255	-0.316
Senior management	29	-0.307	1.975	6.436	0.141

In considering that the perceived role of procurement index is composed of variables measuring departmental interaction with procurement, procurement value addition, understanding of role of procurement and whether one's department understood procurement, line and senior management held that they understood procurement, were perceptive of its value addition and interacted well. The negative median score associated with the middle management category shows that they did not perceive the role of procurement in the same vein.

4.4.3 Supplier selection

Figure 4.2 below shows the distribution of the values of the index of employee perceptions of supplier selection created using factor analysis. The distribution is based on log transformed values of the index, with the bulk of the values being concentrated towards the positive side of the index. The range of the distribution of the values has a minimum value of -6.022 and a maximum value of 2.835. Due to the skewed nature of the distribution, the median is selected

instead of the mean as the statistic of interest, since the latter is more meaningful with data that follows a normal distribution.

4.4.3.1 Supplier Selection over Location.

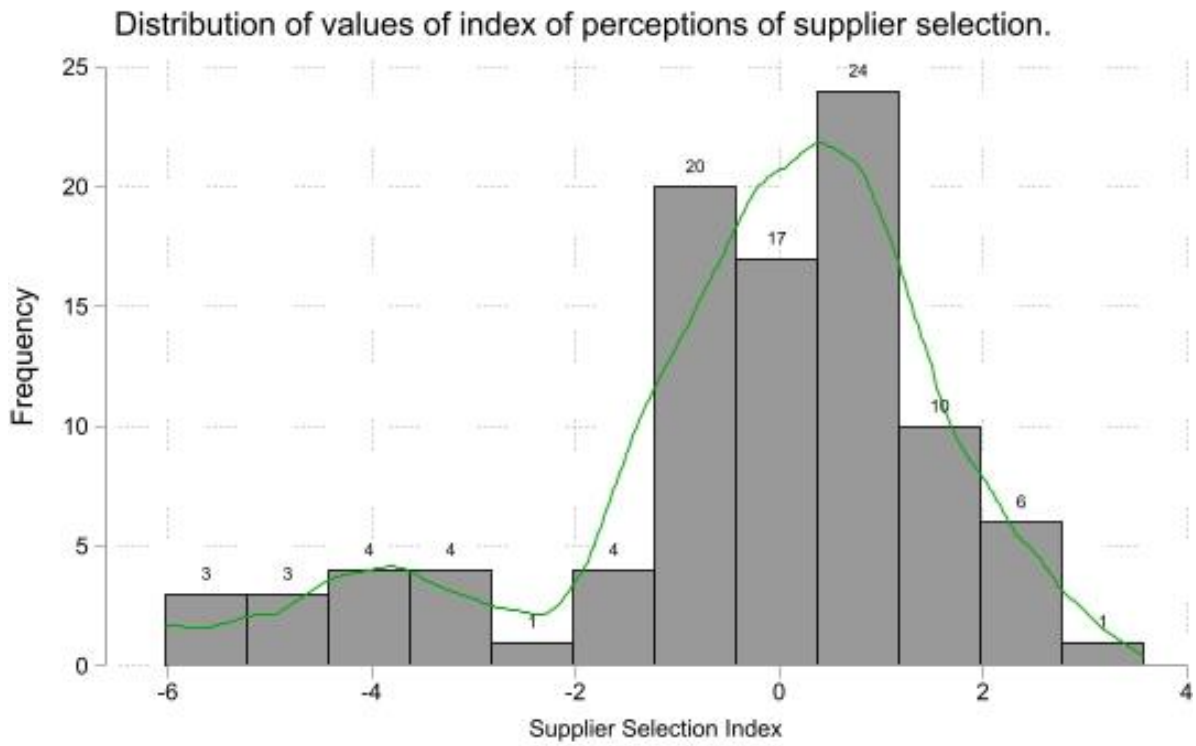

Figure 4.2. Supplier selection index

Table 4.25 below portray the Index of supplier selection over Location.

Table 4.25. Index of supplier selection over Location

Variable	Freq	Mean	Std	CV	Median
External	61	-0.331	1.979	5.970	0.007
Local	18	-0.909	1.797	1.976	-0.643
Head Office	18	0.114	1.893	16.653	0.523

In the evaluation of the supplier selection index across different locations was done based on three key factors - procurement capacity to negotiate prices, procurement management of supplier risk, and procurement accountability for supplier management.

Table 4.25 presents the findings, which show that the median score of the index is positive for locations such as head office, slightly positive for foreign locations, and negative for local locations. However, the Coefficient of Variation (CV) for individual scores is high, particularly for foreign and head office locations, indicating a large variation in scores.

Upon analysis, it was found that participants at the head office view supplier selection by procurement positively, but the perception differs for participants at local locations. This implies that there is a need for a more location-specific approach to supplier selection and a better understanding of the factors that influence perceptions at different locations. Yu, et al., (2019) explain that choosing the wrong supplier can adversely affect procurement results and organisational performance. Therefore, to minimise the risks associated with supplier misuse employees must have an awareness of the supplier selection and evaluation process.

4.4.3.2 Supplier selection over Organisation's departments

Table 4.26 provides the average values of the index of supplier selection, categorised by the departments of the industry. Participants in the procurement department rated the supplier selection process very positively, with a large positive median score of 0.658. On the other hand, participants in the engineering department rated the supplier selection process negatively, with a negative median score of -0.166. The median scores for supplier selection for agriculture and operations support department participants are small yet positive. However, for agriculture, the individual score is highly variable over the range of the distribution due to the large coefficient of variation.

Table 4.26. Index of supplier selections across departments

Variable	Freq	Mean	Std	CV	Median
Agriculture	28	-0.073	1.811	24.867	0.146
Operations support	12	-0.571	2.331	4.083	0.197
Engineering	41	-0.830	2.027	2.442	-0.166
Procurement	16	0.523	1.247	2.385	0.658

4.4.3.3 Supplier selection over work experience

In Table 4.27 below, the values of the perceived index of supplier selection were assessed over levels of reported work experience. The large CVs show that within each level of work

experience, individual scores for the index of supplier selection were highly variable, particularly for individuals with fewer years of work experience. The median score for participants with up to 5 years' work experience is relatively large (0.535). These participants believe supplier selection processes are being conducted well and supplier risk assessed adequately given the reported median score. The situation is reversed when consideration is given to participants with the most years of work experience, >15 years, as shown by the negative median score. The individual score variability among participants in this category is also lowest.

Table 4.27. Index of supplier selection over work experience.

Variable	Freq	Mean	Std	CV	Median
Up to 5 years	22	0.259	1.829	7.068	0.535
5-10 years	23	-0.417	1.876	4.503	0.164
10-15 years	21	-0.283	1.910	6.758	0.088
>15 years	31	-0.798	2.043	2.561	-0.512

4.4.3.4 Supplier selection over Job position

The study evaluated the mean values of the supplier selection index over various job categories held by participants with different decision-making capacities. These categories included line, middle, and senior management positions. Table 4.28 below demonstrates the outcomes.

Table 4.28. Index of supplier selection over job positions held by participants.

Variable	Freq	Mean	Std	CV	Median
Line management	47	-0.501	2.133	4.261	-0.359
Middle management	21	-0.560	2.047	3.652	0.230
Senior management	29	0.026	1.477	56.643	0.188

The supplier selection index has a negative value for participants in line management, indicating that they are dissatisfied with the selection process. However, middle and senior management have a positive median score for the same index, suggesting that they are satisfied with the process. Although, the large coefficient of variation (CV) in the senior management

category indicates that the scores for participants in this category are highly variable. Overall, middle and senior management believe that supplier selection processes are being performed well, as evidenced by their positive median scores. However, line managers have a different perspective, as demonstrated by their negative median score reported in table 20. Thus Kaviani, et.al (2019) argues that supplier selection as a crucial process in procurement identifies and chooses the most suitable suppliers to meet an organisation's needs (Kaviani, Karbassi Yazdi, Ocampo, & Kusi-Sarpong, 2019). Criteria such as quality, price, reliability, capacity, financial stability, and alignment with the organisation's goals are evaluated when selecting potential suppliers. (Vincent & Hsuan-Chih, 2022). Research shows that involving employees in supplier selection decisions increases their sense of ownership and responsibility (Akhavan, Elahi, & Jafari, 2014).

4.4.4 Employee perceptions on supplier contract management

The distribution of the calculated values of supplier contract management plotted in figure 4.3 shows a negatively skewed distribution. The bars of the histogram are labelled with the frequencies of the participants in the sample. It can readily be observed that the bulk of the participants coalesce around positive values of the index. The histogram of values also shows very small negative extreme values. These mean values of this plotted index are compared over four categorical variables: Location, organisation’s departments, job position and work experience. The contract management index was associated with significant loadings on contract ethics and potential ethical violations in contracts as shown in the pattern matrix table. Positive and high scores on the index mean participants perceived that contracts and tender processes were upheld with good ethical standards while negative values maybe imply ethical infractions in contract management.

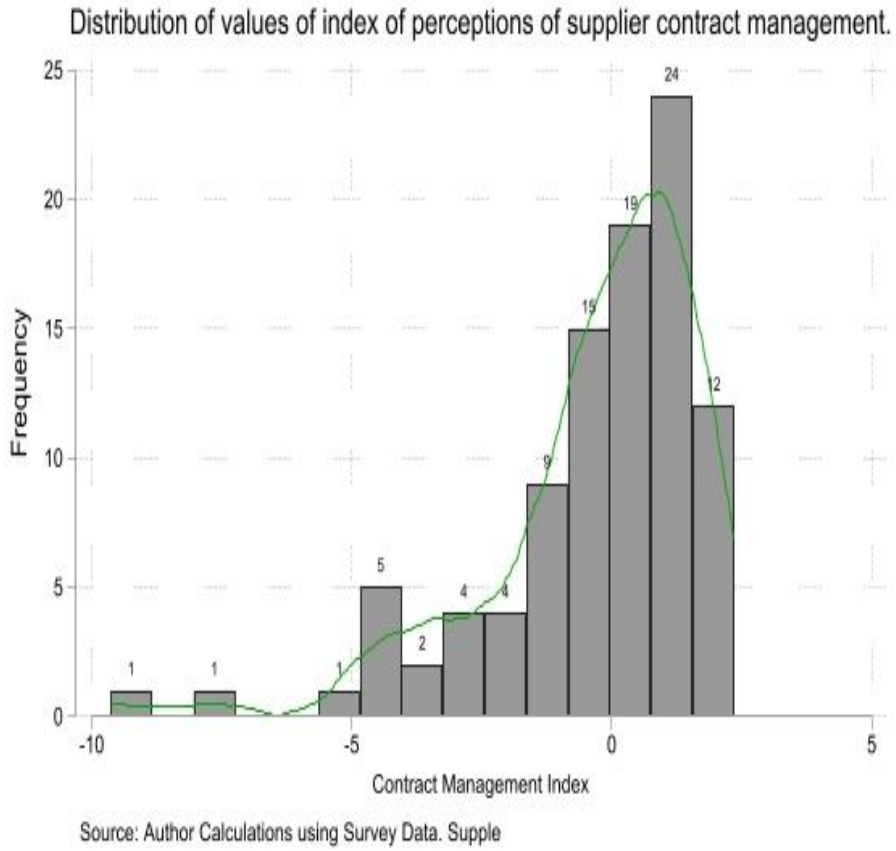

Figure 4.3. Distribution of values of Supplier contract Management Index

4.4.4.1 Supplier contract management over Location.

Table 4.29. Index of contract management over Location displays the median scores of interests and the corresponding CVs. Location head office participants have a significantly high median score for contract management, indicating that it is well managed. In contrast, Location foreign participants have a very small and negative median score, implying that contract management is not optimally performed. The median score for Location local is positive, but there is significant variability among participants, as shown by the large coefficient of variation (CV) of 25.496.

Table 4.29. Index of contract management over Location

Variable	Freq	Mean	Std	CV	Median
Foreign	61	-0.640	2.357	3.685	-0.086
Local	18	-0.060	1.538	25.496	0.229
Head office	18	0.404	1.457	3.605	0.845

4.4.4.2 Supplier contract management over Work experience

Table 4.30 displays the index values for contract management across various levels of work experience. The objective was to analyse differences in contract management experiences among participants based on their tenure in the organisation. The table indicates that median scores for all years of work experience are positive, and the coefficient of variation (CV) shows that individual scores vary at each level of work experience. It is noteworthy that all participants have expressed satisfaction with the optimal state of contract management, which is evident from the positive median scores. Aligning with this finding is Ahmed & Omwenga's (2023) view that employee satisfaction with the contract management process is closely related to their perception of contract clarity, completeness, and fairness (Ahmed & Omwenga, 2023). To ensure smooth procurement outcomes, it is essential to gain a deep understanding of the employee perspectives on contract management especially since contract management is a crucial aspect of the procurement process, encompassing several critical aspects such as supplier engagement, problem-solving, and performance tracking.

Table 4.30. Index of Contract management over work experience

Variable	Freq	Mean	Std	CV	Median
Up to 5 years	22	-0.690	2.844	4.118	0.290
5-10 years	23	0.105	1.021	9.740	0.012
10-15 years	21	-0.647	2.709	4.188	0.583
>15 years	31	-0.209	1.605	7.690	0.074

4.4.4.3 Supplier contract management over job positions

The average values of the index of contract management were tabulated over employee reported job positions. The results presented in the table below show generally high variability of individual scores over the index given the large reported standard deviations.

Variable	Freq	Mean	Std	CV	Median

Line management	47	-0.231	2.156	9.340	0.280
Middle management	21	0.060	1.296	21.774	0.237
Senior management	29	-0.801	2.456	3.066	-0.161

Table 4.31 below illustrates the Index of Contract management over job positions.

Table 4.31. Index of Contract management over job positions

The results in Table 4.31 show that the median scores for the index of contract management is positive for line management (0.280), for middle management (0.237) and negative for senior management (-0.161). There is significant variability in scores for participants within each given category of work experience as shown by the large coefficients of variations reported. Participants in the line and middle management believe that contract management is being carried out well as shown by the positive median scores. The small negative median score associated with senior management show that contract management is not perceived as being done optimally. However, Akamp & Muller (2013) recognise contract management as an important aspect of procurement that contributes to the overall success of the procurement process. Studies have highlighted the importance of effective contract management to maximise the value derived from supplier relationships (Changalima, et al., 2023).

4.4.4.4 Supplier contract management over organisation's departments.

In Table 4.32 below, the index of contract management is assessed over the organisation's departments. The median score for the agriculture department (0.258) shows that contracts are perceived to be well-managed. Due to factor scoring as explained earlier large positive indices relative to the range of the distribution shows that perceptions of the phenomena measured by the index are strongly positive or strongly negative. In operations support, the participants do not perceive contract management to be handled properly as shown by the negative median score (-0.280). The median scores for engineering and procurement are positive although very small in absolute value. There are some perceptions that contract management is being done well.

Table 4.32. Index of Contract Management over Organisation Dept

Variable	Freq	Mean	Std	CV	Median

Agriculture	28	-0.144	1.791	12.426	0.258
Operations support	12	-0.858	2.564	2.988	-0.280
Engineering	41	-0.558	2.224	3.982	0.011
Procurement	16	0.275	1.957	7.119	0.180

4.4.5 Employee perceptions on Specification Management

The index values as shown in Figure 4.4 above, the histogram has a negatively skewed distribution with the bulk of the values concentrated on the right side of the scale. The mean is generally lower than the median and mode of the index. The index was created using factor analysis with the nine (9) items loading to one factor, which was defined primarily by two (2) variables measuring supplier performance impact (0.7629) and end user specification requirements (0.6338). The average values of the indices were tabulated over values of the organisation's characteristics.

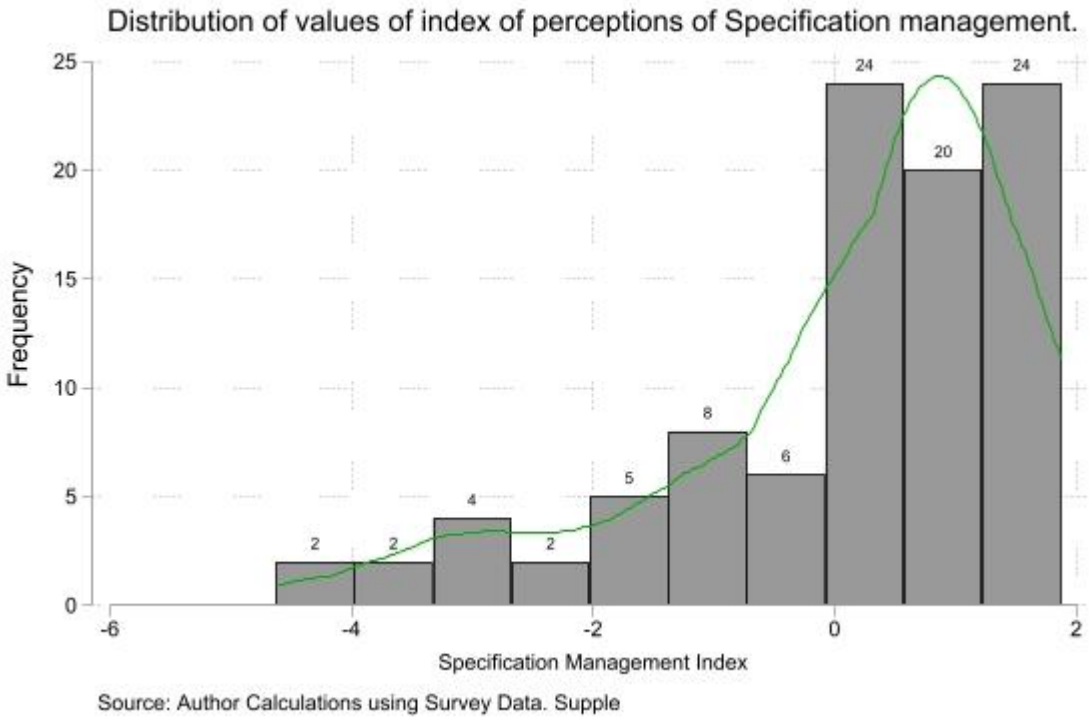

Figure 4.4. Distribution of values of index of specification management.

4.4.5.1 Specification Management over Location

In Table 4.33, the assessment of the index of specification over Location is presented. The average values are very small while standard deviations from the mean are quite large. The high variability of each individual participant score within each category of Location can be observed by the very large CVs. The median scores are positive and relatively large across all Location categories. In foreign (0.385), local (0.538) and head office (0.628), specification management relating to supplier performance and end user specification requirement is deemed optimal. The scores increase in magnitude as one transitions from foreign, to local and to head office.

Table 4.33. Index of Specification over Location.

Variable	Freq	Mean	Std	CV	Median
Foreign	61	0.048	1.540	32.339	0.385
Local	18	-0.048	1.561	32.851	0.538
Head office	18	0.285	1.229	4.313	0.628

4.4.5.2 Specification Management over Work experience

Table 4.34 presents the analysis of median scores for the index of specification management over reported years of work experience. Comparing Table 26 with Figure 4 in this subsection, it can be observed that the median aligns with the negatively skewed distribution of values and shows where the middle of the scores lies. The magnitude of the median values drops as the reported years of work experience rise.

More experienced people, still perceive specification management to be operational and well managed, the lower median scores in comparison to other groups shows the influence of negative scores as well. On average as shown by the median scores across all reported years of work experience, specification management is generally perceived to be carried out well. The preceding results resonates with Munyimi (2019) and Pienaar (2013) study results. Professionally and ethically managed specification management that involves defining and

managing the specifications and requirements for goods or services is an equally crucial aspect of the procurement process (Pienaar, 2013; Munyimi, 2019).

Table 4.34. Index of Specification over work experience

Variable	Freq	Mean	Std	CV	Median
Up to 5 years	22	-0.050	1.921	38.138	0.701
5-10 years	23	-0.051	1.806	35.094	0.691
10-15 years	21	0.555	0.877	1.581	0.566
>15 years	31	-0.070	1.150	16.341	0.244

4.4.5.3 Specification Management over Job Position

The median scores associated with levels of management as captured by job position are presented in Table 4.35 below. The median scores are positive and relatively large. It can be observed that median score values fall in magnitude as the management level increases from line management too middle and to senior management.

Generally, specification management is perceived to be well conducted across all levels, as shown by the median scores over the index of specification management. Interestingly studies have shown that unclear or incomplete specifications lead to difficulties and delays in procurement (Wynstra, et al., 2018).

Table 4.35. Index of specification over job position

Variable	Freq	Mean	Std	CV	Median
Line management	47	0.108	1.552	14.421	0.633
Middle management	21	0.289	1.167	4.039	0.462
Senior management	29	-0.136	1.583	11.632	0.385

Specification Management over Organisation's departments Table 4.36, the mean, median and CV are calculated for index of specification management as tabulated for categories of organisational departments. Accounting for the distribution of the values of the index (negative skewed distribution) and the median accurately measures the central tendency in the distribution and therefore is the parameter of interest. The median scores of the index of specification management in the table are relatively large for the agricultural department

(0.662), operations support (0.546) and procurement (0.514) and comparatively small in absolute value for the engineering department (0.385).

Generally, specification management is perceived to be well executed given the relatively large positive median scores considering the overall distribution of values. However, the differences in the magnitudes of the scores can be masking some considerations in the perceptions of the participants which are investigated using qualitative analysis.

Table 4.36. Index of Specification over organisation's department

Variable	Freq	Mean	Std	CV	Median
Agriculture	28	0.390	1.389	3.559	0.662
Operations support	12	-0.273	1.647	6.040	0.546
Engineering	41	-0.125	1.557	12.440	0.385
Procurement	16	0.291	1.290	4.437	0.514

4.5 Conclusion

Perceptions on procurement planning were explained by two factor analysis derived variables, measuring perceptions on procurement planning and role of procurement.

Participants perceived their departments as managing procurement planning well. Concerning the perceived role of procurement, most participants scored positively. Participants perceived their departments as understanding the role of procurement and interacted efficiently with procurement. They understood the role of procurement, engaged with the procurement department, and understood the value contribution of procurement to their departments. Furthermore, a key factor on Supplier selection is Supplier risk management that was an important consideration among the participants.

The contract management index was associated with contract ethics and potential ethical violations. Participants perceived that contracts and tender processes were upheld with good ethical standards.

Regarding Specification management "scope of work" was created from the factor analysis. With regards to specification management the item measuring Supplier performance impacts the company's performance was a significant item contributing towards understanding product specification, and based on reported values of uniqueness, end user responsibility for providing

scope of work can be observed to have influence as well. The next chapter presents and discusses the qualitative data analysis and findings.

Chapter 5 Qualitative Presentation and Data Analysis

5.1 Introduction

This section is a presentation and discussion of the findings from the qualitative data analysis section of the study. The analysis of the data was conducted using NVivo version 14 software for qualitative data analysis. The findings are presented thematically for each of the four sections identified, which are procurement management, contract management, supplier management and specification management. The findings are discussed in terms of their link to the quantitative analysis.

5.2 Planning

5.2.1 Challenges affecting Planning.

In Figure 5.1, the challenges affecting procurement effectiveness with focus on planning are summarised. The analysis showed that the perceived challenges can be organised under 7 sub themes, communication, external shocks, lack of effective planning, managerial, poor work organisation and performance, procurement systems design and skills.

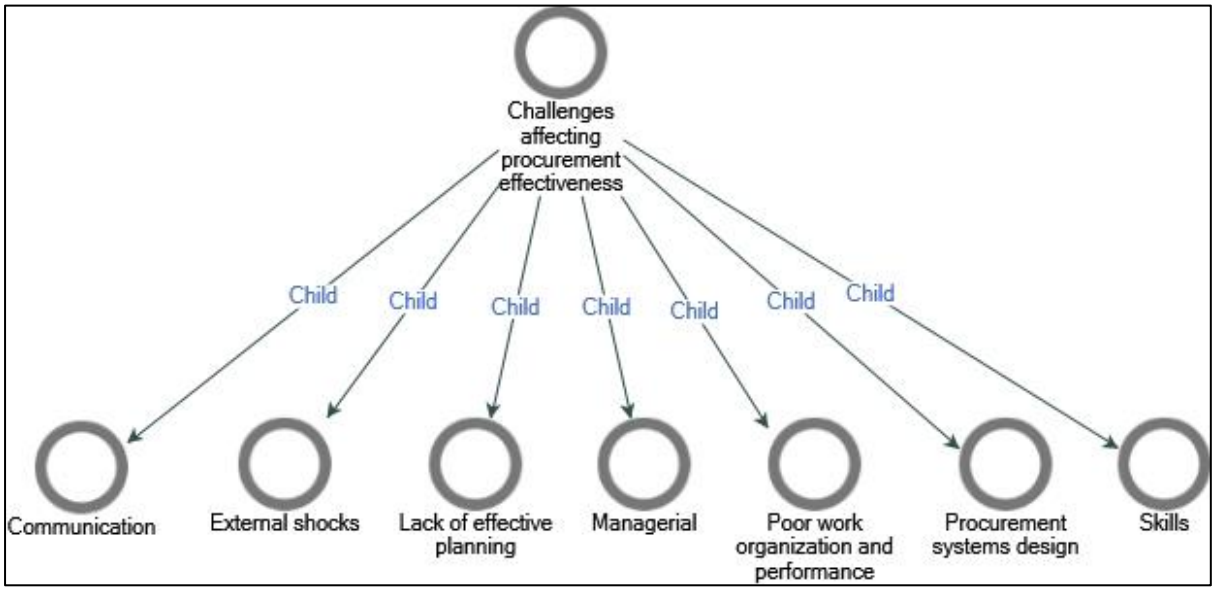

Figure 5.1. Challenges affecting procurement effectiveness.

5.2.1.1 Communication

Concerning communication, participants believed procurement requirements were not clearly stated, departments were not effectively communicating with procurement, challenges with internal communication, inaccurate data, lack of feedback from internal stakeholders, unclear

timelines from project owners and delays in information relaying by both procurement and end users. Below are the direct words of the participants. Regarding matters of communication Daniela, et al., (2014) maintain that effective communication and regular interaction between policyholders and suppliers are key elements that promote transparency, trust, and successful procurement outcomes.

"Some procurement requirements not stated clearly as to what is needed". Participant 8, Factory Engineer (FE)

"By not communicating to Procurement the need for your department hence ends up with late deliveries or not at all due to lack of alignment from the beginning". Participant 10, FE

"I think that one of the biggest challenges is not getting feedback from internal stakeholders on time when making crucial decisions". Participant 33, Procurement (PM)

"Late communications by both procurement and user and unrealistic delivery dates". Participant 55, PM

"No defined timelines from project owners, technical specs not complete, off crop parts lists and off crop plans lacking detail and deliverable dates, history of general items not considered in planning". Participant 49, FE

The participants were of the view that lack of clear or no communication from departments to the procurement department implies that early scheduling cannot be made hence goods are either delivered late or not delivered at all due to the lack of alignment. Such lack of clear communication can be both inaccurate data, unavailability of supplier quotes, insufficient details for required equipment orders and lack of feedback from internal stakeholders. Daniela et al. (2014) stresses the importance of open communication, cooperation, and trust between purchasing teams and suppliers, which is consistent with this finding.

5.2.1.2 External shocks

These included sharp changes in demand, price fluctuations and theft of stocks, unstated contingencies affecting procurement, climate and environment issues and unforeseen breakdowns. These external shocks impact the ability of the procurement department to meet delivery schedules submitted from the various departments. This implies centralised procurement planning. Research by Wynstra, et al. (2018) emphasise the importance of

flexibility and agility in the procurement process to accommodate evolving end-user requirements. Thus, procurement teams should be adaptable and responsive to these changes.

Concerning the above finding participants stated that:

"Lack of transparency, sharp changes in demand that cause a risk of supply". Participant 11, PM

"Frequent price changes and theft of supplies". Participant 42, PM

"Sometimes planning is affected by unforeseen event affecting procurement". Participant 67, FE

"Unforeseen weather changes especially for Agriculture inputs (Agrichemicals)". Participant 91, Agriculture Engineering (*AE)*

These external shocks imply that at the level of procurement management, lack of transparency associated with sharp changes in prices may cause frequent forecast revisions creating supply risk. This is attested to by one participant from the Factory Engineering (FE), who maintains that unforeseen developments in procurement affect the factory engineering department. In Agriculture engineering (AE) unforeseen weather changes may necessitate changes in demand for agriculture input hence unplanned changes in information communicated to procurement department.

5.2.1.3 Lack of effective planning

Lack of effective planning was attributed to a lack of communication since procurement departments require information from end users (factory engineering and agricultural departments) to make procurement decisions. End users communicate department-level information to procurement departments, while procurement departments communicate their requirements to the various end-user departments. Planning was considered reactive and not strategic and premised on long-term considerations.

According to Giuseppe, et al., (2019) effective communication between end-users and the procurement team too is crucial for successful requirement planning. He further maintains that studies have highlighted challenges such as misalignment of expectations, lack of clarity, and insufficient information sharing that have impacted the procurement process (Giuseppe, Daniela, Mara, & Jari, 2019). Therefore, to address these challenges, establishing clear communication channels and fostering collaboration between end users and the procurement

team is crucial (Adinyira, Agyekum, Manu, Mahamadu, & Olomolaiye, 2021). Similarly, participants maintained:

"Lack of effective planning by end users lead to delay in procurement process. lack of proper information from procurement to help end users during planning is roadblock too". Participant 5, FE

"Planning is largely reactive to the needs of the past or current season. It is seldom strategic and looking to long-term needs. The competitive advantage of the business size is not adequately leveraged". Participant 7, FE

"Planning is not based on equipment spares needs but on estimate from the past usage. Yes, we need to consider historical usage, but better planning is per equipment (especially in the off-crop) i.e. reserve spares as per equipment (Line 1 Hilo crane spares - list all possible spares required for this equipment and reserve spares)". Participant 54, FE

"Requesting for items to be bought on a short notice and failure to plan for all required items until shortfall come that lead to pressuring procurement department". Participant 62, AE

"There is no planner in the structure to plan for materials accordingly which results in bulk planning of materials without prioritization". Participant 75, FE

The responses above suggest that lack of information from procurement to end users, reactive and short-term planning lead to poor leveraging of business's competitive advantage, delay in lead time, deficiencies in needed resources, poor quality of departmental orders, limited forward planning and underestimation of departmental procurement needs.

5.2.1.4 Managerial

From a managerial perspective, challenges with procurement planning included a lack of transparency, inflexible bureaucratic management, decisions constrained by lack of information, delays in budgetary processes and poor follow-up of submitted orders.

"Lack of technical information for some of machines that bring complication in new inventory applications some dealers are not able to provide catalogue due to business interest". Participant 32, FE

"I think that one of the biggest challenges is not getting feedback from internal stakeholders on time when making crucial decisions". Participant 33, PM

"Poor scope definition. Late requests for long lead items put pressure on the procurement teams. Maintenance Budget Approval & Timing constraints". Participant 53, FE

"There is no planner in the structure to plan for materials accordingly which results in bulk planning of materials without prioritization". Participant 75, FE

"Limited finances and economy devaluations, changes in the design projects and conflicting departmental plans if not cross - coordinated to other departments". Participant 77, PM

"Procurement (not) are to be more visible and engaged with customers, especially noting that in the past procurement teams (in the past) resided at operational entity and were under local management through the admin/finance managers". Participant 86, Human Resources (HR)

These managerial inefficiencies lead to procurement disengagement, conflicting departmental plans, lack of prioritisation in procurement planning, and non-responsiveness of procurement to submitted orders. Research by Wynstra, et al., (2018) emphasise the importance of flexibility and agility in the procurement process to accommodate evolving end-user requirements. Thus, procurement teams should be adaptable and responsive to these changes. Undoubtedly the end-users' planning of their requirements plays a vital role in the procurement process, ensuring that the procured goods or services meet their specific needs (Rivera, Baguec, & Yeom, 2020). Consistent with Wynstra et al (2018) and Rivera, Baguec, & Yeom, 2020 the comments made by participants of this study state the following:

5.2.1.5 Poor work organisation and performance

Concerning poor work organisation and performance as factors affecting procurement planning, the participants alluded to lack of budget quotations, limited end-user planning, delays in processing procurement orders, late material deliveries, unplanned onboarding of new vendors, longer lead times, lack of collaboration in procurement planning and poor sourcing processes. Hence Rahman, et al., (2017) and Munyimi (2019) mention the significance of accurate and clear requirement specifications provided by end-users cannot be over emphasised to help minimise misunderstandings (Rungtusanatham, Salvador, Forza, & Choi, 2003) and to ensure that the procured items meet the desired standards. Vincent & Hsuan-Chih (2022) add that accurate specifications also enable the procurement team to select appropriate suppliers and negotiate better pricing.

Concerning planning several participants alluded that:

"Lack of budget quotes or delays in getting these quotes to work from". Participant 23, FE

"Lack of internal communication, no planning when buyers and assisting buyers are on training". Participant 25, PM

"There is no planning by the end users or little". Participant 26, PM

"End users fail to plan for order as required items". Participant 29, PM

"Onboarding new vendors, not planning for sufficient time for the process". Participant 46, Finance

"Need for a collaborative approach in procurement planning and quality of services and spares". Participant 63, FE

"Procurement does not attend to requests for quotes due to workload. Procedure dictates that procurement is to obtain all quoted. Time is wasted with passing on technical details to the buyer and then the buyer does not understand the requirements and then asks the suppliers for the incorrect specifications causing delays in procurement". Participant 93, FE

According to the afore mentioned responses several participants are from the Factory Engineer (FE), where lack of planning, communication and collaboration seems to hamper work organisation and consequently departmental performance. Likewise, according to Giuseppe, et al., (2019) effective communication between end-users and the procurement team too is crucial for successful requirement planning. He further maintains that studies have highlighted challenges such as misalignment of expectations, lack of clarity, and insufficient information sharing that have impacted the procurement process (Giuseppe, Daniela, Mara, & Jari, 2019).

5.2.1.6 Procurement systems design

The participants were concerned with structural design of the procurement system, its inflexibility to external shocks, rigid planning and decision-making processes, poor response to emergency situations, siloed procurement processes and lack of prioritisation.

"Even with planning the process lets us down. There is also inflexibility in taking recommendations for capable suppliers. The system is often rigid which can be frustrating and has an impact on my service delivery to external customers". Participant 30, BI

"Delays to obtain services even in the emergency due to procurement policy". Participant 38, FE

"Delay of emergency works that still require normal procurement procedures". Participant 75, AE

"Procurement work in a silo protecting their own KPI's without proper understanding of what needed by the end consumer". Participant 50, FE

"There is no planner in the structure to plan for materials accordingly which results in bulk planning of materials without prioritization". Participant 74, FE

The above responses suggest that concerning service delivery to external clients, the procurement system is non-responsive and external factors and emergencies arise due to procurement processes. The lack of collaboration due to siloed procurement planning, the consequent bulk buying with lack of prioritisation for departmental needs imply that these needs are not efficiently met. Correspondingly Monczka, Handfield, Giunipero, & Patterson (2019) argue that it might be considered crucial for the early involvement of end-users in the procurement process for effective requirement planning since collaborating with end-users during the planning phase allows for a better understanding of their needs and expectations.

5.2.1.7 Skills

According to the feedback received from the participants, the lack of expertise in procurement planning has resulted in various issues such as incorrect inventory ordering, incompetence among procurement professionals, inadequate demand forecasting, scarcity of technical skills, and team leaders' behavioural problems. In addition, a study conducted by Morrison, Ross, & Corcoran (2015) found that educational programmes can improve end-users' comprehension of their procurement responsibilities and their ability to provide precise and actionable requirements.

"Behavioural challenges for team leaders to take ownership of their areas and allocate sufficient time to the planning process. In adequate planning can result in delays in receiving goods/services". Participant 81, FE

"There is lack of data analysis in decision making on vehicle related procurement". Participant 25, PM

"Lack of skills in technical teams, not understanding of procurement timeline by end users". Participant 21, PM

"Wrong or poor-quality spares are ordered which needs to be replaced in a very short space of time". Participant 15, FE

"The competence of the incumbents plays a huge role in knowing how and what to plan for". Participant 17, FE

The above responses suggest that inefficient management of projects and tasks, coupled with inadequate skills, has resulted in inadequate response to changes in supply and demand. This has led to delays caused using incorrect or poor-quality spares, incorrect specifications, and inefficient work management by team leaders.

5.2.1.8 Summary of Procurement Planning Challenges

Figure 5.2 presents the responses of the participants categorised according to the frequency of coding. The analysis shows that ineffective planning and disorganised work are the most significant challenges faced by the participants. The second major group of perceived challenges pertains to managerial and communication issues, while external shocks are the least considered challenges affecting procurement planning.

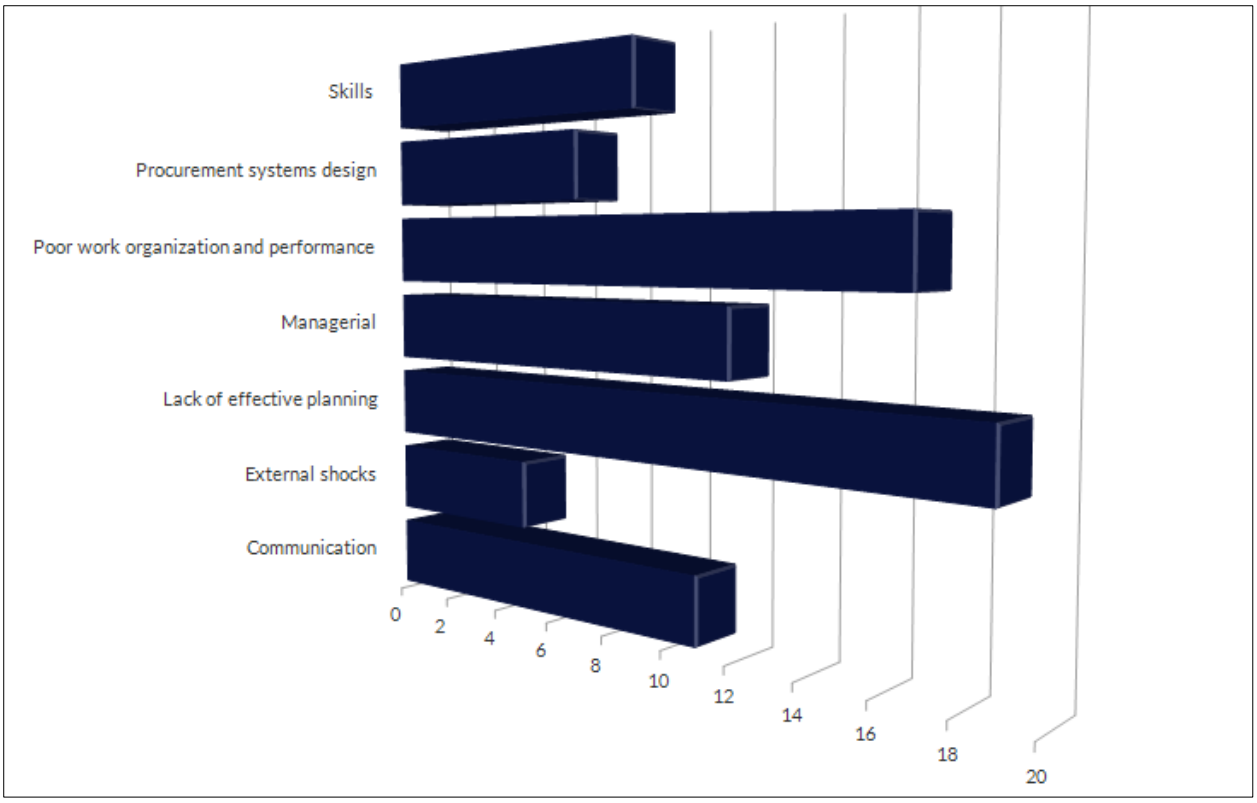

Figure 5.2. Procurement planning challenges, importance by theme.

5.2.2 Recommendations for improving procurement planning.

The participants in the study proposed several solutions to address the factors that affect procurement effectiveness. These solutions are grouped into five main themes and their sub-themes. The first theme is collaboration and partnerships, which include enhancing cooperation among stakeholders and establishing strong partnerships with suppliers. The second theme is communication, which involves improving communication channels and tools to facilitate information sharing among stakeholders. The third theme is inventory management, which includes optimising inventory levels and reducing wastage. The fourth theme is procurement planning, which involves streamlining procurement processes and aligning them with organisational goals. The final theme is procurement processes and systems design, which entails improving the design and functionality of procurement systems to enhance their efficiency and effectiveness. These solutions are summarised in Figure 5.3 and are further elaborated in subsequent sections.

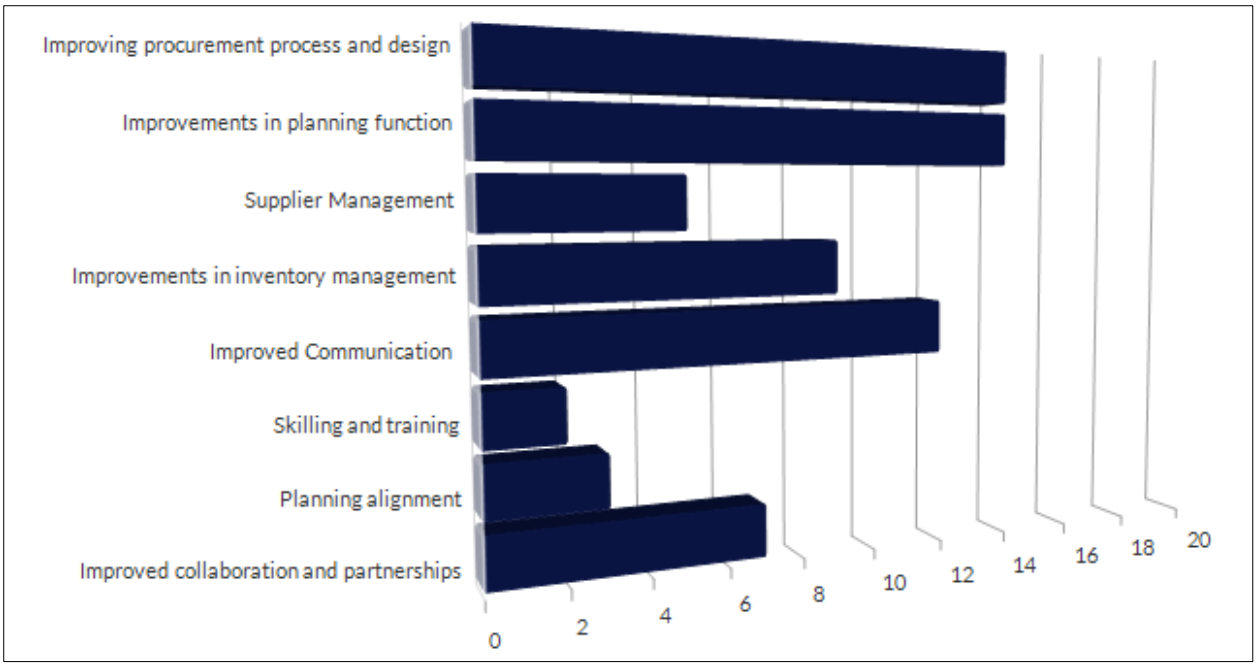

Figure 5.3. Recommendations for procurement effectiveness

5.2.2.1 Improved procurement process and design

As per participants responses, the procurement team needs to take into account the customers' objectives (P30), enhance the flexibility of the procurement system (P37, P66, P75), initiate planning processes in advance (P44), procure items with long supplier lead times early (P43), establish a detailed scope definition to streamline the procurement system (P52), create a systematic process for suppliers' orders and payments (P54), and establish engineering standard operating procedures (P63).

"Our procurement team needs to take time to understand our objectives as their customers. They need to be willing to listen and understand that flexibility is important especially when it comes to hospitality related service providers". Participant 30, BI

"Procurement should set procedure to get important service which can lead to plant shut down". Participant 37, FE

"Build in flexibility, particularly for mils that are far from procurement centres". Participant 66, FE

"Procurement should be flexible to exempt full procedures on some emergency works". Participant 75, AE

"Planning processes need to be initiated earlier and the Procurement team need to be also involved". Participant 43, FE

"Detailed, accurate Engineering Scope Definition is essential to ensure that the procurement process is seamless delivers accurately on the scope and within the required time frames. Long lead Items needs to be procured timeously and scope freeze needs to be defined to ensure that we don't set ourselves for failure". Participant 52, FE

"Preference should be given to long outstanding PRS# but it seems orders are released on who is who. Some suppliers or contractors get their orders faster than others. The same applies to payment". Participant 54, operational support (OS)

"Need to establish a Procurement/Engineering SOP". Participant 63, FE

For procurement to meet client expectations, it is important to understand their objectives. A flexible procurement system allows those who use the materials to place orders that meet their required specifications. Additionally, the participants recommended implementing a system that allows for emergency orders to be accommodated.

5.2.2.2 Improvements in planning

The participants suggested that planning could be improved through allowing participatory processes of departments into central procurement decisions so that they can best represent their departmental needs and requirements (P22). According to the participants, information sharing to facilitate ease of buying (P7) better communication on inventory levels (P10), lead times (P29), responding to relayed information and communications (P32, P47) and provision of comprehensive systems guidelines and protocols (P72, P83).

"Category buyers to lead in making information available timely to avoid delays". Participant 22, FE

"Share all information and links to procurement requirements to facilitate ease of buying". Participant 7, FE

"Better communication and better stock keeping at stores in order to accommodate the changes in demand for items required". Participant 10, PM

"End users need to know lead times". Participant 29, PM

"They need to prioritize and understand the importance of responding to emails and attend meetings where they are key decision makers". Participant 32, PM

"A diligent approach of reviewing by follow ups using online meetings will need reinforcement". Participant 47, FE

"More details of what need to be supplied has to be given". Participant 72, AE

"Standardised processes being in place and induction processes being more comprehensive to understand company systems and guidelines". Participant 83, FE

It was suggested that better communication is the best approach to accommodate changes and avoid unnecessary delays. The consequences of communication challenges were observed in the feedback provided by the participants. For instance, the procurement department should emphasise better communication, and end-users must know lead times and prioritise responding to emails and other forms of communication. Departments such as FE should emphasise participatory decision-making, provide comprehensive information and guidelines, and decentralise buying decisions to departments.

5.2.2.3 Improved inventory management

Participants proposed several suggestions related to the inventory management. They recommended that the new equipment should be fully catalogued, and arrangements should be made for stocking fast-moving parts (P13, P31). Besides, re-order levels should also be considered for the current inventory (P31), and long-term contracts with improved security should be established (P41). Furthermore, early item ordering was suggested (P44), and it was *also recommended to reduce redundancy and space for errors (P53).*

"Every equipment bought should come with parts catalogue to show part numbers and at the same time those expected to be fast moving parts, stocked immediately with reasonable quantities". Participant 13, FE

"1, Review of Stoke/level for re-order point and quantity to be considered for stoke items". Participant 31, FE

"New inventory applications should be taken as per catalogue it takes long time to write one by one item in the application form for example, we have different models of vehicles and machines with many different parts it's not easy to mention all items by handwriting on

application book instead to send catalogue to inventory specialist can provide Material Identification Description (*MID) as it is". Participant 31, FE*

"Contracting (lock prices for at least 6 months) and increasing security in the theft prone areas". Participant 41, PM

"Request items at least two weeks before projects or activity commences". Participant 44, FE

"Also mentioned above - 80% of off-crop is a repetition of jobs that we do every year so we can develop an off-crop master plan that we can always use as a base when doing off-crop prep". Participant 53, FE

According to the feedback received from the participants, keeping a stock of fast-moving materials acts as a safeguard against materials stockouts. This can further be improved by setting well-defined re-order levels. To ensure a consistent supply, it is advisable to request items well in advance, submit requirements on time, and establish lock-in contracts with suppliers.

5.2.2.4 Improved collaboration and partnerships.

The participants emphasised the importance of collaboration between end-users/departments and the procurement department, as well as the need for planning alignment and the skilling and training of departments to improve collaboration and partnership. Cooperation is necessary in all procurement stages (P4), which can be achieved through department engagement to understand strategic needs (P6, P64, P81, P85), creating forums for consultation (P68), and requesting quotes from both end-users and procurement (P94).

"End users and procurement should cooperate in all stages of procuring". Participant 4, FE

"Engage with various departments to understand functional strategic needs and determine the role that procurement plays with this planning and execution. Seek out bulk buying opportunities". Participant 6, FE

"Increase of interdepartmental engagement. Sharing of inventory knowledge". Participant 64, AE

"Create a forum for consultation". Participant 68, FE

"Engage with stakeholders to understand the challenges faced". Participant 81, FE

"Need to be mindful of challenges mentioned above and seek to be more visible and engaged with operational entities. This includes a greater in loco presence rather than just remote support". Participant 85, HR

"Quotes to be requested from end users and not only from procurement". Participant 94, OS

To improve overall efficiency in procurement, it is critical for procurement and end users to work together and develop a shared understanding of the scope of work and material needs. This may be achieved through engagement, where knowledge is shared, requirements are cross-referenced, and functional strategic interests are aligned with procurement. Thus, errors and inaccuracies can be reduced, leading to a more effective and efficient procurement process.

5.2.3 Planning analysis

5.2.3.1 Planning by Location

Figure 5.4 presents a chart where challenges to procurement effectiveness are plotted against different Location geographies, such as local, foreign, and head offices. The challenges that affect procurement effectiveness are represented through colour coding, which is defined in the legend below Table 5.1.

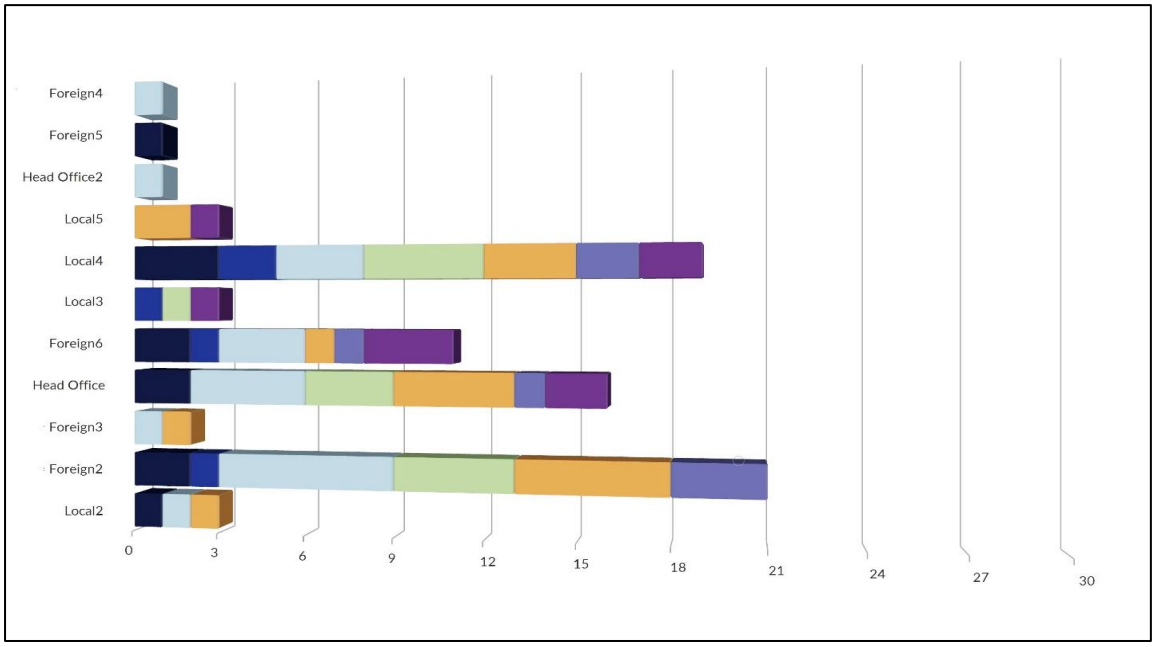

Figure 5.4. Procurement challenges by Locational region

Table 5.1. Procurement challenges by Location region -legend

Communication	
External Shocks	
Lack of effective planning	
Managerial	
Poor work organisation	
Procurement systems design	
Skills	

Based on the information presented in Figure 5.4, challenges that affect procurement effectiveness are experienced in all regions. However, the highest occurrence of these challenges seems to be more concentrated in foreign regions. The lack of effective planning is identified as a key challenge, which is more significant in foreign regions and less critical at the local level and head office. Poor work organisation and managerial issues are significant challenges affecting procurement effectiveness across all regions. External shocks are observed to be present at the local and foreign levels, but not at the head office. Considering the number of participants in each Location geography, it is noted that challenges that affect procurement effectiveness are most experienced at local and foreign regions, and to a lesser extent at the head office.

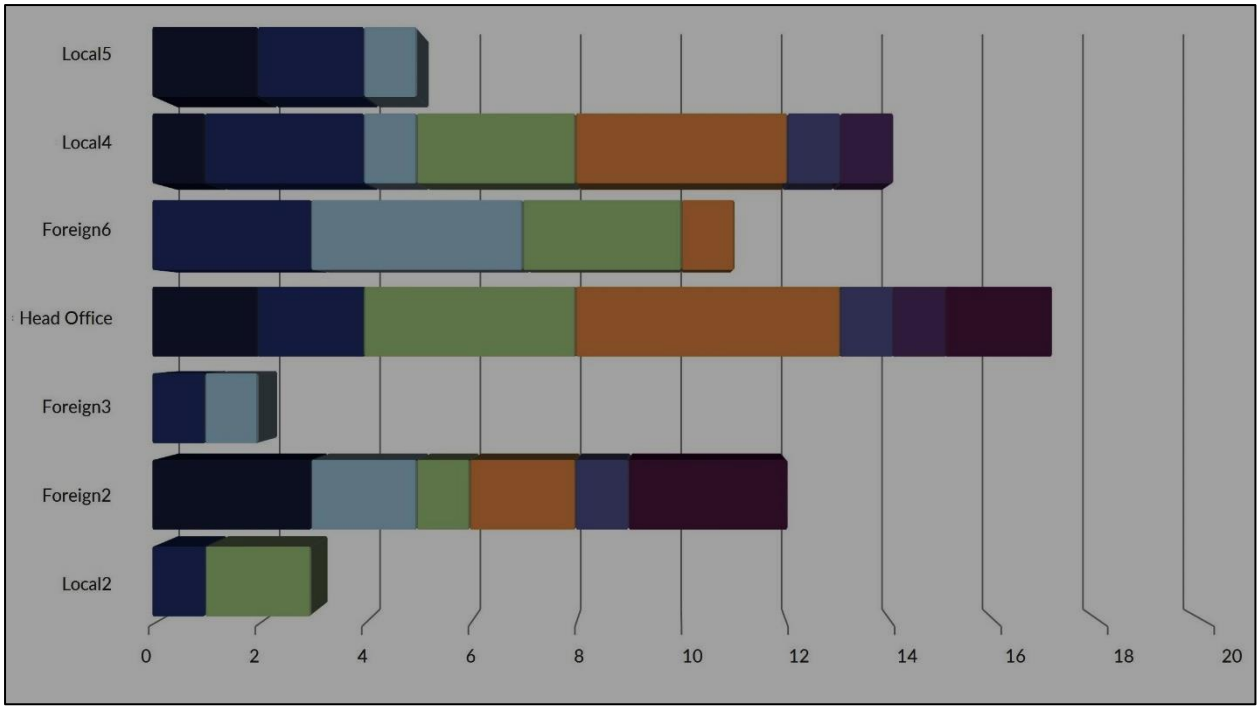

Figure 5.5. Recommendations to Procurement challenges by Location geography

Table 5.2. Recommendations to Procurement challenges by Location geography -legend

Improved collaboration and partnership	
Improved communication	
Improvements in inventory management	
Improvements in planning function	
Improving procurement process design	
Planning alignment	
Skilling and training	
Supplier management	

In Figure 5.5, recommended solutions for addressing challenges affecting procurement effectiveness are plotted against Location geographies. At the head office, solutions centre around the need to improve the procurement process and design, improving the planning function, and to a lesser extent, concerns with improving collaboration and partnerships (inter-functional collaboration), improved communication, and improved supplier management.

Local Location geographies represented by Local 2, 4, and 5 recommended improvements in the procurement process and design, improving the planning function, improved communication, improvements in collaboration and partnerships, and to a lesser extent, addressing supplier management, the need for skills and training, and improvements in inventory management.

In foreign Location geographies represented as Foreign 2, 3, and 6, improvements in inventory management, improvements in the planning function, improved communication, collaboration, and partnerships were recommended strategies. Since the different categories of foreign represented different locales in the raw data, with the same applying for Location local, it can be observed that among these Location geographies, categorised similarly, the challenges were of different intensity. Hence, the recommended solutions have equal contextual importance to their challenges.

5.2.3.2 Planning by Department

Figure 5.6 below depicts the challenges that affect procurement effectiveness for different departments in the organisation.

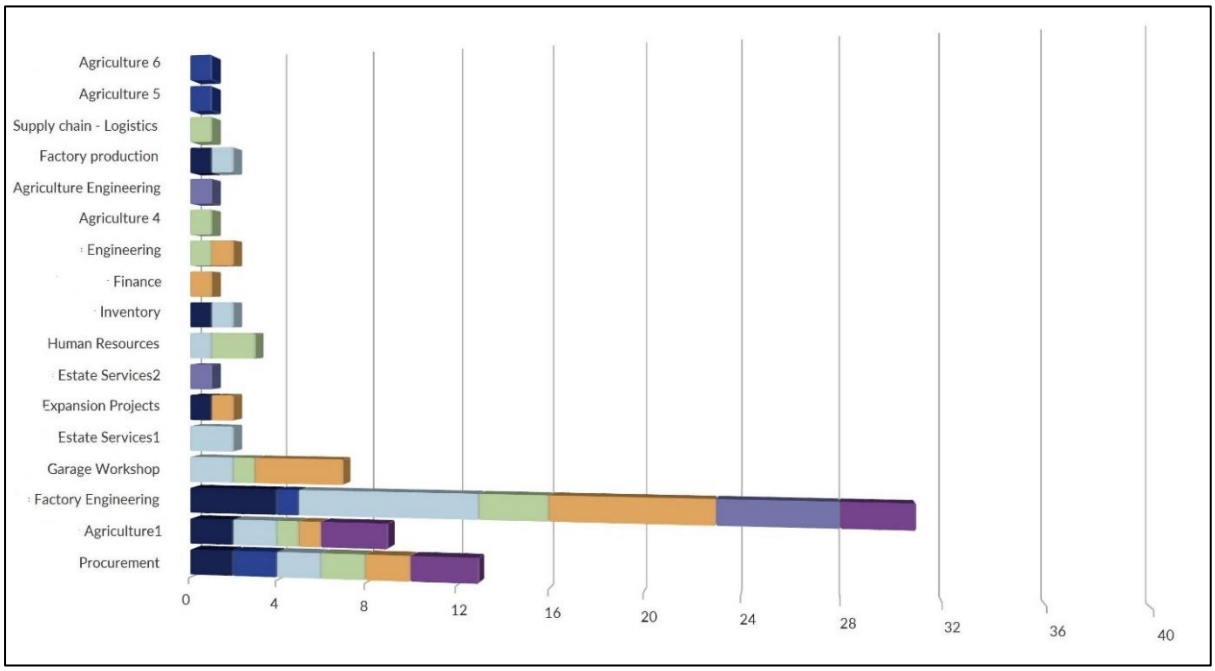

Figure 5.6. Procurement effectiveness challenges by Department

The chart in Figure 5.6 assesses the challenges that affect procurement effectiveness for different departments in the organisation. Based on the reported number of participants, it appears that the factory engineering department, procurement department, agriculture, and

workshop are the departments most impacted by the challenges affecting procurement effectiveness, in that order. Within the factory engineering department, lack of effective planning, poor work organisation, procurement systems design, and communication are significant challenges, in that order. Managerial issues do not seem to be of greater importance across all departments. It can be observed that skills challenges are a crucial factor in the factory engineering, agriculture, and procurement departments, which contribute to the challenges affecting procurement effectiveness.

Figure 5.7 below shows the recommended strategies suggested by participants from various departments to address the challenges with procurement effectiveness. Among these strategies, the engineering department has highlighted the need for improved collaboration and partnership, better communication, efficient inventory management, streamlined procurement process and design, and enhancements in the planning function. It appears that the engineering department has been relatively more affected by procurement challenges than other departments. In the agriculture department(s), the need for improved collaboration and partnership, effective communication, and to some extent, better supplier management, and enhancements in procurement processes and design have been identified.

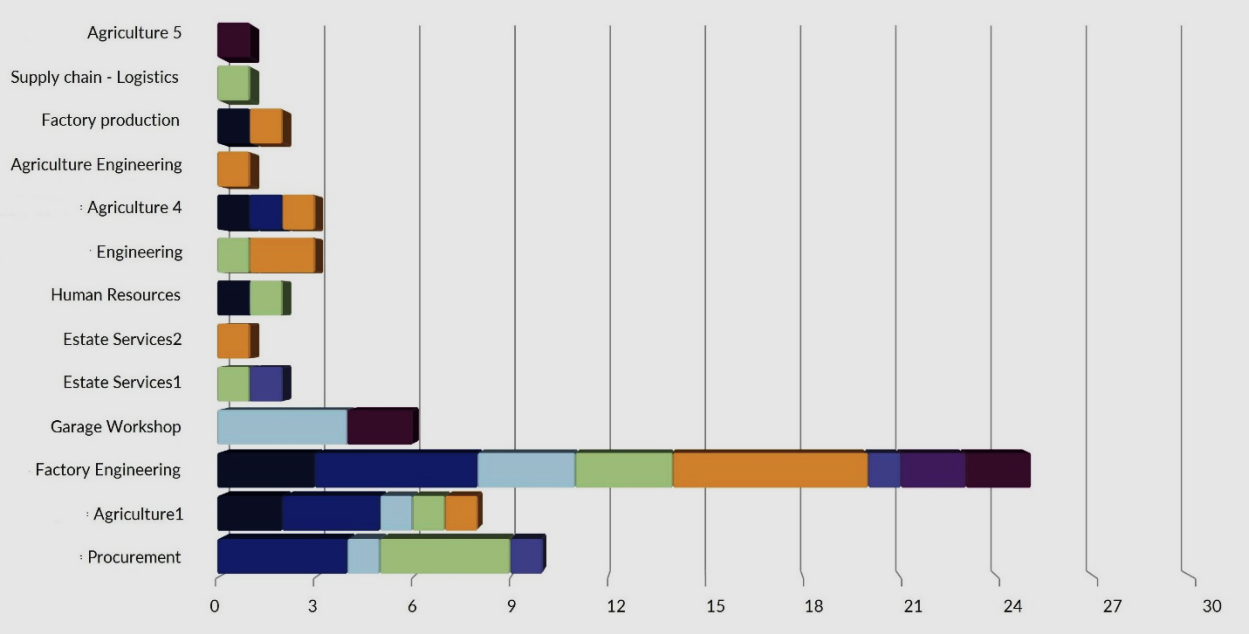

Figure 5.7. Recommendations to procurement challenges by Department

5.2.3.3 Planning by Job Grade

Figure 5.8 below shows the challenges affecting procurement effectiveness by Job Grade

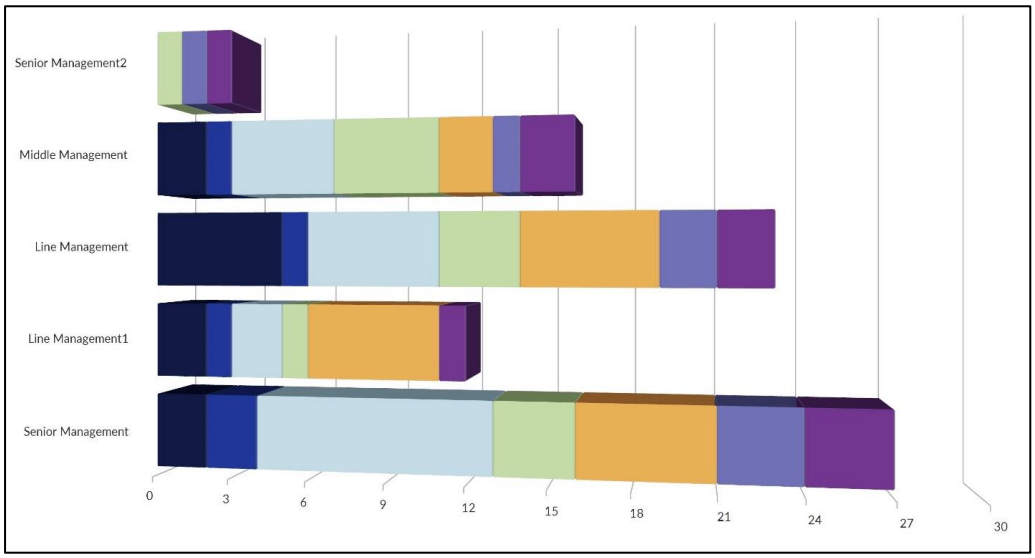

Figure 5.8. Challenges affecting procurement effectiveness by Job Grade

Figure 5.8 shows that procurement planning challenges are a major concern for senior and line management, but not as much for middle management. However, this comparison cannot be generalised due to the sample's relative participant representation. Among senior management, effective planning is the most important challenge, along with poor work organisation. Other challenges of lesser importance include communication, external shocks, managerial issues, procurement systems design, and skills. At the line management level, important challenges include communication, lack of effective planning, and poor work organisation. Figure 5.9 shows that procurement planning challenges are a major concern for senior and line management, but not as much for middle management. However, this comparison cannot be generalised due to the sample's relative participant representation. Among senior management, effective planning is the most important challenge, along with poor work organisation. Other challenges of lesser importance include communication, external shocks, managerial issues, procurement systems design, and skills. At the line management level, important challenges include communication, lack of effective planning, and poor work organisation.

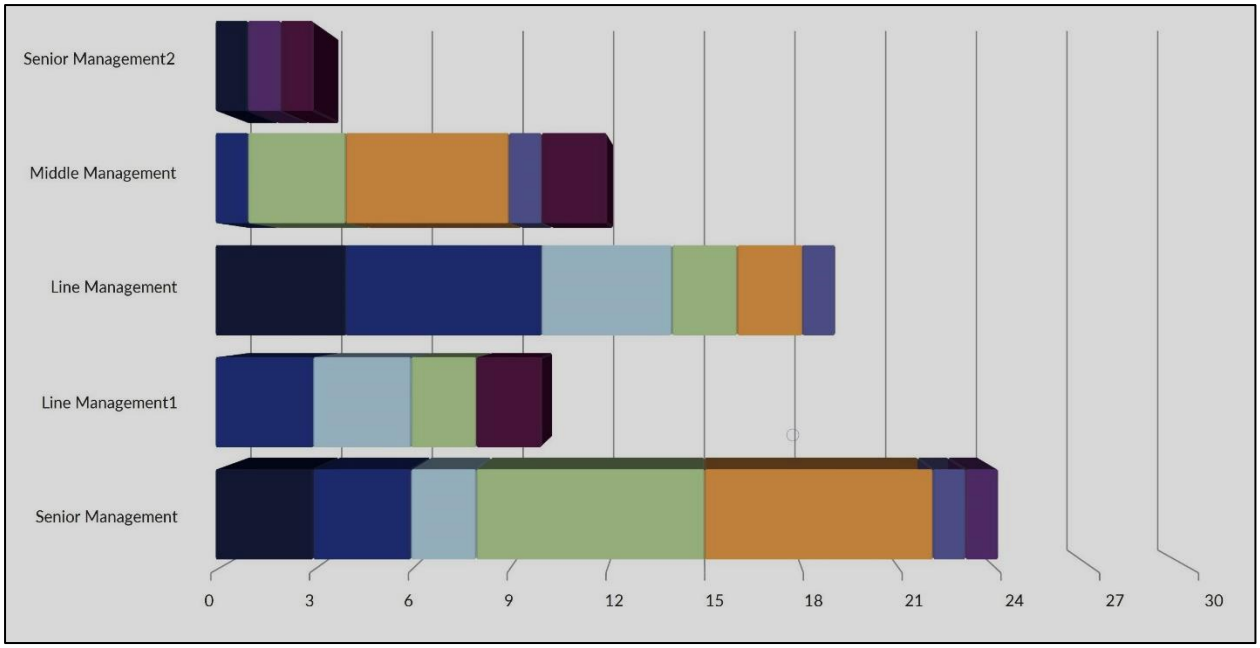

Figure 5.9. Recommendations to addressing procurement challenges by Job grade.

Participants in the senior management job position expressed that the procurement process and its design, as well as the planning function, need improvement. These were considered the most important concerns among the participants. Line management participants believed that improved collaboration, partnerships, and communication could address challenges with procurement effectiveness. Middle management participants prioritised addressing challenges with the procurement process and design and improving the planning function. Recommendations across all levels of management were directed towards addressing supplier management, skilling and training, and planning alignment.

5.2.3.4 Planning by Work Experience

Figure 5.10 below illustrates the challenges affecting procurement effectiveness based on the reported years of work experience.

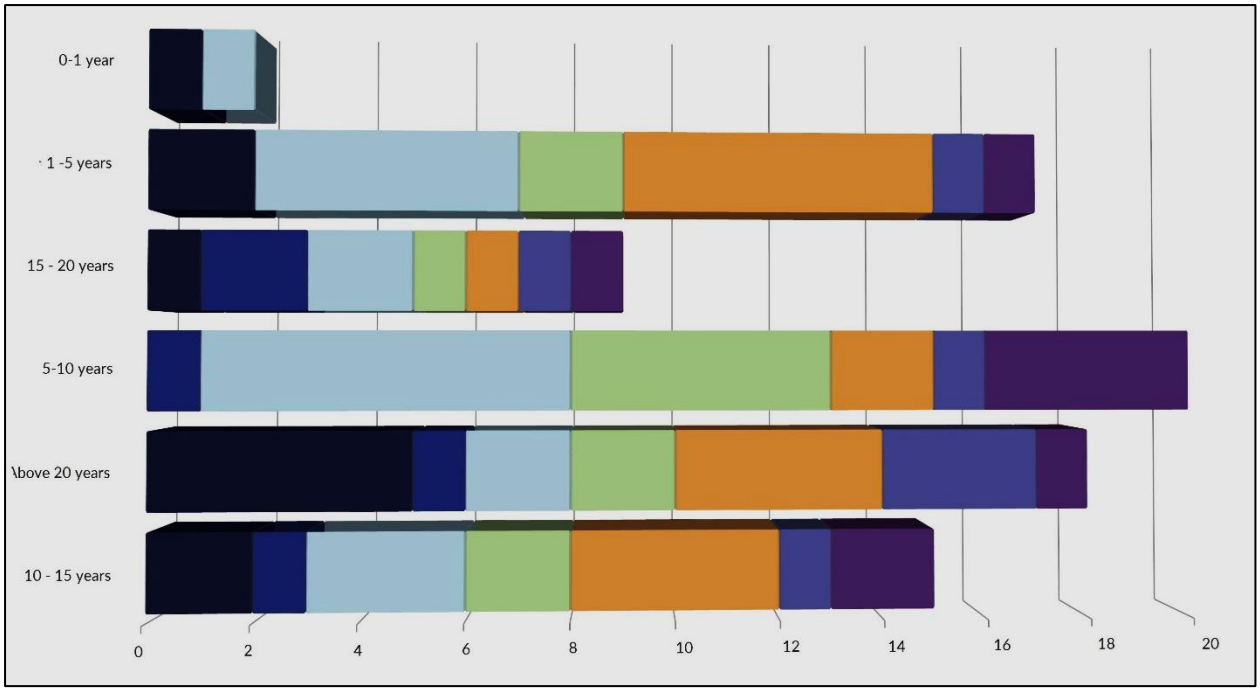

Figure 5.10. Challenges affecting procurement effectiveness by Work experience.

The above chart Figure 5.10 assesses the challenges affecting procurement effectiveness based on the reported years of work experience of the participants. Among all participants, lack of effective planning remains a constant challenge, with varying levels of representation. Participants with the least amount of experience were mostly concerned with communication challenges and lack of effective planning. Among participants with 1 to 5 years of work experience, the challenges included lack of effective planning, poor work organisation and performance, and to a lesser extent, managerial and communication challenges. Among participants with 5 to 10 years of experience, lack of effective planning, managerial issues, and skills were the biggest concerns affecting procurement effectiveness. For participants with 10 to 15 years of experience, poor work organisation and performance, lack of effective planning, communication, and skills were the top concerns. Participants with 15 to 20 years of experience reported external shocks and lack of effective planning as the most salient challenges, while communication, managerial issues, poor work organisation, procurement systems design, and skills were of lesser importance. Finally, participants with over 20 years of experience reported communication challenges and poor work organisation as the most salient challenges, while procurement systems design had a larger relative representation, and lack of planning and managerial issues were also important.

Figure 5.11 below portrays the Recommendations to procurement challenges by work experience.

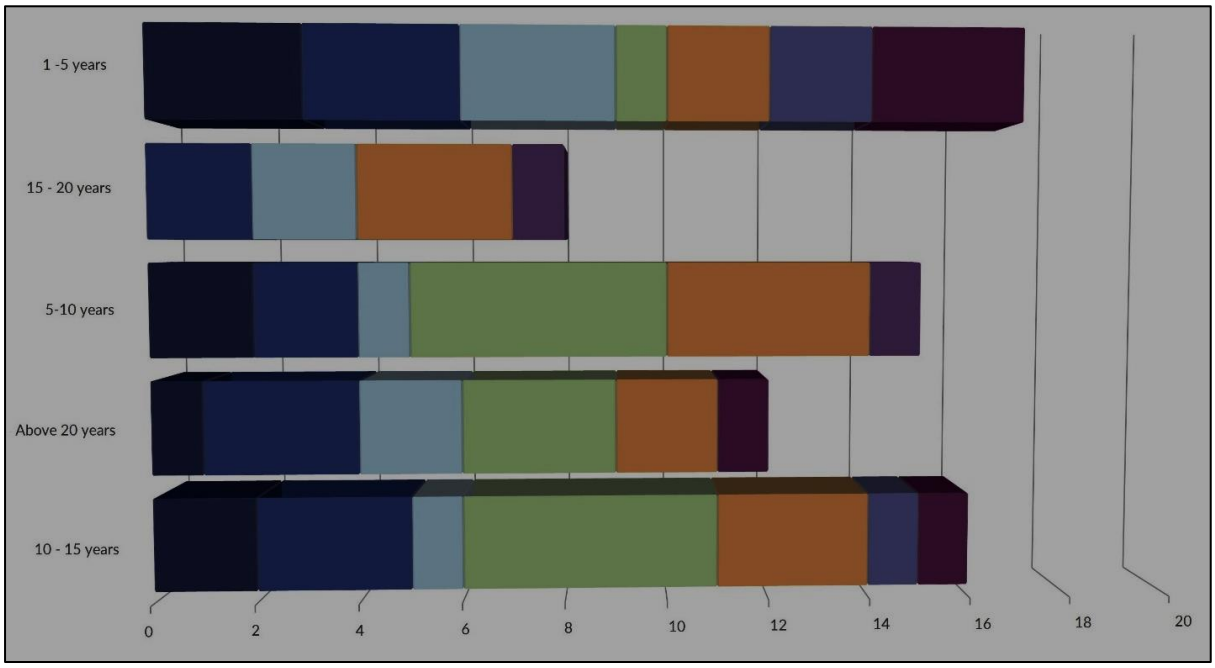

Figure 5.11. Recommendations to procurement challenges by work experience.

The chart presented in Figure 5.11 indicates that participants with less than one year of experience did not provide any recommendations for improving procurement effectiveness. However, participants with up to five years of experience suggested enhancing collaboration and partnership, communication, inventory management, and supplier management. While improving the planning function and procurement process and design were also recommended, they were given relatively less importance based on participant representation. Among participants with experience ranging from five to ten years, the recommendations for improving inventory management and the planning function were comparatively higher. Lastly, participants with more than 20 years of experience suggested communication and the planning function as highly important areas for improvement.

5.3 Supplier Selection

5.3.1 Challenges with Supplier Selection

There were four key themes explaining supplier selection challenges including managerial issues/problems, quality and efficiency of workflow, supplier quality issues and supplier selection and evaluation. In the chart in Figure 5.12, where these issues are displayed based on

the frequency of coding references in each category, managerial issues were most important in explaining supplier management. Supplier quality and supplier selection and evaluation were similarly considered based on the coding frequency count.

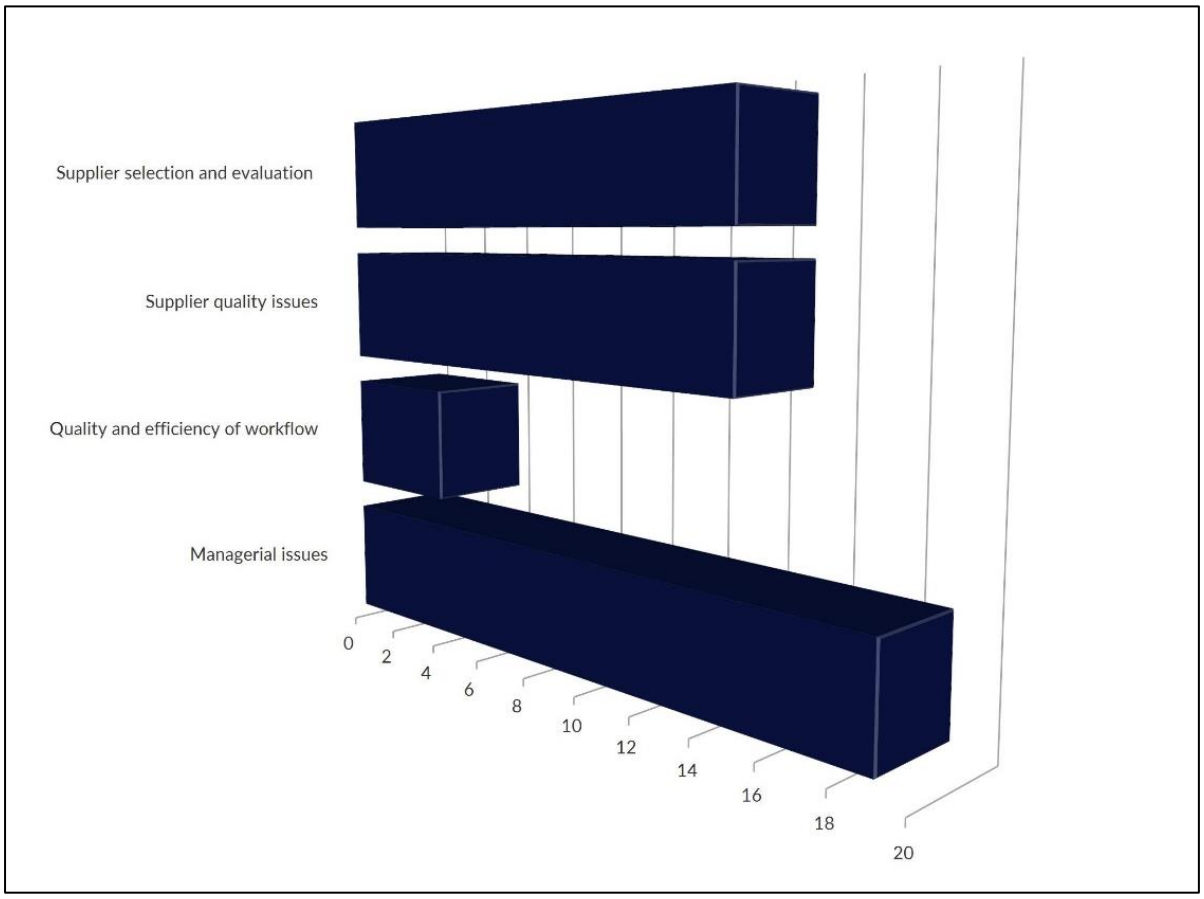

Figure 5.12. Supplier Selection challenges

5.3.1.1 Managerial issues

Participants identified poor communication of technical information to suppliers, lead time management problems, inadequate task compensation systems, absence of a supplier selection interface, poorly defined ordering parameters, delayed payments to suppliers, undefined key performance indicators for suppliers, and a lack of leadership in supplier selection by the procurement department as some of the issues. Therefore, according to Bwana & Muturi (2018) it is crucial to have clear evaluation criteria, such as quality standards, pricing, and delivery capabilities, to select the most suitable suppliers.

"Some suppliers fail to quote due to lack of technical information's available to them such as detailed drawings etc". Participant 9, FE

"On big tenders that involve complex Engineering taking more than 1 supplier to do a 90% cost estimate without paying for the Engineering is a challenge". Participant 12, FE

"Non availability of a lot of repair and parts manuals to give part numbers to procurement are a major cause of incorrect parts delivery at once off. Procurement fully depends on full information of required parts, for them to find correct parts quotation. A worst scenario is where Procurement personnel don't go out to look for parts, they send suppliers to bring the parts. But again, even if they go, they don't know parts by identification but still it will be by part number. We have a high risk of low-quality parts due to 3 quotes comparisons". Participant 13, FE

"There is no supplier management interface.... there is an overlap performance in some categories is done by the category leads and mill is to do something and the something is not defined and measured". Participant 19, PM

"Delays in payment of suppliers has resulted in fewer suppliers willing to do business with [the company]. The 3 quotes requirements become impossible at times". Participant 25, AE

"We don't have KPIs for our suppliers and hence we are not in the position to evaluate or critic them effectively. Delivery seems to be the only mechanism to evaluate supplier performance". Participant 43, FE

"Procurement team doesn't take a lead in supplier management - almost leave everything to end user. Chasing invoices remains the end user's problem even for goods delivered at stores (received by stores personnel). End users end up chasing invoices because the commitments are sitting with the end user". Participant 53, FE

Based on the above responses it may be deduced that the inability to obtain quotes in a timely manner can result in lead time delays and scheduling problems within departments. Additionally, undefined parameters, a lack of supplier interface, and payment delays to suppliers can make it difficult to monitor supplier performance. Furthermore, the procurement system may not have a comprehensive supplier database to function efficiently and competitively. Thus, according to Choi and Hartley (2019) the need for robust quality

management systems and performance monitoring to ensure supplier compliance with quality requirements must be considered.

5.3.1.2 Quality and efficiency of workflow

Participants perceived the current contracting system as a major contributor to workflow challenges, as it tends to retain inefficient suppliers and makes it virtually impossible to implement alternative supply arrangements without changing the existing system. Even with observed inefficiencies among existing suppliers, there are no Key Performance Indicators (KPIs) available to evaluate their performance. Instead, evaluation of procurement performance is reportedly based on the system variables, rather than actual supplier performance and outcomes. The current evaluation system used by the organisation to assess their suppliers is seen as flawed, which puts end-users at risk of dealing with underperforming suppliers. Even though the evaluation process for the supplier database may appear to be flawless, it is not entirely objective. Podmoskovnov (2018) asserts that Organisations often use different evaluation methods, such as supplier scorecards, performance metrics, and key performance indicators (KPIs), to assess suppliers. He adds that these methods are used to assess suppliers objectively. Similarly, Carter and Rogers (2008) highlighted the benefits of supplier diversity and sustainability in terms of innovation, social impact, and long-term business viability. On the other hand, Şen, Başligil, Şen C, & BaraÇli (2008) emphasised the importance of employing a comprehensive supplier evaluation framework that considers both qualitative and quantitative factors. These arguments underscore the study's findings on the current flawed evaluation system.

"The contracts that are in place tend to restrict the quality and the efficiency of workflow. An example of this is PPE., I have numerous complaints of poor-quality PPE, which is contracted, these have been raised many a time but there is no joy with the outcome. Whilst quality goods and services can be better sourced from suppliers that have the potential to do so, we are restricted by contract". Participant 3, FE

"We don't have KPIs for our suppliers and hence we are not in the position to evaluate or critic them effectively. Delivery seems to be the only mechanism to evaluate supplier performance". Participant 43, FE

"Process focused not results focused, process delays order placement, overuse of scan market causes delays, sole source motivation pushed to end user when procurement can't find

alternate vendors, limited suppliers often drive-up prices in the local market - need to check prices against other suppliers". Participant 48, FE

5.3.1.3 Supplier Quality Issues

Participants mentioned that there are fragmented supplier-handling strategies in place that do not effectively manage supplier quality. The evaluation of suppliers is not based on their performance, which has resulted in challenges such as poor supplier feedback, non-delivery issues, and supplier account suspensions. Findings from a study by Phusavat, et al. (2015) highlight the need for risk identification, evaluation, and mitigation strategies.

Procurement teams are finding it challenging to manage a large database of suppliers, and this may require the implementation of centralised procurement processes. However, this could also make it difficult to track individual supplier performance. The use of too many suppliers was also noted, which can further exacerbate this issue. The supplier selection process currently in place selects the lowest quote, regardless of supplier competency, which was a concern raised by multiple participants during the discussion. Likewise, Daniela, Sanna, & Jukka (2014) emphasise the importance of effective communication, trust, and shared goals in supplier partnerships. Mandal & Deshmukh (1994) emphasise the role of supplier relationship management practices, such as information sharing, joint problem-solving, and mutual benefits, to enhance supplier performance and overall procurement outcomes.

"There is a disconnect with sites to the effect that sites tend to handle a lot of supplier quality issues themselves; often resorting to accepting poor quality services and products". Participant 5, FE

"Not all Suppliers are evaluated in terms of their performance". Participant 14, OS

"Some challenges faced with supplier management are communication from suppliers and deliveries as well as accounts placed on hold and as a result, suppliers unable to deliver". Participant 20, PM

"The database of suppliers is too big. I think the Procurement is overwhelmed at times. There is also the case of not taking cognizance of past failure to supply. Cheapest isn't always best because time delays cost us more money as the end user". Participant 30, BI

"There are too many suppliers that are used and there are items of poor grade being bought on the 3-quote system to get the best price". Participant 26, PM

"Late deliveries by contracted suppliers, over reliance on one supplier and wrong supplies by the contracted suppliers". Participant 41, PM

"Not enough engagement and there is no follow up on orders place. If suppliers delay delivering, very often it is the end user who ends up following up with the supplier". Participant 74, FE

"Suppliers are selected who are cheap". Participant 37, FE

"Winner from three quote system delivering the poor service". Participant 49, FE

Considering the preceding responses, the persistent quality problems related to supplier management are leading to inadequate services and subpar supplier quality. These issues are being exacerbated by the lack of proper evaluation, suggesting that underperforming suppliers are not being effectively identified or removed from the central database.

5.3.1.4 Supplier selection and evaluation

The 3-quote system is associated with a large database of suppliers, which makes it challenging to track supplier's previous performance since the best price of the three quotes determines supplier selection (P26, P30). According to the participants, supplier evaluations are infrequent and not directed at efficiency objectives such that poor performing suppliers continue to persist (P94, P61).

"There are too many suppliers that are used and there are items of poor grade being bought on the 3-quote system to get the best price". Participant 26, PM

"There is also the case of not taking cognizance of past failure to supply. Cheapest isn't always best because time delays cost us more money as the end user". Participant 30, BI

"Supplier evaluations take time to be completed and that makes it not objective when completed". Participant 61, OS

"Supplier evaluations are not conducted. Limited number of approved suppliers". Participant 94, OS

Concerning the above responses participants believe that ineffective supplier selection and evaluation processes can lead to the inclusion of poorly performing suppliers in the company's

database due to a combination of factors such as an abundance of suppliers, preference for the lowest price, and lack of metrics to track supplier performance. Their responses further suggest that this can result in poor quality of supplied items, difficulties loading suppliers to the payment system, limited metrics for evaluating suppliers, and supplier evaluations that are not aligned with the company's business objectives.

Moreover Khedhaouria & Gurau (2018) in their study found that employee involvement in supplier selection positively influenced their perceptions of supplier performance and subsequent job satisfaction. When employees have a voice in supplier selection, they feel more invested in the process and have power, a sense of control and influence (Pienaar, 2013).

5.3.2 Recommendations for Supplier Selection.

Recommendations towards improving supplier selection efficiency were explained by six themes according to participant thematic analysis. These themes summarised in Figure 5.13 below are, supplier selection and evaluation, strategy emergency supply protocols, resourcing the procurement function, functional organisation, engagement with inter-departmental stakeholders and building relationships with suppliers. The bulk of the participants perceived a strong need for supplier selection and evaluation. The themes focusing on functional organisation and strategic emergency protocols were merged with the themes resourcing the procurement function and building relationships with suppliers respectively. In the Figure 5.13, sub-themes were treated as categories though nested under other themes. The themes are discussed in turn.

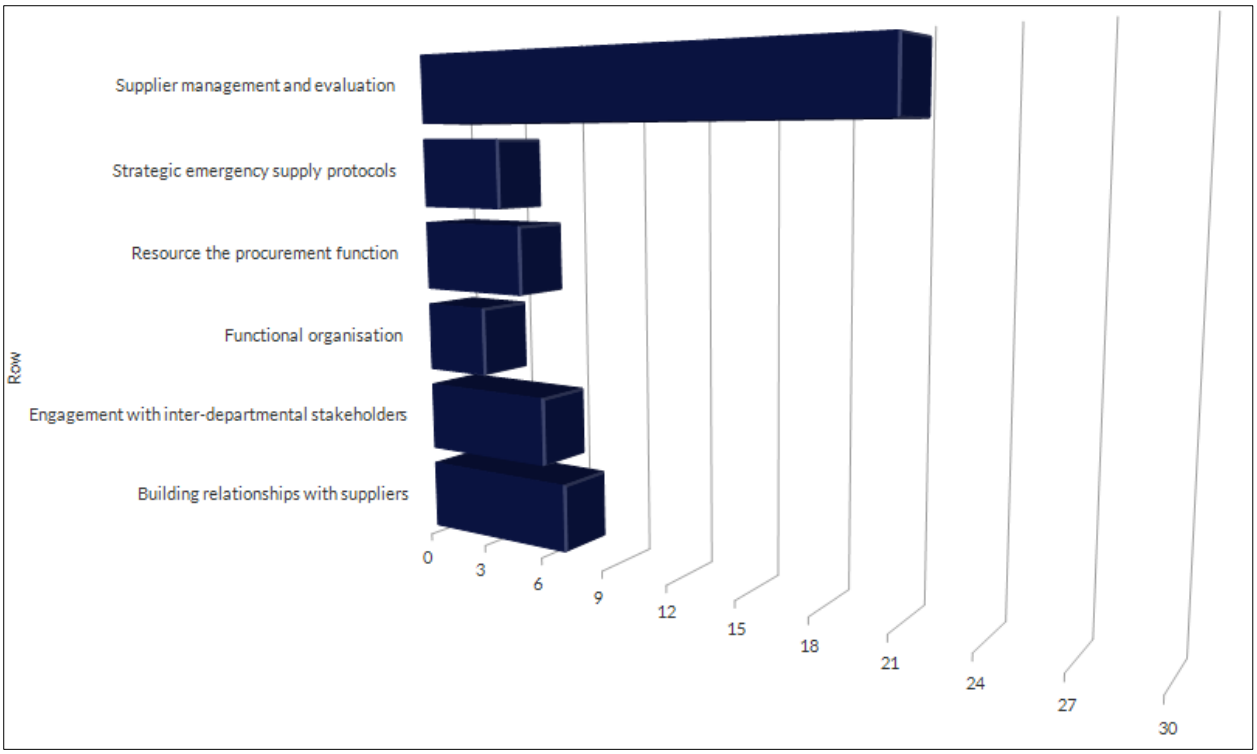

Figure 5.13. Recommendations for Supplier Management

5.3.2.1 Supplier selection and evaluation

The participants suggested the need for regular site monitoring and audits for supplier compliance (P6), building of sustainability programmes with suppliers (P6), utilise end user feedback for supplier evaluation purposes (P13, P63), improved supply chain management (P25), quality of products should guide supplier choice (P13, P63), supplier KPIs to be prioritised in negotiated contracts (P10, P43, P44) and sharing conducted evaluations on suppliers (P94).

"Regular interactions with sites. Regular audits of compliance to product and service requirements. Working more closely with suppliers to understand challenges and provide solutions. There is a need to build sustainability programs with suppliers. Suppliers need to be seen as an extension of the ISA business". Participant 6, FE

"Monthly report to be done to ensure that suppliers abide to the contract lead times". Participant 10, PM

"Procurement should at times engage end user on choosing source which can give genuine or good quality parts and not stick to low prices as guide. Also, if it is a service, end user can know who did quality works. Cheap is expensive in terms of durability". Participant 13, FE

"Supply chain management including payment on time can improve turnaround times for both quotations and services". Participant 25, AE

"Select supplier who can offer good service regardless of their cost". Participant 37, FE

"KPIs to be developed at the forefront of the contract negotiations". Participant 43, FE

"At least share suppliers' performance reports on monthly basis". Participant 44, FE

"Understand the end user requirements and price bargain should be based on quality and not quantity". Participant 63, FE

"Share evaluations conducted. increase the list of approved suppliers". Participant 94, OS

These suggestions would ensure that accurate requirements based on end users are met, and the best suppliers are chosen to transact with the business who provides the best negotiated fit. Furthermore, periodic supplier evaluations would ensure that suppliers performing within their contracted expectations will be retained while improved supply chain management can improve sustainability of relationships with suppliers.

5.3.2.2 Building relationships with suppliers

Participants stressed the need to build relationships with suppliers (P2, P52), which entailed working closely with them (P6), engage with original equipment manufacturers (P9), and establishing service level agreements (P42).

"They need to build relationship with suppliers". Participant 2, AE

"Working more closely with suppliers to understand challenges and provide solutions". Participant 6, FE

"I would recommend possible suppliers to engage with OEMs to negotiate on having rights to detailed drawings which will enable them to participate in the tendering processes". Participant 9, FE

"Evaluate good service providers and set up service level agreements". Participant 42, FE

"I feel we can do more in this space through engagements and performance managing our suppliers to improve the services that they provide to the group". Participant 52, FE

Building relationships and working more closely with suppliers meant that there can be shared understanding of business challenges and creation of shared solutions which can improve supply scheduling and eliminate delays.

5.3.2.3 Engagement with interdepartmental stakeholders

The participants stressed the need for collaboration with departments to understand challenges related to supply chain processes such as delays in payments (P20), including departmental inventory teams in supplier meetings (P45), having a shared understanding of central role of procurement (P57) and encouraging end user supplier engagement (P97).

"Placing more focus on OTIF as well as collaborating more frequently with accounts department to understand better the challenges they face in processing payment/search. It could be due to various reasons like supplier unaware of correct address information invoices are required to be issued to which could lead to unpaid accounts". Participant 20, PM

"Inventory team to be included in supplier meetings". Participant 45, PM

"Always note that all departments rely on procurement for operations to work smoothly". Participant 57, FE

"Involve or encourage end user supplier engagements". Participant 97, FE

Delays in payments which were noted as straining relationships with good suppliers can be solved through better supplier engagement. Furthermore, improving end user engagement can mean suppliers have better conception of business needs.

5.3.2.4 Resource the procurement function

The participants explained the need for procurement to have manuals to improve technical information conception during ordering (P13), increase procurement human resources (P14), and have access to specialist human capital to advice procurement (P30).

"Manuals are expensive but for the sake of improvement and accuracy in procurement, we must be allowed to buy them. OEM don't stock any parts, a lot of them are bought elsewhere. So, its end users who can advise on quality and source". Participant 13, FE

"Structure the Procurement function to have enough people to engage with Suppliers and evaluate performance". Participant 14, OS

"When it comes to specialist areas, Procurement should trust the end user who has experience in the industry to give recommendations and guidance on correct suppliers. Quality is an important factor beyond just cheapest price". Participant 30, OS

Two critical resources were noted in improving engagement with suppliers, technical information through manuals and human resources so that supplier evaluations can be done efficiently while specialist skills can address issues pertaining to specialised purchase orders.

5.3.3 Analysis Supplier Selection

In this section supplier selection challenges and recommendations are analysed, and the charts in this section have the challenges and recommendations plotted on the same chart.

5.3.3.1 Supplier Selection by Location

In Figure 5.14, challenges and recommendations for supplier selection are presented and color-coded for easy reference. The following are the challenges faced by participants in locations (foreign and local) and head offices when it comes to supplier selection.

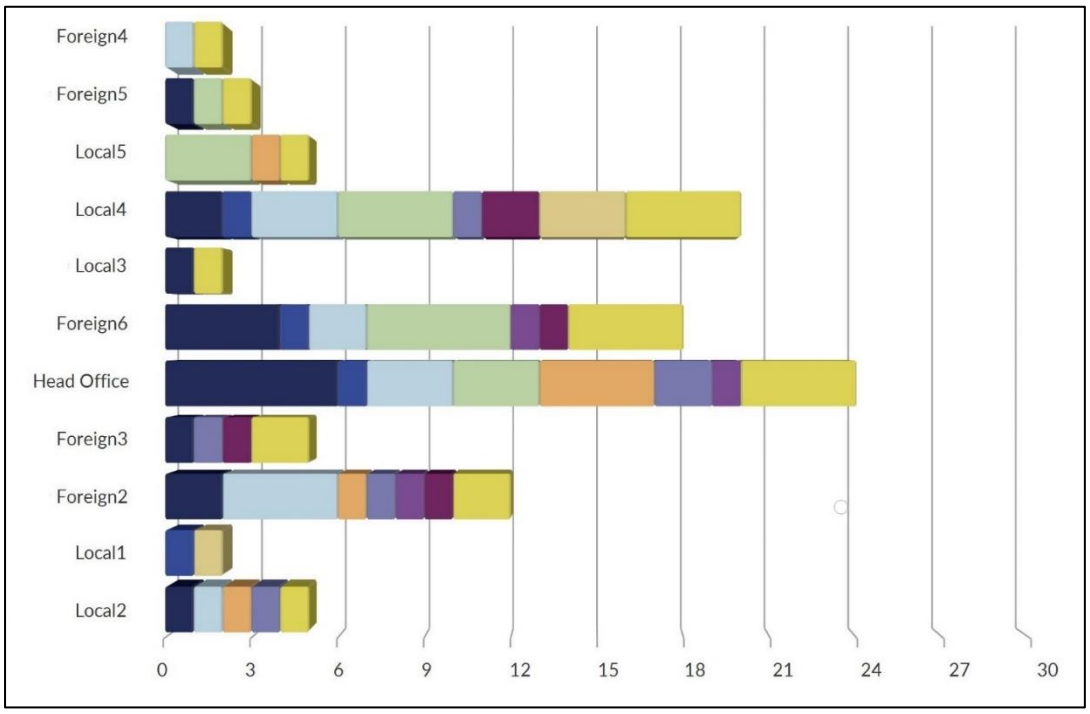

Figure 5.14. Supplier Selection by Location

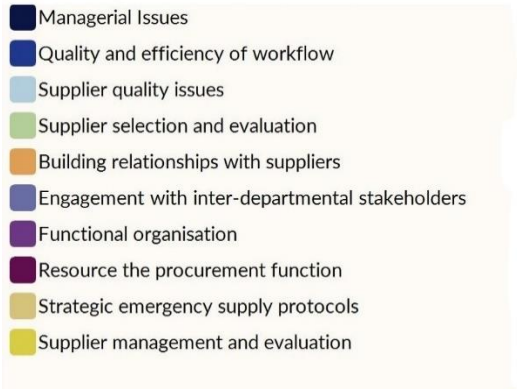

Figure 5.15. Supplier Selection by Location legend

For foreign participants, challenges include supplier quality issues (foreign 2, 4, 6), managerial issues (foreign 2, 6), and difficulties with workflow efficiency and supplier selection and evaluation (foreign 6). To address these challenges, they recommended improvements in supplier selection and evaluation (foreign 3, 4, 5, 6), adequate resourcing of the procurement function (foreign 2, 3, 6), improving functional organisation (foreign 2, 6), and better engagement with inter-departmental stakeholders.

For local participants, challenges include supplier selection and evaluation (local 4, 5), supplier quality issues (local 2, 3), managerial issues (local 2, 3, 4), and difficulties with workflow efficiency (local 1, 4). To address these challenges, they recommended building relationships with suppliers (local 2, 5), supplier selection and evaluation (local 2, 3, 4, 5), improving strategic emergency supply protocols (local 1, 4), and adequate resourcing of the procurement function (local 4).

For head office participants, challenges include managerial issues, supplier quality issues, supplier selection and evaluation, and difficulties with workflow efficiency in that order. To address these challenges, they recommended building relationships with suppliers, better engagement with interdepartmental stakeholders, better functional organisation, and better supplier selection and evaluation.

5.3.3.2 Supplier Selection by Department

In Figure 5.16 the chart depicts the challenges and recommendations for supplier selection are displayed by department.

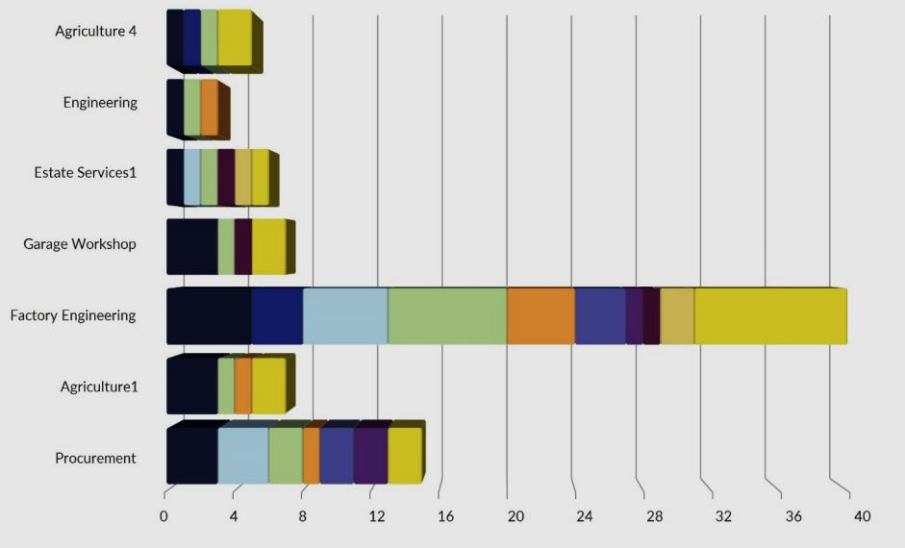

Figure 5.16. Supplier Selection by department.

In the engineering department, participants identified managerial issues, workflow quality and efficiency, supplier quality issues, and supplier selection and evaluation as the main challenges. They suggested improvements in supplier selection and evaluation, building better relationships with suppliers, improved engagement with inter-departmental stakeholders, functional organisation, and resourcing the procurement function to address these challenges.

In the procurement department, participants identified managerial issues, supplier quality issues, and supplier selection and evaluation as the main challenges affecting supplier selection. They recommended better engagement with inter-departmental stakeholders, resourcing the procurement function, improved supplier selection and evaluation, and building better relationships with suppliers to address these challenges.

Similar challenges were observed in the agriculture department, with managerial issues being a top concern (agriculture 1). Their recommendations focused largely on the need for improved supplier selection and evaluation.

5.3.3.3 Supplier Selection by Job Grade

In Figure 5.17 the chart depicts the challenges and recommendations for supplier selection by job grade.

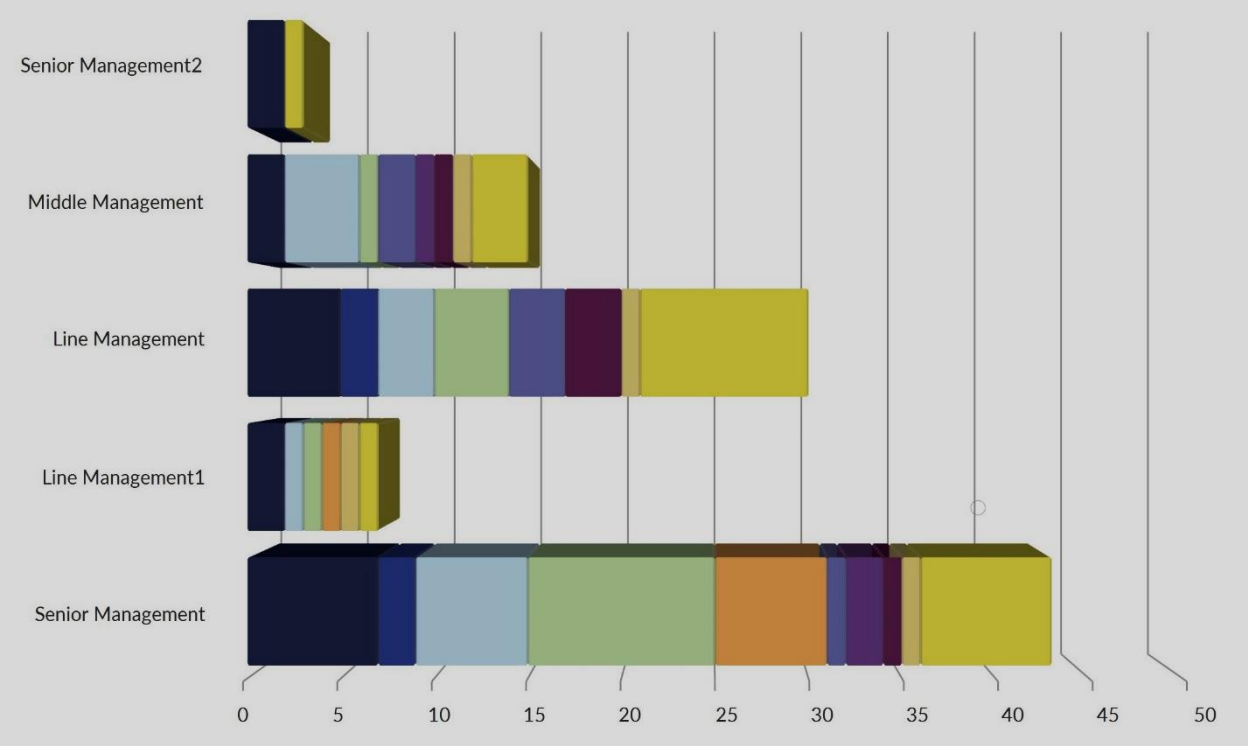

Figure 5.17. Supplier Selection by job grade

Participants in senior management positions identified supplier selection and evaluation, managerial issues, supplier quality issues, and workflow efficiency as key concerns. They recommended building better relationships with suppliers, improving supplier selection and evaluation, resourcing the procurement function, better functional organisation, and engaging with inter-department stakeholders to address these challenges.

Middle management participants were primarily concerned with supplier quality issues and managerial issues, and to a lesser extent, supplier selection and evaluation. They suggested better supplier selection and evaluation, as well as improved engagement with inter-departmental stakeholders.

Line managers were concerned with a range of challenges affecting supplier selection, including managerial issues, supplier selection and evaluation, supplier quality issues, and workflow efficiency. They recommended better supplier evaluation and management,

resourcing the procurement function, and enhancing engagement with inter-department stakeholders.

5.3.3.4 Supplier Selection by Work Experience

In Figure 5.18 the chart depicts the challenges and recommendations for supplier selection by work experience.

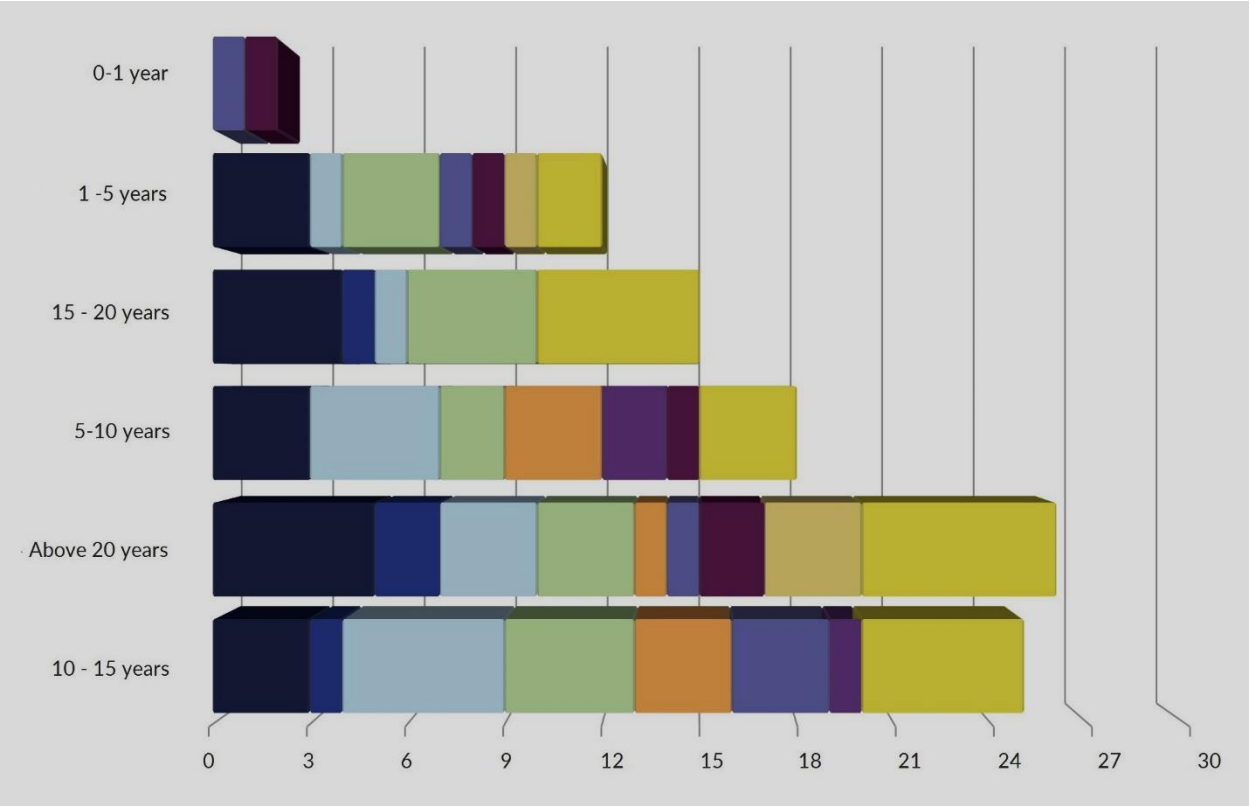

Figure 5.18. Supplier Selection by work experience.

Participants with up to one year of work experience did not express any concerns related to supplier selection. However, they recommended the need for better engagement with inter-departmental stakeholders and the importance of allocating resources to the procurement function.

Participants with one to five years of work experience were concerned with managerial issues, supplier selection and evaluation, and to a lesser extent, supplier quality issues. They recommended the need for better supplier selection and evaluation, improved engagement with inter-departmental stakeholders, and allocating more resources to the procurement function.

Participants with five to ten years of work experience were similarly concerned with supplier quality and managerial issues, as well as supplier selection and evaluation to a lesser extent.

They recommended the need for better supplier selection and evaluation, building better relationships with suppliers, and improving inter-departmental engagement.

Participants with ten to fifteen years of work experience were primarily concerned with the impact of supplier quality, managerial issues, and issues related to supplier selection and evaluation. They recommended the need for better supplier selection and evaluation, building better relationships with suppliers, improving inter-departmental engagement, and the need for better functional organisation.

Participants with fifteen to twenty years of work experience were primarily concerned with the impact of managerial issues and supplier selection and evaluation on supplier selection. They recommended the need for better supplier selection and evaluation.

Participants with over two years of work experience were similarly concerned with managerial issues, quality and efficiency of workflow, supplier quality issues, and other challenges related to supplier selection and evaluation. They recommended the need for better supplier selection and evaluation, improved strategic emergency supply protocols, allocating more resources to the procurement function, and to a lesser extent, building relationships with suppliers.

5.4 Contract Management

5.4.1 Challenges with Contract Management

The study participants identified five primary challenges in contract management. These were related to the inadequate design of contracts, issues with contract scheduling and time, inflexibility of contracts, awarding of contracts, and communication about contracts. Figure 5.19 illustrates these challenges. While only a few participants responded about contracts, the results indicated that inefficiencies in contract management often stem from problems related to the awarding of contracts and communication about them.

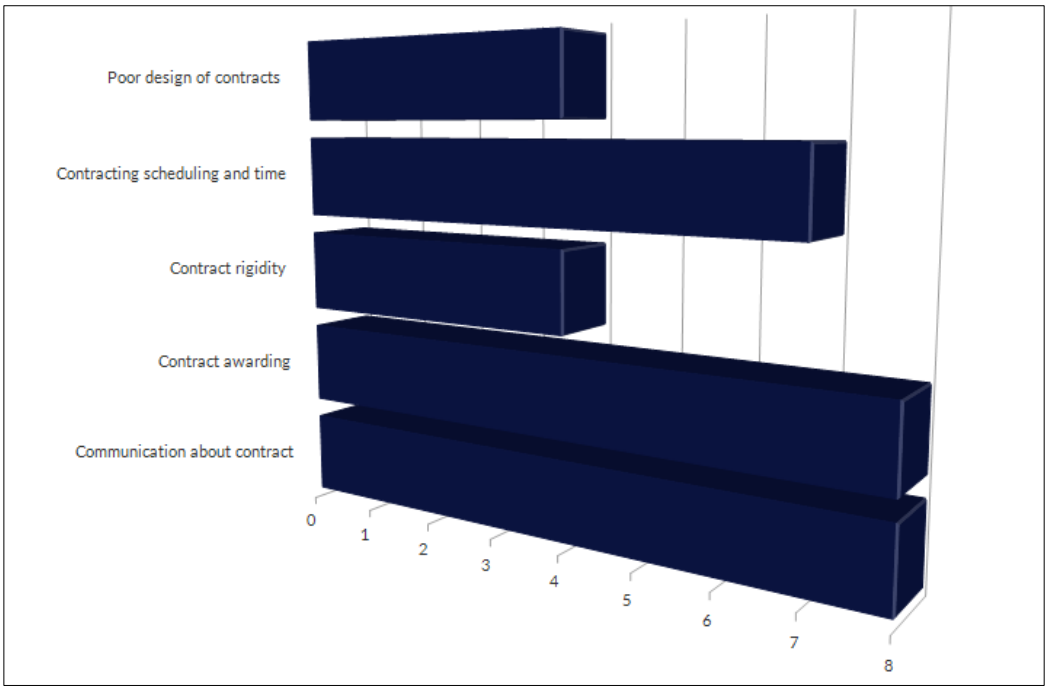

Figure 5.19. Challenges with contract management.

5.4.1.1 Communication about contracts

One of the participants noted the lack of communication regarding changes made to contracts that affect their respective departments (P30). According to responses from (P39, P42, P94) departments do not have access to contract information that affects them. The current system design makes contract management inefficient as it is difficult to track contract durations (P41, P61). By the same token Daniela, et al., (2014) regard effective communication and regular interaction between policyholders and suppliers as key elements that promote transparency, trust, and successful procurement outcomes.

"A stationary contract that directly involves my section was not communicated when supplier was changed. My section is the only department that uses that item. A simple email communicating the change would have been fine". Participant 30, BI

"Contracts after being awarded not made available to end user". Participant 39, AE

"Supplier evaluations are not shared with the end users if the evaluations are carried out". Participant 42, FE

"Documentation for approved contractors is not easily available". Participant 94, OS

"Local procurement is unaware of contracts established at group level. It is the end user who usually finds the contract and notifies local procurement". Participant 74, FE

"The prices are volatile making it hard to manage the contracts efficiently. The system does not indicate if the contract is about to expire hence it's hard to keep track and re-negotiate on time". Participant 41, PM

"There was a time a contract came to an end without being known until the service was required and realized contract with such supplier ended". Participant 61, OS

According to participants' responses failure to communicate changes effectively in supplier contract management could lead to local department orders being scheduled with the wrong suppliers, resulting in reduced departmental efficiency. Additionally, the issue of volatile prices was found to be prevalent in the context of supplier quality issues, as contract prices were observed to be altered after contract signing (P95). The study conducted by Daniela et al. (2014) highlights the importance of open communication, cooperation, and trust between purchasing teams and suppliers. This finding aligns with the need for effective communication in this study.

"Suppliers change pricing after signing contracts". Participant 95, AE

Lack of communication regarding supplier information changes, expired contracts and lack of shared information regarding supplier evaluation implies that departmental concerns are not factored concerning supplier performance issues or supply bottlenecks or other supplier selection related challenges.

5.4.1.2 Contracting awarding

Participants were concerned that contracts were being awarded to incompetent suppliers, providing inferior goods and having limited capacity (P13). This was explained by some participants to be the result of payment inefficiencies which displaces efficient suppliers (P25), focus on lowest bidders (P63, P72) and challenges in obtaining technically competent suppliers (P43). Finally, systemic and governance failures induced by conflict of interest, interference by internal stakeholders (P85) and long-term contracts granting some suppliers monopoly powers (P97) were highlighted.

Hence Ahmed and Omwenga (2023) maintain that employee satisfaction with the contract management process is closely related to their perception of contract clarity, completeness, and fairness.

"An awarded contract to a well-established company whose quality did not last and even giving a partial supply of parts". Participant 13, FE

"Not paying suppliers on time results in fewer players. Savings opportunities are missed due to unhappy efficient contractors". Participant 25, AE

"Contracts based on lowest bidder". Participant 63, FE

"Some contractors bid low just to get the business, yet they do substandard work". Participant 72, RE

"We struggle to identify additional technically competent suppliers and contractors". Participant 43, FE

"There have been challenges with syndicated collusive unethical behaviour involving some procurement staff at some operational entities suggesting that there are systemic and governance failures in procurement. This has not been prevalent at all sites but must be guarded against". Participant 85, HR

"Contracts make end user suspectable to monopoly service which may not be the best of the available service providers". Participant 97, FE

The combination of these factors including non-competent suppliers, contract awarding processes, poor contract governance and other systemic challenges and conflict of interest result in the procurement process being captured and fail to deliver efficient outcomes. These inefficiencies were reported to manifest in poor quality parts, partial parts supplies and lack of timeous delivery, lack of technically proficient contractors, substandard work and monopoly and its effects on business value.

Even Podmoskovnov, (2018) and Zolghadri, et al. (2011) highlighted the importance of selecting suppliers based on specific criteria. Likewise, Choi & Hartley (2019) emphasised the need for robust quality management systems and performance monitoring to ensure supplier compliance with quality requirements.

5.4.1.3 Contract rigidity

The participants were concerned that contracts were centralised, and more cost-efficient options could not be easily considered within their local constituencies (P12). Contracts were reportedly not comprehensive enough to include needed spares (P15), non-desirable after-market supplies (P20) and while premised as cost effective were not performing better when benchmarked against high priced by efficient suppliers (P26).

"Current contracts bundle products for the overall benefit of [the company] which may not favour a particular country i.e. you could buy items cheaper in a country like South Africa outside of the contract, yet entities are forced to buy at the higher contract price which is challenging with tight budget expectations to be met, this aspect must be solved i.e. the one size fits all does not work". Participant 12, FE

"Some spares are not included in the contracts". Participant 15, FE

"Some contracts speak to after-market spares which sites do not want or utilize". Participant 20, PM

"The buyers do not use the contracts as MIDs are not used by the end users. some contracts might not be cheap but is of a good stand and add value in terms of technical and lead times". Participant 26, PM

Contract buying rigidities implied according to the participants that company's financial resources were not being utilised as efficiently. Lack of needed spares or access to sub-standard spares not recommended by the departments may imply that departmental work was not completed creating scheduling challenges.

Correspondingly Choi and Golicic (2018) emphasise the importance of conducting a thorough analysis of supplier performance, market conditions, and alternative sourcing options.

5.4.1.4 Contract scheduling and time.

Participants were concerned with longer timelines associated with the conclusion of contracts. They raised concerns that the contract adjudication process cannot accommodate instances where prompt contracts were needed possibly to respond to supplies bottlenecks (P6, P24). Other participants alluded to longer turnaround times for contract conclusion (P10, P14, P19),

and non-ideal timing of contact amendments given the time it takes to adjudicate the contracts (P45, P78).

"Contracts are often needed to be put in place promptly. There exists often a long-time lapse between the commencement of contract development and supplier vendoring, to the time when the contract becomes effective". Participant 6, FE

"The process after negotiating is time consuming if it's urgent. Waiting period is long". Participant 24, PM

"Turnaround time for a conclusion of a contract". Participant 10, PM

"Involvement of legal team in vetting the Contracts results in delays to complete the Contracting process in time". Participant 14, OS

"Contracts take long to be concluded and signed by all parties". Participant 19, PM

"Timing of contract amendments not ideal". Participant 45, PM

"Takes time for procurement to produce Purchase Orders and this delays operations". Participant 78, AE

From the above responses it can be concluded that protracted contract adjudication and delayed contract effectiveness can have a significant impact on departmental schedules as it may delay the placement of orders to suppliers. Furthermore, long contract turnaround times can lead to inefficient supply chain operations as prompt procurement needs may not be met in a timely fashion, causing additional challenges.

Therefore, from the study of Akamp & Muller (2013) they concluded that contract renewal or termination decisions should be based on the strategic goals, profitability of the organisation, and the supplier's ability to continue to deliver value.

5.4.1.5 Poor design of contracts

The participants raised concerns that contracts didn't capture the full spectrum of business needs (P22), buyers not being aware of contracts in place or conditions of contracts (P53) and contracts with no penalties for poor performance from suppliers (P55, P87).

"Some contracts don't have the full spectrum of business needs". Participant 22, FE

"The Buyers are not aware of the contracts that are in place - we waste a lot of time doing deviations for items that are in contract". Participant 53, FE

"Difficulties in uploading new contracts when current ones' run out". Participant 55, PM

"No penalty for underperformance". Participant 87, AE

Participants noted that the presence of multiple suppliers for various departmental requirements due to inadequacies in contracts, coupled with deviations from unclearly defined contract conditions, difficulties in uploading new contracts, and lack of penalties for underperformance, pointed to inefficiencies in the design of contracts for departmental supply requirements. In a study by Ahmed and Omwenga (2023) they discovered that employee satisfaction with the contract management process is closely related to their perception of contract clarity, completeness, and fairness.

5.4.2 Recommendations for Contract Management

There were four key themes emanating from participant responses relating to improving contract management which are the need for collaboration in decision making, improved contracting conditions/clauses, contract information accessibility and improved communication. These are summarised in Figure 5.20 below. It can be seen in the participant frequencies that issues pertaining to contracts were considered by a seemingly small subset of the participants in the sample. Their views seem to coalesce around contracting conditions. These themes are discussed in turn.

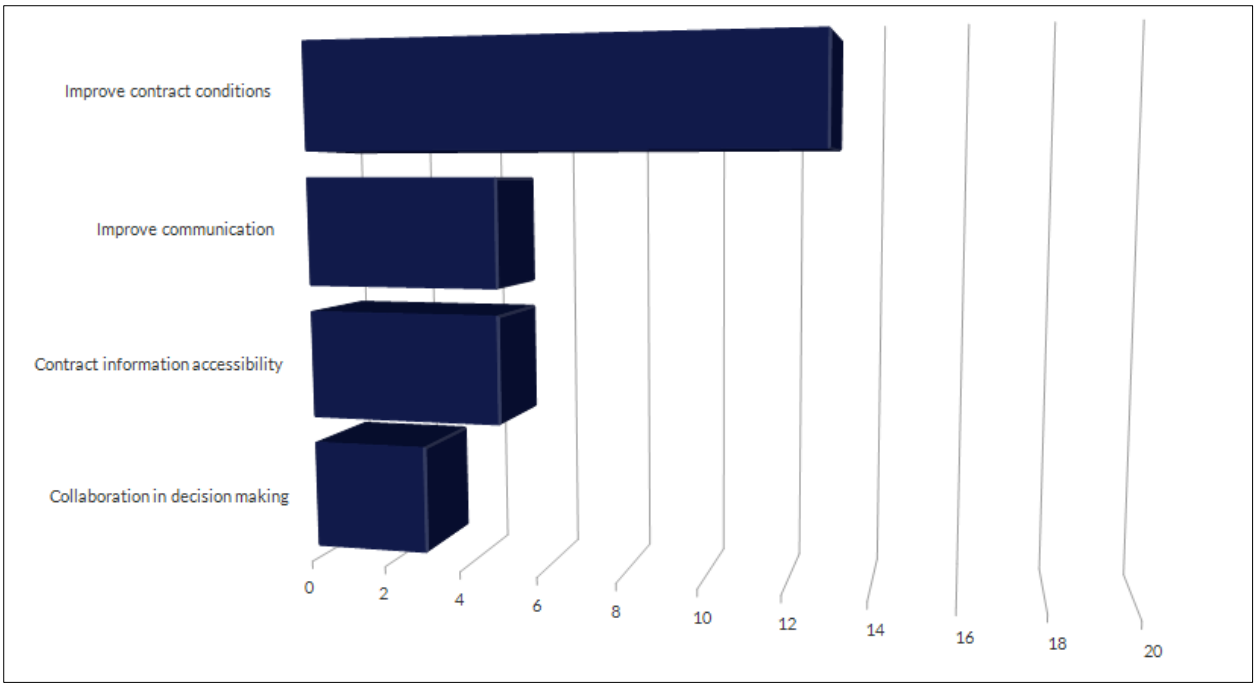

Figure 5.20. Recommendations for contract management

5.4.2.1 Improved contract conditions

The participants suggested introduction of pilot initiatives for product and service trials (P43), use of longer contract periods (P45, P76), contracts to be preceded by proper supplier evaluation (P54, P68), strictly defined service level agreements (P64), contracts premised on quality goods not lowest bid price (P63, P72) and attached penalties for service defaults or poor quality (P87).

"Introduce pilot initiatives with suppliers and manufacturers to trial their products and services for a short period without obligations to enter into firm contracts". Participant 43, FE

"Contracts should be finalized mid-year for longer periods". Participant 45, PM

"Proper evaluation of suppliers of goods and services required". Participant 54, OS

"Selection should be done by independent individuals". Participant 68, FP

"Strict on Service level agreement (SLA)". Participant 64, AE

"Should go for quality of service and not price". Participant 63, FE

"Avoid awarding the contract only based on the lowest bid, but quality should also be checked". Participant 72, AE

"To be done well in advance or give them two-year period not annually". Participant 76, PM

"Performance management for any contract must be tied with penalty". Participant 87, AE

These considerations imply that contracts are entered into with proper expectations for quality and supplier performance, since evaluations, product/service trials and independent supplier evaluations would have been conducted before they are tied contractually to transact with the business.

5.4.2.2 Collaboration in decision making.

The participants alluded that good collaboration stems from engagement with suppliers in decision making with engagement ensuring that contracts can enforce the agreed upon terms (P30). It was also suggested that contract terms and conditions must be included in the bidding process (P52) and involvement of end users in contracting processes (P97).

"Again, engage your suppliers in the decision-making process. Let go of the attitude of expecting end users to just go along with decisions which they were not involved in". Participant 30, BI

"Including the contract terms and conditions as part of the bidding process does assist in ironing out some of the contracting challenges that may be experienced later when contracting with the successful bidder". Participant 52, FE

"End user involvement". Participant 97, FE

According to the participants these steps may ensure that the contracting parties are tied to negotiated decisions, since contracts essential effect business decisions regarding key operational parameters. Such decisions include supplier performance and business expectations during the period for which the contract has been stipulated.

5.4.2.3 Improve communication.

Participants believed contracts must specify item names to MIDs (P4), have clear specifications to suppliers (P22), state the KPIs linked to supplier performance (P30), early warning systems for contract expiry (P41) and tracking of contracts for reminders to end users (P61).

"Include specific name to the MID and the supplier to easily identify". Participant 4, FE

"Spec must be clear, concise and not ambiguous or giving suppliers an opportunity to deliver what they think". Participant 22, FE

"Lack of communication results in unnecessary problems. Procurement team also needs to acknowledge we all have KPIs which are linked to the procurement process". Participant 30, BI

"a new system that will indicate at least 2 month before a contract expires. contract prices must be locked for at least 6 months before review". Participants 41, PM

"Need a proper tracking of all contracts and notifications sent to remind the end user if need for renewal is needed". Participant 61, RE

To avoid delivery challenges emanating from poor specifications, item identification should be clearly communicated including specifications for contracted items. Furthermore, there is need for tracking of contract timelines and early warning systems to avoid using suppliers whose contracts have been expired.

5.4.2.4 Contract information accessibility

The participants called for transparency in contract information, such as terms and conditions and timeline. According to the participants, contract documents should be accessible to end users (P39, P94), evaluations of suppliers based on contract information undertaken (P42), communicate contract tracking and make contracts visible to departmental buyers (P53).

"Contract documents to be made available to end users not only senior management". Participant 39, RE

"Report annual evaluation of suppliers". Participant 42, FE

"Contracts need to be visible to the Buyers". Participant 53, FE

"Proactiveness. There is a need to track contracts as they expire". Participant 55, PM

"Put all contract documentation on a shared drive and make this available on-site level". Participant 94, OS

5.4.3 Analysis Contract Management

In this section contract management challenges and recommendations are analysed, the charts in this section have the challenges and recommendations plotted on the same chart.

5.4.3.1 *Contract management by location.*

Figure 5.21 displays the challenges and recommendations related to contract management.

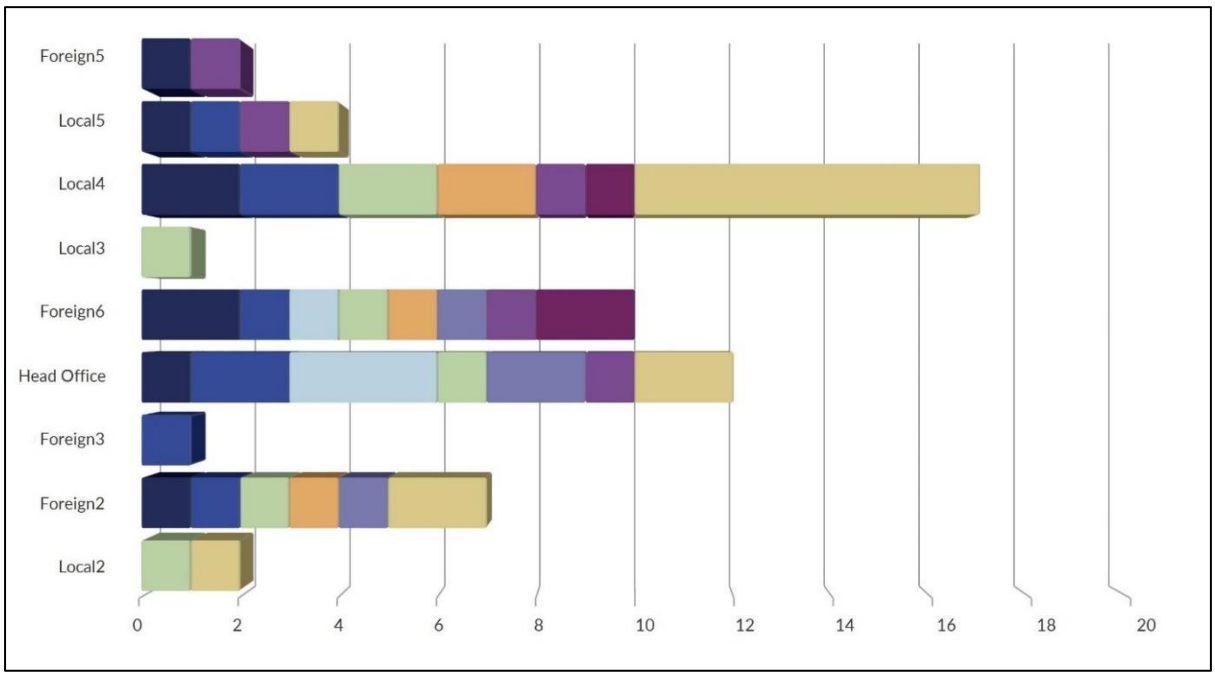

Figure 5.21. Contract management by Location.

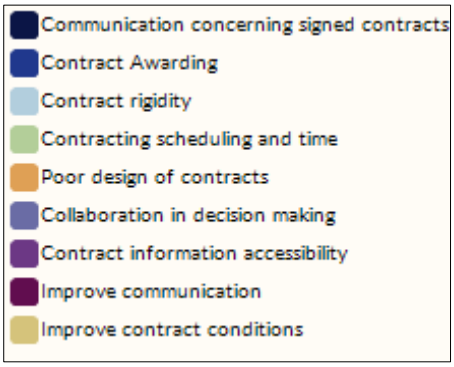

Figure 5.22. Contract management by location -legend

In Figure 5.21, a chart shows the challenges and recommendations related to contract management. The challenges reported include communication issues regarding signed contracts, contract awarding, contract rigidity, contract scheduling and timing, and poor contract design. In foreign locations, the challenges included communication problems related to signed contracts and contract awarding issues. These challenges were also reported in other

foreign locations. In local locations, the challenges included communication problems related to signed contracts, contract awarding, scheduling, and timing, and poor contract design. Particularly in local 4, these challenges were almost equally represented. Finally, in the head office, contract rigidity challenges, contract awarding, and communication problems related to signed contracts were perceived as important in that order.

The challenges related to contract management can be addressed by improving collaboration in decision-making, enhancing access to contract-related information, improving communication, and making changes to the contracting conditions. The participants from the head office suggested enhancing collaboration and improving contracting conditions. The participants from the local regions recommended improving contracting conditions and, to a lesser extent, improving communication and access to contract-related information. Finally, the participants from foreign regions suggested improving contract conditions (in foreign region 2), enhancing communication (in foreign region 6), and making contract-related information more accessible (in foreign region 5).

5.4.3.2 Contract management by Department.

Figure 5.23 below displays the challenges and recommendations related to contract management by the various departments.

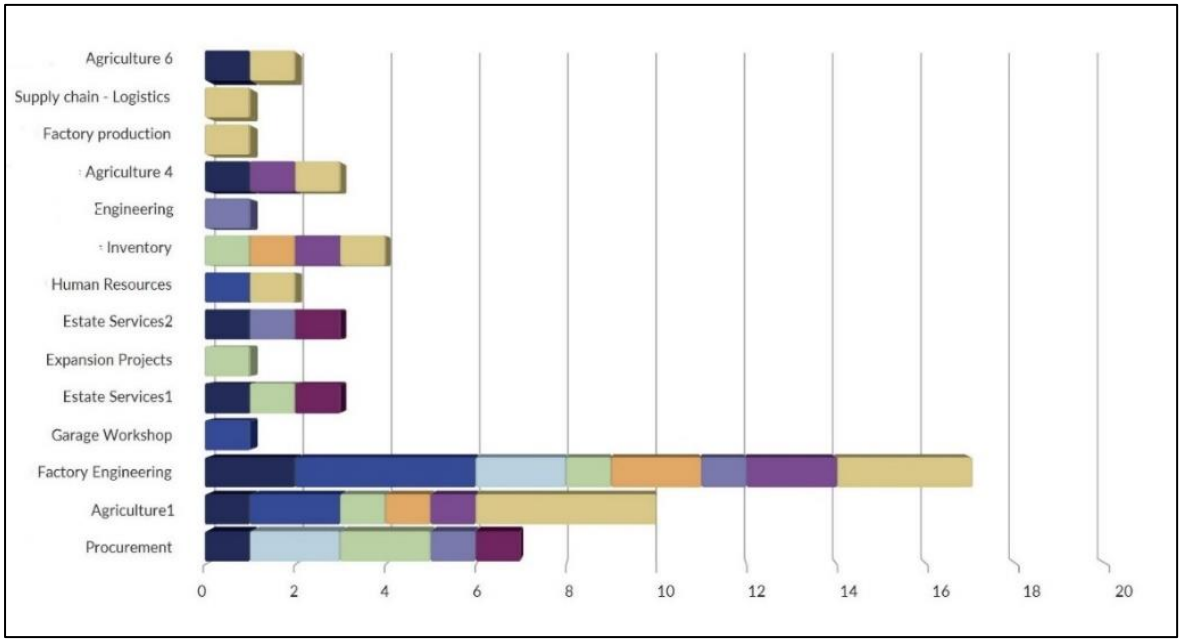

Figure 5.23. Contract management by department.

In Figure 5.23, the challenges and recommendations related to contract management have been plotted according to various departments within the organisation. The engineering department

reported challenges relating to contract awarding, contract rigidity, and communication regarding signed contracts. The agriculture department reported challenges related to communication regarding contracts (agriculture 1, 4, 6, estate services 1, 2), issues with contract awarding, and, to a lesser extent, contract rigidity and poor design of contracts. Other departments, such as human resources (contract awarding), inventory (contract scheduling and poor design of contracts), and expansion projects, also reported challenges with contract management. The recommended strategies among participants in the engineering department are need for improvement in contracting conditions (factory engineering), and contract information accessibility (factory engineering). Participants across supply chain, logistics, production, inventory, and HR suggested contract improvements (Figure 5.23).

5.4.3.3 Contract management by Job Grade.

Figure 5.24 below exhibitions the Challenges, and recommendations to contract management by Job grade.

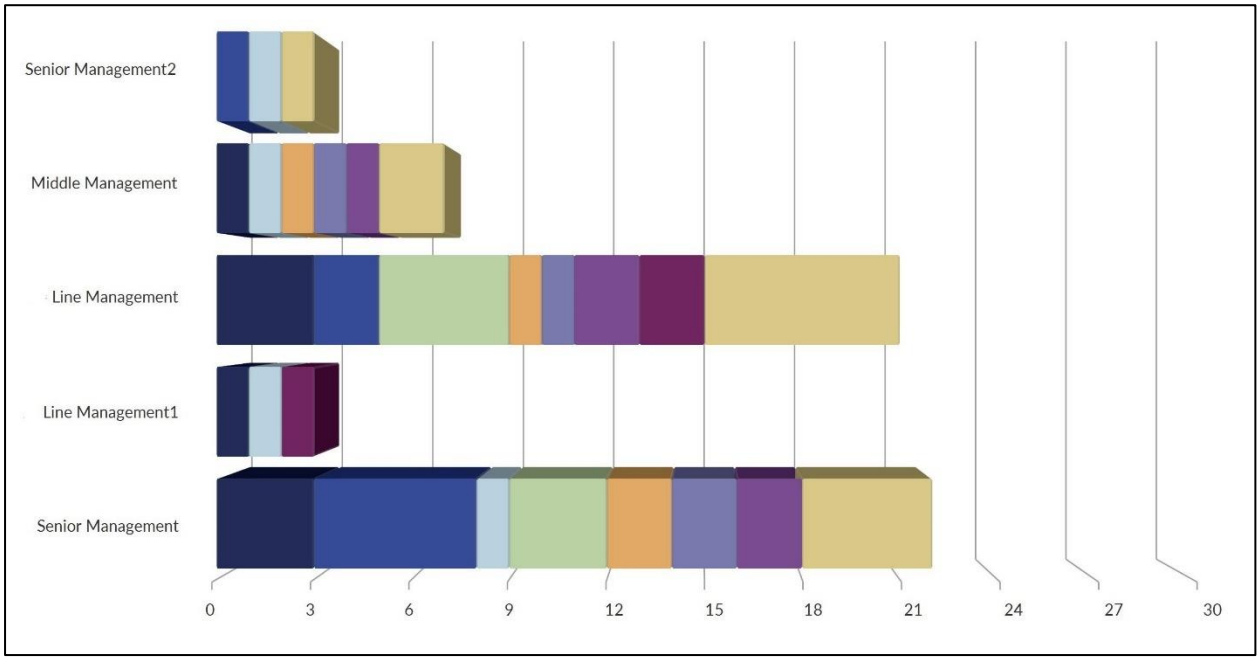

Figure 5.24. Contract management by Job grade.

In Figure 5.24, the study shows that senior management personnel are worried about challenges related to contract awarding and communication issues concerning signed contracts. They are also concerned about contract scheduling, timing, and poor contract design, but to a lesser extent. Most senior management participants recommended that contracting conditions should

be improved, there should be better accessibility to contract information, and there should be collaboration in decision-making.

On the other hand, line management personnel are concerned about communication issues concerning signed contracts, contract awarding, contract scheduling, timing, and rigidities in contracts as challenges affecting contract management. They also recommended that there should be improvement in contract conditions, better communication, improved accessibility to contract information, and collaboration in decision-making.

Some members of the middle management team have reported difficulties with communication regarding the signed contracts. They have also mentioned that the contracts are too rigid and poorly designed. However, notably, the number of middle management participants who raised these concerns was relatively small. Nevertheless, the participants suggested that the company needs to improve the contract conditions, enhance communication, and make the contract information more accessible.

5.4.3.4 Contract management by Work Experience.

Figure 5.25 below displays the challenges and recommendations concerning contract management by work experience.

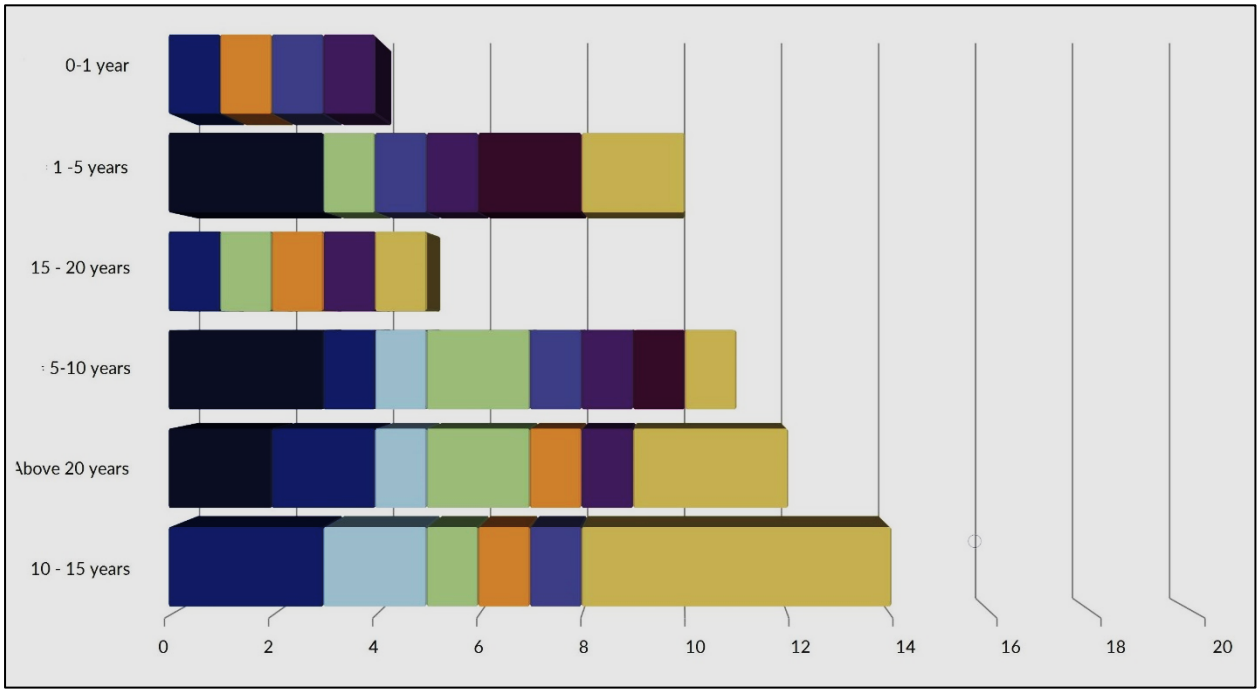

Figure 5.25. Contract management by work experience.

The above Figure 5.25 represents the challenges and recommendations concerning contract management by work experience. Participants who had worked in the organisation for up to 1 year expressed concerns about the process of contract awarding and poor contract design. They suggested collaboration in decision-making and improving accessibility of contract information as strategies to overcome the challenges faced in contract management.

Participants with work experience between 1 and 5 years in the organisation believed that communication regarding signed contracts, contract scheduling and timing were the primary challenges that affected contract management. They recommended the need for improving contracting conditions, enhancing communication, making contract information more accessible and encouraging collaboration in decision-making, in order of importance.

Participants with between 5 and 10 years of work experience in the organisation believed that communication concerning signed contracts, contract scheduling and timing, contract rigidity and contract awarding were challenges affecting contract management. While this class recommended the need for improved contract conditions, communication, contract information accessibility and collaboration in decision-making as solutions to improving challenges with contract management, representation among participants of these recommendations was rather small.

Participants who had been working with the organisation for 10-15 years expressed concerns about issues related to contract awarding, contract rigidity, contract scheduling, and poor contract design. They recommended that contracting conditions be improved and that there be more collaboration in decision-making.

Employees who have worked in the organisation for 15 to 20 years have identified several challenges with the management of contracts. These challenges include issues with contract awarding, scheduling, and poor contract design. They believe that the conditions and information provided in contracts need to be improved to address these challenges.

Employees with more than 20 years of work experience in the organisation identified several communication challenges related to contracts. These challenges included issues with the awarding, rigidity, scheduling, and poor design of contracts. To address these challenges, they recommended improving the conditions and accessibility of contract information.

5.5 Specification Management

5.5.1 Challenges with Specifications Management.

The challenges affecting specifications management were explained by five themes namely lack effective planning, lack of standardisation in material descriptions, poor communication, poor work description or job design and problems with inventory ordering and management. These are summarised in Figure 5.26 below.

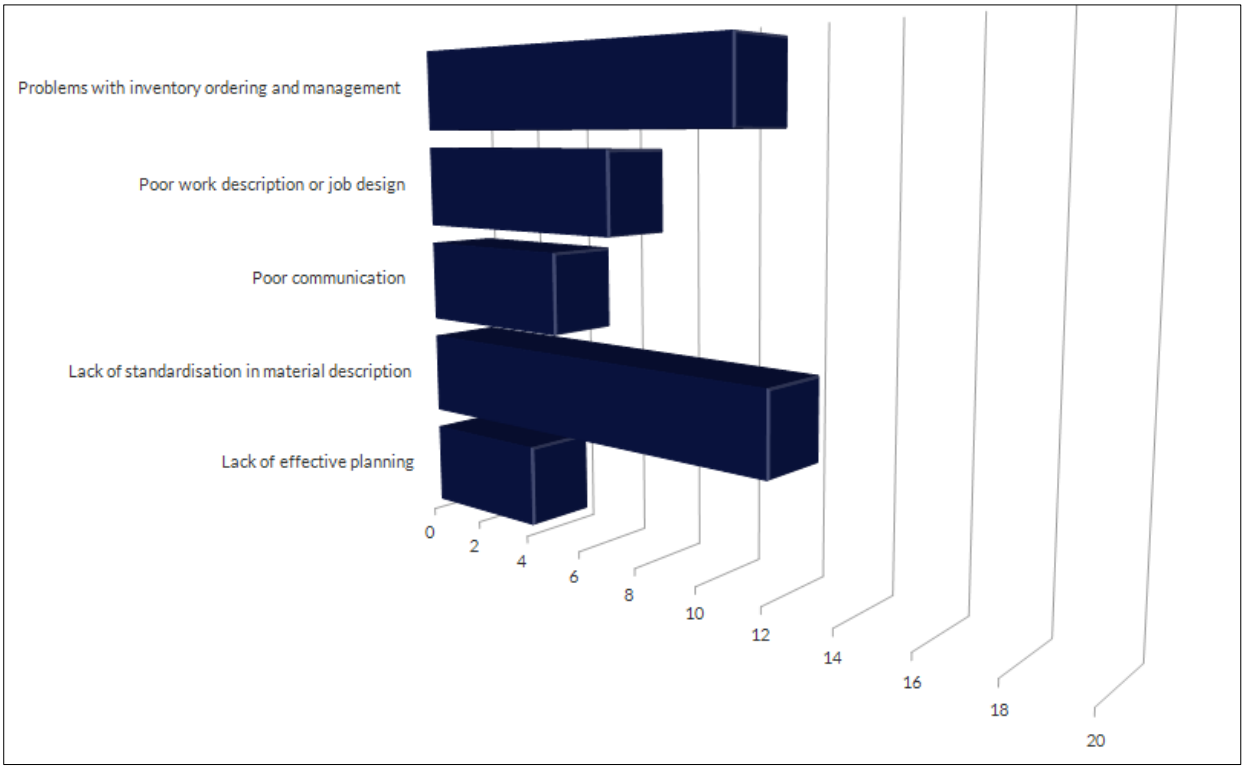

Figure 5.26. Challenges with Specifications Management.

As shown in Figure 5.26, challenges related to problems with inventory ordering and management and lack of standardisation in material descriptions were the common themes according to participant responses. Effective planning, communication and job design were also important, however not as salient when considering participant density on each of the reported themes. The individual themes are discussed in turn.

5.5.1.1 Lack of standardisation in material description

According to the participants, the product database system was riddled with similar products having multiple identification (P2, P15), accounts deviating from standards (P6), incorrectly specified parts (P13), outdated parts descriptions (P20, P22) and duplication of item identification in the system (P44, P81). Accordingly Pienaar (2013) claims that organisations can maintain their quality standards, operational needs, and strategic objectives by ensuring

that the items they procure align with the correct specifications which are professionally and ethically managed.

"System has too many similar Product with different MID which confuses a lot of people". Participant 2, RE

"Sometimes more than 1 MID is available for one item". Participant 15, FE

"There are accounts of deviation from Group standards". Participant 6, FE

"Part numbers are often outdated on descriptions". Participant 20, PM

"Group catalogue needs frequent updates to encompass emerging items without much ado. Descriptions aren't universal within the business". Participant 22, FE

"The parts given from group catalogues are not always correct, and we see stores stocking wrong items on the correct descriptions. Parts have same names but different. Since we usually have no reference parts books to verify, we get wrong parts because of depending on description instead of parts number". Participant 13, FE

"Too many duplications and the system does not prevent this from occurring". Participant 44, FE

"Items that should have MIDs do not and MIDs make reference to the incorrect items in stock". Participant 81, FE

"Duplication of MID for the same Item (one item with up to five MIDs)". Participant 90, AE

According to the responses presented above duplication of identification for parts increases the likelihood of errors or incorrectly placed orders, this is exacerbated when the description of parts is also incorrect. This makes the coordination of procurement decisions challenging since the same product can be identified differently across departments. Therefore, it is essential to ensure that the specifications provided are accurate and easily available to enhance the efficiency of the procurement process (Giuseppe, Daniela, Mara, & Jari, 2019).

5.5.1.2 Problems with inventory ordering and management

Regarding inventory ordering, feedback from participants highlighted several issues. Firstly, items were not clearly defined which created difficulties in identifying and ordering the correct products. Secondly, inaccurate item descriptions were noted by some participants, causing

further confusion and potential ordering errors. Manual filling of forms was also mentioned as a problem, which could lead to inaccuracies and delays in the ordering process. Lack of technical information was cited as another issue, particularly related to new inventory applications, which could result in complications and errors. Additionally, long lead times and MID redundancy were mentioned as challenges faced in inventory management, which could negatively impact overall efficiency and productivity. Similarly, Wynstra, et al. (2018) claim that unclear or incomplete specifications lead to difficulties and delays in procurement.

"There are many items that are not yet clearly defined". Participant 18, BI

"Have issues with descriptions that affect unit of measure and when due....at times it is inaccurate". Participant 19, PM

"Part numbers are often outdated on descriptions". Participant 20, PM

"Description of material is not fully described". Participant 37, FE

"This process is time consuming. To fill forms manually when items are needed urgently". Participant 24, PM

"Lack of technical information for some of machines that bring complication in new inventory applications some dealers are not able to provide catalogue due to business interest". Participant 31, FE

"Many MIDs are redundant". Participant 39, RE

"It takes some time to receive some goods when stores run out of stock". Participant 54, OS

"Once the items have been pressed & are not in stock, they are sent to the back log, and it takes so long for them to be". Participant 73, AE

These challenges manifest in inaccurate orders for inventory being placed, which pushes schedules when items are urgently needed, or some inventory orders not being placed at all due to lack of technical information. Hence Reed & Harris (2023) aver that standardisation of specifications facilitates comparability across suppliers and simplifies the evaluation process.

5.5.1.3 Poor work description or job design

The participants from various departments stated that unclear task descriptions (P10), detailing the work (P47, P53), immeasurable tasks (P61) and not easily described material descriptions (P65, P94) affected the design of the scope of work.

"The biggest challenge we have is who is responsible to produce the scope of work?" Participant 10, PM

"The content and prizing changes on MIDs may impact the scope of work". Participant 47, FE

"There are gaps in details of MIDs that eventually affect the quality of goods". Participant 53, FE

"Sometimes scope of work or specification is not clear of measurable". Participant 61, OS

"Some of the MIDs are not well described; some of the scope of work are well understood by the service provider as boilers repairs and laboratory instruments service and repairs". Participant 65, FE

"MIDs are not easily available. Scope of work is clearly identified, however service provider does not match the entire scope of work". Participant 94, OS

The issues highlighted above have translated into difficulties with establishing responsibility for defining the work scope, inconsistencies in project detailing due to poorly defined parameters and problems with assessment owing to non-measurable project objectives.

Similarly, Munyimi (2019) argue that specifications and requirements for goods or services is an equally crucial aspect of the procurement process. Additionally, employees' understanding of specifications, as well as their ability to provide feedback and clarify any inaccuracies, is critical to mitigating against supply-related risks (Ibrahim, et al., 2023).

5.5.1.4 Poor communication

Participants were concerned with not being notified of changes to item codes or descriptions (P59, P72, P76), and buyers not being conversant with technical specifications of ordered items (P97).

"When these numbers have been changed, we are not told we do find out when an order has been rejected". Participant 59, AE

"When the same item changes the MID, you end using the wrong one if not told". Participant 72, AE

"Change in quality of material but of the same MID". Participant 76, PM

"Buyer not conversant with some specification". Participant 97, FE

An analysis of the preceding responses suggest that inadequate communication can result in delays in the ordering process and work specification. This is because changes in the details of ordered materials that are not communicated effectively can lead to orders being sent back for clarification, or buyers being unable to order items they require due to a lack of knowledge. Likewise, Reinartz and Krafft (2020) suggest that involving end users in specification development improves their understanding of their needs and facilitates better alignment with supplier capabilities.

5.5.1.5 Lack of effective planning

The absence of proper planning during specification is a key contributor to the challenges associated with accounting for feedback from departments regarding material usage, considerations, and quality issues. The participants involved in production planning, schedules, and equipment maintenance have expressed concerns that procurement systems do not consider the usage experience of departments when making decisions. Instead, decisions are made independently of feedback from the departments. This has resulted in an inaccurate scope of work, leading to delays due to back-and-forth communication between departments and procurement. Additionally, poor planning during supplier selection has resulted in ordered items not being aligned with specifications from the departments. Changes are not communicated on time, leading to inaccurate orders and unnecessary delays.

"The Procurement of some MID products does not align with the lived experience on the ground for certain products from a total cost of ownership point of view. One example, a gasket bought on contract for a particular application because it is cheaper than an alternate gasket does not take the failure rate of that gasket from the experience of having used that product over the years hence the more expensive gasket was preferred because it lasts longer and avoids LOP in production. The current Procurement process does not take these valuable

learnings from experienced people on the ground when certain contract decisions are made". Participant 11, FE

"Delays in procurement as inaccurate scope of work results in a lot of rework or back and forth movement". Participant 14, RE

"As an end user I supply the scope. But procurement does not always assess the suppliers best suited to supply what I need. This wastes time, opens the doors for chancers and ultimately compromises the Scan market process. I have been burned in this regard more than once. This results in project deferment, even across financial periods, resulting in a knock one effect in performance for my section". Participant 30, BI

"When these numbers have been changed, we are not told we do find out when an order has been rejected". Participant 59, AE

5.5.2 Recommendations for Specification management.

Figure 5.27 presents the 6 themes that explain the recommendations for specification management. The figure highlights that the participants considered updating the materials database, improving communication with stakeholders, and standardising Material Identification Description (MID) as important solutions to tackle specification management challenges. The themes, "make needed information specification available" and "training and skills," were grouped under improving communication with stakeholders and materials database updating, respectively.

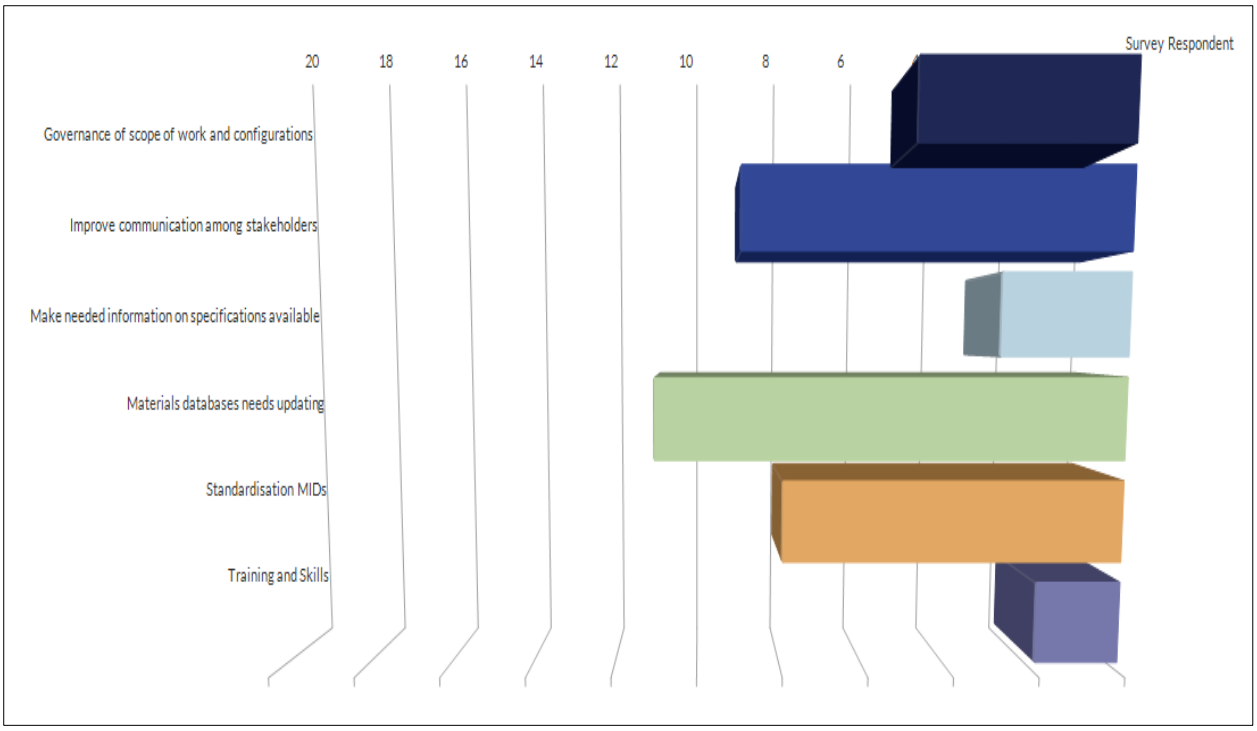

Figure 5.27. Recommendations for specification management

5.5.2.1 Materials databases need updating.

Participants suggested several actions to improve the materials database. These included updating the database, reviewing existing Material Identification Description (MID), engaging suppliers for timely updates, removing duplicate and redundant MIDs, setting up a system for continuous review and updating, and communicating the updated MID list to end-users.

"Data-base needs to be cleaned and cleared the old stuff". Participant 2, RE

"Clean MIDs which are redundant". Participant 39, RE

"Constant discussions with suppliers to keep abreast of the changes of part numbers or supersessions to enable procurement to update the mid catalogue accurately and timely". Participant 20, PM

"Review existing MID and remove the duplicates, way forward is to have proper description upon application for new inventory". Participant 49, FE

"1. Continuous review and updating of existing MID's on the system for redundancy and accuracy". Participant 52, FE

"Clean up the MIDs in the system". Participant 78, AE

"Update MID list and make available to all end users. Service providers need to match scope requirements". Participant 94, OS

The task of cleaning and updating the MID database is related to internal inventory management. Therefore, it is important to keep it aligned with the materials suppliers by ensuring that the latest specifications from suppliers are included in the updates. Communication of the new and updated database is crucial to ensure all stakeholders in the internal and external value chain have access to the same level of information.

5.5.2.2 Improve communication among stakeholders.

The participants emphasised the importance of clear communication regarding the scope of work (P10), taking the perspectives of end-users into account when designing contracts (P12), and establishing channels for communication with OEMs where crucial information is missing (P13). They also highlighted the need for systems that facilitate continuous engagement (P24, P45, P97), information regarding changes in materials (P57), and clearly defined and measurable parameters (P61).

"End users to have a clear understanding that they are responsible for the scope of work and if they have difficulty producing the scope of work then we should have consultants (Engineers) to assist in drawing the scope of work". Participant 10, PM

"Involve and listen to the lived experience of people in Operations taking into account total cost of ownership before tying the organisation to a contract because the price is cheaper for a particular product, involve the end users in making contract calls". Participant 12, FE

"To get parts from OEM if no part numbers only make and model are available. To order using part number and MID from group contract without cross examination references, makes us get wrong parts". Participant 13, FE

"Follow up is important daily. Can this not be done electronically". Participant 24, PM

"End users need to be actively involved". Participant 45, PM

"Inform us on time any changes of material Identification Description (*ids)". Participant 57, FE*

"Need to be very clear and where possible have measurable parameters clear". Participant 61, OS

"Continued end user engagement". Participant 97, FE

Clear explanations of tasks and providing end-users with specific parameters of work help to accurately communicate specifications and reduce interference from third parties. This can be further improved by ensuring that end-users have access to OEMs where specifications or MIDs may be missing.

5.5.2.3 Standardisation of Material Identification Description (MID)

Participants proposed inclusive coverage of standard MIDs, with proper specifications that are concise and easy to understand by all stakeholders in the value/production chain. Additionally, there must be clear and well-defined authorisation for changing MIDs in the system.

"Need to aspire for 100% coverage of standard IDs". Participant 18, Business Improvement (BI)

"Spec must be clear, concise and not ambiguous or giving suppliers an opportunity to deliver what they think". Participant 19, PM

"It needs to be easy to understand by anyone". Participant 26, PM

"MIDs must state the exact item needed so that even when we procure from a new supplier, they will provide the exact same item". Participant 41, PM

"Only specific persons are to be authorized to add MIDs into the system". Participant 43, FE

"Avoid changing MID anyhow of the same items". Participant 72, AE

Authorised MID updating, standardisation, and concise definition of MIDs and associated specifications were deemed as important in eliminating poor communication with suppliers, or alterations to the database that may affect other departments or arrangements with other suppliers. These factors could furthermore eliminate challenges with redundant or duplicated MIDs in the system.

5.5.2.4 Governance of scope of work and configuration.

Concerning governance, the participants suggested establishing mechanisms for specification system integrity. They suggested that adherence to group standards for the scope of work was needed (P6), and that end users have communicated responsibilities for the scope of work (P10), feedback mechanisms (P30) and end-user verification for ordered items (P76).

"Adherence to Group standards in scope of works. Any deviations require Group approval". Participant 6, FE

"End users to have a clear understanding that they are responsible for the scope of work and if they have difficulty producing the scope of work then we should have consultants (Engineers) to assist in drawing the scope of work". Participant 10, PM

"Listen... trust that the end user knows what they want, has the budget to pay for the quality they want, and facilitate shortlist the most capable suppliers. This is especially important for my section's activity - quality of food, quality of linen, quality of experience etc. Is what my customers are paying for". Participant 30, BI

"End user to verify before it is drawn from the supplier or stores and penalty to supplier for any defect material". Participant 76, PM

Such governance systems were deemed as necessary to ensure group standards are maintained, work is clearly defined and evaluated with deviations being addressed systematically or systems/arrangements set in place to work with end users.

5.5.3 Analysis of Specification Management

5.5.3.1 Specification Management by Location

In Figure 5.28 the chart depicts the challenges and recommendations for Specification Management by Location.

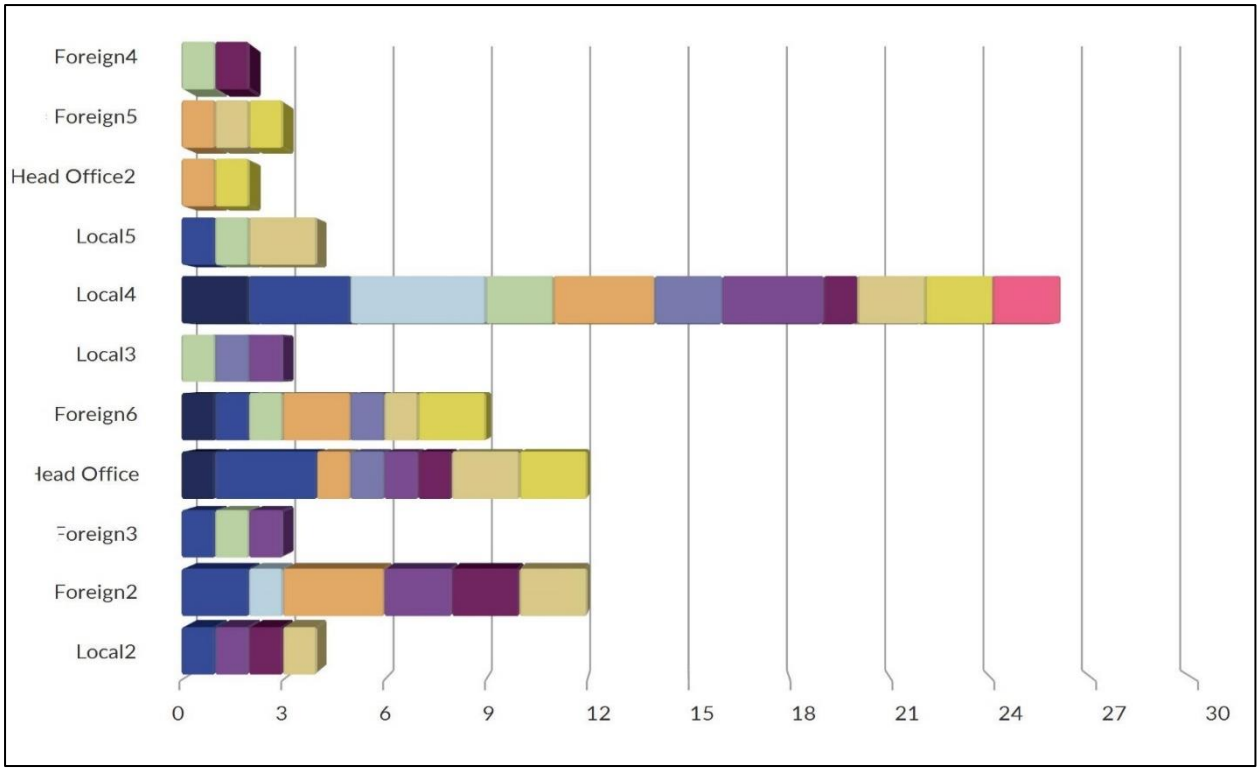

Figure 5.28. Specification Management by Location.

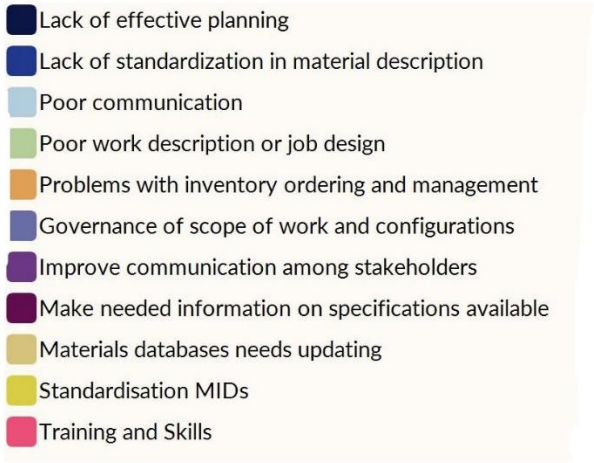

Figure 5.29. Specification Management by Location - legend

Participants in the Location-foreign group expressed concerns about various issues such as poor work descriptions (foreign 4,6), lack of effective planning, lack of standardisation in material description, and problems with inventory ordering and management. They recommended improvements such as making necessary specifications available, enhancing communication among stakeholders, updating the materials database, and standardising MIDs.

The participants in the Location-local group also had concerns about similar issues, such as the lack of standardisation in material descriptions (local 2,4,5), ineffective planning (local 4), poor communication (local 4), poor work description and job design, and problems with inventory ordering and management. They recommended governance of the scope of work and configurations, improved communication among stakeholders, updating the materials database, standardising MIDs, and providing training and skill development.

The participants in the Location-head office group were concerned about problems related to ineffective planning, lack of standardisation in material description, and problems with inventory ordering and management. They recommended standardisation of MIDs, updating the materials database, and making the necessary information on specifications available to end-users.

5.5.3.2 Specification Management by department

In Figure 5.30 the chart depicts the challenges and recommendations for Specification Management by department

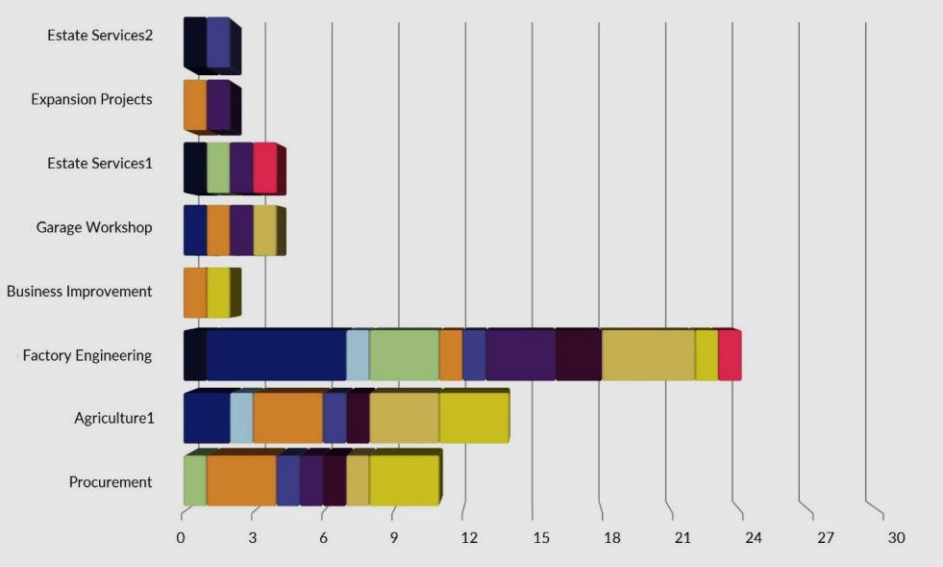

Figure 5.30. Specification Management by department

The participants in the procurement department expressed their concerns about the poor work descriptions and issues with inventory ordering and management. They identified these as the key challenges affecting the management of materials descriptions and specifications. To improve the situation, they recommended standardisation of MIDs, updating the materials database, providing necessary information on specifications, and improving governance of the scope of work and configurations.

Similarly, the participants in the engineering department were also concerned about the lack of effective planning, absence of standardisation in material description, poor communication, and poor job design. They also recommended what the procurement department suggested, with much emphasis on updating the materials database and improving communication among stakeholders.

5.5.3.3 Specification Management by job grade

In

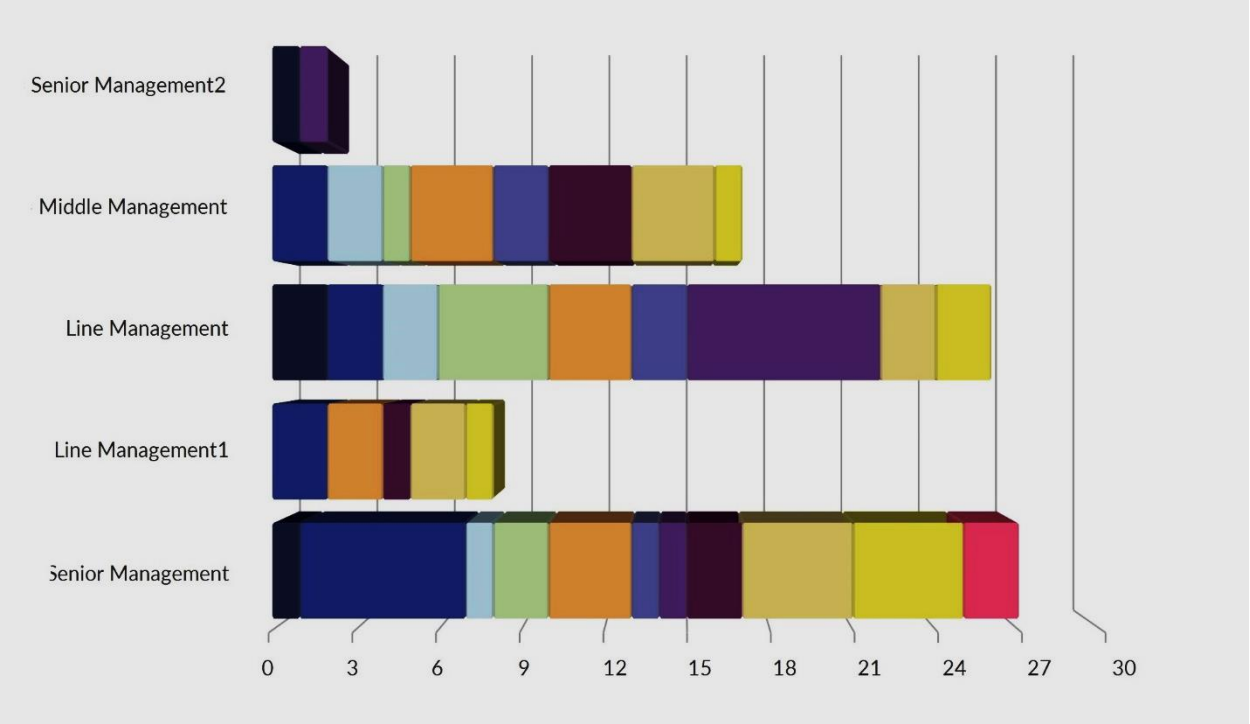

Figure 5.31 the chart depicts the challenges and recommendations for Specification Management by job grade

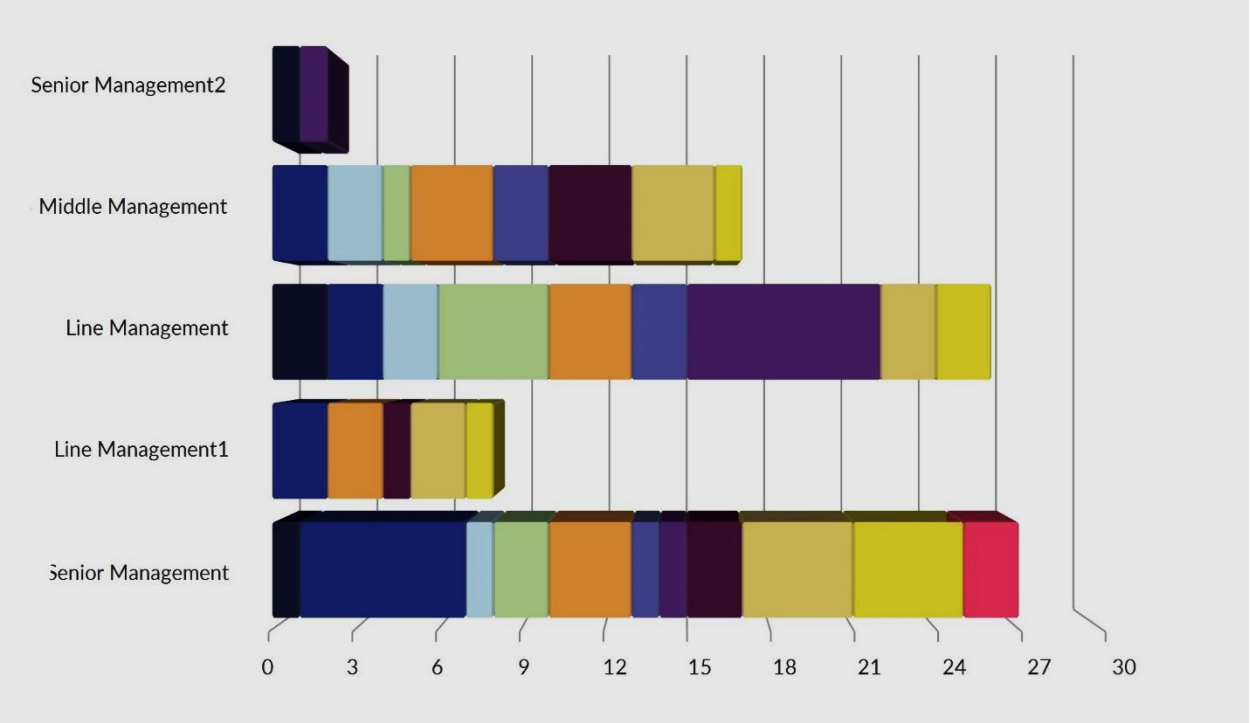

Figure 5.31. Specification Management by job grade

Participants in the senior management job grade expressed their concern about a lack of standardisation in material descriptions, difficulties in inventory ordering and management, and poor work descriptions or job design, among other challenges. They recommended addressing these issues by providing training and skills development, standardising MIDs, updating the materials database, and making the necessary specification information available.

Participants in the middle management job grade also identified a lack of standardisation in material descriptions, poor communication, poor job design or work descriptions, and issues with inventory ordering and management as challenges affecting the management of materials descriptions or work specification. They suggested that the materials database be updated, governance of scope of work and configurations be improved, and MIDs be standardised.

Participants in the line management job grade were concerned mainly with a lack of effective planning, a lack of standardisation in material descriptions, and poor job design or work descriptions. They suggested that communication among stakeholders be improved, the materials database be updated, and MIDs be standardised.

5.5.3.4 Specification Management by work experience

In Figure 5.32 the chart depicts the challenges and recommendations for Specification Management by work experience

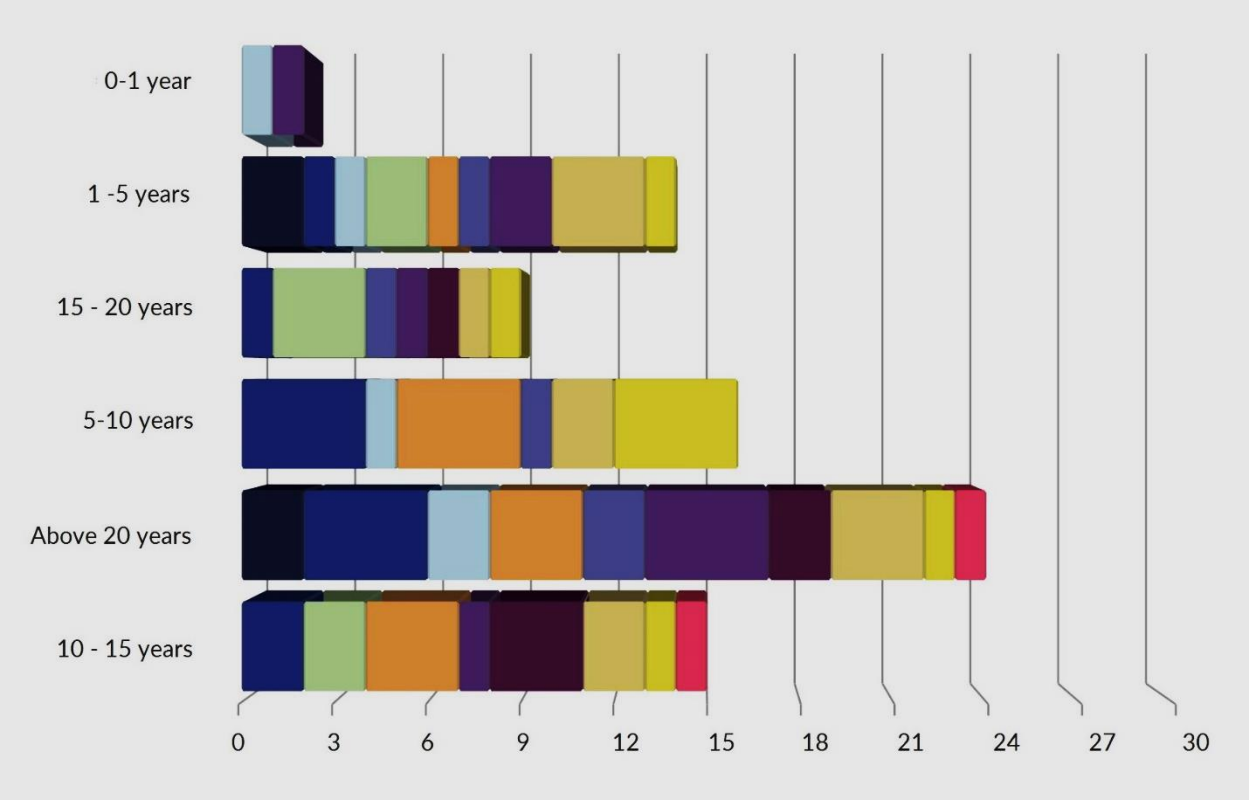

Figure 5.32. Specification Management by work experience

Participants with up to 1 year of work experience identified poor communication as the main challenge. They suggested improvements in the governance of the scope of work and configurations.

Participants with 1 to 5 years of work experience listed lack of effective planning, lack of standardisation in materials description, poor communication, and poor work description or job design as major challenges. They recommended updating the materials database, standardising MIDs, improving communication among stakeholders, and governing the scope of work and configuration.

Participants with 5 to 10 years of work experience reported lack of standardisation in material descriptions and problems with inventory ordering and management as the key challenges. They suggested updating the materials database and standardising MIDs.

Participants with 10 to 15 years of work experience identified lack of standardisation in materials description, poor work description or job design, and problems with inventory ordering and management as the primary challenges. They recommended making necessary information on specifications available, updating the materials database, standardising MIDs, and providing training and skilling.

Participants with 15 to 20 years of work experience faced poor work description or job design as the primary challenge. They recommended standardising MIDs, updating the materials database, and making necessary information on specifications available.

Participants with more than 20 years of work experience listed lack of effective planning, lack of standardisation in material descriptions, poor communication, and problems with inventory ordering and management as the key challenges. They suggested making necessary information on specifications available, updating the materials database, and improving communication among stakeholders to address these challenges.

5.6 Conclusion

Chapter 5 focuses on the qualitative analysis of study. It highlights the finding based on the following four research areas: planning, supplier selection, contract management and specification management.

The challenges affecting planning were communication, external shocks, lack of effective planning, managerial, poor work organisation and performance, procurement systems design and skills. The top three challenges that emerged are, lack of effective planning, poor work organisation, managerial, and communication respectively. external shock emerged as least challenging.

Participants proposed solutions addressed collaboration to enhance cooperation, communication to improve channels and tools to facilitate information sharing among stakeholders, inventory management to optimise inventory levels and reduce wastage. The fourth solution is procurement planning to streamline procurement processes and align them with organisations goals. The final solution is procurement processes and systems design, to improve the design and functionality of procurement systems to enhance their efficiency and effectiveness.

Considering supplier selection participants identified challenges including managerial issues/problems, quality and efficiency of workflow, supplier quality issues and supplier

selection and evaluation. Managerial issues were most important in explaining supplier selection. Supplier quality and supplier selection and evaluation were similarly considered.

Participants suggested improving supplier selection efficiency through supplier selection and evaluation, strategy emergency supply protocols, resourcing the procurement function, functional organisation, engagement with inter-departmental stakeholders and building relationships with suppliers. The bulk of the participants perceived a strong need for supplier selection and evaluation.

Additional participants identified five challenges in contract management. These were related to the inadequate design of contracts, issues with contract scheduling and time, inflexibility of contracts, awarding of contracts, and communication about contracts. The results indicated that inefficiencies in contract management often stem from problems related to the awarding of contracts and communication about them.

Participant responses relating to improving contract management which are the need for collaboration in decision making, improved contracting conditions/clauses, contract information accessibility and improved communication.

The challenges affecting specification management were explained as lack of effective planning, lack of standardisation in material descriptions, poor communication, poor work description or job design and problems with inventory ordering and management.

Participants recommended updating the materials database, improving communication with stakeholders, and standardising MIDs as important solutions to tackle specification management challenges. The next chapter which is the conclusion and recommendations chapter provides a discussion combining both quantitative and qualitative findings for each of the four objectives generated for the study and recommendations of the study. The chapter further highlights the limitations of the study.

Chapter 6 Conclusion and Recommendations

6.1 Introduction

In Chapter six, a summary of the main findings, conclusions and recommendations of the study are presented. This chapter delves into the accomplishment of the study's objectives and proceeds to discusses how each of the study's objectives was accomplished using a mixed a method approach. It synthesises the qualitative and quantitative findings to demonstrate holistically how each objective was addressed. The corresponding discussion informs the recommendations, limitations of the study and areas for future research.

6.2 How the Study's Objectives Were Accomplished

This research aimed to explore the employees' perception of the procurement process in a Southern African sugar company. To achieve this aim, the researcher conducted a comprehensive literature review and used a mixed-methods research approach as it was most suited to the study. An online survey with both open-ended and closed-ended questions was designed and disseminated to participants recruited for the study. The open-ended questions were analysed qualitatively, while the closed-ended questions were quantitative Likert scale questions. The survey was designed to gather employees' perceptions of the procurement process within the company. The literature review highlighted the significance of engaging employees, providing sufficient resources, and addressing concerns related to supplier selection, specification accuracy, and management practices.

The study successfully achieved its objectives (See Chapter one) through quantitative and qualitative research methods. Using the quantitative data, a correlation pattern matrix was created using factor analysis to identify statistically significant correlations with values above 0.3 and uniqueness. Factors related to each objective were then discussed under their respective headers. The researcher also used the Cronbach Alpha values and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy to assess the overall measure of sampling adequacy for each of the four objectives presented below. The Cronbach Alpha value and the KMO value should be greater than 0.5 to be statistically significant.

The survey tested the perceptions of four departments, agricultural, engineering, operational support, and procurement. Each department was divided into three groups of employees, including line managers, middle managers, and senior managers. Participants were from three geographical locations, local, foreign, and the head office. Furthermore, participant data was

evaluated according to years of work experience, specifically up to five years, five to ten years, ten to fifteen years, and greater than fifteen years. The sections below demonstrate how each of the study objectives was achieved.

6.2.1 Objective One: To assess employee perception on planning the procurement process within a Southern African sugar company.

The challenges related to procurement planning vary in importance among senior and line management. Effective planning and poor work organisation are the most significant challenges among senior management. However, lesser challenges include communication, external shocks, managerial issues, procurement systems design, and skills. In contrast, line management faces important challenges such as communication, lack of effective planning, and poor work organisation.

Procurement planning challenges are more concentrated in foreign regions and remain a major concern for senior and line management. The lack of effective planning is a key challenge as supported by (Morrison, et al., 2015), which is more significant in foreign regions and less critical at the local level and head office. Poor work organisation and managerial issues affect procurement effectiveness across all Location areas. External shocks are present at the local and foreign levels but not at the head office. The departments that are most affected by the challenges to procurement effectiveness are the factory engineering department, procurement department, agriculture, and workshop, in that order. Within the factory engineering department, lack of effective planning, poor work organisation, procurement systems design, and communication are significant challenges. Skills challenges are crucial in the factory engineering, agriculture, and procurement departments, contributing to the challenges affecting procurement effectiveness.

Participants with 1 to 5 years of experience were mostly concerned with communication challenges and lack of effective planning. Among these participants, other challenges included poor work organisation and performance. Among participants with 5 to 10 years of experience, lack of effective planning, managerial issues, and skills were the biggest concerns affecting procurement effectiveness. For participants with 10 to 15 years of experience, poor work organisation and performance and lack of effective planning, communication, and skills were the top concerns. Participants with 15 to 20 years of experience reported external shocks and lack of effective planning as the most salient challenges. Finally, participants with over 20

years of experience reported communication challenges and poor work organisation as the most salient challenges, while procurement systems design had a larger relative representation, and lack of planning and managerial issues were also important.

Using factor analysis based on procurement planning, two factors, namely procurement planning and the perceived role of procurement, were derived from the responses.

The study found that the participants had a positive perception of their department's procurement planning capabilities. Furthermore, the participants were found to have a good understanding of the role of procurement and interacted efficiently with the procurement department. They demonstrated a clear understanding of the procurement process, engaged proactively with the procurement team, and demonstrated a good level of knowledge of procurement practices.

Regarding procurement planning, specifically the effectiveness of procurement planning the study found that the perception of poor procurement planning performance is more prevalent among employees located in foreign offices when compared to those located at local or head offices.

Furthermore, the study identified that employee awareness of the procurement function is a significant factor that influences their perception of the role of procurement. This level of awareness was found to be very low among employees in foreign offices but positive among those located at local or head offices.

Line and middle management staff positively perceive the procurement processes being implemented. However, senior executives believe procurement planning is not up to the mark.

When evaluating the perceived role of procurement and the level of understanding within different departments, both line and senior management expressed that they comprehended procurement well, acknowledged its value addition, and maintained good communication with it. However, the middle management group did not share the same perspective regarding the role of procurement.

There are variations in how procurement planning is viewed by different departments within the organisation. Specifically, participants within the agriculture department tend to have lower perceptions of the role and value of procurement in the organisation. The median scores for the index of procurement planning by work experience are deficient, indicating that the participants

do not consider procurement planning to be executed optimally. However, participants have a robust comprehension of the role of procurement in their departments and the value it brings to the company.

Interactions with the procurement department, the data reveals varying perceptions of the frequency of interaction with the procurement department based on respondents' work experience and job positions. Respondents with greater than 15 years of experience exhibited the highest agreement, suggesting a positive correlation between experience and the perceived benefits of frequent interactions. This aligns with the notion that experienced professionals recognise the value of collaboration with procurement in organisational processes. The location-specific analysis highlighted a significant agreement (60.98%) among employees in Engineering departments, emphasising the importance of interdepartmental collaboration, particularly between Engineering and Procurement.

Value addition by procurement, understanding the perceived value addition by the procurement department is essential for evaluating its impact on different organisational levels. The data shows that employees with 5-10 years of experience and those in Senior Management exhibit the highest agreement, indicating that mid-career professionals and top-level executives recognise the value brought by procurement activities. This acknowledgment is crucial for fostering positive perceptions and ensuring alignment with organisational objectives.

Communication and understanding, effective communication and understanding between departments are fundamental for streamlined operations (Giuseppe, et al., 2019). Respondents with greater than 15 years of experience and those in Senior Management expressed the highest satisfaction levels, emphasising the importance of transparent communication channels, especially at higher organisational levels, this aligns with, Prajogo, et al., 2016. The department-specific analysis revealed that the Engineering department demonstrates the highest satisfaction, underscoring the significance of well-established communication channels between Engineering and Procurement.

Understanding of Department Needs and Procurement Role, understanding department needs and the role of procurement are critical aspects of successful collaboration as Pienaar, 2013 discussed. Senior Management exhibited the highest agreement in understanding department needs and the role of procurement. This aligns with the expectation that top-level executives possess a holistic view of organisational functions. Furthermore, the data indicates that

employees in the Engineering department have a clear understanding of the procurement role within their domain.

Participation in Tender Process, active participation in the tender process is indicative of the level of involvement in procurement-related activities (Adinyira, et al., 2021). Senior Management displayed the highest participation, suggesting that top-level executives actively engage in tender processes. The agriculture department stood out with the highest participation, emphasising the active involvement of this department in procurement-related activities.

Procurement as a Roadblock, the perception of procurement as a roadblock varies across job positions and departments. Middle Management expressed the highest disagreement, implying that, at this level, procurement is perceived as less obstructive. In the Engineering department, the highest disagreement further underscores that, in this context, procurement is not considered a significant impediment.

Impact of Late Delivery and Interconnectedness of Planning, recognising the negative impact of late delivery is crucial for operational efficiency. Senior Management exhibited the highest agreement, indicating an awareness of the repercussions of delayed procurement activities. Similarly, understanding the interconnectedness of planning between end-users and procurement was most pronounced among Senior Management and in the Engineering department.

6.2.2 Objective Two: To assess employee perception of supplier selection in the procurement process within a Southern African sugar company.

Participants in head office face challenges related to supplier selection. Foreign participants encounter difficulties with supplier quality issues, managerial issues, workflow efficiency, supplier selection and evaluation. Local participants, on the other hand, face challenges with supplier selection and evaluation, supplier quality issues, managerial issues, and workflow efficiency.

Head office participants encounter similar challenges, namely managerial issues, supplier quality issues, supplier selection and evaluation, and difficulties with workflow efficiency. Yu,

et al. (2019) explain that choosing the wrong supplier can adversely affect procurement results and organisational performance.

The engineering department's main challenges are managerial issues, workflow quality and efficiency, supplier quality issues, and supplier selection and evaluation. In the procurement department, participants identified managerial issues, supplier quality issues, and supplier selection and evaluation as the primary challenges affecting supplier selection.

Senior management participants are primarily concerned with supplier selection and evaluation, managerial issues, supplier quality issues, and workflow efficiency. Middle management participants are primarily concerned with supplier quality issues and managerial issues, while line managers are concerned with a range of challenges affecting supplier selection, including managerial issues, supplier selection and evaluation, supplier quality issues, and workflow efficiency.

Work experience also plays a significant role in participants' concerns related to supplier selection. Participants with up to one year of work experience did not express any concerns related to supplier selection. Participants with one to five years of work experience were concerned with managerial issues, supplier selection and evaluation, and supplier quality issues. Participants with five to ten years of work experience were similarly concerned with supplier quality and managerial issues, as well as supplier selection and evaluation. Participants with ten to fifteen years of work experience were primarily concerned with the impact of supplier quality, managerial issues, and issues related to supplier selection and evaluation. Participants with over 15 years of work experience were primarily concerned with the impact of managerial issues and supplier selection and evaluation on supplier selection.

The variable "The procurement department engages effectively with suppliers," it is evident that respondents across different locations, organisational departments, work experience levels, and job positions consistently expressed a positive sentiment. Particularly noteworthy is the high agreement among senior management, with 62.07% strongly agreeing. This unanimity suggests a robust and positive perception of the procurement department's efficacy in supplier engagement. When selecting potential suppliers, criteria such as quality, price, reliability, capacity, financial stability, and alignment with the organisation's goals are evaluated as discussed by (Vincent & Hsuan-Chih, 2022).

The variable "My department follows up with suppliers" similarly reflects a positive sentiment, with the Head Office and procurement department recording the highest agreement at 50.00% and 54.18% "Strongly Agree," respectively. This underscores the collective commitment to supplier relationship management and proactive communication practices within the organisation.

The occurrence of delays or issues due to the procurement department's management of suppliers, explored through the relevant variable, revealed a nuanced perspective. While the overall sentiment is positive, with the highest agreement recorded at 53.57% in the Foreign Factory location, it also suggests areas where improvements in procurement management may enhance operational efficiency, especially in the Local Factory.

Negotiation effectiveness, as gauged by the variable "The procurement department performs well in terms of negotiating prices with suppliers," showcases a predominantly positive sentiment across locations, organisational departments, and job positions. Notably, the Head Office and procurement department again lead with 50.00% and 55.17% "Strongly Agree," respectively, indicating a proficient negotiation process.

The variable "My department is involved in the adjudication process of the selection of the supplier to be used for goods and services" portrays positive sentiments, with senior management exhibiting the highest agreement at 41.67% "Strongly Agree." This suggests an inclusive decision-making process in supplier selection, contributing to organisational transparency.

Performance evaluations of suppliers, assessed through the corresponding variable, displayed positive sentiments, particularly at the Head Office and within the procurement department, where 38.89% and 44.44% "Strongly Agree," respectively. This indicates a robust evaluation mechanism, contributing to the continuous improvement of supplier performance. Supplier selection plays a critical role in the quality of goods and services procured, directly impacting organisational performance as supported by (Bwana & Muturi, 2018).

The fairness of the three-quote process, analysed through the variable "The three-quote process at my organisation is fair," reflected an overwhelmingly positive sentiment. The Head Office and procurement department again recorded the highest agreement at 55.56% "Strongly Agree." This underscores a perceived equity in the procurement procedures, fostering trust among respondents.

The procurement department's ability to manage supplier risk, especially concerning financial stability, showed positive sentiments across locations, organisational departments, work experience levels, and job positions. Senior management, once again, demonstrated the highest agreement at 55.17% "Strongly Agree."

Lastly, the variable "The procurement department takes accountability for the management of suppliers" reveals a positive sentiment across various dimensions, with senior management exhibiting the highest agreement at 48.28% "Strongly Agree." This suggests a robust accountability framework within the procurement department.

The feedback regarding the supplier selection process was positive among the procurement participants, while the engineering department participants held a negative view. The agriculture and operations support department participants, on the other hand, had a positive outlook. However, the feedback from the individual members of the agriculture department was found to be highly variable, which may indicate the need for a larger sample size to address any gaps in the department's perspective.

When looking at responses on supplier selection processes, the results revealed some interesting insights on how individuals with varying levels of work experience perceive these processes. The research findings suggest that the responses to supplier selection processes tend to differ significantly among individuals, especially for those with less work experience. The participants with up to 5 years of work experience generally held positive views, believing that the selection processes were being conducted effectively and supplier risks were being assessed appropriately. On the other hand, participants with more than 15 years of work experience showed a negative sentiment, indicating that long-term employees tend to become increasingly critical of the supplier selection processes over time. This suggests that as employees gain more experience, they may develop higher expectations and a better understanding of the underlying factors that influence supplier selection processes, leading them to become more discerning and critical in their assessments.

6.2.3 Objective three: To assess employee perception of specification management on the procurement process within a Southern African sugar company.

Participants from all groups expressed their concerns regarding challenges related to Specification Management based on their respective areas. The group of participants who worked in foreign locations mentioned issues such as poor work descriptions, lack of effective planning, lack of standardisation in material description, and problems with inventory ordering and management. Similarly, the group of participants who worked in local areas also highlighted similar concerns, including the lack of standardisation in material descriptions, ineffective planning, poor communication, poor work description and job design, and problems with inventory ordering and management. Lastly, the participants from the head office group were concerned about problems related to ineffective planning, lack of standardisation in material description, and problems with inventory ordering and management. Regarding challenges to the description of materials by department, participants in the procurement department expressed their concerns about the poor work descriptions and issues with inventory ordering and management. They identified these as the key challenges affecting the management of materials descriptions and specifications. Similarly, the participants in the engineering department were also concerned about the lack of effective planning, absence of standardisation in the material description, poor communication, and poor job design.

Regarding Specification Management, participants in senior, middle, and line management job grades expressed their concerns about various challenges. These included a lack of standardisation in material descriptions, difficulties in inventory ordering and management, poor work descriptions or job design, and poor communication.

Further analysis revealed that participants with up to 1 year of work experience identified poor communication as the main challenge. Participants with 1 to 5 years of work experience faced significant challenges such as lack of effective planning, standardisation in material descriptions, poor communication, and poor work description or job design. Those with 5 to 10 years of work experience reported a lack of standardisation in material descriptions and problems with inventory ordering and management as the key challenges.

Participants with 10 to 15 years of work experience identified a lack of standardisation in material descriptions, poor work description or job design, and inventory ordering and management issues as the primary challenges. Those with 15 to 20 years of work experience faced poor work description or job design as the main challenge. Lastly, participants with more than 20 years of work experience listed a lack of effective planning, standardisation in material

descriptions, poor communication, and inventory ordering and management issues as the key challenges.

Overall, these responses highlight the need for standardisation in material descriptions, effective planning, and clear work descriptions or job design to ensure efficient management of materials and work specifications across different job grades and levels of work experience.

In technical contexts, the management of specifications is significantly influenced by two essential factors: supplier performance and end-user requirements. These variables play a vital role in determining how specifications are handled and implemented. It is crucial to consider these factors to ensure efficient management of specifications and successful project completion.

There is significant variation in the scores of each participant across different locations. The management of specifications, which includes supplier performance and end user requirements, is being handled at an optimal level. Interestingly, the scores show an increase in magnitude as we move from foreign to local and then to head office.

As employees move up the management ladder, there is a noticeable improvement in the perception of specification management. Though specification management is generally viewed as well-conducted across all levels of management, there is a considerable variation in feedback. This implies a potential misalignment between the perspectives of lower-level employees and senior management, which needs to be addressed.

It is crucial to consider the distribution of values in a negatively skewed distribution when conducting data analysis. In terms of specification management, it is generally considered to be well-implemented, as indicated by the relatively high positive median scores throughout the distribution. Nonetheless, the use of varying magnitudes of scores may conceal certain participant perceptions, which can be further investigated through qualitative analysis.

Specification management is a crucial aspect of procurement that is widely recognised as a critical factor in achieving project success. In this study it is generally perceived as operational and well-managed across all reported years of work experience, even by more experienced individuals. Despite its technicalities, specification management is considered essential and involves the creation, maintenance, and communication of project requirements and specifications to ensure that project objectives are met (Pienaar, 2013).

The finding reveals a widespread acknowledgment of the utility of material item descriptions in the group catalogue for order placement. The observed trend, particularly among senior management, underscores the strategic significance attributed to clear and concise specifications. This aligns with existing literature on the pivotal role of specifications in facilitating efficient procurement processes (Croom & Brandon-Jones, 2007).

Respondents exhibited a favourable disposition towards the accuracy of specifications sent to suppliers. The prevalence of strong agreement among senior management and the positive correlation with work experience illuminate the nuanced understanding of the importance of precision in specifications. This concurs with studies emphasising the link between accurate specifications and supply chain performance (Lamming, et al., 2000).

The study illuminated a perceived linkage between the quality of material item descriptions/scope of work and the quality of goods and services provided by suppliers. This finding aligns with the broader literature suggesting that precise and comprehensive specifications contribute to enhanced supplier performance and, consequently, superior product and service quality (Handfield & Nichols, 2002).

A prevailing consensus emerged regarding the impact of supplier performance on overall company performance. Senior management's heightened inclination towards strong agreement underscores their acute awareness of the interconnectedness of supplier dynamics and organisational success. This resonates with strategic supply chain management literature emphasising the strategic importance of supplier relationships (Robert, et al., 2015).

The responsibility attributed to end users for providing accurate specifications is a notable finding. This underscores the need for robust communication channels and collaboration between end users and procurement departments. The observed variations across departments and the elevated agreement within Engineering shed light on department-specific perspectives, emphasising the need for tailored strategies in specification management.

6.2.4 Objective four: To assess employee perception of contract management in the procurement process within a Southern African sugar company.

Participants revealed that there are several challenges that are faced in contract management across all levels. The challenges varied from communication issues related to signed contracts, contract awarding, contract rigidity, contract scheduling and timing, and poor contract design. Interestingly, foreign locations experienced communication problems related to signed contracts and contract awarding. In contrast, local locations faced similar communication problems along with challenges in contract scheduling, timing, and poor contract design. The head office faced contract rigidity challenges, contract awarding, and communication problems related to signed contracts as significant challenges. The engineering department faced challenges in contract awarding, contract rigidity, and communication-related to signed contracts. The agriculture department faced difficulties in communication regarding signed contracts and contract awarding, along with challenges in contract rigidity and poor design. Other departments, such as human resources (contract awarding), inventory (contract scheduling and poor design), and expansion projects, reported challenges in managing contracts. Senior management personnel primarily expressed concerns regarding contract awarding and communication problems concerning signed contracts. While they also acknowledged challenges in contract scheduling, timing, and poor design, these issues were of lesser concern to them. In contrast, line management personnel were equally concerned about communication issues concerning signed contracts, contract awarding, contract scheduling, timing, and contract rigidities affecting contract management. Employee satisfaction with the contract management process is closely related to their perception of contract clarity, completeness, and fairness (Ahmed & Omwenga, 2023).

Further, some middle management team members also reported difficulties with communication regarding signed contracts. They mentioned that contracts were too rigid and poorly designed, but only a few raised these concerns. The results showed that the participants' responses varied depending on the years they worked in the organisation. Those who had been with the organisation for less than a year expressed concerns regarding the contract awarding process and the substandard design of contracts.

Employees with varying work experience levels in the organisation identified different contract management challenges. Those with 1-5 years of experience cited issues with communication regarding signed contracts, contract scheduling, and timing as the primary challenges. Participants with 5-10 years of experience identified communication problems related to signed contracts, contract scheduling, timing, contract rigidity, and contract awarding as major challenges. Employees who had been working with the organisation for 10-15 years expressed

concerns about challenges associated with contract awarding, contract rigidity, contract scheduling, and poor contract design. Akamp and Muller (2013) recognises contract management as an important aspect of procurement that contributes to the overall success of the procurement process.

The management of contracts has been identified as a significant challenge by employees who have worked in an organisation for greater than 15 years. The challenges include issues with contract awarding, scheduling, and poor contract design. Additionally, communication challenges related to contracts were identified by employees with more than 20 years of work experience in the organisation, including issues with awarding, rigidity, scheduling, and poor design of contracts.

Communication plays a pivotal role in procurement processes, facilitating transparency and alignment across various stakeholders (Adinyira, et al., 2021). The survey results indicate that while a substantial proportion of respondents express satisfaction with communication regarding contract implementation, there are notable disparities across different organisational facets. For instance, respondents from the Head Office exhibit higher levels of satisfaction compared to those from Foreign and Local Factories. This suggests potential communication gaps that warrant attention, particularly in decentralised operational units.

Moreover, the comfort levels in reporting ethical issues within the organisation underscore the importance of fostering an ethical culture conducive to transparency and accountability. The observed variation across departments and work experience levels imply the need for targeted interventions to in still confidence among employees, especially those with limited tenure.

The survey reveals varying degrees of familiarity with procurement processes across different organisational segments. While the overall trend indicates a positive correlation between experience level and familiarity, there are nuances to consider. For instance, the Procurement department understandably exhibits the highest levels of familiarity, indicating specialised knowledge within the domain. However, it is noteworthy that certain operational units, such as Engineering, demonstrate relatively lower levels of familiarity despite their integral role in procurement-related activities. This highlights a potential area for capacity-building initiatives to enhance cross-functional understanding and collaboration.

Effective contract management is critical for ensuring compliance, mitigating risks, and maximising value generation from procurement activities as supported by (Andrea & Ana-

Maria, 2023). The survey findings underscore the significance of this aspect, with respondents expressing varying degrees of satisfaction with the procurement department's contract management practices. While the overall sentiment leans towards positive assessments, the prevalence of delays in certain departments and locations necessitates targeted interventions to streamline processes and enhance efficiency.

Similarly, the accountability of suppliers regarding contract terms emerges as a pertinent consideration. The observed disparities across departments and experience levels underscore the need for consistent enforcement mechanisms and performance monitoring frameworks to uphold contractual obligations and safeguard organisational interests. Effective communication and regular interaction between policyholders and suppliers are key elements that promote transparency, trust, and successful procurement outcomes (Daniela, et al., 2014).

Ethical considerations during tender processes are paramount for upholding organisational integrity and fostering trust among stakeholders. The survey outcomes reveal a mixed landscape, with respondents exhibiting differing perceptions of the organisation's ethical conduct during tenders. While the overall sentiment tends towards positivity, there are discernible variations across departments and locations. This underscores the imperative for robust governance mechanisms and ethical frameworks to ensure compliance with established norms and standards.

Furthermore, the presence of suspicion in winning bids, albeit at relatively low levels, warrants careful scrutiny and proactive measures to address underlying concerns. While the Procurement department reports lower levels of suspicion, other operational units, particularly those with limited experience, exhibit higher levels of apprehension. This highlights the need for enhanced transparency, due diligence, and oversight to mitigate the risk of irregularities and foster confidence in procurement processes.

The management of contracts involves a considerable emphasis on ethical considerations and the possibility of ethical breaches. The individuals involved believe that contracts and tenders are executed with high ethical standards.

The management of contracts for participants within the head office is perceived to be well-managed. However, the management of foreign contracts is not considered to be optimally executed. On the other hand, the management of local contracts is generally viewed positively,

although there is considerable variability across the local participants. This presents a gap in the study that warrants further investigation.

Line and middle management participants have expressed satisfaction with the current state of contract management. However, senior management believes that contract management is not being carried out to its fullest potential.

The agriculture department has reported that contracts are being well-managed, whereas in operations support, it has been observed that contract management is not being handled properly. Engineering and procurement departments have given positive feedback, albeit marginally, with some opinions indicating that contract management is being handled effectively.

6.3 Recommendations

The findings highlight the Impact of Late Delivery and Interconnectedness of Planning, recognising the negative impact of late delivery is crucial for operational efficiency. It was also found understanding the interconnectedness of planning between end-users and procurement was most pronounced among Senior Management and the Engineering department. Therefore, line management and middle management are not aligned displaying a gap in communication. This study recommends several interventions that can optimise procurement effectiveness in the region.

To improve collaboration and information flow, the company should have communication strategies in place that ensure all management levels have a unified understanding of procurement planning efforts. Regular feedback and updates will also aid in bridging communication gaps between departments and is supported by the studies completed by (Giuseppe, et al., 2019, Adinyira, et al., 2021)

Tailored training programs and workshops should be introduced to enhance planning skills and improve work organisation (Amir & Amen, 2013). Evaluating and enhancing existing procurement systems to align with organisational goals is also recommended. End-users' involvement is crucial in the Southern African context for successful system design and implementation (Arulsamy, et al., 2023).

Addressing skills gaps within departments, such as factory engineering and agriculture, can overcome challenges in procurement planning (Tukuta & Saruchera, 2015).

Establishing comprehensive contingency plans to mitigate the impact of external shocks is crucial. Proactive risk management strategies will enhance the organisation's resilience (Siege, 2017).

Open discussions and workshops should be facilitated to encourage input from all departments and management levels. Collaborative efforts with department heads can lead to targeted improvements in procurement planning processes.

The findings highlight supplier selection process was positive among the procurement participants, while the engineering department participants held a negative view. This is a concern as the end users require the goods and services to manufacture sugar.

Therefore, standardised processes for supplier selection should be developed and implemented across all departments and locations to mitigate supplier selection, evaluation, and workflow efficiency challenges (Bwana & Muturi, 2018). Training and development programmes should also be introduced to enhance participants' understanding of effective supplier management practices.

Initiatives for better communication between departments and levels of management should be fostered. Regular performance evaluations of the procurement and supplier management teams will ensure accountability and effectiveness (Podmoskovnov, 2018) (Ghodsypour & O'Brien, 1998).

The findings highlight participants revealed that there are several challenges that are faced in contract management across all levels. The challenges varied from communication issues related to signed contracts, contract awarding, contract rigidity, contract scheduling and timing, and poor contract design.

Therefore, streamlining and standardising the contract processes is recommended. This may involve establishing clear criteria for evaluating bids, change management, communication of the details of the contracts, providing training to relevant personnel, and implementing regular reviews to ensure fairness and efficiency in the awarding and implementation process of the contracts (Vincent & Hsuan-Chih, 2022).

6.4 Limitations of the study and areas for future research

The primary limitation of the research process was the restricted number of participants that were permitted to take part in the study. This number was mandated by the Human Resources

department. The agricultural department was particularly affected by the limited number of participants, which led to a high degree of variability within the agriculture department responses. Another limitation was the use of neutral that generated in many responses that did not benefit the study. The issue of whether a middle or neutral point should be included in a scale and whether it should be used is a topic of ongoing debate. Studies have shown that removing the middle point can reduce social desirability bias, as retaining it can lead to distorted results (Garland, 1991). However, removing it can also introduce a "forced choice" scenario, where respondents may be compelled to take a stand instead of remaining neutral, which may not be desirable in politically or socially sensitive cases (Allen & Seaman, 2007). Overall, the use or non-use of a neutral point in a scale remains a contentious issue with no clear consensus (Leung, 2011).

Future research could focus on each of the four objectives as a stand-alone qualitative study. One study could focus on planning of procurement needs by the end users. The second research study could explore supplier selection in the procuring process. The third research study could examine specification management in the sugar manufacturing industry and the fourth study could determine factors influencing contract management.

6.5 Conclusion

Although results from the quantitative research design sometimes differed from those generated using a qualitative design the overall results show the following in terms of the aim and objectives of the study. Even though the quantitative results of the study showed that participants perceived their departments as managing procurement planning well and that their departments understood the role of procurement and interacted efficiently with the procurement department, the qualitative results showed some gaps in procurement planning. Quantitative and qualitative results further demonstrated supplier risk management as an important consideration.

Contract ethics and potential ethical violations generated a variety of perceptions from the qualitative results. However, the most notable is that participants perceive contracts and tender processes as following good ethical standards.

Overall, the qualitative results showed that the challenges affecting procurement planning were communication, external shocks, lack of effective planning, managerial, poor work

organisation and performance, procurement systems design and skills. The top three challenges that emerged are lack of effective planning, poor work organisation, managerial, and communication respectively. external shock emerged as the least challenging.

Challenges in contract management were related to the inadequate design of contracts, issues with contract scheduling and time, inflexibility of contracts, awarding of contracts, and communication about contracts. The results indicated that inefficiencies in contract management often stem from problems related to the awarding of contracts and communication about them.

Further, the study results showed the need to improve contract management, which is the need for collaboration in decision-making, improved contracting conditions/clauses, contract information accessibility and improved communication.

The challenges affecting specification management were explained as a lack of effective planning, lack of standardisation in material descriptions, poor communication, poor work description or job design and problems with inventory ordering and management.

By and large, the findings of this study have paved the way for some actionable recommendations such as developing an effective procurement planning culture and systems, that can serve as a blueprint to help the company achieve its procurement goals for greater effectiveness.

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Appendix 1: Informed consent from

Procurement Survey Overview

Dear Potential Participant

My name is Naveshan Gopal, I am a Master of Business Administration student at the University of KwaZulu-Natal Graduate School of Business and Leadership. As part of the requirements to complete the degree, I am required to complete a mini dissertation. I am interested in exploring "An Assessment of employee perceptions on enhancement of Procurement of a Southern African sugar company". My supervisor is Professor Mihalis Chasomeris, from the Graduate School of Business and Leadership at the University of KwaZulu-Natal.

You are being invited to consider participating in the study which involves exploring "An Assessment of employee perceptions on

enhancement of Procurement of a Southern African sugar company". The aims and objectives of this study are to obtain
an understanding of how procurement can be improved. You are requested to participate in a survey that should take about 10-15 minutes to complete. All information that is shared in this study will be treated as confidential and anonymous by myself as the researcher.

Please note the following:

The information you provide will be treated confidentially and anonymous as no name or information can be linked to you personally.

The information that will be shared in the survey will be treated confidentially and will be reviewed anonymously.

There will be no negative consequences should you decide not to participate in the study.

Your involvement is purely for academic purposes only, and no financial benefits are involved.

Data will be stored electronically; password protected and will be discarded after 5 years.

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee
(approval number: HSSREC/00005800/2023).

In the event of any problems or concerns/questions you may contact the researcher at 207510036@stu.ukzn.ac.za / 076 137 4441 or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

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4000

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Appendix 2: Interview schedule

1	Which operation are you based at?
2	Which department do you work in?
3	What grade bracket are you in?
4	How long have you been working for the company ?

		Select an Option				
5	My department often interacts with the procurement department.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6	The procurement departmenent adds value to my department.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7	I am satisfied with the procurement department's communication with the end user	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8	Procurement understands my department and its needs.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9	I understand the role of procurement.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
11	I often participate in the tender process.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
10	The procurement department is a roadblock to my department	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12	The engineering department plans its procurement needs well.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13	The agricultural department plans its procurement needs well.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
14	The garage workshop department plans its procurement needs well.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
15	Capex project managers plan their procurement needs well.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
16	Since the restructuring, the planning of my department's procurement requirements has improved.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

17	Late delivery of goods or services has a negative impact on my department.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
18	The effectiveness of the end user's planning impacts the procurement process.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
19	Identify challenges in planning that impact procurement effectiveness.					
20	Provide recommendations to deal with the challenges.					
21	The procurement department engages effectively with suppliers.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
22	My department follows up with suppliers.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
23	My department often experiences delays or issues due to the procurement department's management of suppliers.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
24	The procurement department performs well in terms of negotiating prices with suppliers.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
26	My department is involved in the adjudication process of the selection of the supplier to be used for goods or services.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
27	The procurement department frequently conducts performance evaluations of suppliers	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
28	The three quote process at my organisation is fair.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
29	The procurement department manages supplier risk well, for e.g. financial stability.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
30	The procurement department takes accountability for the management of suppliers.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
31	Identify challenges with the current supplier management by the procurement department.					
32	Provide recommendations to deal with the challenges.					
33	The procurement department communicates when contracts are put in place	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
34	I am comfortable reporting potential ethical issues related to tenders within the organisation	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
35	I am familiar with the tender process	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

36	The procurement department effectively manages contracts.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
37	My department experience delays due to the contracting process.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
38	The procurement department holds suppliers accountable regarding the terms of the contract.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
39	The organisation is ethical during tenders	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
40	The contracts add value to my department.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
41	I have been involved in a tender process where I felt that the winning bid was suspicious.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
42	Identify challenges with the current contracts (if you are aware of any challenges or concerns in the contracts you use; please identify these).					
43	Provide recommendations to deal with these contract challenges identified above.					
44	The Material Item Description (MID) in the group catalogue assist my department when placing orders.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
45	The scopes of work (specifications) sent to suppliers are accurate.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
46	The quality of Material Item Description (MID)/scope of work affects the quality of goods and services the supplier provides.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
47	Suppliers' performance impacts the company's performance.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
48	The end user is responsible for providing the correct scope of work (specifications) for goods or services.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
49	Identify challenges with the current Material Item Description (MID) and scope of work.					
50	Provide recommendations to deal with the challenges.					

Appendix 3: Ethical clearance

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

13 September 2023

Naveshan Gopal (207510036)
Grad School Of Bus & Leadership
Westville Campus

Dear N Gopal,

Protocol reference number: HSSREC/00005800/2023
Project title: An assessment of employee perception on the procurement process of a Southern African sugar company.
Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 20 June 2023 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted FULL APPROVAL.

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

This approval is valid until 13 September 2024.
To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

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

Yours sincerely

[redacted]

Professor Dipane Hlalele (Chair)

/dd