

**The effect of ISO 9001:2015 on public service quality: The  
case of a Gauteng Provincial Government Department**

**By**

**Tolo Mosa Lorraine**

**(222636386)**

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**Supervisor: Prof Bingwen Yan**

**Bellville Campus**

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## DECLARATION

I, Tolo Mosa Lorraine, declare that the contents of this thesis represented my own unaided work, and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not those of the Cape Peninsula University of Technology.

Signed: 

Date: 20/09/2023

## ABSTRACT

Public Infrastructure is one of the government's most critical responsibilities, and it cannot be ignored in favour of more controversial or unethical spending. The Gauteng Department of Infrastructure Development (GDID) struggles to provide Gauteng citizens with high-quality infrastructure on time, and as a result, the citizens have lost faith in the department. For this reason, this research aimed to evaluate the viability of implementing the principles and standards of the Quality Management System (QMS) of ISO 9001:2015 in the public sector. This study investigated the effect of ISO 9001:2015 on the quality of public services provided by the GDID in South Africa.

A mixed method was employed in this study. The key variables, which included the key elements of ISO 9001:2015, were used to measure the quality of service delivery and overall customer satisfaction. The quantitative research design focused on the ordinary citizens ( $n_1= 113$ ) who utilise the GDID services and GDID employees ( $n_2=19$ ) through two different 5-point Likert scale survey questionnaires. These questionnaires were designed and aligned with the research objectives. Quantitative data were analysed through SPSS statistical software. The qualitative research approach utilised an open-ended question embedded in the questionnaire to gather data from citizens to gain recommendations for further research. Qualitative data through content analysis.

The research results showed that the workforce is well aware of the ISO 9001 quality policy. According to the workforce's responses, implementing ISO 9001 is a useful solution to address the issues identified by the staff. Some of the issues that were mentioned include a lack of leadership, focus on the customer, employee engagement, issues with the procedures, and client and customer relationship management. Upon analysing the responses, one of the possible solutions is to embrace the seven ISO 9001 principles that underpin this QMS.

This study concluded that GDID leadership needs to foster a sense of unity in achieving QMS objectives, provide the employees adequate training on the QMS, consistently communicate the department's goal of becoming ISO 9001 accredited, and emphasise the importance of adhering to the QMS for GDID to be successful in their pursuit of ISO 9001 certification. Based on an analysis of the replies from the public, the study revealed a significant amount of animosity and dissatisfaction directed toward the public sector. All governmental spheres—local, provincial, and national—are viewed in the same way by the general public. If one of these departments is unable to provide the services that the public needs, the public sector as a whole is perceived to have failed.

This study recommends that the leadership of the Gauteng Department of Infrastructure Development should promote cooperation among employees to meet QMS goals, provide them with sufficient QMS training, constantly communicate the department's intention to achieve ISO 9001 accreditation, and emphasise the importance of QMS compliance.

The South African public sector and the rest of Africa are expected to benefit significantly from this study as it was able to answer the key research question of whether the GDID's implementation of the ISO 9001 QMS is a suitable solution. In this regard, the research findings of this study can contribute to an effective solution to the long-standing problem of failure in public service delivery.

**Keywords:** Service quality, public infrastructure, ISO 9001, Public sector, Quality Management System

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Lastly, I would like to thank all the Gauteng citizens who took part in the study. Your participation means a lot to me, thank you very much. The nation's challenges regarding public services will be surmounted. Rome was not built in a day.

## **DEDICATION**

I would like to dedicate my research to all the diligent, devoted and skilful public servants. Do not let the negative stereotypes regarding public servants deter you. You are aware of the value you add to your organisation; let that be what motivates you. You are incredibly blessed to work in a field that directly impacts the citizens of this naturally beautiful and diverse country.

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## LIST OF ACRONYMS AND ABBREVIATIONS

<b>ISO</b>	International Organisation Standardization
<b>QMS</b>	Quality Management System
<b>GDID</b>	Gauteng Department of Infrastructure Development
<b>GPG</b>	Gauteng Provincial Government
<b>IDMS</b>	Infrastructure Delivery Management System
<b>VOC</b>	Voice of the Customer
<b>DPSA</b>	Department of Public Service and Administration
<b>PDCA</b>	Plan Do Check Act
<b>PFMA</b>	Public Financial Management Act
<b>M &amp; E</b>	Monitoring and Evaluation

## **GLOSSARY OF TERMS**

### **Quality Management System:**

According to ISO 9001:2015 criteria, a Quality Management System is a set of policies, processes, and procedures required for planning and execution (production/development/service) in an organisation's primary business area.

### **Leadership:**

According to Alexandra (2020), a company's management can create and achieve hard goals, take clear and decisive action when needed, exceed the competitors, and inspire others to perform at their best.

### **Service Delivery:**

According to Narayan et al. (2000), in the public sector, service delivery entails meeting the expectations of all citizens, but notably those who are the most vulnerable in society.

### **ISO 9001:**

According to the fifth edition of the International Standards Organisation, ISO 9001 is a generic standard that directs organisations to offer services that match their customers' needs and legal obligations.

# CHAPTER 1:

## GENERAL INTRODUCTION AND BACKGROUND

### 1.1 Introduction

Infrastructure is one of the government's most important obligations, and it cannot be overlooked in favour of more contentious or unethical spending. Infrastructure investment pays off over time and is a sensible use of public funds. In his 2021 budget address, the Minister of Finance highlighted the government's commitment of R791.2 billion to the infrastructure investment program (Department of National Treasury, 2021). This demonstrates the significance of infrastructure delivery to South African citizens.

Infrastructure development gives millions of residents in the province of Gauteng, who are affected by spatial planning and exclusion, hope and a way to realise their dreams. Infrastructure development allows a nation to correct historical inequity and accomplish economic and social transformation. Infrastructure development is critical to reviving the economy (GDID 2021/22; Department of National Treasury, 2021).

The Gauteng Department of Infrastructure Development (GDID) is responsible for ensuring that all infrastructure programs and projects that are reflected in the short-, medium-, and long-term plans of the Gauteng Provincial Government are carried out. The department also makes use of the construction industry as a catalyst for the creation of jobs, the acquisition of skills, and the development of sustainable communities (GDID annual report 2016/17). With this much work, the department undoubtedly experiences challenges. The department has initiated the journey of adopting the ISO 9001 Quality Management System in an effort to overcome its challenges. The GDID started their journey by conducting workshops to educate the employees about the advantages of implementing the QMS. In addition, the department conducted an ISO 9001 gap analysis assessment.

The ISO 9001 certification is a requirement that public organisations in South Africa need to concentrate on obtaining because it has the potential to assist in formalizing and streamlining standard methodology and managing project procedures (Khalema, Van



Waveren, Chan, 2015). It is vital to adopt the use of ISO 9001 in the public sector to improve the delivery of services. According to the current ASQ online dictionary (2022), a QMS is a framework for managing and improving an organisation's key operations in order to achieve maximum customer satisfaction at the lowest costs.

Scholars such as López-Lemus (2021) and Manzani (2019) have emphasised the importance of international recommendations that prioritise the continuous improvement of public services. These recommendations urge government organisations, as highlighted by Al-Qatawneh (2017), to pursue quality certification for services offered by each department. The aim is to ensure adherence to established guidelines and provide high-quality public services aligned with the principles outlined in the ISO 9001:2015 standard, as identified by López-Lemus (2021).

This research differs from others since it focuses on a South African government agency that constructs public infrastructure. In addition, this organisation has already started the process towards becoming ISO 9001-certified. Studies that concentrate on the application of ISO 9001 by South African government departments that are in charge of maintaining infrastructure are relatively rare. This research and other studies of a similar nature recognise the possibility that the implementation of ISO 9001 standards and guidelines may have a positive influence on an organisation.

## **1.2 Problem statement**

According to the Bill of Rights, every South African citizen has a right to housing, health care, food, water and social security (Republic of South Africa, 1996:12-13). GDID has been assigned to oversee the development of the Gauteng Provincial Government's (GPG) 5-year Infrastructure Pipeline for 2019-2024. Gauteng is a province in South Africa with approximately 15,8 million people (26,3%) living in this province (Stats SA, 2022). According to Stats SA (2022), Gauteng continues to record the largest share of South Africa's population.

Given the magnitude of the population it serves, the department's mission poses challenges that cause infrastructure to be delivered to citizens later than expected. The

Gauteng Department of Infrastructure Development has had difficulty meeting the timelines for handing over all of the infrastructure projects (hospitals, clinics, schools, libraries, early childhood development centres, and licensing and testing departments) that they are in charge of completing in the province. As a result, customers are dissatisfied, and there is a lack of trust between the Department and its customers and clients (GDID annual report 2016/17).

The impact of Covid-19 has also added to the challenges that the department was already facing, which include poor contractor performance, late payments to the appointed contractors, budget readjustments and community unrest. However, the number of challenges that the department faces have increased (GDID 2021/22; Department of National Treasury, 2021).

Some of the problems hampering the department to deliver quality infrastructure timeously include shortages of building materials, which were caused by material suppliers shutting down due to bankruptcies as a result of lockdown restrictions (GDID 2021/22; Department of National Treasury, 2021). A solution to improve the systems, processes and continuous improvement efforts, the timely delivery of quality infrastructure, and subsequently, customer satisfaction needs to be implemented (GDID 2021/22; Department of National Treasury, 2021).

### **1.3 Scope of the Study**

As the number of people relocating to the Gauteng Province grows, so does the demand for high-quality infrastructure. In light of this circumstance, the study examined the viability of implementing ISO 9001 QMS within a public sector organisation responsible for constructing infrastructure facilities in Gauteng (excluding houses, roads, and bridges).

The study also investigated the major elements influencing the quality of public services, such as how service quality is measured in the public sector and effective ways to improve service quality in public organisations using ISO 9001. The study focused on Gauteng residents across all the metros, including employees of the organisation. 113 Gauteng

residents and 19 GDID officials took part in the study by responding to the Closed-ended and Open-ended questionnaires designed for this paper. As a result, the scope of this study is limited to Gauteng and, more precisely, to residents who utilise public infrastructure and employees who are more familiar with the GDID's systems and operations.

People of Gauteng were questioned for this study, Considering the Department in question exclusively constructs infrastructure for only the Gauteng Province. With that said, it makes more sense for the study if the only people who provide honest feedback are those who use the services provided by the Department.

#### **1.4 Rationale and significance of the study**

The importance of this study is the overall positive impact it might have on ordinary citizens; citizens might receive the promised infrastructure on schedule and in good quality condition. This study investigated the viability of ISO 9001:2015 QMS adaptation within a provincial government department to improve operations and customer satisfaction. In addition, this research attempted to provide an effective solution to the long-standing problem of failure in public service delivery.

The study is relevant because it addressed a subject that is understudied. The study will therefore be of good use for future research. Succinctly summarised, the study has the potential to provide a significant contribution to the South African public sector and African countries at large.

The study aimed to assess whether the Gauteng Department of Infrastructure Development's adoption of the ISO 9001:2015 QMS was a viable solution to the department's challenges. This study employed a case study on the department with the overall aim of making recommendations to the department on how they can continuously deliver quality services on time to the citizens of Gauteng.

This study provides insightful recommendations to enhance the department's quality policy, which will be linked with the department's current management system, the Infrastructure Delivery Management System (IDMS).

## **1.5 Research Objectives**

The primary research objective of the study was to determine whether the Gauteng Department of Infrastructure Development's adoption of the ISO 9001:2015 QMS was a viable solution. Further objectives arising from the primary objective were:

- To identify the key factors affecting public service quality within public organisations.
- To determine the measurements of service quality for public organisations.
- To find an effective way to improve service quality in public organisations through the implementation of ISO 9001: 2015.

## **1.6 Research Questions**

The primary research question of this study is the following:

*Is the Gauteng Department of Infrastructure Development's adoption of the ISO 9001:2015 QMS a viable solution to providing quality public service?*

To answer the primary research question, the following investigative research questions were formulated:

- What are the key factors affecting public service quality within public organisations?
- What are the measurements of service quality within the selected public organisation?
- How has service quality in public organisations improved through the implementation of ISO 9001:2015?

## 1.7 Chapter Outline

**Chapter One:** This chapter covers the introduction, including the introduction of the research problem, background of the study, research aims and objectives. This chapter sets the tone for the thesis by putting the study topic into context.

**Chapter Two:** This chapter explores the relevant literature review, wherein the researcher discusses the benefits of implementing a QMS within the public sector, the common factors that affect the quality of public services, measures of quality, service delivery and customer satisfaction within the Government space and a summary of the policies, legislations and laws that govern the South African public sector, and how these might affect the integration with ISO 9001 standards.

**Chapter Three:** This chapter covers the research methodology wherein the researcher explains the methods, procedures, and strategies they have put in place to collect, analyse, and report the research findings.

**Chapter Four:** This chapter reports on the results of the study and the challenges which were encountered during data collection.

**Chapter Five:** This chapter gives a thorough analysis of the research findings as well as a discussion of achieving the research's aims and objectives.

**Chapter Six:** This chapter is dedicated to discussing the study's conclusions and recommendations, providing the conclusion of the entire study, recommendations to the GDID and other researchers in the future, and providing general concluding remarks.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter sought to analyse the findings of previous studies from relevant literature review, identify areas that would complement the current study's objectives, and point out areas where previous research had gaps. The chapter begins with a definition of ISO 9001 QMS. The discussion then shifts to examining the typical factors that affect the service quality for public organisations, advantages of implementing a quality management system in the public sector, and measurements for service quality.

In an effort to provide a thorough solution to the issues raised by the study, these sections will address the aims and research questions. Theoretical frameworks for service quality and consumer satisfaction were also investigated.

### **2.2 ISO 9001 and Quality Management System**

The Quality Management System (QMS) emerged as an early continuous improvement approach applied in the commercial and industrial sectors. Its primary objective was to enhance profitability and sustainability by establishing tactical and operational strategies through strategic planning. This approach aimed to connect quality with the processes involved in product manufacturing to ensure customer satisfaction (Chiarini, 2017; Lopez-Lemus and De la Garza, 2019). It is worth noting the significance of ISO certifications, which have been in existence since 1951 (ISO, 2019), in this context.

According to Tomic and Spasojevic (2018), ISO 9001, the latest version of which was updated in 2015, encompasses seven quality management principles that organisations can employ to achieve excellence in public services and enhance customer satisfaction (Anttila and Jussila, 2017).

#### **2.2.1 Definition of ISO 9001**

According to the International Standards Organisation's fifth edition, ISO 9001 is a general standard that aims to guide businesses to provide services in accordance with both legal

requirements and the needs of their clients. According to Abu Al-Rub and Shibhab (2020), ISO 9001 is a management technique for enhancing client satisfaction and helping businesses become more effective.

Both definitions agree that ISO 9001 is a quality management system focused on customer satisfaction. By matching their processes with their client's demands and expectations, the QMS intends to assist organisations—profitable and non-profit alike—to become more client-centric.

### **2.2.2 Understanding of Quality Management System (QMS)**

According to Barton (2014), an organisation's primary business sector requires a set of regulations, practices, and procedures known as a Quality Management System. A QMS is also a set of guidelines and protocols necessary for production, development, and service planning and execution in an organisation's main line of business, according to ISO 9001:2015 criteria (ISO 9001, 2015). Based on both definitions, a QMS is a system of methods designed to aid organisations in improving their operations and processes to produce optimal outputs (products/services).

The system is a viable solution to the GDID because it focuses on the department's two key issues, which are quality management and customer satisfaction. This section answers the main question of the paper, which is whether the adoption of ISO 9001 QMS in GDID is a viable solution. This part addresses the paper's core question, which is whether implementing ISO 9001 QMS in GDID is a viable solution.

### **2.3 Common factors that affect the quality of public services**

According to Tawanda Zinyama (2021), the socioeconomic provision of goods and services, such as the building of roads, hospitals, and schools, is known as service delivery. According to Narayan *et al.* (2000), in the public sector, service delivery entails meeting the expectations of all citizens, but notably those who are the most vulnerable in

society. Therefore, the most appropriate definition for this research is the one by Narayan because it aligns with the South African Government's values.

Quality is the extent to which employees of public sector organisations provide (Bucaite-Vilke and Vilkas, 2018) and carry out (ISO, 2019; ISO, 2015) their functions in order to meet the needs of customers (Famiyeh *et al.*, 2018). Consumer satisfaction and quality analysis is an emerging research topic in the service sector, especially in the public sector.

According to Victor and Headmound (2015), several factors contribute to the quality-of-service delivery in the public sector, including poor financial resource management, human resource management techniques, information technology, and government oversight. Jiwan (2016) further adds that service delivery within the public sector in Kenya has not been satisfactory. According to Maune (2015), corporate scandals, subpar corporate governance structures, and a lack of accountability and transparency contribute to the current inadequate service delivery since there is a lack of capacity building among local authority employees.

In contrast to the private sector, where customer satisfaction is a driving force behind an organisation's activities, the public sector is the polar opposite. For example, Jiwan (2016) claims that long queues for public services in Kenya have left customers dissatisfied and disappointed. Inadequate services are caused, among other things, by a lack of accountability, misguided priorities, bad service charter compliance, poor communication, poor infrastructure, and a lack of monitoring and assessment. According to Madhovi (2020), ineffective service delivery in Zimbabwe results from the accountability of public servants and inadequate monitoring and evaluation procedures.

Analyzing data from three distinct service sector organisations from their study—a school, a hospital, and a bank—Nidhi and Kumari (2016) make the case that the service quality of public sector organisations was subpar or worse than that of private sector businesses. Customer satisfaction and service quality have a substantial correlation. In that situation, client satisfaction with the public sector organisation's services was equally low. Lack of resources, bad management, low transparency, and a lack of customised services were



the causes of the public sector organisation's poor service quality. It has been suggested that increasing service quality could increase customer satisfaction in public sector organisations.

Table 2.1 A table summarizing all the factors mentioned in the study that influence the quality of public services

<b>Factors</b>	<b>Author</b>
1. Poor financial resource management	(Headmound, 2015)
2. Human resource management techniques	(Headmound, 2015)
3. Information technology	(Headmound, 2015)
4. Government oversight	(Headmound, 2015)
5. Lack of accountability and transparency	(Maune, 2015)
6. Lack of capacity building among local authority employees	(Maune, 2015)
7. Misguided priorities	(Jiwan, 2016)
8. Bad service charter compliance	(Jiwan, 2016)
9. Poor communication	(Jiwan, 2016)
10. Poor infrastructure	(Jiwan, 2016)
11. Lack of monitoring and assessment	(Jiwan, 2016)
12. Accountability of public servants	(Jiwan, 2016)
13. Inadequate monitoring and evaluation procedures.	(Madhovi, 2020)

Lack of monitoring, assessment, and accountability are the most prevalent issues, according to the analysis of the gathered literature.

The following are the more common factors that influence the standard and quality of public services:

### **2.3.1 Insufficient equipment and resources**

The public sector has fewer resources and is less equipped than the private sector. Resource constraints hamper the public sector's capacity to meet client needs, while the private sector is prepared and technologically proficient (Nidhi and Kumari, 2016). When there is reliable performance data, resources are deployed more effectively. Data from

monitoring and evaluation should be utilised to guide funding for and planning of government initiatives and programs. It is important for planning and budgeting systems to explicitly state how they will use this data (Goldman, Ratemo, Sossou, Gounou *et al.*, 2022).

### **2.3.2 Lack of Leadership commitment and accountability- Poor management efficiency**

Bryman (2013) asserts that leadership entails a social influence process in which a group leader directs members toward a goal. As a result, those in leadership positions have some influence over those who answer to them. According to Bryman (2013), management or leadership is about building and making a desired future visible to all members; in this case, employees; of the organisation. Developing and maintaining a productive and stable workforce requires competent leadership, eventually having an effect on organisational effectiveness (Lim, Loo and Lee, 2017).

Upon considering all of the relevant aspects, the researcher realised that, among other things, a failure to adhere to the ISO 9001 QMS's guiding principles is one of the factors affecting the quality of public services. In addition, misplaced priorities demonstrate a lack attention to the needs of the customer, no accountability, inadequate performance by the leadership, poor adherence to the service charter demonstrates a challenge with their process approach and improvement efforts, poor communication demonstrates a lack of relationship management and engagement of the people strategy, and a lack of adequate infrastructure and monitoring and assessment demonstrates a need for continuous improvements.

### **2.3.3 Lack of monitoring and evaluation**

Despite the widespread usage of the acronym M&E, monitoring has become institutionalised in many nations, whereas evaluation has done so to a far lesser extent. Guidance and coordination organisations have been established, and some nations have adopted national M&E or assessment policies. However, frequently those policies have not yet been completely put into practice to ensure effective public action and the use of M&E evidence in policy-making, planning, budgeting, and implementation. This is

because there are no formal or legal requirements for M&E, particularly when assessing public programs to ensure they are effective (Goldman, Ratemo, Sossou, Gounou *et al.*, 2022).

Monitoring and evaluation support good governance by encouraging accountability, among other things. Good governance fosters an environment that is supportive of monitoring and evaluation as it is a reflective and responsive process created to serve the best interests of stakeholders in a timely and effective manner (Abrahams, 2019). Effective monitoring and evaluation systems contribute to the improvement of governance in nations by enhancing accountability, fostering stronger accountability relationships, and fostering a culture of performance within the government to support better policymaking, budget decision-making, and management (Mlambo, 2021).

## 2.4 The benefits of implementing a QMS within the public sector

The effective adoption of an ISO 9001:2015-based Quality Management System (QMS) within public sector organisations can yield numerous benefits. These include enhanced operational performance, increased effectiveness of service processes, improved consistency, cost reduction, and heightened levels of customer satisfaction and loyalty (Almeida *et al.*, 2018; Boiral and Heras-Saizarbitoria, 2015). In essence, implementing a QMS enables organisations to enhance the efficiency and effectiveness of their procedures, ultimately elevating the standard of public services provided by government departments to citizens (Almeida *et al.*, 2018; Anttila and Jussila, 2017).

According to Tomic and Spasojevic (2018), the seven quality management principles embedded within ISO 9001:2015 are widely recognised as the benchmark for organisations seeking to achieve excellence in public services and ensure customer satisfaction (Anttila and Jussila, 2017).

The benefits of using ISO 9001 within the public sector are found within the principles of the QMS

- **Customer Focus-** A quality management system's main goal is to fulfil customer expectations and requirements. When an organisation gains and maintains the

trust of customers and interested parties, it experiences sustained success. Customer satisfaction and citizen loyalty can be gained from having an organisation focused on its customers' needs.

- **Leadership-** According to Alexandra (2020), a company's management can create and achieve hard goals, take clear and decisive action when needed, exceed the competitors, and inspire others to perform at their best. Leadership, according to Warren (2008), is the ability to turn a vision into reality. The first definition is the most applicable to our study since it emphasises the importance of collaborating toward a common objective.

In order to ensure that everyone is working toward the department's quality goals, leaders at all levels must generate a shared sense of purpose and direction. In order to achieve its goals, DID must be able to align its strategies, policies, processes, and resources by creating a unified focus of purpose, direction, and involvement of its workforce. The department's ability to provide services to Gauteng's residents is one potential benefit of having effective leadership.

- **Engagement of people-** To improve the department's capacity to produce and deliver value, competent, empowered, and engaged individuals are required at all levels within the organisation. It is critical to respect and involve every employee at all levels in order to effectively maintain the efficiency levels at the department. Engagement of individuals in accomplishing quality goals is easily achieved through recognition and empowerment. The development of employees and creativity are advantages of engaging people. The department's employees' understanding of quality objectives is another advantage of engaged employees.
- **Process Approach-** Several connected processes make up the QMS. DID might be able to enhance the system's functionality by better comprehending how this system generates results. The department must define the systems' goals and the procedures required to achieve them. The advantages of a process approach

include enabling attention to important processes, their results, and their risks and providing the organisation with the confidence it needs to perform optimally.

- **Improvement-** Improvement is a continuous emphasis for many prosperous organisations. Continuous improvement is essential for organisations to sustain operational performance, adapt to evolving internal and external environments, and embrace emerging opportunities.

**Evidence-based decision-making-** The probability of achieving desired outcomes increases when decisions are informed by thorough analysis and evaluation of data and information. Data and information must be sufficiently accurate, dependable, and secure for GDID to make it available to all stakeholders.

- **Relationship management-** The department needs to control its interactions with the relevant interested parties if it wants to succeed over the long term. Parties with a stake in the outcome have an impact on the department's performance. Therefore, the department's ability to manage relationships with all interested parties and maximise their influence on the performance will increase its chances of achieving sustained success.

With that said, the principles of ISO 9001:2015 can help the department or any other organisation improve its performance, maintain consistency in its operations, and achieve a higher level of customer satisfaction.

## **2.5 Fundamental measures of service quality**

Quality is not just important in the industrial sector, according to De Feo (2017). Other areas, such as health care, education, not-for-profit organisations, and government departments, use quality concepts. The focus is not solely on product quality; Quality of service, procedure, and data are increasingly being measured, managed, and improved.

Measuring quality in service-based sectors is frequently thought to be more challenging than in manufacturing. According to Evans and Lindsay (2016), measurement is gathering data to quantify the value of a product, service, process, or other business statistics. In a typical service business, quality measurements can include the proportion of orders filled correctly, the time it takes to fill and ship a customer's order, and the percentage of calls to a hotel service desk answered within three rings (Evans and Lindsay, 2016).

Evans and Lindsay (2016) state that measures should be simple and inexpensive to gather. Many companies use the abbreviation SMART to describe them; simple, measurable, actionable, relevant (to customer and operational needs), and timely. The manufacturing sector has historically relied on measures, sums, and weights due to its very nature. Manufacturing seems to be quantitative and dependent on measurements. However, service-based sectors frequently rely on qualitative measures such as good, better, best, and affordable, deluxe, and premium.

The following are the tools and techniques that are mostly used to measure quality within the service sector:

### **2.5.1 The Gronroos Model**

The Gronroos model has been used to gauge service quality in some research, claims Nurhadian and Khoirunurrofik (2022). The first survey, according to Nurhadian and Khoirunurrofik's claims, looked at the level of service offered by Korean telecom firms. The study revealed that functional and technical quality significantly and favourably affect image quality. Additionally, technical quality, functional quality, and image quality significantly and favourably affect how people perceive the overall quality of a service. The study's findings indicated a strong and positive correlation between customer satisfaction and evaluations of the overall quality of the service. According to the study's findings, image quality can also be used as a filter to determine how well a service is provided overall.

When measuring service quality and client satisfaction in Iran's hotel business, Zaibaf *et al.* (2013) used the Gronroos model. The study uncovered that functional quality exerts a positive and significant influence on both perceived quality and image quality.

Additionally, the findings demonstrated that perceived quality positively and significantly affects customer satisfaction, as well as having a favourable and substantial impact on image quality. Despite this, there is no correlation between perceived quality and technical quality, image quality, or both.

Hamid and Yip (2016) examined consumer satisfaction in the context of Malaysian distance education institutions using the Gronroos model. They found that the three dimensions of dependability, empathy and technical quality have a positive and significant impact on how people perceive the services they provide. Additionally demonstrated was the function of the image as a filter in this model. Customer satisfaction and perceived service quality were found to have a good and substantial link. The dependability, compassion, and understanding of business processes from remote education served as a functional quality representation in this study. According to Nurhadian and Khoirunurrofik (2022), the Gronroos model may be more appropriate for describing service quality than the ServQual model. In reality, improving service quality in public and private sectors can improve sector production, industry, and customer satisfaction.

### **2.5.2 SERVQUAL model**

One of the traditional techniques for evaluating the quality of a service is the SERVQUAL model Tjiptono (2019). The ServQual method, established by Parasuraman *et al.* (1985), is the most widely used tool for evaluating the quality of a service. The discrepancy between a customer's service's "perception quality" and "expectations quality," as defined by SERVQUAL, a model based on the "Expectancy Disconfirmation Theory," is known as "Service quality." The extent to which these expectations are met is a gauge of service quality, suggesting that when consumers use a service, they assume an expectation or a desirable level for it. In light of this, the likelihood of identifying and fixing a problem improves as the gap between the expected level of performance and the actual performance increases (Seulki Lee, 2022).

SERVQUAL covers ten dimensions with 97 question items and is later condensed to five dimensions (tangible, reliability, responsiveness, assurance, and empathy) across 22 question items (Nurhadian and Khoirunurrofik, 2022).

According to Tjiptono (2019), there are five dimensions of quality are identified in the SERVQUAL model:

- Tangibles: Building appearance, equipment, employees, and materials
- Reliability: The capacity to execute consistently and effectively.
- Responsiveness: Deliver service on time.
- Assurance: Employee trust and confidence.
- Empathy: Customers are given individualised attention (Tjiptono, 2019)

SERVQUAL enables a business to assess and gauge the degree of service that consumers feel they are receiving, identify crucial elements for quality control or certain components within those elements, and apply rigorous management (Seulki Lee, 2022).

The five quality dimensions described in the SERVQUAL model can be used by GDID. The department will have to investigate how their infrastructure is built and how it appears to Gauteng residents, they will have to ensure that there are adequate resources (human and financial) and equipment for contractors and employees to execute their duties effectively, and they will have to ensure that they deliver quality infrastructure to Gauteng residents on time and in the manner that the residents demanded.

### **2.5.3 Service Quality GAP model**

The gap model analyses consumers' expectations for the service with their perceptions of the calibre of the service rendered in order to identify this discrepancy between expectations and perceptions. The difference between what is expected and how the service perceives it is impacted by four gaps: (Hawazin Natto, 2022)

Gap 1: Gap one originates from the discrepancy between what clients want and what service providers believe they need. Due to the organisation's lack of knowledge regarding the market, demand trends, and client preferences, it frequently fails to comprehend the consumers' demands and wishes and how they evaluate the service's key elements.



Gap 2: The second gap is the discrepancy between an organisation's perception of customer demands and its capacity to convert those needs into specifications. This gap arises when a company cannot translate consumer needs into service specifications that satisfy those needs.

Gap 3: The third gap is the discrepancy between the established service standards and the service's actual performance. This gap occurs when the service requirements and how they are delivered differ due to worker inefficiency or a lack of motivation.

Gap 4: The fourth gap is the discrepancy between the level of service supplied to clients and the promises expressed in advertising and promotional materials.

Gap 5: The discrepancy between the expected and perceived level of service is gap number five. It is the outcome of combining these four gaps.

According to the service quality gap model, customer happiness may be highly influenced by tangible, reliable, responsiveness, assurance, and empathy. When customers receive services or goods that live up to their expectations, there is customer satisfaction. Customer satisfaction will rise when the perceived quality of the services is good. (Hawazin Natto, 2022).

The analysis of the study demonstrated that what the department wants is not always what Gauteng citizens desire. As a result, a lot of respondents expressed their concerns to the department, stating that it cannot create infrastructure without first engaging them.

## **2.6 Service quality within the public sector**

According to Nidhi Nidhi and Krishna Kumari (2016), the difference between the production sector and the service sector is that in the former, products must be identical, whereas in the latter, duplication of work is seen as a waste; therefore, quality is the standard by which the service sector gauges the calibre of their work. This just proves that quality management applies in all sectors; however, different sectors use different methods to measure quality.

People's perception of the quality of government services is evidence of the performance of government institutions (Matthew, Henderson, and West, 2012). This is true because people's perceptions about a product/service normally come from the experience they have with using the product/service. Although it can be argued that some perceptions come through word of mouth, meaning a citizen might have heard another citizen speaking good or bad about a product/service, and now they are keeping what they have heard as their perception.

Defining and measuring the quality of service products is comparatively more challenging than evaluating the quality of tangible goods. Service quality is frequently evaluated by consumers, making it somewhat subjective in nature (Tjiptono, 2019). The concept of service quality emphasises the endeavour to meet customer needs and desires, along with the accuracy of service delivery to align with customer expectations (Tjiptono, 2019). This is especially difficult within the public service sector because it caters to people with different needs and expectations.

Dimension of service quality is positively related to customer satisfaction, such as reliability, responsiveness, tangibility and empathy are related with the customer satisfaction. Service quality dimensions depend on customer satisfaction (Agbor, 2011).

## **2.7 Customer satisfaction in a quality management context**

An organisation cannot exist without customers because organisations depend on their customers. For organisations to meet and exceed their customer's expectations, they should first understand product and service qualities that positively impact the customer, which also leads to satisfaction and trustworthiness (Evans and Lindsay, 2016).

For organisations to satisfy their customers, they first need to get a clear mandate, the voice of the customer (VOC), of what the customer needs and expects from the organisation (Evans and Lindsay, 2016). Organisations can use the following quality management strategy in their virtue of discovery (Evans and Lindsay, 2016):

- Collecting a list of customers' needs in their language (VOC).

- Analysing and prioritizing customers' needs.
- Translating customer needs into the organisation's language.
- Instituting units of measuring the satisfaction of customers.

## **2.8 Citizen satisfaction with public services**

A growing area of interest for academics and professionals researching governance and public administration is customer satisfaction with government services. (Chatterjee and Suy, 2019; Nguyen, 2016). The reason for this interest stems from the fact that there was an observation that products and services do not need to be the only things that bring about satisfaction to citizens. However, everything made for the utilization of people needs to satisfy the people it is for, whether the product or service is free.

With regard to public services, the government aims to satisfy its constituents, which is a sign of effective leadership (Paudel and Gupta, 2019; Gupta and Shrestha, 2021). While citizens' demands for better public services are growing, the government is not always able to successfully respond. Public service institutions are required to provide excellent service in a fair, transparent, reliable, and responsive manner for customer satisfaction (Lamsal and Gupta, 2021).

## **2.9 Batho Pele principles**

Batho Pele's principles on service delivery guide the South African Government Departments. These principles were introduced by the Department of Public Services and Administration (DPSA). The concept of 'Batho Pele', meaning 'people first', was introduced to promote the notion of 'putting people first'. These principles were intended to assist public servants in improving service delivery, resulting in citizen satisfaction (Batho Pele handbook, 2018).

Batho Pele was an action taken by DPSA to shape public servants to become service oriented, to deliver excellent service, and to execute strategies that will ensure continuous improvement in service delivery. The Batho Pele principles are the guiding principles that

South Africa's public service administration utilises when deciding how to provide services to its citizens, hence it is not wise to discuss South Africa's public sector without mentioning this principle.

The following principles must be understood and incorporated into the Quality Management System by the GDID or any other government department that desires to implement ISO 9001:2015.

- **Consultation:** Citizens ought to be communicated about the quality and nature of the public services they get and, at every possible opportunity, should be given the freedom to choose the services they need.
- **Service Standards:** To enable citizens to know the standard of the services they will receive.
- **Access:** It is imperative to ensure that all citizens have equitable access to public services.
- **Information:** Citizens should be provided with comprehensive and accurate information regarding the public services they are entitled to receive.
- **Openness and transparency:** Government departments should communicate openly about their operations, costs, and leadership.
- **Redress:** In cases where a promised standard of service is not met, citizens should receive an apology, a thorough explanation of the issue, and an effective remedy.
- **Value for money:** Public services should be delivered in a cost-effective and efficient manner to provide citizens with the best possible value for their money.
- **Encouraging innovation and recognising excellence:** Encouraging innovation involves exploring novel and improved approaches to deliver higher-quality services, reduce costs, enhance conditions, etc. Additionally, exceptional staff members should be duly recognised and rewarded for their contributions.
- **Customer Impact:** The impact made on internal and external customers and how the nine principles link together to demonstrate how the departments have improved and also reveal the overall service delivery and customer satisfaction.

- Leadership and strategic direction: Departments that offer higher quality to customers, show good leadership, and set themselves as role models.

The Batho Pele policy is, by far, the most trusted campaign to assist all national and provincial departments with transforming into organisations that put customers first and place them at the centre of planning and operations. Whenever Batho Pele's principles are executed properly, they have the power to transform a public servant into an effective and empowered employee who will bring world-class service to customers (Batho Pele handbook, 2018).

## **2.10 Theoretical Framework**

It has been established that the effective use of ISO 9001 improves how customers are engaged from the initial phase of a product/service until the final stages (Evans and Lindsay, 2016). Customers play an important role in the process, according to Figure 1, by providing critical inputs such as needs and feedback. With the support of the PDCA cycle (illustrated in Figure 1), an organisation can then manage its processes and systems as a whole, ultimately leading to customer satisfaction (ISO 9001, 2015).

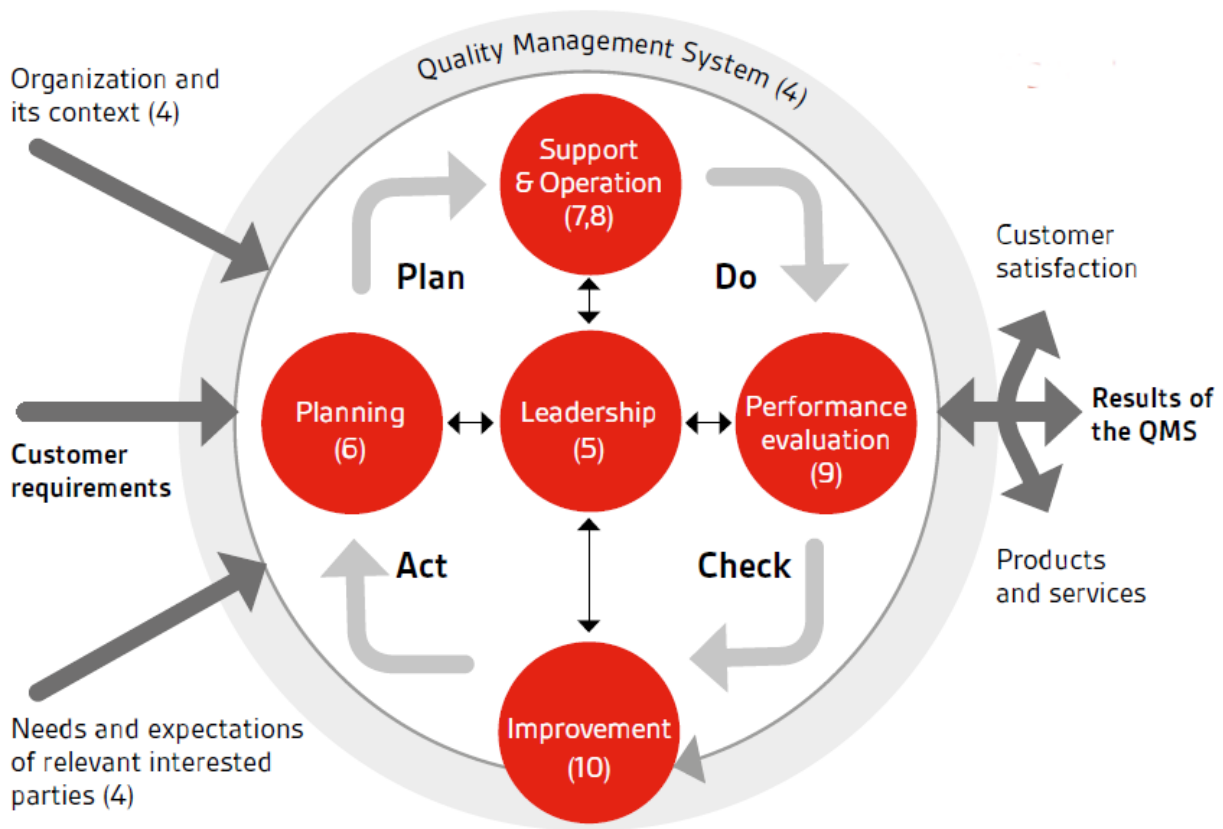


Figure 2. 1: Representation of the ISO 9001 structure in the PDCA cycle  
(Source: International Standard, 2015)

ISO 9001 quality management system consists of interrelated processes. An organisation that understands how results are produced through this system will be able to optimise its performance. The organisation will better manage processes and their interrelations to achieve objectives (Evans and Lindsay, 2016).

The primary objective of the research was to assess whether the Gauteng Department of Infrastructure Development's adoption of the ISO 9001:2015 QMS is a viable solution to its problems. This goal enabled the study to develop recommendations on how to adapt and continuously improve any public organisation's ISO 9001:2015 QMS. The study will also assure future researchers and other government departments that the QMS may reap successful rewards if adopted by a public sector organisation.

## 2.11 Conclusion

This chapter of this research began by defining what ISO 9001 QMS was and the benefits of the QMS, as stated by various authors. The study successfully connected the research topics and the ISO 9001 QMS. Various authors defined the QMS as a system that assists organisations in improving their operations to satisfy their customers. The primary research question is whether implementing an ISO 9001 QMS is viable. The department in discussion is experiencing difficulties with customer satisfaction, and the system in question assists organisations in their efforts to satisfy their customers.

The literature discovered the solution to the research question of which common factors influence the quality of public services. Poor financial resource management, poor communication, and a lack of monitoring and evaluation are among the variables affecting the quality of public services. The literature answered the research question of what measures are utilised to measure service quality. The ultimate assessment of a service is its influence on the customer.

## **CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY**

### **3.1 Introduction**

This chapter aims to discuss the research settings, sample criteria, data gathering methods, and analysis methodologies that assisted in determining if implementing ISO 9001 in the public sector was viable. The chapter begins by discussing the study's research paradigm and the premise on which this study is constructed. Next, the chapter discusses the study's research methodology, which is a mixed methods study that employs both quantitative and qualitative methodologies. The research design/strategy of the study is then examined, which in our case is the causal research study, also known as an explanatory research study. This type of study is used to evaluate cause-and-effect relationships. In this scenario, the study looks into the interaction between the ISO 9001 QMS and the public sector.

The chapter discusses the study's demarcation and the sample procedures used. The chapter explains the data collection instruments, data analysis tools, study validity and reliability, ethical issues, and pilot research outcomes of the pilot study performed to test the validity of the questionnaire surveys.

### **3.2 Research Paradigm**

Choosing a suitable paradigmatic framework is critical for researchers because it provides them with a universe of perspectives that define the character of the world as well as the range of possibilities available to them in connection to reality. Put another way, any paradigm's dimensions are shaped by ontological, epistemological, and methodological considerations.

This research project is centred on the notion of realism. Realism is a research philosophy that combines positivism with interpretivism (Blumberg, Cooper, and Schindler, 2014). Realism affirms the existence of a reality separate from human beliefs and behaviour. However, realism acknowledges that understanding people and their behaviour requires recognising the subjectivity inherent in humans. According to the study, there are social processes and factors outside of human control that influence human perceptions and



behaviour. The research also suggests that subjective individual perceptions of reality are necessary for a complete grasp of what is going on. As a result, the study employed the quantitative technique to uncover scientific significance in processes beyond human control and the qualitative approach to comprehend what is truly happening and how it affects humans.

This study identified elements that describe forces and processes that impact residents, as well as how individuals perceive and provide meaning to the environment in which they live.

### 3.3 Research Approach

According to (Creswell, 2015), mixed-methods research (MMR) is a method that uses a combination of methods to answer research questions systematically and ethically. A mixed method is a combination of quantitative and qualitative methods. Quantity refers to the amount of something, whereas quality refers to its basic characteristics or nature.

This is a mixed methods study. A qualitative approach was conducted to obtain a deep understanding of citizen satisfaction and service delivery within GDID. A quantitative approach was used to look for possible connections between two or more variables within the findings. The researcher gathered the details behind the responses and a complete understanding using qualitative and quantitative techniques.

**Table 3.1 A table indicating the research objective and the research approach used**

Research objective	Research approach
1. To determine whether the Gauteng Department of Infrastructure Development's adoption of the ISO 9001:2015 QMS was a viable solution.	Quantitative and Qualitative
2. To identify the key factors affecting public service quality within public organisations.	Quantitative and Qualitative
3. To determine the measurements of service quality for public organisations.	Quantitative
4. To find an effective way to improve service quality in public organisations through the implementation of ISO 9001: 2015.	Quantitative

### **3.4 Research Design/Strategy**

This study followed a case study approach. The study posed various research questions that necessitated the completion of an exploratory study to determine how adopting an ISO 9001 quality management system can affect the Gauteng Department of Infrastructure Development and potentially affect the entire public sector of South Africa.

This was a causal research study, also known as an explanatory research study. Explanatory research is used in investigations of cause-and-effect relationships. This study explored how effective the adaptation of ISO 9001 is in GDID, a Gauteng Provincial Government Department. The questions asked during the study can assist the department in understanding the impact of ISO 9001 on the quality of their services and what they can do to satisfy the citizens of Gauteng in the coming years.

This study followed the PDCA model used in the public service by ISO (2015) for improving service quality within a public organisation.

### **3.5 Demarcation/Delimitation of the study**

The study used mixed methods to determine whether the Gauteng Department of Infrastructure Development's adoption of the ISO 9001:2015 QMS is a viable solution to the department's challenges. The department is in charge of constructing and maintaining hospitals, clinics, schools, libraries, early childhood development centres, and licensing and testing departments throughout Gauteng. In this regard, the overall population of this study covered the staff members directly involved in the service delivery, as well as the citizens in the areas receiving regular services from GDID.

The researcher initially thought of interviewing respondents between the ages of 12 and 17, who mostly utilise libraries; however, because this is a group of minors, the approach was going to be complicated. Therefore, minors did not participate in the study. The researcher also sought to obtain a sample from pensioners who frequently visit hospitals and clinics; however, this could have had various concerns. Thus, the sample was taken from men and women aged 18 to 65 who shared an interest in using the department's services.

The researcher also gathered a sample from employees at the Gauteng Department of Infrastructure Development, primarily from offices in Johannesburg due to their accessibility. The researcher collected feedback from the employees on their opinions regarding the department's adoption of the QMS.

### **3.6 Sample method/technique and sample size**

As described by Ngcobo (2006), sampling involves selecting an adequate number of elements from a population. This process enables the study and understanding of the sample's properties or characteristics, allowing for generalization of these properties or characteristics to the elements within the population. According to Ngcobo (2006), the premise behind sampling is that "if you can select a sample that is as close to being representative of the population as feasible, then every observation you can make about that sample should also be true for the population."

A mix of an open-ended and closed-ended survey questionnaires was used for qualitative research data on ordinary citizens ( $n_1 = 150$ ) who use the GDID services. Given that this is an academic study, a bigger sample size might have needed more time to complete, so the researcher chose a sample size of 150. Out of the 150 that the researcher had initially planned for, 113 responded. A 5-point Likert scale survey was used as a quantitative research method with a group of GDID employees ( $n_2 = 25$ ). Out of the 25 employees that the researcher had initially planned for, 19 responded.

In closing, the researcher collected data from the respondents who use the Gauteng Infrastructure facilities, except minors and pensioners. The researcher put the questionnaire on social media platforms (Facebook and Twitter) and clearly indicated that the questionnaire was for people who stay in Gauteng and utilise public infrastructure.

### **3.7 Data Collection Instruments**

The data for the study was collected in an unstructured manner since the researcher used survey forms. Survey forms were used and were beneficial because they provided respondents with the freedom to react in whatever way they saw fit.

A 5-point Likert scale questionnaire was created using the ISO 9001 standards and principles as guidelines. A PDCA model was used for the questionnaire design (Appendix 5). The closed-ended questions were aligned with the key aspects of the viability of the adoption of ISO9001:2015 in GDID.

The questionnaire contains three sections, including the demographic characteristics.

The statements from the questionnaire were designed based on the PDCA model's key elements, including the following statements. These statements were coded from “E-A1-E-C18” for employees and “C-A1 – C-C10”, as shown in Tables below.

**Table 3. 2: Statements from the employee’s questionnaire**

No.	Statement	Coded
1	Services meet customers’ expectations	E-A1
2	The department is able to reduce non-conformance, errors, and bottlenecks	E-A2
3	The department is effectively managing change and transformation	E-A3
4	Interested parties of the organisation are being adequately identified	E-A4
5	There are effective business processes in place	E-A5
6	There is a proper risk management system in place	E-A6
7	Funds to attend to the needs of the citizens are being effectively managed	E-A7
8	There is well-interpreted information about customer’s expectations	E-A8
9	There are sufficient planning, monitoring, and evaluation procedures in place	E-A9
10	There is a full management commitment	E-A10
11	Employees are motivated	E-A11
12	Employees/workforce is being trained and empowered	E-A12
13	There are adequate skills and knowledge in the workforce	E-A13
14	The department makes use of the latest and updated work tools and software.	E-A14

15	There is commitment and good ethical behaviour amongst the workforce	E-A15
16	There is accountability and responsibility for the work/tasks performed	E-A16
17	There is no negative political interference within the department	E-A17
18	There is adequate customer/citizen participation	E-A18

No.	Statement	Coded
1	A departmental vision and quality policy have been established	E-B1
2	There is continuous improvement in the daily operational performance of the department	E-B2
3	The image and reputation of the department are improving	E-B3
4	The organisation effectively attends to the needs of the customers	E-B4
5	There is improved participation among the workforce	E-B5
6	Employees are continuously meeting the set-out targets	E-B6
7	The organisation effectively gets rid of waste/bottlenecks	E-B7
8	There is a reduction in the cases of non-conformity	E-B8
9	There is a growing understanding of the importance of quality within the organisation	E-B9
10	The department has the ability to reach the targets of the interested parties	E-B10
11	The department effectively communicates with internal and external stakeholders	E-B11
12	The department has standardised business processes in place	E-B12

13	There is a better-transforming culture within the department	E-B13
14	The workforce is able to evaluate their performance against personal objectives	E-B14
15	There is an improving collaboration within directorates within the department	E-B15
16	The workforce is able to effectively establish authority, responsibility, and accountability	E-B16
17	Leadership is able to effectively manage resource constraints	E-B17
18	There is better management of risks	E-B18

No.	Statement	Coded
1	A clear vision, mission and policy have been formed by top management	E-C1
2	Top management offers the workforce their training needs, resources, and the freedom to take responsibility	E-C2
3	The contributions of employees are inspired, encouraged, and recognised by management	E-C3
4	The workforce recognises the significance of their work and role in the organisation	E-C4
5	The workforce accepts ownership of challenges/issues and the responsibility to resolve them	E-C5
6	Employees openly exchange and share information and experiences	E-C6
7	The department considers the customer's requirements and expectations	E-C7

<b>8</b>	Customers' needs and expectations are communicated throughout the organisation.	E-C8
<b>9</b>	The department integrates the departmental objectives, customer needs, and expectations	E-C9
<b>10</b>	The department has set up a system to fulfil strategic goals in the most effective way possible	E-C10
<b>11</b>	All employees are aware of the quality policy as well as their respective duties and responsibilities to pursue mutual objectives and overcome internal obstacles	E-C11
<b>12</b>	An organisation-wide approach is used to continually review and improve the department	E-C12
<b>13</b>	The workforce is given training on methods and tools for improvement	E-C13
<b>14</b>	Management makes decisions and takes actions based on a combination of facts and experience, as well as vision	E-C14
<b>15</b>	The department makes every effort to guarantee that information and data used in decision-making are accurate and reliable	E-C15
<b>16</b>	The department makes data and analysis results available to people who require them	E-C16
<b>17</b>	The department develops supplier connections that strike a balance between short-term gains and long-term considerations	E-C17
<b>18</b>	The department shares information and its plans with its suppliers	E-C18

**Table 3. 3: Statements from the customer's questionnaire**

No.	Statement	Coded
1	Specification flaws in the design stage	C-A1
2	Lack of experienced project managers during construction	C-A2
3	Making decisions based on cost rather than quality	C-A3
4	Lack of skilled workers	C-A4
5	Lack of corrective and preventative actions regarding poor quality	C-A5
6	Lack of involvement of the end users (citizens) during construction	C-A6
7	Changing specifications during construction	C-A7
8	Limited construction time imposed by project clients	C-A8
9	Poor quality of raw materials	C-A9
10	Lack of quality planning, control, and improvement	C-A10

No.	Statement	Coded
1	Prior to the facility's construction, the community was informed and engaged in building decisions	C-B1
2	The local community was involved in the infrastructure construction from inception to delivery	C-B2
3	The infrastructure building is safe and secure	C-B3
4	The infrastructure has running water, electricity and ablution facilities	C-B4
5	The infrastructure is easily accessible to the locals	C-B5
6	There is adequate seating for clients, end users etc.	C-B6
7	The infrastructure provides wheelchair access for clients, end users, etc.	C-B7
8	There is signage throughout the facility	C-B8
9	There are visible fire extinguishers	C-B9
10	Staff is available and helpful	C-B10



No.	Statement	Coded
1	Hospital	C-C1
2	Clinic	C-C2
3	School	C-C3
4	Library	C-C4
5	Early childhood development centre	C-C5
6	Licensing and testing department	C-C6
7	Roodeplaat and Suikerbosrand nature reserves	C-C7
8	Gauteng Provincial Government (GPG) owned Department Buildings	C-C8
9	Child and Youth Care Centre	C-C9
10	Nursing College	C-C10

### 3.8 Data collection/fieldwork

Google Forms as an online survey platform was used to issue the questionnaires. This includes the questionnaire for the GDID employees and customers respectively (see Appendix 5-8). On one hand, the researcher sent out closed-ended online survey forms to GDID employees using emails. The respondents were able to provide simple answers and spend less than 10 minutes to complete the online survey. On the other hand, ordinary citizens who use the services of the GDID had easier access to the online survey form on LinkedIn, Facebook, and Twitter. GDID employees gained access to the online survey form through the work email.

### **3.8.1 Factors which influenced participant motivation**

According to Boris, Cooper and Schindler (2014), the common factors which influence participant motivation are as follows:

- Perceived importance of the topic.
- Liking or having compassion for the researcher.
- Self-image as a dutiful citizen.

### **3.8.2 Factors which decreased participant motivation**

Boris, Cooper and Schindler (2014) stated the following factors which lead to decreased participant motivation:

- Dislike of questionnaire content or topic.
- Fear of consequences of participation.
- Fear of strangers and lack of trust.

### **3.8.3 Advantages and Disadvantages of data collection methods used**

Boris, Cooper and Schindler (2014) described the common advantages and disadvantages of web-based questionnaires as the following.

#### **3.8.3.1 Advantages of web-based questionnaires**

- Allowed contact with inaccessible respondents.
- Expanded geographic coverage without an increase in cost.
- Very low-cost option.
- It is perceived as more anonymous.
- Allowed the respondents to have more time to think about the questions
- Rapid data collection (Boris, Cooper and Schindler, 2014).

#### **3.8.3.2 Disadvantages of web-based questionnaires**

- Cannot be too long or too complex.
- Anxiety among some respondents.

- No interviewer intervention available for further explanations.
- Need for a low-distraction environment for survey completion (Boris, Cooper and Schindler, 2014).

### **3.9 Data coding and analysis**

The information gathered was examined using descriptive data analysis methods. The amount of information collected was significant; data reduction and classification were of primary interest.

Quantitative data was analysed through SPSS statistical software. Qualitative data was analysed through content analysis to extract a deep and thorough understanding of the experiences and opinions of the respondents. By double-checking the replies, producing summaries, and looking for trends, the researcher, with the help of a facilitator, examined both the open-ended and closed-ended survey responses.

### **3.10 Validity and Reliability**

Concepts of validity and reliability are used to assess a research study's level of quality. They indicate how effectively a method, process, or test measure something (Boris, Cooper and Schindler, 2014).

#### **3.10.1 Validity**

The use of survey questionnaires to collect data for this study is suitable to address specific research questions as it allows the researcher to ask relevant questions in the format of their choice. Furthermore, as surveys have no limitations, they allowed the researcher to target any sample size.

The researcher conducted a pilot study in order to ensure the validity of the questions in the survey. Moreover, the researcher collaborated with a facilitator, who reviewed the responses and the researcher's results presentation for any personal bias agenda.

The facilitator was beneficial because this person has no personal connection to GDID and will not be influenced by what GDID would have preferred the responses to turn out. Finally, the researcher used triangulation to improve the study's validity by using open-ended and closed-ended survey forms as a data collection strategy and follow-up general social media posts as a validation approach.

### 3.10.2 Descriptive Validity

The researcher did not exaggerate or, worse yet, misrepresent any thoughts or views expressed by the respondents. The participant's responses to the researcher's questions were the sole responses included in the study's report.

### 3.10.3 Reliability

The reliability of the responses from the 5-point Likert scale that the researcher utilised was analysed using SPSS Cronbach's alpha. The overall reliability of the study was 0.830.

This alpha value indicates a high degree of internal consistency and correlation amongst the items and confirms that the items together relate to a common construct.

### Case Processing Summary

		N	%
Cases:	Valid	113	100.0
	Excluded	0	.0
	Total	113	100.0

### Reliability Statistics

Cronbach's Alpha	N of Items
.842	10

**Figure 3. 2 Reliability of section A of the customer's responses**

According to figure 3.2, the study had 113 valid responses to the question of what key factors affected the quality of public infrastructure. There were 0 excluded values. Cronbach's alpha was computed to test the reliability of the key factors affecting the quality of public infrastructure was 0.842. This alpha value indicates a high degree of internal consistency and correlation amongst the items and confirms that the items together relate to a common construct.

### Case Processing Summary

		N	%
Cases:	Valid	113	100.0
	Excluded	0	.0
	Total	113	100.0

### Reliability Statistics

Cronbach's Alpha	N of Items
.839	10

### Figure 3. 3 Reliability of section B of the customer's responses

Figure 3.3 illustrates that we had 113 valid responses to customer perceptions of the infrastructure quality. There were 0 excluded values. Cronbach's alpha computed to test the reliability of customer perceptions of the infrastructure quality was 0.839. This alpha value indicates a high degree of internal consistency and correlation amongst the items and confirms that the items together relate to a common construct.

#### Case Processing Summary

	N	%
Cases: Valid	112	99.1
Excluded	1	.9
Total	113	100.0

#### Reliability Statistics

Cronbach's Alpha	N of Items
.890	10

### Figure 3. 4 Reliability of section C of the customer's responses

Figure 3.4 illustrates that we had 113 valid responses to the infrastructure quality assessment. There was one excluded value. Cronbach's alpha computed to test the reliability of the infrastructure quality assessment was 0.890. This alpha value indicates a high degree of internal consistency and correlation amongst the items and confirms that the items together relate to a common construct.

### 3.11 Pilot Study

The researcher submitted questionnaires to the Gauteng Department of Infrastructure Development (GDID) employees and their consumers to validate the questions' content.

Eleven GDID employees and five customers were able to complete the questionnaires without requiring more information. The questions were valid, and customers and employees understood the content well.

#### 3.11.1 Presentation of the pilot study results

##### GDID Employees

##### 3.11.1.1 Demographic Characteristics

The demographic characteristics include gender, race, age, occupation and location of the respondents.

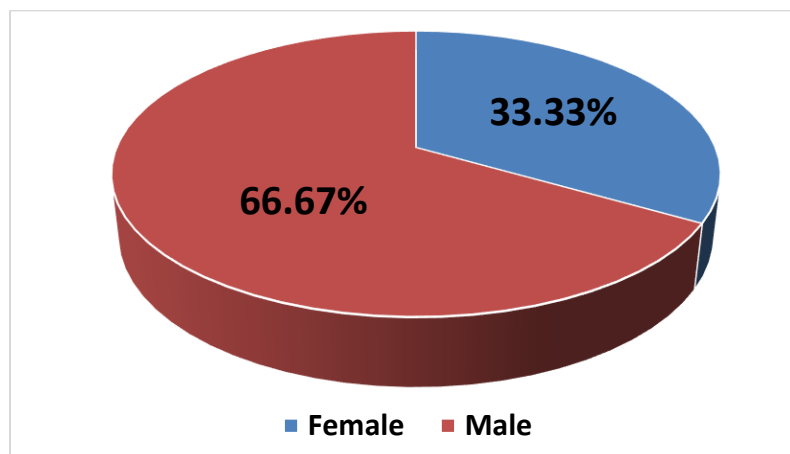


Figure 3. 5: Gender results

With regard to age group, according to Figure 3.5, male participants dominate the total population which counts 66.67%, where female was 33.33%.

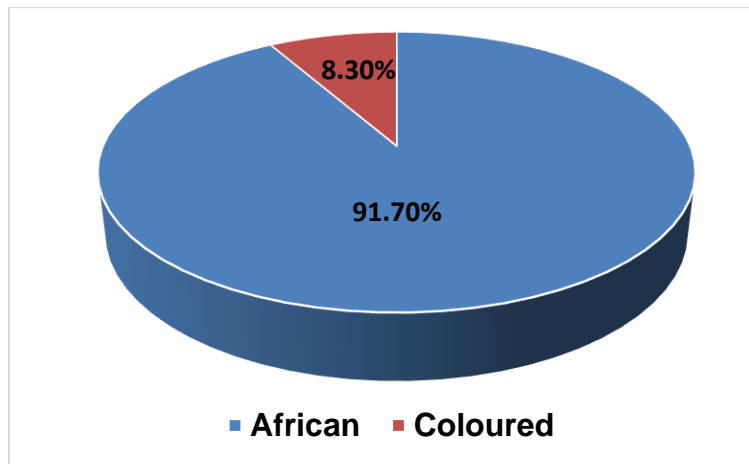


Figure 3. 6 Race Results

Figure 3.6 illustrates the percentages of the race that was able to respond to the study. 91.7 % of the African race contributed to the study, while 8.3% of the Coloured race contributed. There were no other groups such as White, Indian, Asian participants involved in the pilot study.

### Age Range

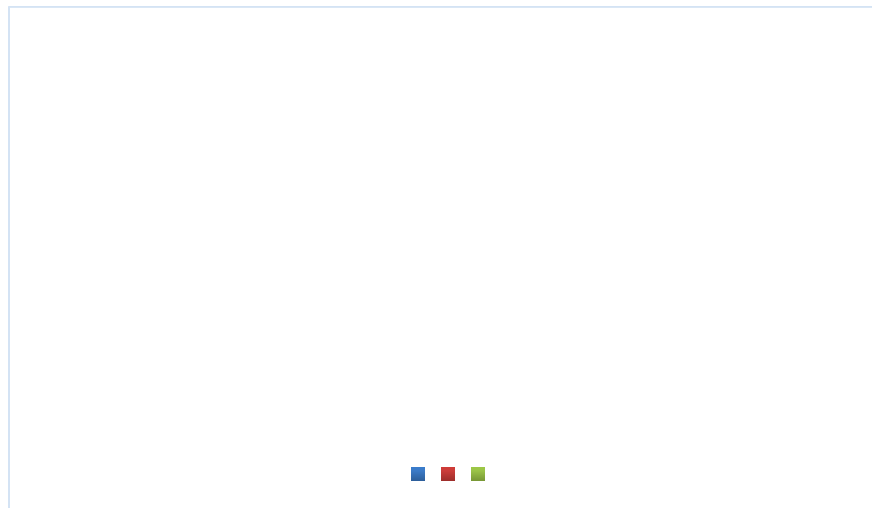


Figure 3. 7 Age Results

Figure 3.7 illustrates that 58.3% of the respondents were between the ages of 36-45 years, the highest number of respondents, followed by 25% from the age range of 26–35



years old and 16.7% from respondents between the ages of 46 and more. There was no age group from 18 to 25 participants participated in the pilot study.

### Job Title

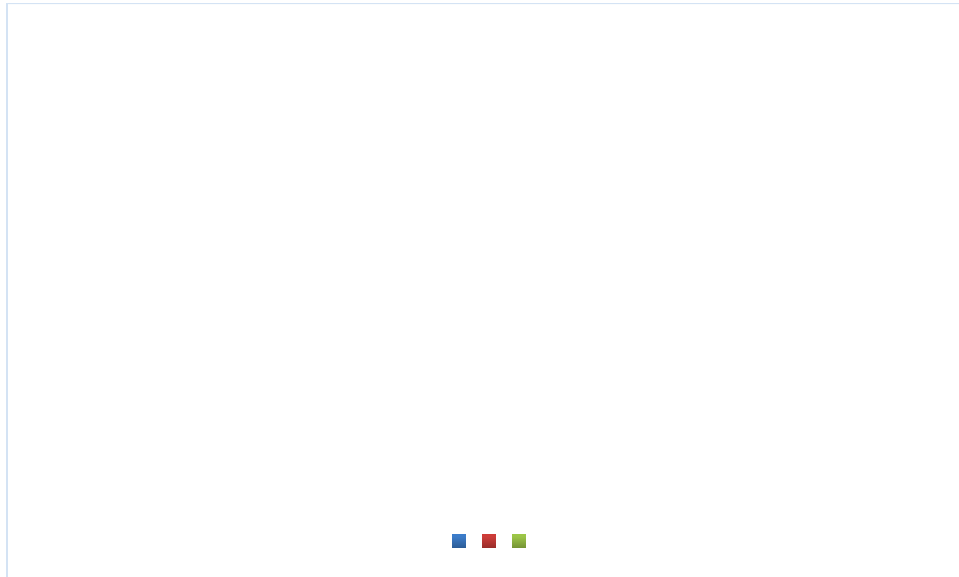


Figure 3. 8 Job Title Results

The respondents' occupational titles are shown in Figure 3.8. No respondents held junior positions; instead, all the respondents held professional and management positions.

### Highest qualification level

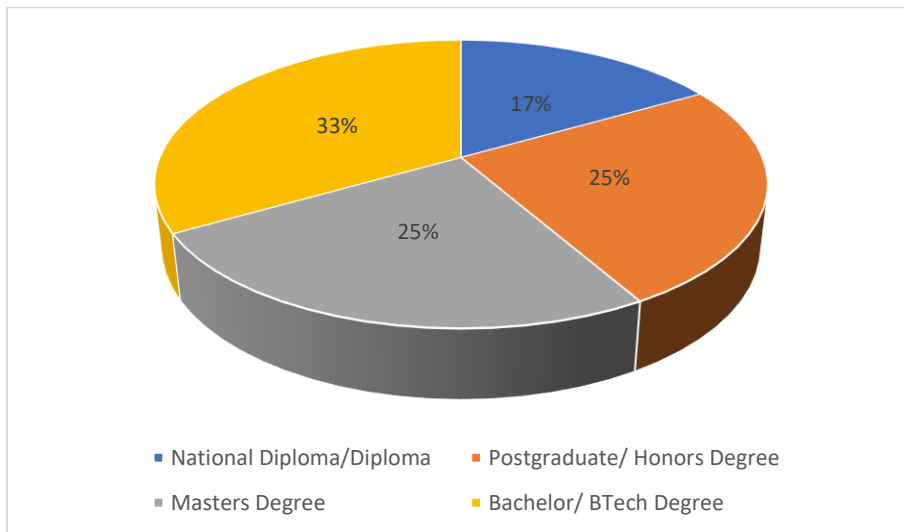


Figure 3. 9 Qualification Results

Figure 3.9 indicates that 33.3% of the respondents held a Bachelor/BTech degree, followed by Honours/Postgraduate Degree and Masters Degree holders at 25%, and National Diploma/Diploma holders with the least percentage of 16.7.

**Number of years working in the public sector**

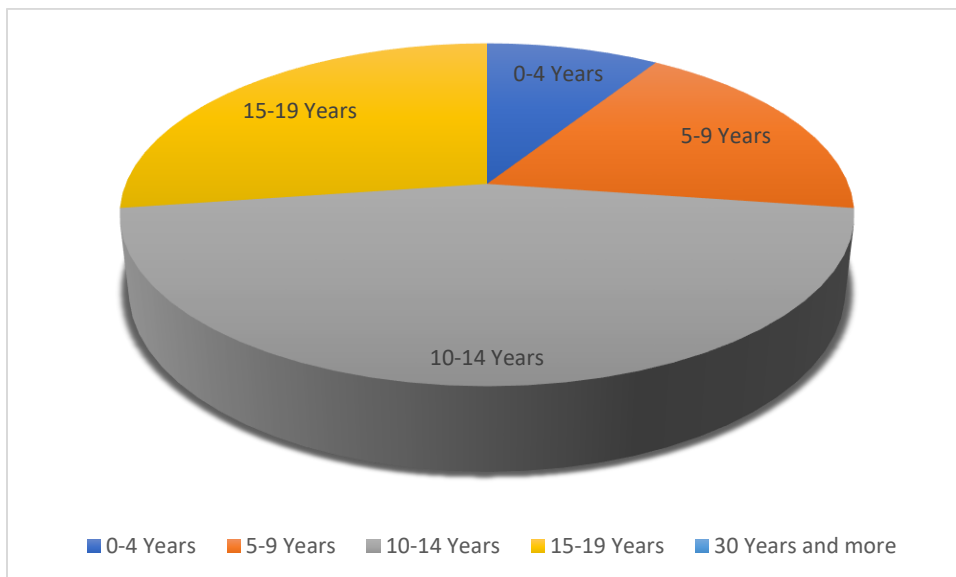


Figure 3. 10 Experience Results

Figure 3.10 shows that 41.7 per cent of respondents have worked in the public sector for 10-14 years, followed by those who have worked in the public sector for 15-19 years, those who have worked in the public sector for 5-9 years, and finally those who have worked in the public sector for 0-4 years and those who have worked in the public sector for 30 years or more.

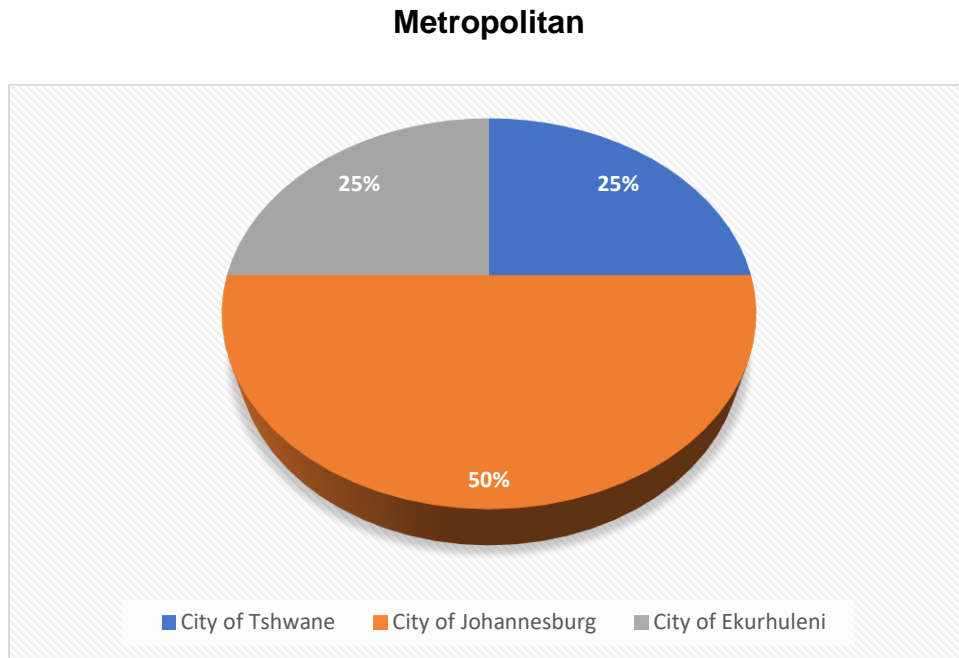


Figure 3. 11 Metropolitan Results

According to Figure 3.11, Johannesburg is home to 50% of GDID employees, with the cities of Tshwane and Ekurhuleni each accounting for 25%.

### 3.11.1.2 Decision Making

#### 3.11.1.2.1 The key factors affecting the service quality within the organisation

In this section of the survey, employees of the GDID were asked to express their honest opinions on the important elements that affect the quality of services provided by the GDID. The respondents answered all 18 questions in this section of the questionnaire correctly.

This demonstrates that the respondents fully comprehended the researcher's questions and questioning techniques.

#### **3.11.1.2.2 The measurements for service quality within public organisations**

In this section of the survey, employees of the GDID were asked to give their honest opinions on the service quality measurements in place at the GDID. The respondents properly answered all 18 questions in this segment of the survey.

This indicates that the respondents comprehended the researcher's questions and questioning techniques.

#### **3.11.1.2.3 Implementation of ISO 9001:2015 for service quality in public organisations**

Employees of the GDID were asked to submit their honest comments on how ISO 9001:2015 has enhanced service quality in public organisations. The respondents properly answered all 18 questions in this portion of the survey.

This confirms that the respondents comprehended the researcher's questions and questioning approach.

### **3.11.2 Presentation of the pilot study results GDID Customers/End users**

#### **3.11.2.1 Demographic Characteristics**

### Gender

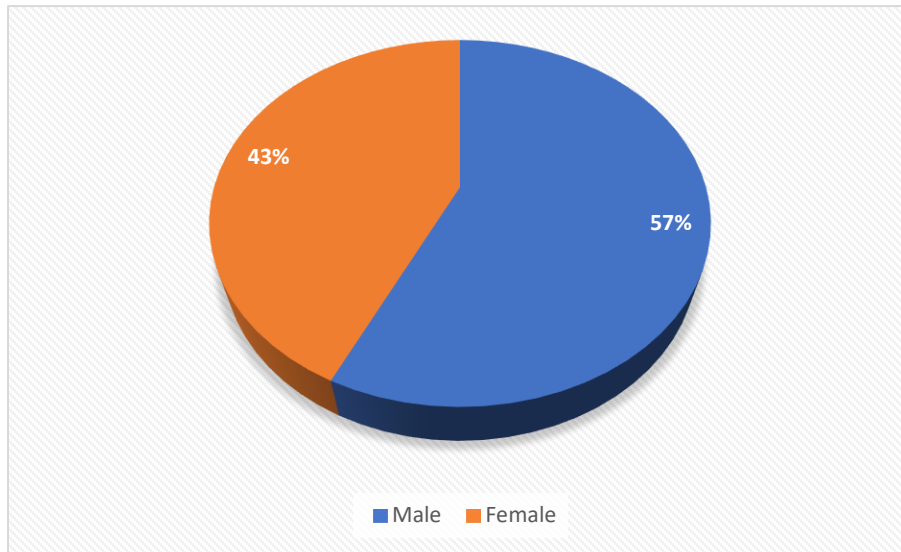


Figure 3. 12 Gender Results

Figure 3.12 shows that males were leading, contributing 57.1% to the study, while females contributed 42.9%.

### Race

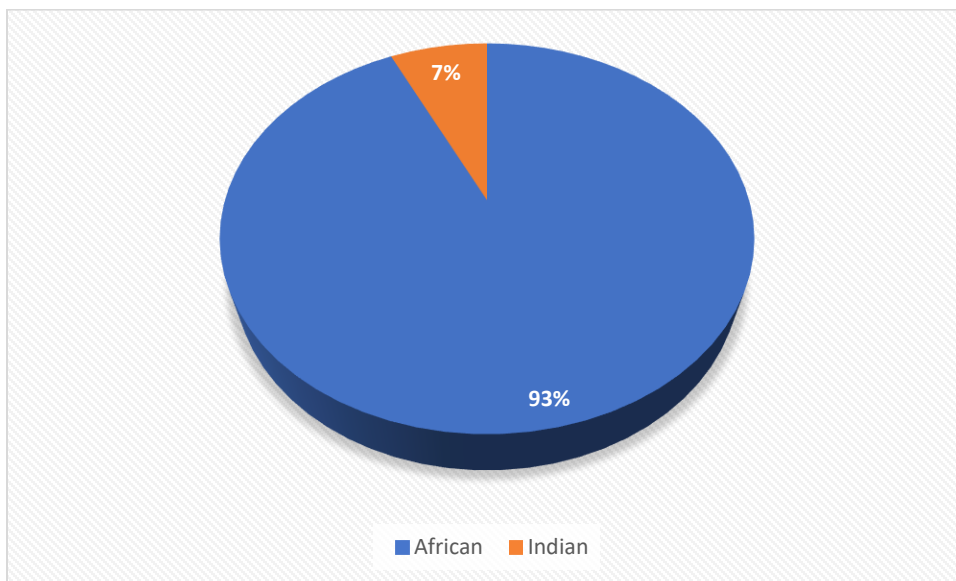


Figure 3. 13 Race Results

Figure 3.13 illustrates the percentages of the race that was able to respond to the study. 92.9% of the African race managed to contribute to the study, while 7.1 % of the Indian race contributed.

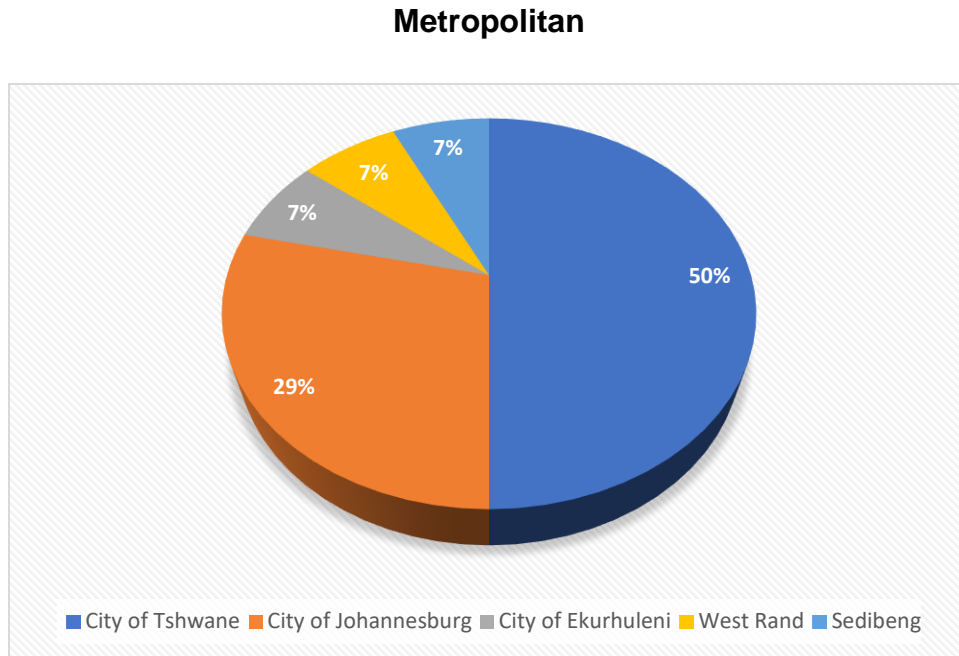


Figure 3. 14 Metropolitan Results

According to Figure 3.14, Pretoria is home to 50% of the respondents, with the city of Johannesburg accounting for 28.6% and Sedibeng, West Rand, and the City of Ekurhuleni following with a percentage of 7.1.

### Age

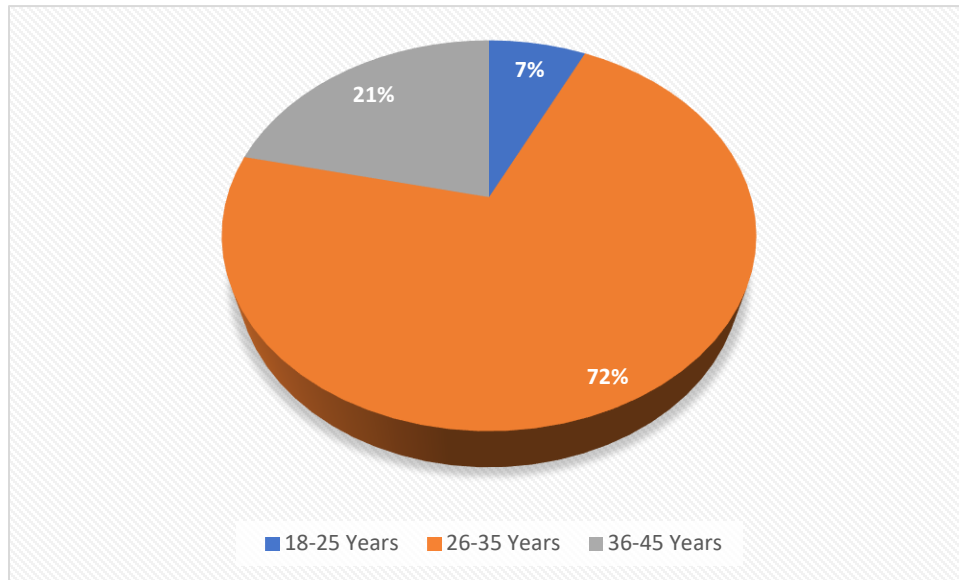


Figure 3. 15 Age Results

Figure 3.15 illustrates that 72% of the respondents were between the ages of 26-35 years which was the highest number of respondents, followed by 21.4% from the age range of 36–45 years old and 7% from respondents between the ages of 18 to 25.

### Occupation

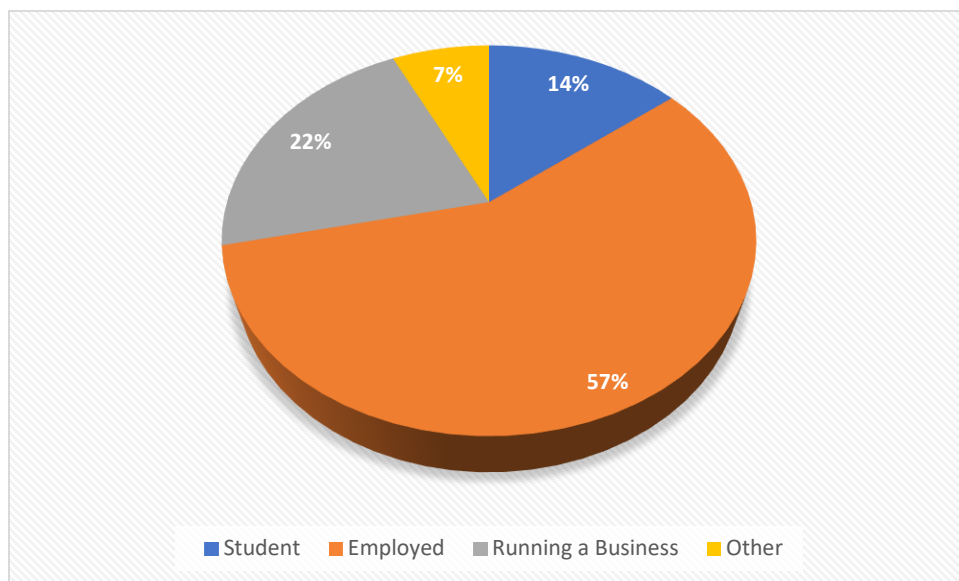


Figure 3. 16 Occupation Results

Figure 3.16 illustrates that 57.1% of the respondents were employed, 21.4% were running their own businesses, 14.3% were students, and 7.1 % were participating in other activities for a living.

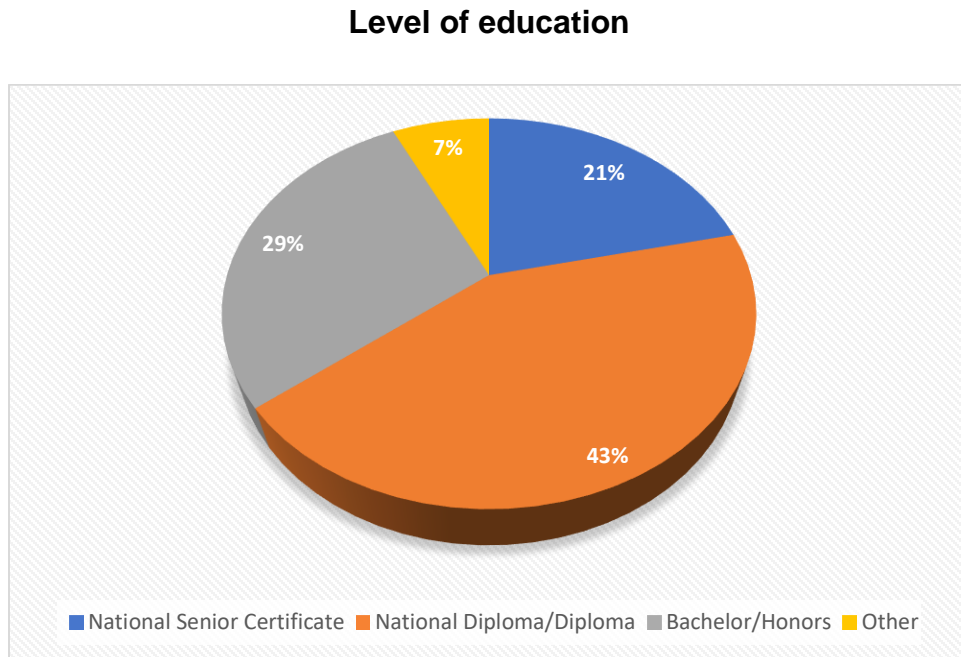


Figure 3. 17 Level of Education Results

Figure 3.17 indicates that 43% of the respondents held a National Diploma/Diploma, followed by Bachelor and Honors Degree at 29%, National Senior Certificate holders at 21%, and other qualification holders with the least 7.



### Duration of stay within the province

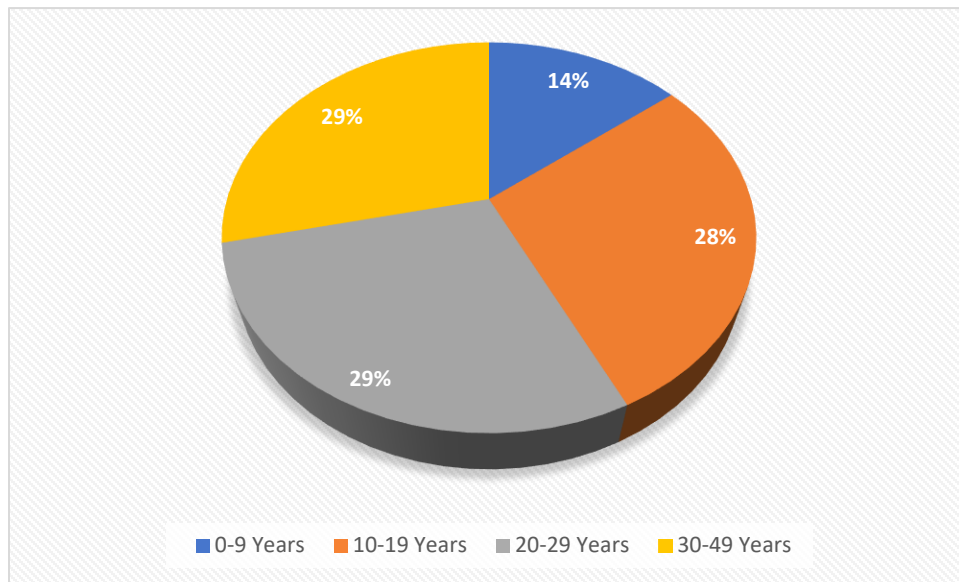


Figure 3. 18 Duration of Stay Results

Figure 3.18 indicates that 28.6 % of the respondents have been living in Gauteng between 10-19 years, 20-29 years and 30-49 Years, followed by 14.3% living in Gauteng between 0-9 years.

### 3.11.2.2 Decision Making

#### 3.11.2.2.1 The key factors that affect the quality of public infrastructure

Citizens of Gauteng were asked to express their honest opinions regarding the factors that affect the quality of the public hospitals, clinics, schools, libraries, early childhood development centres, or/and licensing and testing departments that they mostly use in Gauteng. The respondents correctly answered all ten questions in this section of the questionnaire.

This demonstrates that the respondents fully comprehended the researcher's questions and questioning techniques.

#### 3.11.2.2.2 Customer perceptions of infrastructure quality

The citizens of Gauteng were asked to give their honest opinions about their own experiences/opinions of the public infrastructure service they mostly utilise. The respondents properly answered all ten questions in this segment of the survey.

This indicates that the respondents comprehended the researcher's questions and questioning techniques.

#### **3.11.2.2.3 Customer perceptions of infrastructure quality**

Respondents were asked to rate the quality level of the ten different types of infrastructure structures that GDID was responsible for building. The respondents properly answered all ten questions in this portion of the survey.

This confirms that the respondents comprehended the researcher's questions and questioning approach.

#### **3.11.3 Conclusion of the pilot study**

Based on the replies received from both questionnaires, the researcher can reasonably assume that the surveys were written in a clear and easy-to-respond-to manner. Furthermore, the questions were straightforward and did not pose any danger or harm to the respondents.

### **3.12 Ethical consideration**

Ethics is the study of the 'right behaviour', which addresses conducting research morally and responsibly (Boris, Cooper and Schindler, 2014). Ethics not only covers the issue of how to conduct solid studies using the methodology in the best possible way, but it also addresses the issue of how the methodology that is already accessible may be used in the best possible way (Boris, Cooper and Schindler, 2014).

As much as the researcher would have wanted to interview minors, the researcher did not. This was because the researcher did not want to complicate the study. In addition, the researcher was an ethical professional while performing this study.

All respondent's rights were respected as the researcher did not ask for personal information from them. Participants were not pressured into taking part in the study.

Participants were adequately informed about the data-gathering procedure, including the potential risks that might occur. Finally, participants were assured that they had the decision to engage voluntarily.

The researcher obtained an approved consent letter from GDID (Appendix 1). Furthermore, all data was classified as strictly confidential and was only shared with the immediate research supervisor. A strong password was required before accessing data from this research on all the devices used. Additionally, there were no legal requirements in this study.

The researcher guaranteed that the respondents did not experience any discomfort, embarrassment, or loss of privacy due to their participation. To avoid these problems, the researcher first explained the study's benefits and then explained the respondents' rights—including the right to refuse to answer a question they do not want to answer. The researcher also obtained approval from the GDID to use them as a case study for this research.

### **3.13 Conclusion**

This chapter covered the discussion of the research questions and objectives, the instruments that were used to collect data, the sampling methodology, the demarcation of the study, the statistical methods applied to analyze the findings, how the study ensured validity and reliability of the responses, and the ethical considerations that the researcher considered as they were collecting data.

## **CHAPTER 4: RESEARCH RESULTS**

### **4.1 Introduction**

The research findings are presented in this chapter of the paper per the study's objectives and research questions. The responses from the department's employees and the customers were collected using two different survey questionnaires.

The study used the Gauteng Department of Infrastructure Development as a case study to examine the effectiveness of the adaptation of ISO 9001.

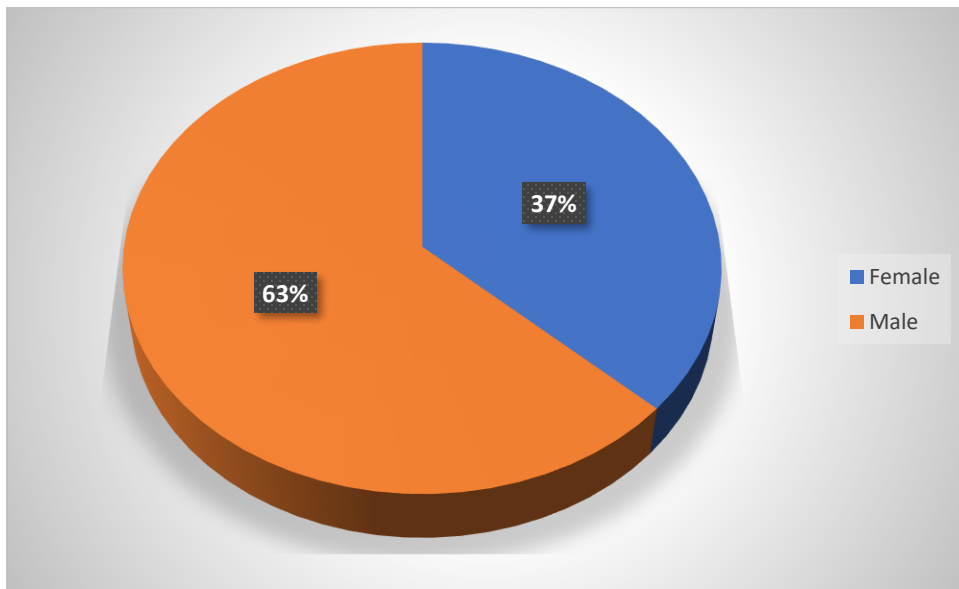
### **4.2 Challenges encountered during data collection**

A number of employees at GDID resisted the researcher's request to participate in the study. According to the researcher, some of those who declined to respond to the survey did so out of fear of the unknown. Because many were unaware of how a research project functions, they were concerned about losing their jobs.

### **4.3 Quantitative Data Presentation and analysis on the workforce**

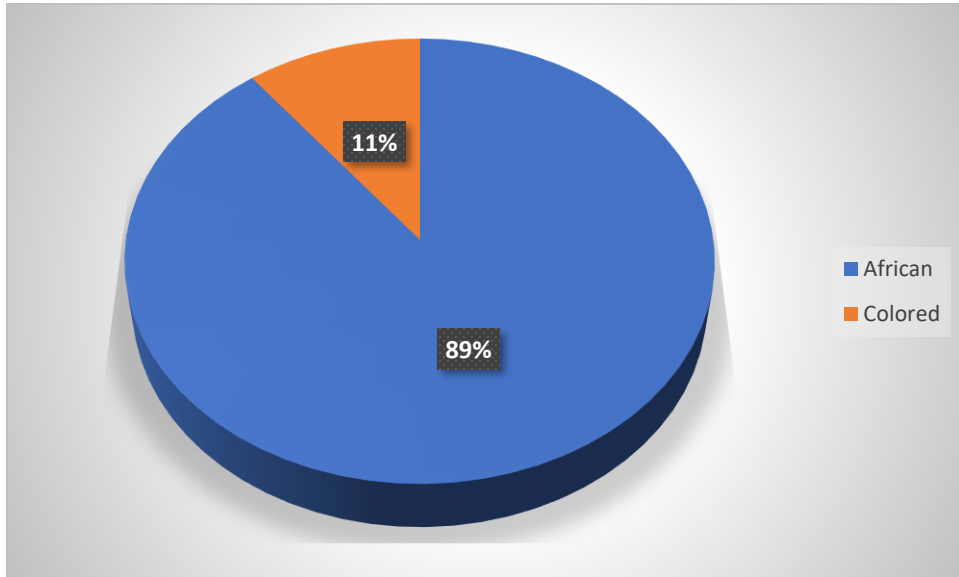
This section presents and analyzes quantitative data collected through closed-ended survey questionnaires.

#### **4.3.1 Demographic Information**



**Figure 4. 1: Gender**

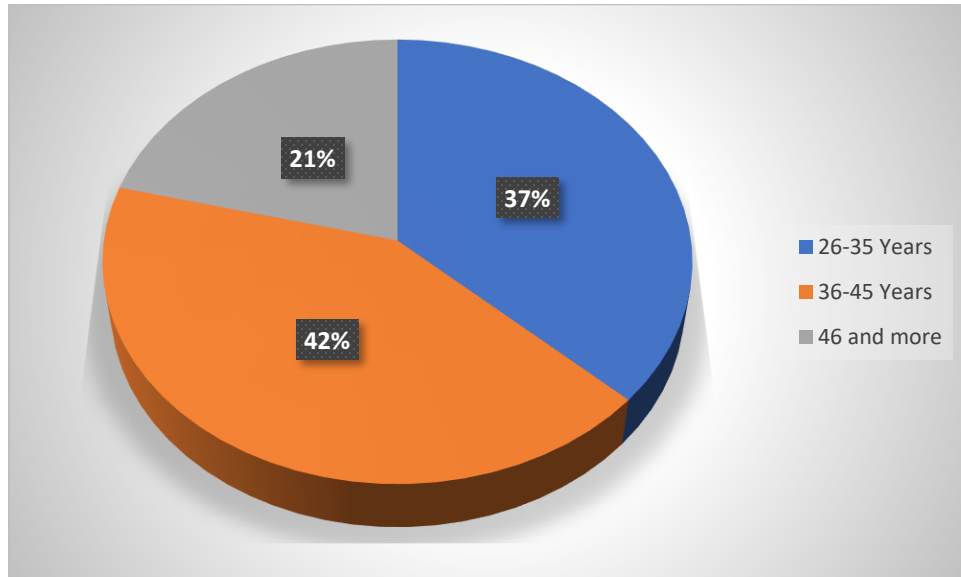
Figure 4.3.1 (a) illustrates that out of the 19 employees of GDID who took part in the study, 37% of females (7) and 63% of males (12) participated. Most males showed more interest in participating in the study than female employees.



**Figure 4. 2: Race**

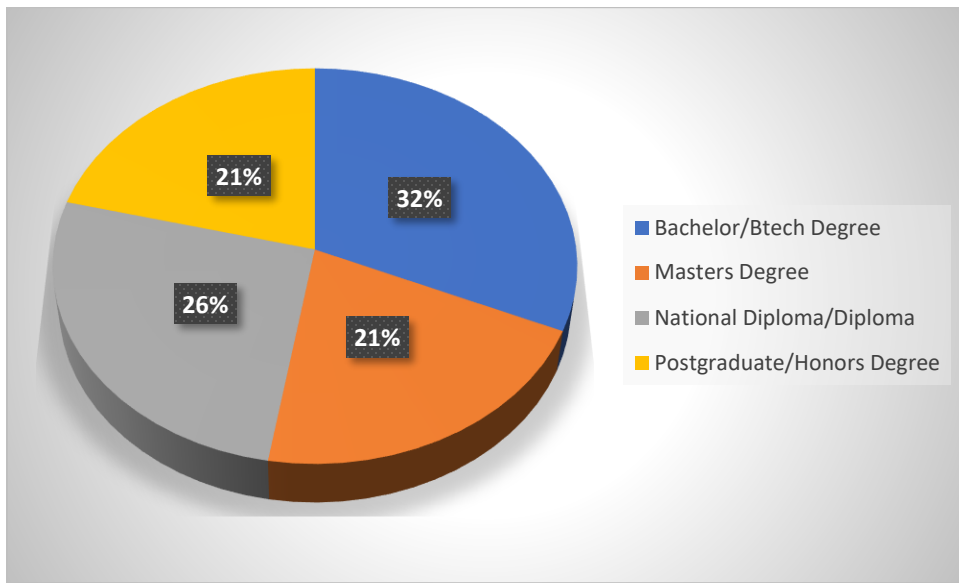
Figure 4.2 illustrates that the participants were African, while two were coloureds. Black employees dominate GDID across all its five regions in Gauteng. Therefore, it was

expected to have more black employees responding to the questionnaire than any other race.



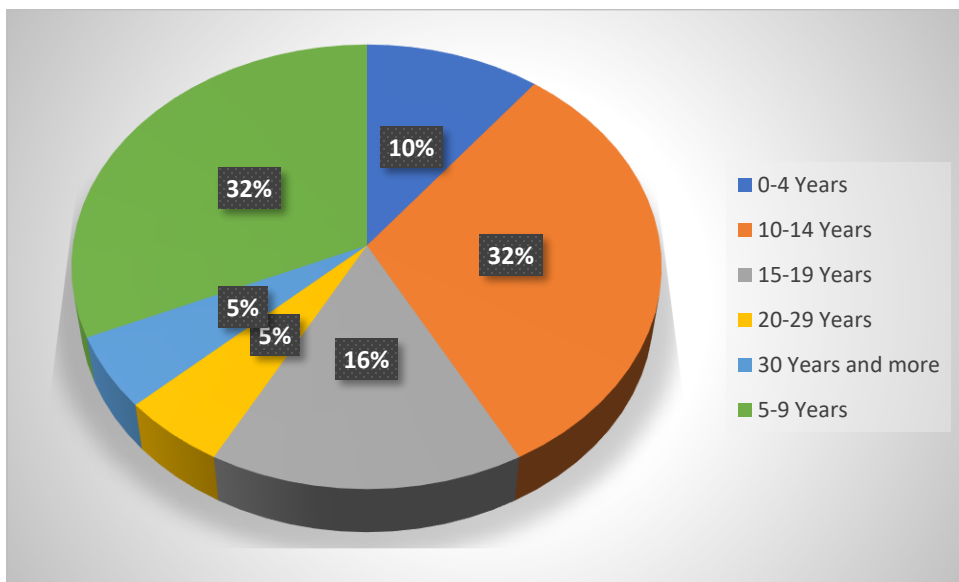
**Figure 4. 3: Age Range**

Employees between the ages of 36-45 were eight, which is the age group with a high number of participants. Employees between the ages of 26-35 years were 7, and employees between the age of 46 and above were 4. There were no respondents that were between the ages of 18-25. Employees between the ages of 36-45 played a huge role as they have gained a number of experiences throughout the years and their experience is a combination of the old systems and the new systems with technological enhancements.



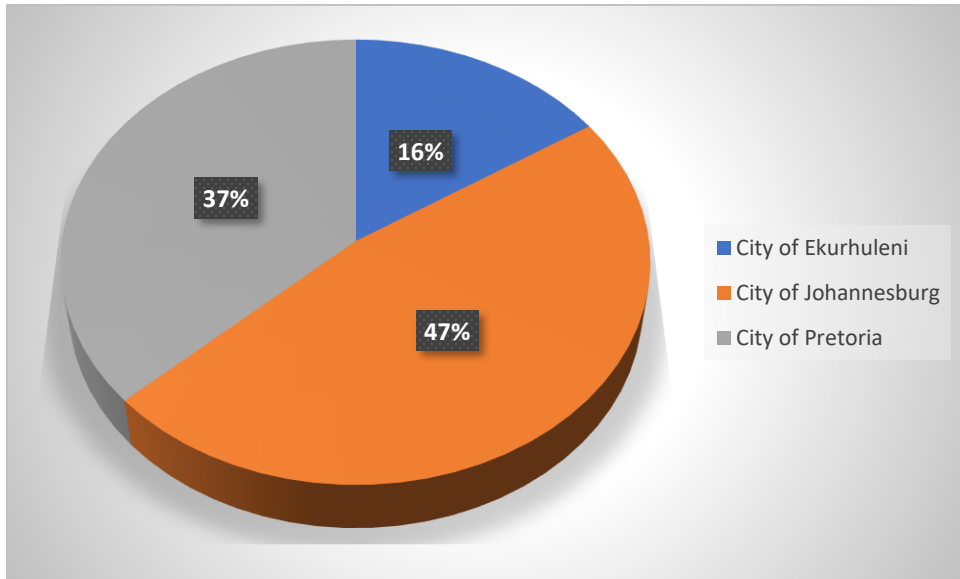
**Figure 4. 4: Level of Qualification**

Figure 4.4 shows that six respondents hold Bachelor/BTech Degrees; five hold National Diplomas, followed by four Postgraduate/Honors and honours degrees. A high number of respondents comes from employees that are well learned which gives this study the advantage of receiving intelligent responses.



**Figure 4. 5: Number of years working**

A high of 6 respondents have been working within the public sector for 10-14 years and 5-9 years, followed by three servants who have been within the sector for 15-19 years, two servants who responded to the questionnaire have been with the public sector for 0-4 years, one responded has been with the sector for 20-29 years, and another 1 for 30 and more years.



**Figure 4. 6: Name of Metropolitan**

Nine respondents were from the City of Johannesburg, followed by seven participants from the City of Tshwane, and the remaining three were from the City of Ekurhuleni.



**Table 4. 1: Job titles**

Job Title
Labour Relations Practitioner
Engineer Production Grade C
safety officer
Deputy Director
Assistant Director
Assistant Director
Business Analyst
Chief Mechanical Engineer
Deputy Director
Business Analyst
research and knowledge management
Engineering Technician
Works inspector
Director
Admin Clerk
Assistant Director
Assistant Director

Table 4.1 illustrates the Job titles of the employees who responded to the survey. Employees were asked to write their job titles on the survey form, and the following data was gathered; the most senior respondent was a director, followed by a deputy director and a chief mechanical engineer (same positions). 11 Junior managers replied to the questionnaire, and an admin clerk was the most junior position that responded to the questionnaire.

### 4.3.2 Decision-making based on the participant's personal opinions

These questions were developed per the study objectives to assist the study in addressing the research questions. There are three sections within it: A, B, and C.

#### 4.3.2.1 The key factors affecting the service quality within the organisation

Table 4. 2: Mean and Standard Deviation Results of the A section

	Descriptive Statistics						
	N Statistic	Minimum Statistic	Maximum Statistic	Mean		Std. Deviation Statistic	Variance Statistic
				Statistic	Std. Error		
E-A1	19	1	5	3.42	0.233	1.017	1.035
E-A2	19	1	5	3.37	0.244	1.065	1.135
E-A3	19	1	5	3.26	0.263	1.147	1.316
E-A4	19	2	5	3.26	0.200	0.872	0.760
E-A5	19	1	5	3.42	0.268	1.170	1.368
E-A6	19	1	5	3.53	0.234	1.020	1.041
E-A7	19	1	5	3.63	0.256	1.116	1.246
E-A8	19	1	5	2.95	0.270	1.177	1.386
E-A9	19	1	5	3.16	0.268	1.167	1.363
E-A10	19	1	5	3.63	0.278	1.212	1.468
E-A11	19	1	5	3.63	0.344	1.499	2.246
E-A12	19	1	5	3.21	0.282	1.228	1.509
E-A13	19	1	5	3.11	0.285	1.243	1.544
E-A14	19	1	5	3.79	0.271	1.182	1.398
E-A15	19	1	5	3.53	0.258	1.124	1.263
E-A16	19	1	5	3.58	0.246	1.071	1.146
E-A17	19	1	5	3.74	0.252	1.098	1.205
E-A18	19	1	5	3.26	0.252	1.098	1.205
Valid N (listwise)	19						

Table 4.2 illustrates the descriptive of one of the study's objectives- the key factors that are affecting service quality within GDID (items from E-A1 to E-A118). This section received 19 responses, with the Likert scale being 1 (Strongly Agree) and 5 (Strongly Disagree).

The Statistic mean was between 2.95 and 3.79. The standard error was less than one, between 0.200 and 0.344, demonstrating that the mean in our sample is a better representation of the population mean. The standard deviation was between 0.872 and 1.499; the lower standard deviation to the mean indicates that participants' responses did not vary from each other much.

#### 4.3.2.2 The measurements for service quality within public organisations

**Table 4. 3: Mean and Standard Deviation of the B section**

	Descriptive Statistics						
	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Error	Std. Deviation Statistic	Variance Statistic
E-B1	19	1	5	2.95	0.270	1.177	1.386
E-B2	19	1	5	3.42	0.233	1.017	1.035
E-B3	19	2	5	3.53	0.246	1.073	1.152
E-B4	19	1	5	3.37	0.219	0.955	0.912
E-B5	19	1	5	3.47	0.246	1.073	1.152
E-B6	19	1	5	3.32	0.230	1.003	1.006
E-B7	19	2	5	3.95	0.195	0.848	0.719
E-B8	19	1	5	3.37	0.232	1.012	1.023
E-B9	19	1	5	3.58	0.289	1.261	1.591
E-B10	19	1	5	3.16	0.257	1.119	1.251
E-B11	19	1	5	3.21	0.249	1.084	1.175
E-B12	19	1	5	2.95	0.270	1.177	1.386
E-B13	19	1	5	3.63	0.232	1.012	1.023
E-B14	19	1	4	2.84	0.233	1.015	1.029
E-B15	19	1	5	3.58	0.289	1.261	1.591
E-B16	19	1	5	3.58	0.257	1.121	1.257
E-B17	19	1	5	3.68	0.306	1.336	1.784
E-B18	19	1	5	3.32	0.254	1.108	1.228
Valid N (listwise)	19						

Table 4.3 illustrates the descriptive of one of the study's objectives- the measurements of service quality within public organisations (items from E-B1 to E-B118). This section received 19 responses, with the Likert scale being 1 (Strongly Agree) to 5 (Strongly Disagree).

The statistical mean ranged from 2.84 to 3.95. The fact that the standard error was less than one and ranged between 0.200 and 0.344 indicates that the mean in our sample is a more accurate representation of the population mean. The standard deviation ranged from 0.848 to 1.336; a smaller standard deviation in relation to the mean suggests that participant responses were not significantly different.

### 4.3.2.3 Improving service quality through the Implementation of ISO 9001:2015 in public organisations

**Table 4. 4: Mean and Standard Deviation of the C section**

Descriptive Statistics								
	N	Minimum	Maximum	Mean		Std. Deviation	Variance	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	
E-C1	19	1	5	2.89	0.275	1.197	1.433	
E-C2	19	2	5	3.63	0.219	0.955	0.912	
E-C3	19	2	5	3.79	0.224	0.976	0.953	
E-C4	19	1	5	3.26	0.227	0.991	0.982	
E-C5	19	1	5	3.05	0.281	1.224	1.497	
E-C6	19	1	5	3.26	0.332	1.447	2.094	
E-C7	19	1	5	3.37	0.244	1.065	1.135	
E-C8	19	1	5	3.37	0.256	1.116	1.246	
E-C9	19	1	5	3.32	0.242	1.057	1.117	
E-C10	19	1	5	3.11	0.215	0.937	0.877	
E-C11	19	1	5	3.26	0.274	1.195	1.427	
E-C12	19	1	5	3.05	0.195	0.848	0.719	
E-C13	19	2	5	3.16	0.206	0.898	0.807	
E-C14	19	1	5	3.26	0.263	1.147	1.316	
E-C15	19	1	5	3.26	0.252	1.098	1.205	
E-C16	19	1	5	3.32	0.242	1.057	1.117	
E-C17	19	1	5	3.05	0.209	0.911	0.830	
E-C18	19	1	5	3.21	0.260	1.134	1.287	
Valid N (listwise)	19							

Figure 4.4 illustrates the descriptive of one of the study's objectives- Improving service quality through the Implementation of ISO 9001:2015 in public organisations (items from E-C1 to E-C118). This section received 19 responses, with the Likert scale being 1 (Strongly Agree) to 5 (Strongly Disagree).

The statistical mean varied from 2.89 to 3.79. The fact that the standard error was less than one and varied between 0.195 and 0.332 suggests that the mean in our sample is a more accurate representation of the population mean.

The standard deviation ranged from 0.848 to 1.447; a lower standard deviation in comparison to the mean signifies that participant responses were not statistically divergent from one another.

#### 4.4 Quantitative Data Presentation on the customers

This section presents and analyzes quantitative data collected through closed-ended survey questionnaires.

##### 4.4.1 Demographic information

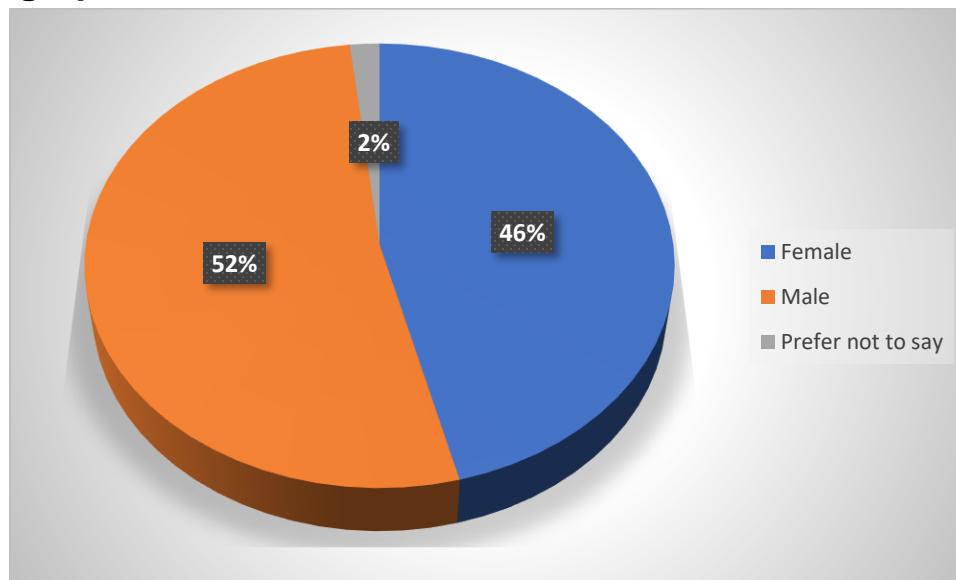
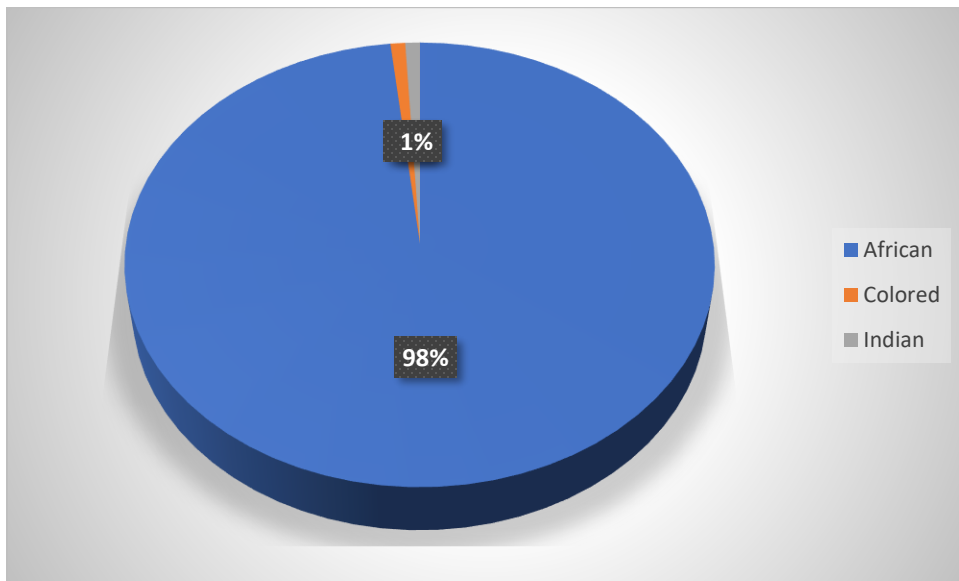


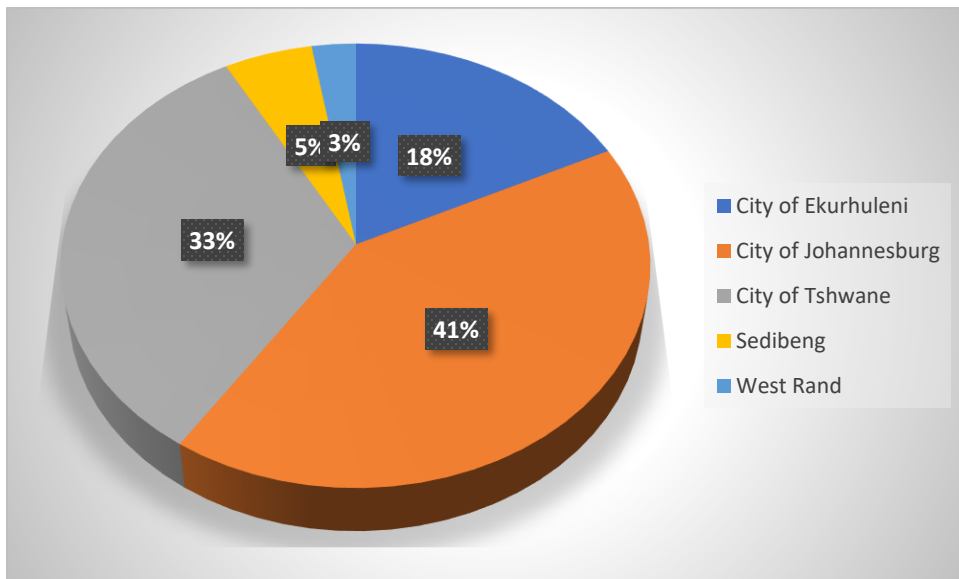
Figure 4. 7: Gender

Figure 4.7 illustrates that out of the 113 citizens of Gauteng who took part in the study, 46.0% were females, and 52.2% were males.



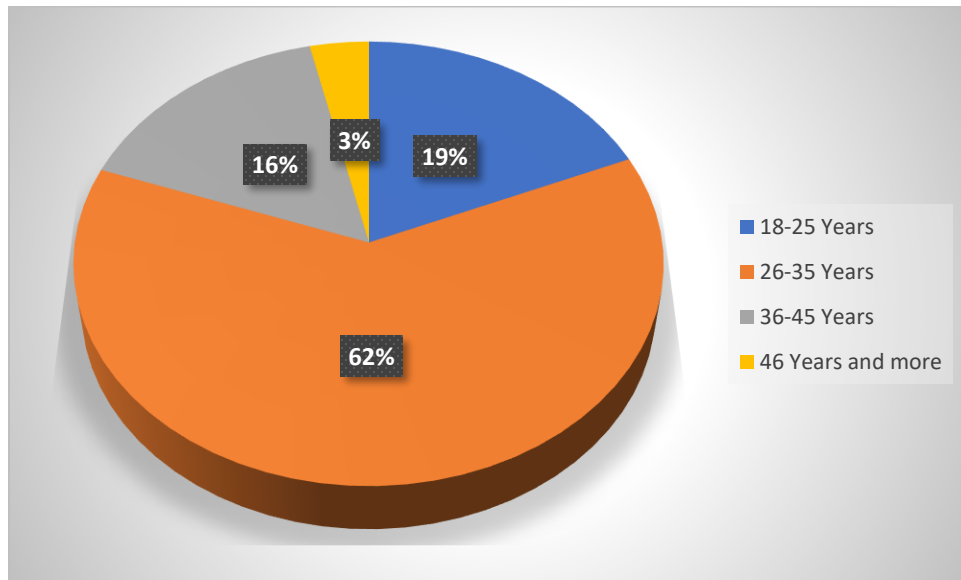
**Figure 4. 8: Race**

Figure 4.8 illustrates that 98.23% of the participants were Africans, 0.88% were Coloured, and 0.88% were Indian.



**Figure 4. 9: Name of Metropolitan**

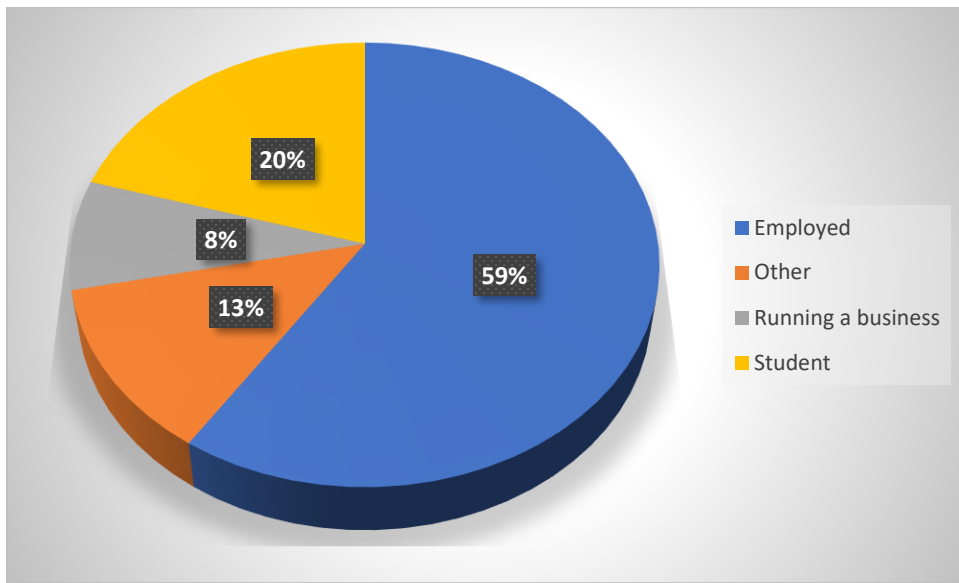
Figure 4.9 illustrates that 41.59% of the participants were from the City of Johannesburg, 32.74% were from the city of Tshwane, 17.7% from the City of Ekurhuleni, 5.31% from Sedibeng, and 2.65% from the West Rand.



**Figure 4. 10: Age**

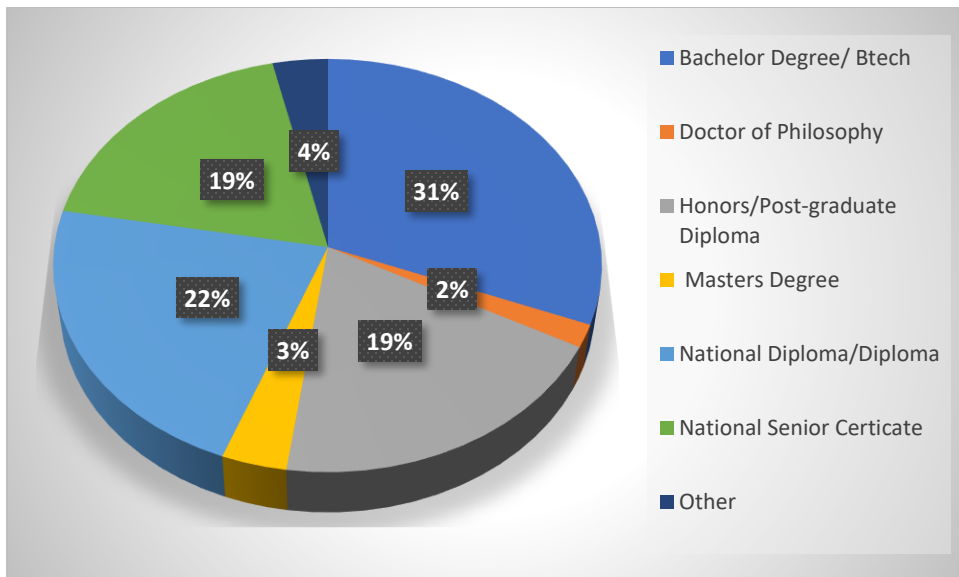
Figure 4.10 illustrates that 61.95 % of the participants were between the ages of 26 and 36, followed by 18.58% of the participants who were between the ages of 18 and 25, 15.93% of participants were between the ages of 36 and 45, and only 3.54% of the participants were 46 years old and more.





**Figure 4. 11: Occupation**

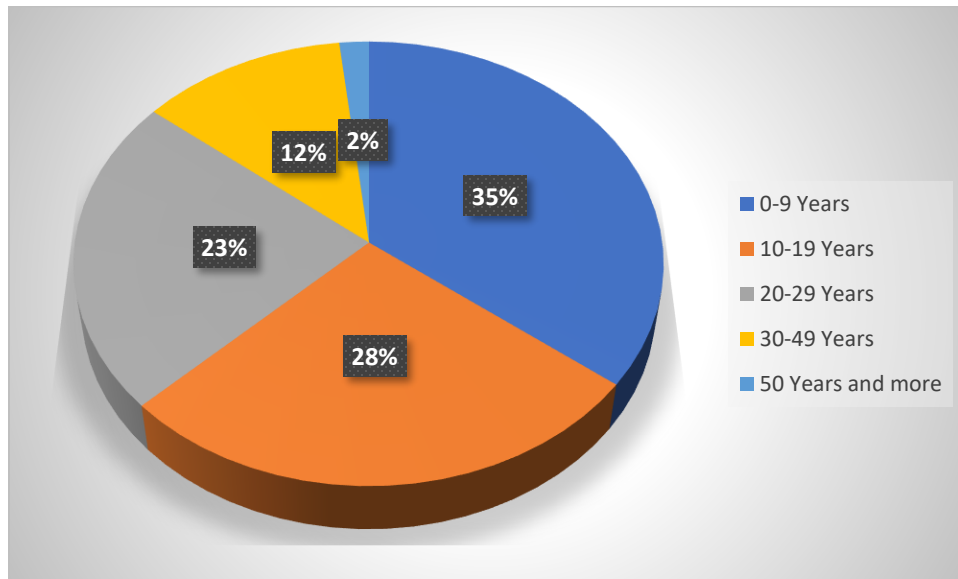
Figure 4.11 shows that 59.29% of the 113 participants were employed, 20.35% were still studying, 12.39% were carrying out 'other' occupations, and 7.95% were self-employed.



**Figure 4. 12: Level of Education**

Figure 4.12 shows that 50.4% of the 113 participants held a Bachelors or an Honours degree (or a similar qualification), 22.1 held National Diplomas, 3.5% held Masters

Degrees, 3.5% held other qualifications, and only 1.8% of the respondents held a PhD qualification.



**Figure 4. 13: Years in Gauteng**

Figure 4.13 illustrates that 35.4% of the total 113 participants have lived in Gauteng between 0-9 years, 27.4% between 10-19 years, 23.0% between 20-29 years, 12.4% between 30-49 years, and only 1.8 % have been living in Gauteng for 50 years and more.

**Table 4. 5: Chi-Square Tests**

**Chi-Square Tests**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	86.374 <sup>a</sup>	12	0.000
Likelihood Ratio	46.035	12	0.000
N of Valid Cases	113		

a. 13 cells (65.0%) have expected count less than 5. The minimum expected count is .07.

There is a relationship between the age range of the respondents and the number of years the respondents have been living in Gauteng. The Chi-square test shows that the association that we found between the age range of the respondents and the number of

years the respondents have been living in Gauteng is statistically significant. P is equal to 0.01; therefore, P is significant since it is not greater than 0.05.

#### **4.4.2 Decision-making based on the participant's opinions**

This section of the questionnaire analyzes quantitative data collected through a closed-ended survey. This section received 113 responses.

##### **4.4.2.1 The key factors affecting the quality of public infrastructure**

Table 4.6 below provides a detailed description of one of the study's objectives: the key factors affecting public infrastructure quality from customer's perspective (items from C-A1 to C-A10). The minimal Likert scale score for this question was 1 (Strongly Agree), and the maximum score was 5. This section had 113 responses.

The range of the statistical mean was 2.22 to 2.97. The fact that the standard error was less than one and ranged between 0.102 and 0.130 suggests that the mean in our sample more closely approximates the mean of the population.

A smaller standard deviation compared to the mean indicates that participant responses were not significantly different from one another; the standard deviation ranged from 1.083 to 1.379.

**Table 4. 6: Mean and Standard Deviation of the A section (n=113)**

	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
C-A1	1	5	2.78	0.102	1.083	1.174
C-A2	1	5	2.84	0.124	1.313	1.724
C-A3	1	5	2.21	0.13	1.379	1.901
C-A4	1	5	2.96	0.124	1.319	1.739
C-A5	1	5	2.31	0.12	1.275	1.626
C-A6	1	5	2.59	0.125	1.334	1.779
C-A7	1	5	2.94	0.109	1.159	1.344
C-A8	1	5	2.97	0.122	1.299	1.687
C-A9	1	5	2.22	0.112	1.186	1.406
C-A10	1	5	2.25	0.116	1.236	1.527

#### 4.4.2.2 Customer perceptions of infrastructure quality

**Table 4. 7: Mean and Standard Deviation of the B section**

##### Descriptive Statistics

	N	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
C-B1	113	1	5	3.65	0.103	1.093	1.195
C-B2	113	1	5	3.76	0.105	1.112	1.237
C-B3	113	1	5	3.14	0.097	1.034	1.069
C-B4	113	1	5	2.98	0.120	1.275	1.625
C-B5	113	1	5	2.88	0.103	1.100	1.210
C-B6	113	1	5	3.31	0.104	1.111	1.234
C-B7	113	1	5	3.12	0.124	1.317	1.735
C-B8	113	1	5	2.95	0.112	1.194	1.426
C-B9	113	1	5	3.07	0.119	1.266	1.602
C-B10	113	1	5	3.61	0.111	1.176	1.383
Valid N (listwise)	113						

One of the goals of the study is customer satisfaction with infrastructure quality, which is described in full in Table 4.7 (items from C-B1 to C-B10). The minimum and maximum

Likert scale responses for this topic were 1 (Strongly Agree) and 5, respectively. 113 people responded to this section.

The statistical mean was between 2.88 and 3.76. The standard error was less than one and varied between 0.097 and 0.124, indicating that the mean in our sample is more closely related to the population mean.

The standard deviation ranged from 1.034 to 1.266; a smaller standard deviation than the mean suggests that participant responses were not statistically diverse.

### 4.4.2.3 Infrastructure quality assessment

**Table 4. 8: Mean and Standard Deviation of the C section**

	Descriptive Statistics						
	N	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
C-C1	113	1	5	3.57	0.104	1.101	1.212
C-C2	113	1	5	3.64	0.107	1.142	1.305
C-C3	112	1	5	3.31	0.110	1.163	1.352
C-C4	113	1	5	3.20	0.115	1.219	1.485
C-C5	113	1	5	3.47	0.114	1.211	1.466
C-C6	113	1	5	3.61	0.109	1.161	1.347
C-C7	113	1	5	3.24	0.093	0.984	0.969
C-C8	113	1	5	3.47	0.101	1.078	1.162
C-C9	113	1	5	3.37	0.099	1.054	1.111
C-C10	113	1	5	3.49	0.096	1.019	1.038
Valid N (listwise)	112						

Customer perceptions of infrastructure quality are one of the study's objectives, and this objective is fully outlined in Table 4.8 (items from C-C1 to C-C10). The Likert scale

responses for this topic ranged from 1 (Strongly Agree) to 5 respectively. There were 113 answers to this section.

Between 3.20 and 3.64 was the statistical mean. Indicating that the mean in our sample is more strongly linked to the population mean. The standard error was less than one and ranged between 0.093 and 0.115.

The participant responses were not significantly different from one another, according to a smaller standard deviation than the mean, which was between 0.984 and 1.219.

## **4.5 Qualitative Data Presentation**

The qualitative data were analysed through content analysis. Organisations must first obtain a voice of the customer (VOC) mandate, which details the needs and expectations of their consumers in order to serve them (managing for quality and performance excellence, 2016).

Through open-ended survey questions, GDID consumers' qualitative data was gathered. When granted the opportunity to express their opinions, the citizens took advantage of it and presented their truthful opinions of the public service's infrastructure. For the qualitative survey questionnaires, 113 responses were received.

An open-ended question of "Please express your general thoughts, opinions, and recommendations about the Gauteng Provincial Government's infrastructure" was used for data collection. The results from citizens are summarised in Table 4.9 below. The detailed responses are included in Appendix 8.

The investigation was able to identify 11 comments through content analysis that stated that the government should maintain its buildings to keep them looking decent. Considering most infrastructure deteriorates if not properly maintained, the public advised that routine and proper maintenance was essential.

Seven of the 113 respondents made mention of citizen engagement and communication. According to the respondents, the government doesn't engage or involve the public in

infrastructure decisions or attempts to communicate with them. Respondents criticised the government for its poor communication.

The idea that the government should create and improve infrastructure was put forth by 14 respondents. These comments share the belief that there is always room for improvement. A participant added that the modifications should take into account the future rather than the past, or in other words, they need to take into account technological advancements.

<b>Responses</b>
People are suffering out there with lack of infrastructure
There's improvement so far that shows that our municipality is trying but problem is lack of job for youth
There is serious lack of maintenance of public buildings in Gauteng
A lot more of these infrastructures could do with well-planned and regular maintenance. This though should be second to the upgrading of these infrastructures. They are mostly old and outdated which makes one also question their safety standards.
Government infrastructure requires serious maintenance and intervention.
Create more jobs and hire qualified candidates
What I would recommend is getting it right the first time then there wouldn't be a need to go and have to spend more money trying to fix what could have been done only once. 2. Making sure that funds allocated to a certain activity is enough before starting and using the money for that specific thing then we wouldn't have unfinished roadworks etc. 3. Training employees to have good customer service could also go a long way.
Development of schools and infrastructure is needed.
More end-to-end processes are to be utilised to achieve best results in terms of facilities and services.
More bottom-up approaches to development should be adopted. Not just in the conceptual phases of projects but throughout the process of development. That means users/consumers can then appreciate the project, contribute and better use the facility when it is operational.

The other issue is operational management. Some facilities are very useful and convenient when new but due to lack of maintenance they become dilapidated.
Qualifying individuals need to be given these tenders
It is moderate.
Poor communication
Our government is failing us!!!!
It is very bad
Quality material and good leadership is imperative. Which is not implemented enough.
no comment
Government must involve communities and hire people with skills from the same communities, they must also hire more health workers to improve service within the health care sector.
Poor services delivered
In most areas there are no suggestion boxes and we are not told about ways to lodge complaints
Manager/senior staff are not committed service. The buck is passed around.
It needs thorough improvements
The government needs to change its mindset in order to bring change to the entire country
They should improve their infrastructure. They need to hire experienced people instead of doing things cheap just to eat the money.
The condition of the infrastructure is not up to standard, the ablution system is always the worst and very poor housekeeping. You can see decay in some of the buildings.
Quite average for a province that holds a world class city
Needs to be improved
Quality products have to be used when building infrastructures.
The infrastructure is slowly getting better
The government as well as his employees need to understand that they must give us service that is adequate



Infrastructure has reached its expected useful life and therefore plans to upgrade should be in place. Holistic approach involving all relevant stakeholders should be adopted to bring about changes that suit the current Situations that we are facing.

Very well

More can be done. Proper protocol must be followed to ensure that the safety comes first

Poor

Infrastructure maintenance must be a norm.

All good

Needs work

The infrastructure is usually built well and well planned.

Renovations should take place; skilled workers must be hired. Employees must practice Batho Pele principles

Dear Madam

The thing with SA is that we are dealing with very arrogant municipalities where currently most of the infrastructure that is in use today it was build back back then before the 1980s right. And i am not saying that there's something wrong with that the problem that we have is the lack of accountability regarding Repairing it, most of our infrastructure was build back then right the question how can we sustain it for the next 50 years or so, we can sustain it only if we want our municipalities when it comes to Repairing our infrastructure it is as if they want our infrastructure to be damaged even more than it is currently. Let me give an example with portholes, They hire contractors right after the completion of these projects no one from the municipality ever goes there to do a simple report about the work that was done cause you will find that the contractors came to do project after completing it they would still be like "a foundation of another pothole" where the problem was not even solved but the money was used.

Now let me talk about what happened during covid our infrastructure was damaged not by our communities but by those in power cause I can definitely tell you that they were people who were hired to reconstruct these buildings train stations

Why is all this happening?

Lunch bar

Lunch bar

There is a lot of work that needs to be done to better the state of facilities and service rendering

Lot can be improved

Old buildings should be renovated. Roads and traffic lights have to be maintained at all times.

They should focus on Quality rather than "Just" completing infrastructure. Most of their buildings don't accommodate disabled people. Furthermore, they designers don't take into consideration the capacity of people that will utilise the buildings

Needs more skilled and Qualified people

There is room for improvement

They should improve the quality, and build sustainable infrastructure

They need to be monitored and workers need to be held accountable for not providing the expected services.

They need to invest in a professional building that welcomes the public

I've got none to comment on.

Where i stay the government infrastructure needs serious revamping

I believe they can do better, there's always room for improvement.

The problem lies with the construction business owners. The government will provide the necessary amounts of money for the project but the owner will use more of the basic money for construction for their personal use then end up using less material. The government should provide funds based on the project schedule than providing funds all at once

The Government needs to do a lot more than they are doing currently and also look into hiring helpful and friendly staff.

There should be honest people for service delivery. Where there's no integrity, selfish people gain and the community at large suffers.
Poor projects management
Nothing from my side.
GP governments has a lot to change.
Gauteng Government is useless
Would love to see more improvements
very poor infrastructure
Gauteng government department need improvement
Not well managed
Old buildings are not properly maintained at most of these facilities.
Government should do away with tenders
Whilst budget exist, quality, tender processes don't make the products guaranteed based on government looking to get a better price whilst bidders overprice products based on existence that the department will pay.
Most if not, all are not OHSA compliant due lack of required maintenance and servicing of lifts
The staff's behavior is questionable. The infrastructure needs to be kept up-to-date
There is need for a Stakeholders engaged developmental approach so as to meet all relevant needs of all end users.
Heidelberg hospital service is very poor
Infrastructure should be developed with the people not for the people they are the users after all
Good
The services are very poor, no doctors at the clinics. Learners are more than 70 in a 40 learners' class and the library no longer works
The employment of less qualified employees has a negative impact on the provision of quality infrastructure.
It will be very good if this will be taken it consideration

Project managers must be fully involved in all projects
Clinics are always full; the service is poor and most of the times there is no medication. This is unfair for me as a tax payer because medical aid is expensive. The state of our clinics and hospitals is depressing, we need qualified people to run the state not comrades who have no qualifications and experience and are not interested in the wellbeing of South Africans.
Answered honestly
Communicate and involve constituents
The infrastructure here in Gauteng is a bit better compared to other provinces and rural areas which are normally neglected by the government
There's a lot of improvement that needs to be done and also citizens should be included in decision making.
They need to upgrade some of the old buildings to represent our future, not our past.
I wish they made them bigger and more accessible because even the ones that are open to the public seem to exclude people like Hillbrow Library not letting kids take out books in the children's section.
Proper maintenance of currently existing infrastructures can help keep them in a good condition for the long run.
Routine maintenance and upkeep of facilities is required. As a lot of the infrastructure, I see in clinics and hospitals deteriorates without corrective action.
Poor services
Average
All the best to you
Newly constructed infrastructure is good once completed. Maintenance of old buildings is poor
They must do better

## 4.6 Conclusion

The responses from 19 GDID employees, more than 90% of whom held management positions, were described and analyzed in this section of the report. The chapter also analyzed and evaluated the comments and suggestions from 113 GDID customers throughout Gauteng.

In order to adequately respond to the research question and objectives, the questions were separated into three categories. For this survey, 132 people in total responded.

## **CHAPTER 5: DISCUSSION**

### **5.1 Introduction**

The study aimed to investigate the viability of the ISO 9001:2015 Quality Management System implementation by the Gauteng Department of Infrastructure Development. It successfully addressed the research question and presented an overview of the literature review, along with detailing the study results. This will be covered in further detail in Section 5.4, "Discussion of Results." The research results from Chapter 4 are discussed in this chapter. This chapter is divided into two sections per the study objectives listed in chapter 1: The first section examines the results of the questionnaire issued to GDID employees, while the second portion analyzes the results of the questionnaire distributed to Gauteng citizens.

### **5.2 Findings from quantitative data**

#### **5.2.1 Findings from employees**

The survey questionnaire distributed to the employees of the GDID had a total of 61 questions. All the questions were responded to by the 19 GDID officials who participated in the study. Both genders were represented as 63.2% of the officials were male, and 36.8 were female. In addition, two types of races were represented, namely, blacks and coloureds, which amounted to 89.5% and 10.5%, respectively. However, not all races were represented in the study because there is a limited representation of Indian and white employees in the department.

The researcher had four different types of age ranges in the questionnaire; however, the age range of 18-25 years was not represented. This can simply be because a large number of the respondents were in management positions, and it is very rare to find an employee below 25 years of age in that position. The researcher sent the survey link to

employees who were going to represent all the different age groups; however, there was no participation from the 18-25 age group.

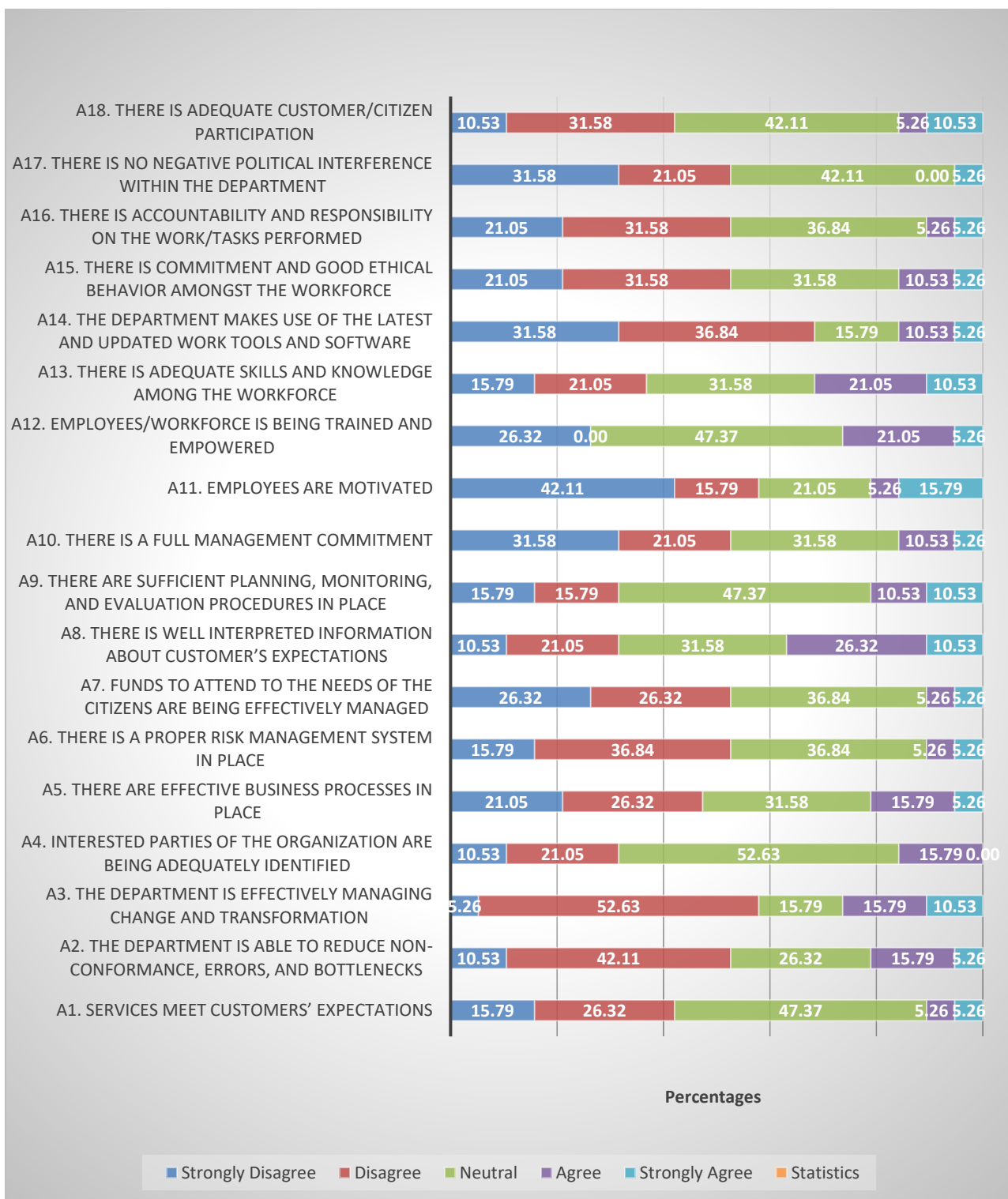
Over 90% of the responses came from managers (both junior and senior), which played a huge part in the study because these are the people who play a huge part in decision-making. Managers are the people who have been driving the adaptation of ISO 9001 throughout the department. Therefore, they can answer the question of how this QMS has played a role in their respective units.

Only four qualifications were represented in the study; however, the National Senior Certificate and the PhD were not represented. This finding corresponds with the job titles of the respondents; the minimum qualification required for the department's positions is a National Diploma. Only three of the five different metropolitans of Gauteng were represented by the workforce of GDID. Sedibeng and West Rand had no representation.

Most of the respondents (89.6%) have been within the public sector for over five years. This is a positive thing for the study because these employees have been within the public sector long enough to notice the difference that comes with adopting a Quality Management System.

### **5.1.1 The research objective 1**

According to Chapter 1, Research Objective 1, stated as “the key factors affecting the service quality within the organisation” were responded to by all the respondents.



**Figure 5. 1: Results of section A**



Section A of the questionnaire, shown as figure 5.1, illustrates the responses from the research objective of the key factors affecting the service quality within the organisation. The research discovered that the department is unable to meet its customer's needs and expectations. As per ABNT (2015), the assessment of product and service quality encompasses more than just their intended function and performance. It also takes into account factors such as perceived value and the benefits they provide to the customers. With that said, GDID must consider the performance of their services and how they benefit the customers. Organisations, according to ISO (2015), must understand the needs and expectations of interested parties. The positive response from GDID employees who took part in the study indicates that the department correctly interpreted the information on customer expectations.

The research found a lack of management commitment to the QMS, which might be one of the factors affecting the quality of services. According to De Feo (2018), the successful implementation of any plan within an organisation requires the leadership and commitment of the executive team. This is crucial as they possess the authority to allocate resources and facilitate effective communication, both of which are necessary for fostering cultural change. In order to achieve the desired results, GDID leadership must be fully committed to the QMS.

### **5.2.2 Research Objective 2**

According to Chapter 1, Research Objective 2, stated as “the measurements for service quality within public organisations”, was responded to by all the respondents.

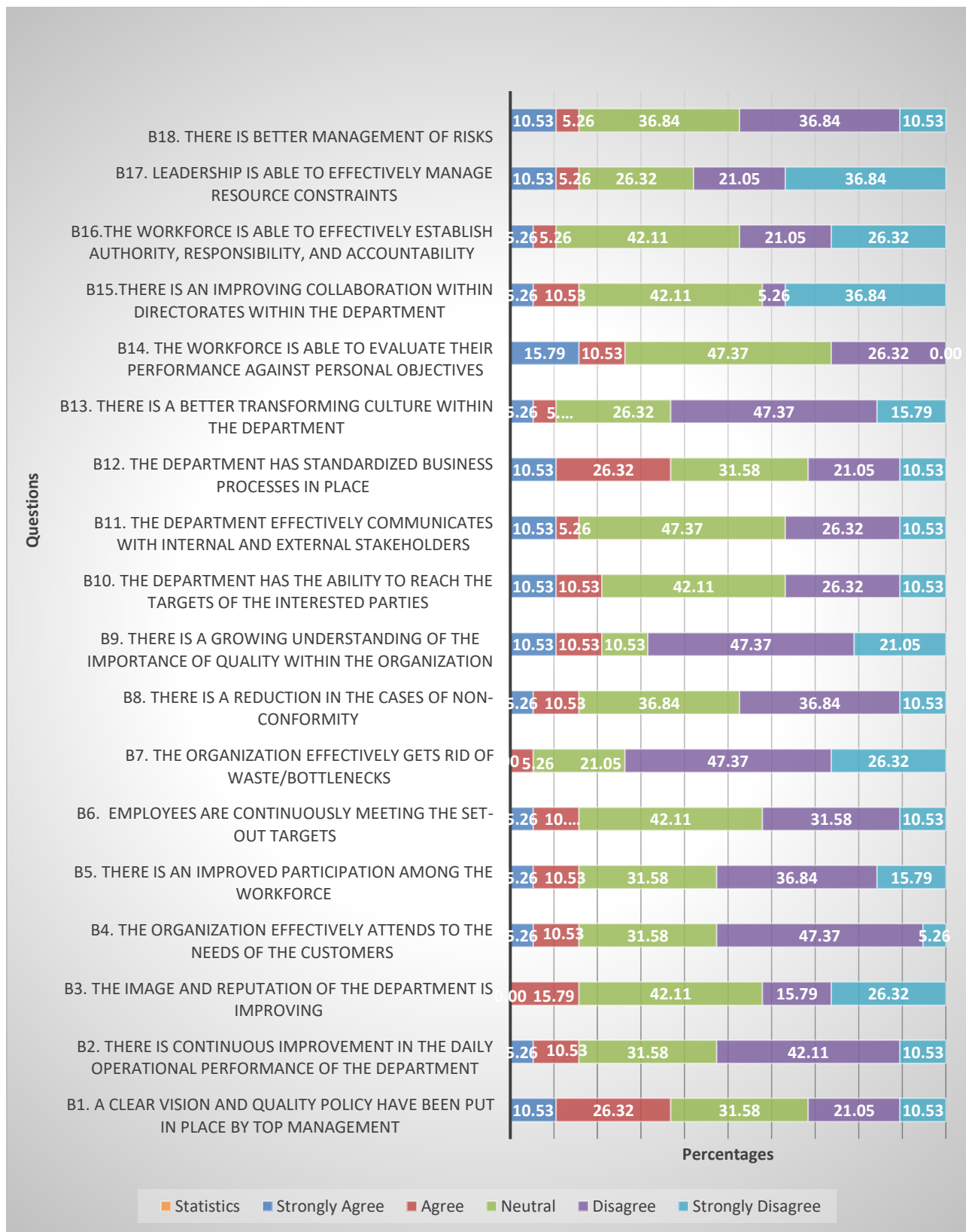


Figure 5. 2: Results of section B

The illustration on figure 5.2 is the responses from the research objective of measurements for service quality within public organisations. The bar illustrates that many respondents believe the department does not effectively meet customer needs. Meeting the needs and expectations of the customers is one of the measurements of service quality. According to Asnawi *et al.*, service quality is determined by the gap between the expected service and the customer's perceptions of the actual service delivered. That being said, the only way for the GDID to effectively attend to customers' needs is to provide them with the services they expect and then go back and collect citizen perceptions of the services.

The responses also revealed that the organisation does not effectively communicate with its internal and external stakeholders. According to ISO (2015), stakeholders such as suppliers and partners positively impact an organisation's performance and must be managed to maximise that benefit. As a result, effective communication with stakeholders is critical for the department. One of the most significant parts of a public administration organisation's long-term performance, according to Lopez-Lemus (2021), is the preservation of connections with stakeholders, including customers, suppliers, and other parties involved.

### **5.2.3 The research objective 3**

According to Chapter 1, Research Objective 3, stated as “Implementation of ISO 9001:2015 for service quality in public organisations”, was responded to by all the respondents.

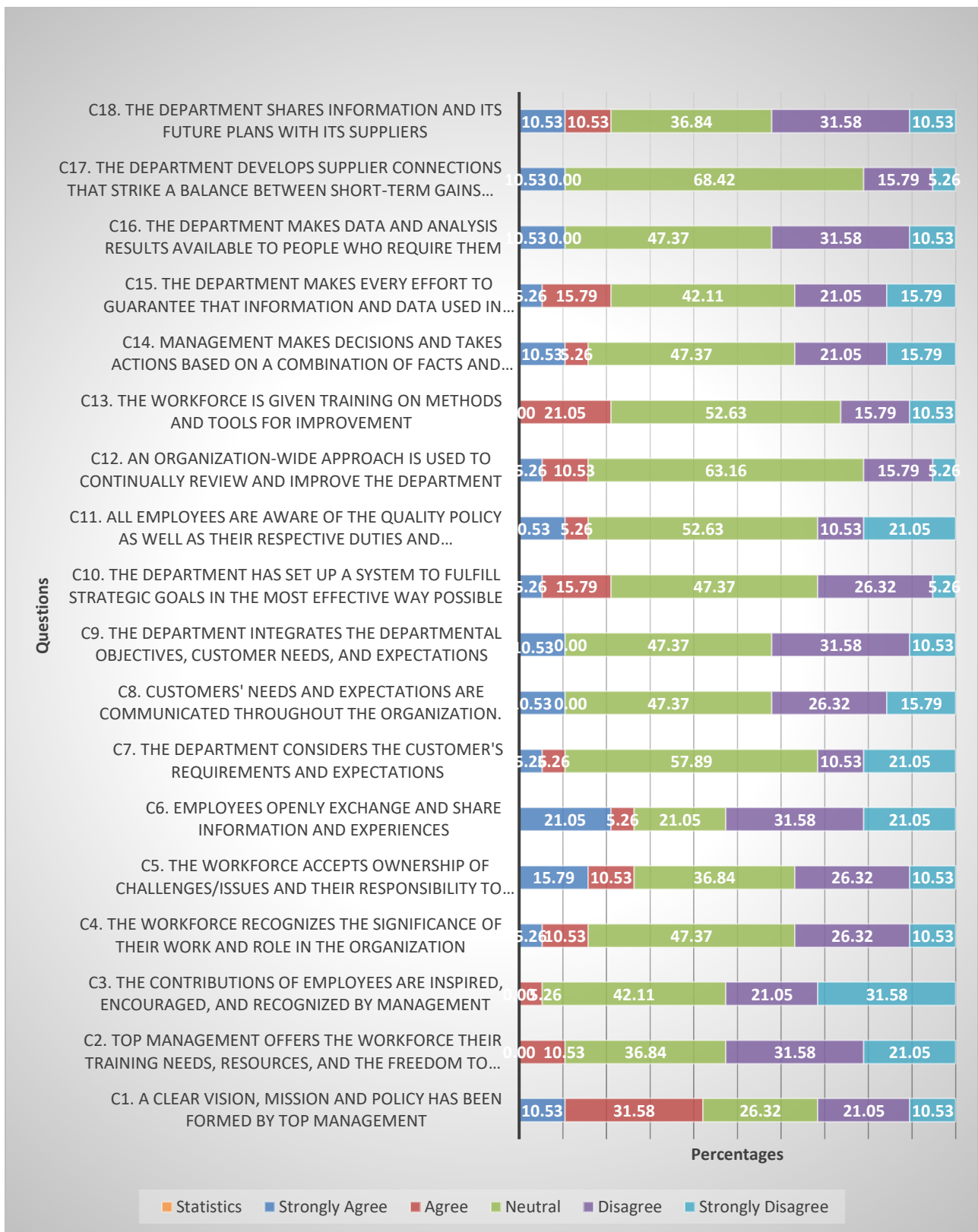


Figure 5. 3: Results of section C

The results of section C of the questionnaire are illustrated on figure 5.3, which are the responses from the research objective of the Implementation of ISO 9001:2015 for service quality in public organisations. One of the first steps organisations need to carry out in their efforts to implement ISO 9001:2015 is implementing a quality policy. The responses suggest that a clear vision, mission, and policy are in place at the GDID. The responses, however, suggested that employees are not recognised and motivated by leadership. According to Evans and Lindsay (2016), one strategy to produce more satisfied employees is to engage them in their work and make them a part of the organisation's "fabric." The two authors also argue that there is no such thing as an unmotivated employee, but the system within which people work can seriously impede motivation or enhance it. Therefore, in order for the leadership of the department to implement ISO 9001 a success, they need to recognise the workforce, reward excellent performance, and motivate individuals to do better.

### **5.2.2 Findings from citizens**

The survey questionnaire that was distributed to the customers of the GDID had a total of 38 questions; 37 closed-ended and one open-ended question. All the questions were responded to by the 113 citizens of Gauteng who took part in the study. Both genders had an almost equal representation as 59 officials were males, 52 were females, and two respondents preferred not to reveal their gender. In addition, three types of races were represented, namely, black, coloured, and Indian, and they amounted to 98.2%, 0.9%, and 0.9%, respectively. However, not all races were represented in the study, there were no white respondents, and the coloured and Indian races had a limited representation.

All five different metropolitans were represented in the study, with the city of Johannesburg having a higher representation of 41.6% and a lower representation from the West Rand of 2.7%. All the age groups were represented, with the youth leading the pack with 80.5% and the rest totalling 19.4%. 59.3% of the 113 participants were employed, and a low of 8% were running their own businesses. 50.4% of the 113

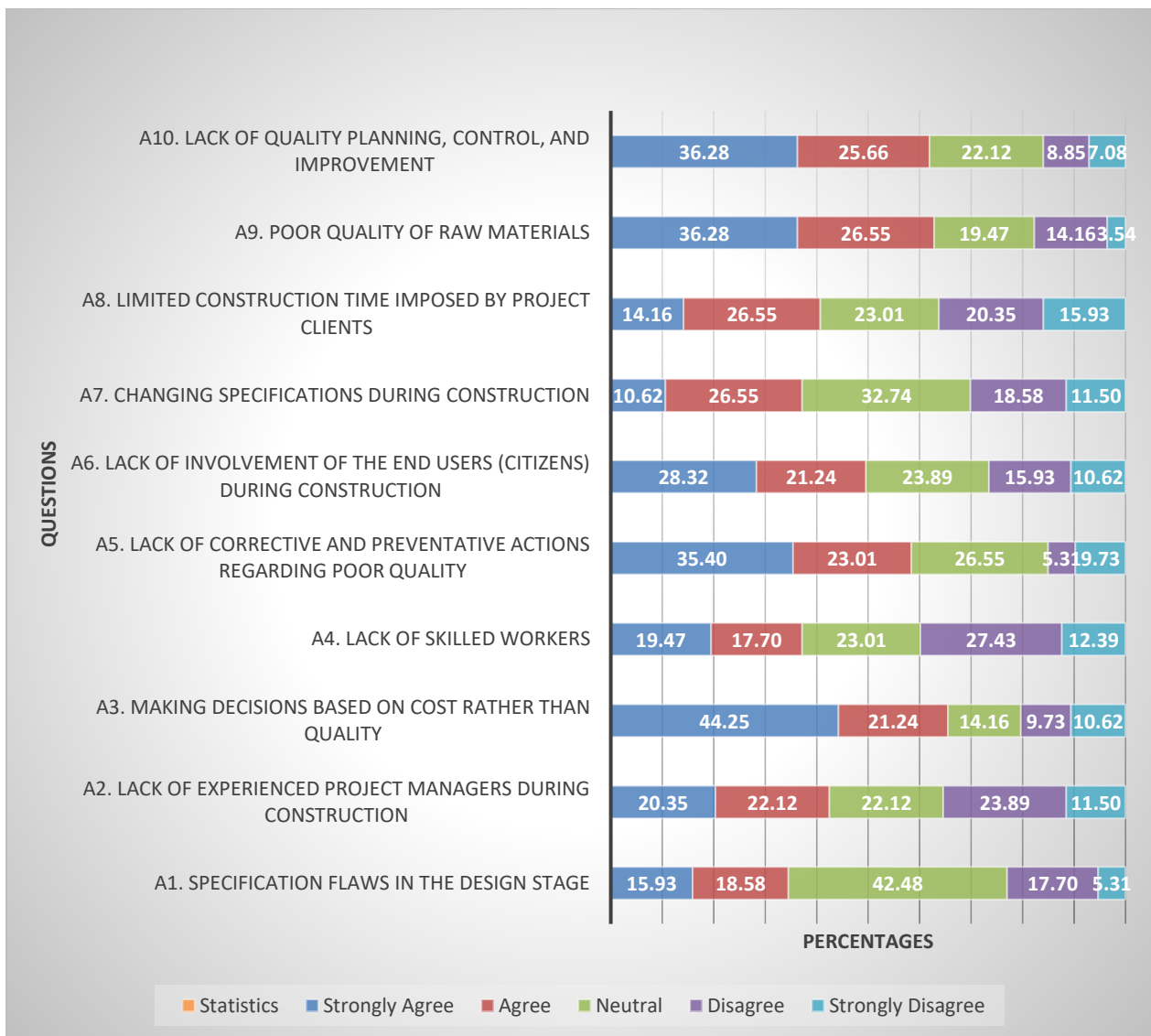
participants held a Bachelors or Honours (or a similar qualification), 22.1 held National Diplomas, 3.5% held Masters Degrees, 3.5% held other qualifications, and only 1.8% of the respondents held a PhD qualification.

A Chi-Square Test was performed between the age range of the customers and the number of years these customers have lived in Gauteng. It was important to calculate the two for validation purposes to check the validity of the responses. There was a relationship between the age range of the respondents and the number of years the respondents have been living in Gauteng.

The Chi-square test shows that the association that we found between the age range of the respondents and the number of years the respondents have been living in Gauteng is statistically significant. P is equal to 0.01. Therefore, P is significant since it is not greater than 0.05.

### **5.2.3 Research objective 1**

According to Chapter 1, Research Objective 1, stated as “the key factors affecting the quality of public infrastructure” were responded to by all the respondents.



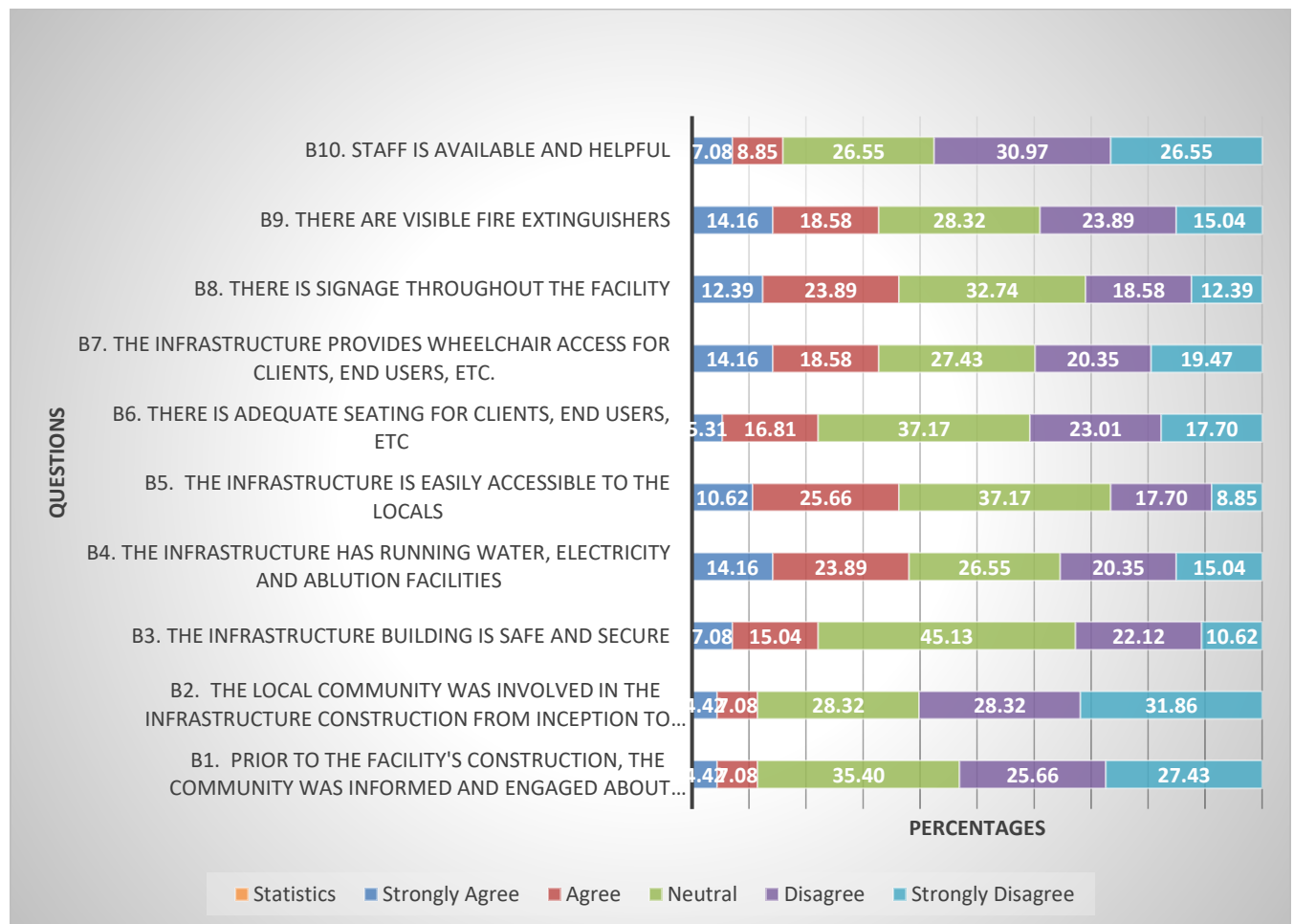
**Figure 5. 4: Results of section A**

Section A of the questionnaire, shown as figure 5.4, represents the results of the research objective, which was to determine the key factor affecting the quality of public infrastructure. The absence of effective planning, execution, and maintenance, according to many respondents, is one of the factors that affect the quality of public infrastructure. One of the most important tools for gathering data on all procedures used by the public sector is evaluation. This information will be used as the foundation for new policies that will raise the standard of services that are offered by the public administration (IMCO, 2018), as cited by López-Lemus, J.A, 2021). Evaluation is also considered one of the key

mechanisms that will maintain, establish, and standardise mechanisms that contribute to improving public services. Therefore, for the GDID to maintain the infrastructure's high quality, it is necessary to regularly monitor and evaluate public infrastructure.

### 5.2.4 Research objective 2

According to Chapter 1, Research Objective 2, stated as “the measurements for service quality within public organisations” was responded to by all the respondents.

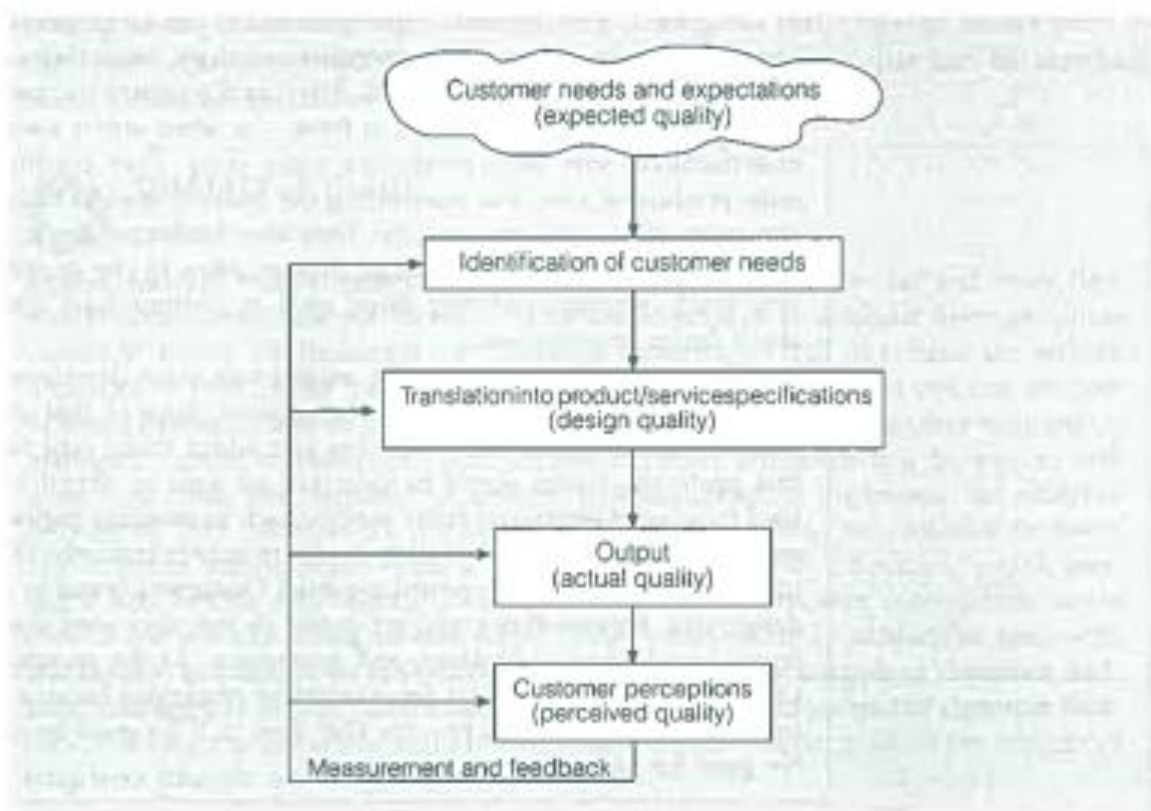


**Figure 5. 5: Results of Section B**

The illustration on figure 5.5 represents the responses to the research objective on how a customer perceives the quality of the infrastructure. Tjiptono (2019) asserts that comparisons between customer expectations and actual service performance lead to



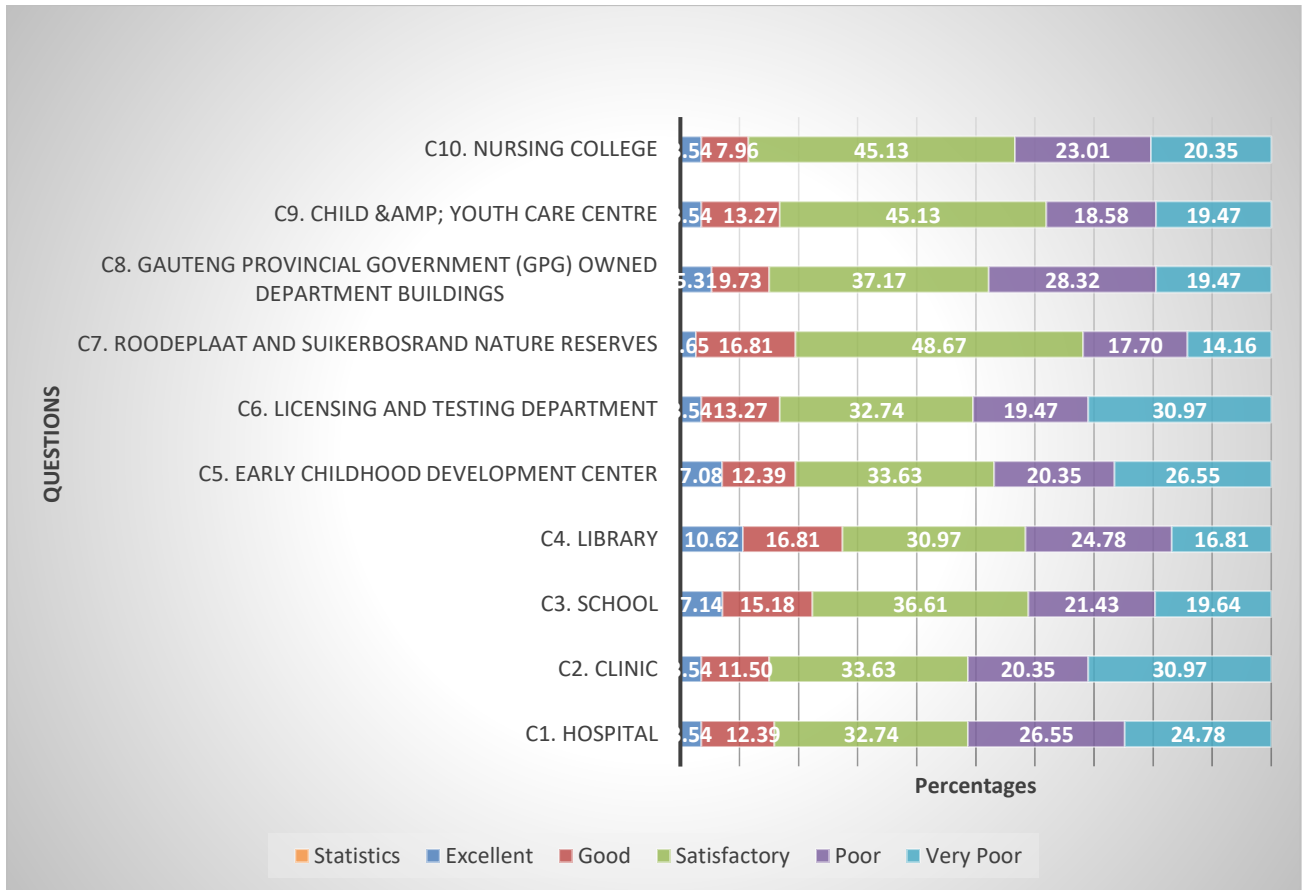
perceptions of service quality. Residents of Gauteng's perceptions of the department's infrastructure quality result from their needs and expectations as opposed to what they received. The phenomenon of perceived quality is further explained in Figure 5.3.2 b, along with the relationship between internal processes and customer perceptions. As shown in figure 5.3.2 b, customer needs and expectations are considered in the design, production, and delivery stages. The result of the operation process will subsequently be the final product that is delivered to the customer, which will reflect the true quality. Customer perceptions will subsequently be formed based on their evaluation of the quality of the delivered products (Evans and Lindsay, 2016). Due to the actual output that GDID has delivered, Gauteng residents' perceptions of GDID in the study are based on that output. Figure 5.3.2 show the level of replies indicating dissatisfaction because the expected quality of the infrastructure is higher than the actual quality.



**Figure 5. 6: The gap model (Evans and Lindsay, 2016)**

### 5.2.5 Research objective 3

According to Chapter 1, Research Objective 3, stated as “Implementation of ISO 9001:2015 for service quality in public organisations” was responded to by all the respondents.



**Figure 5. 7: Results of Section C**

The replies to the research objective of the infrastructure quality evaluation are indicated in figure 5.7. The responses revealed that customers' opinions of GDID's infrastructure buildings are often conflicting. Customers understandably express their needs per their perceptions. These may differ entirely from the company's ideas about what makes product quality (De Feo, 2018). Tjiptono (2018) contends that customers find it more challenging to assess the quality of services than the quality of products. From the perspective of the former, it appears that GDID was made aware of the needs of Gauteng

citizens yet failed to consider those demands. Furthermore, from the latter's perspective, Gauteng residents who replied to the questionnaire found it difficult to give honest assessments on infrastructure buildings since the infrastructure is not as easy to analyze as ordinary goods and products.

### **5.3 Discussion of the results**

The study's key research topic was whether adopting the ISO 9001:2015 Quality Management System by the Gauteng Department of Infrastructure Development was a viable solution. The study was able to answer the research question as responses from both employees and Gauteng residents demonstrated gaps and ineffectiveness. These deficiencies were primarily due to a lack of customer focus, operational performance, and leadership support.

This illustrates the effectiveness of implementing a Quality Management System (QMS) within the department. The ISO 9001:2015 version, with its seven quality management principles including leadership, commitment to people, customer focus, and process-based application, is widely recognised as a benchmark for organisations striving to attain excellence in public services and enhance customer satisfaction (Anttila and Jussila, 2017; Tomic and Spasojevic, 2018). According to the findings, one of the key factors affecting the quality of public services within public organisations is a lack of leadership support, whilst ISO 9001 addresses leadership issues and specifies what leadership is required to do to show support to the system and the processes in the department. In addition, lack of customer focus was identified as one of the primary factors affecting the quality of public services within government organisations. Meanwhile, ISO 9001 defines customer focus as its first principle, including guidelines organisations need to follow to become customer-focused. Implementing Quality Management Systems (QMSs) in accordance with ISO 9001 standards yields numerous benefits, including improved operational performance, enhanced effectiveness of service processes, standardization of services, cost reduction, and increased customer satisfaction and trust (Aba *et al.*, 2016; Allur *et al.*, 2014; Almeida *et al.*, 2018; Boiral and Heras-Saizarbitoria, 2015).

The research was able to answer the research question of measuring service quality in public organisations. The quality of services is more difficult to define and measure than the quality of goods. The magnitude of service quality is frequently established by consumers, making it rather subjective. The notion of service quality emphasises efforts to fulfil customer needs and expectations, as well as delivery accuracy in balancing customer expectations (Tjiptono, 2019). As the literature also demonstrated, the amount of customer satisfaction is used to measure service quality in public organisations. The findings, along with the research questions, adequately addressed the main question.

As stated in the introduction, infrastructure development brings hope and a chance to realise dreams to millions of Gauteng citizens affected by spatial planning and exclusion. The findings from Gauteng residents revealed that a significant percentage of citizens desire to be a part of the projects so that they may feel like they are making a difference in their community. Several responses suggested that the GDID employ competent individuals from the communities where they are constructing infrastructure. GDID employees also expressed concern over the department's failure to involve its customers.

According to ISO (2015), under the literature section, ISO 9001 is a generic standard that directs organisations to provide services that meet the needs of their clients as well as legal obligations. According to Abu Al-Rub and Shibhab (2020), ISO 9001 is a management tool that improves customer satisfaction and supports businesses in being more efficient. Both literature reviews agree that ISO 9001 is a tool to assist companies in meeting their customers' needs and enhancing customer satisfaction.

The literature on ISO 9001 objectives is similar to this study's findings. The literature revealed that the GDID's challenges demand the involvement of ISO 9001 as it is a system that assists organisations with customer satisfaction, which was highlighted by both Gauteng citizens and Gauteng employees.

Lopez-Lemus (2021) found that adopting a QMS in conformity with the ISO 9001:2015 standard has an impact on the quality of public services, with reaction time being the most significant factor. Similarly, certainty and dependability of service quality proved vital in providing public service quality. This demonstrates that GDID's adoption of ISO 9001 will

impact service quality. The rationale behind this determination is that ISO can address the issues such as customer focus, leadership, process approach, and relationship management. With that said, adopting a QMS will increase an organisation's operational efficacy and efficiency, enabling it to raise the standard of public services the government offers its residents (Almeida *et al.*, 2018; Anttila and Jussila, 2017).

To satisfy their consumers, organisations must first obtain a clear mandate, or the voice of the customer (VOC), of what the customer requires and expects from the organisation (Evans and Lindsay, 2016). With that said, Gauteng residents had a chance to share their opinions and views through the research survey. The researcher recognises that there is a significant amount of hostility and frustration directed towards the entire public sector after examining the responses. The public considers local, provincial, and national governments equal. The public sector is considered to have failed if these departments fail to provide citizens with the necessary services.

On the other hand, a number of citizens offered some incredibly helpful suggestions for how the department could improve, such as the recommendation to carry out scheduled and routine maintenance on existing infrastructure, upgrade existing infrastructure, and ensure compliance with safety requirements. In addition, some of the respondents emphasised the need to acquire competent workers when building infrastructure.

One respondent proposed using a bottom-up strategy when planning for and handing over an infrastructural facility. This respondent is suggesting, in other words, that the general public must be engaged and allowed to decide on infrastructure projects first before infrastructure is built.

The respondents addressed the topic of leadership responsibility and the idea that owning up to one's mistakes is the first step towards problem-solving. They brought up the topic of corruption, dodgy contractors, and how individuals exploit public funds for personal gain rather than building infrastructure for the benefit of the general public. Several responses recommended abolishing the government's tendering process.

## 5.4 Summary

The ISO 9001 clauses and principles served as a reference while developing the research questions. Data from 113 Gauteng residents and 19 GDID workers were gathered to assist the research address key research questions, achieving its objectives, and ultimately doing justice towards the topic.

According to the data analysis on the topic, the workforce of GDID mostly stated that a lack of leadership commitment, a lack of effective systems and processes, and a lack of customer focus are the common challenges impacting the quality of public services. In their perspective, the lack of direction and favourable circumstances prevented employees from accomplishing the desired quality goals.

## **CHAPTER 6: CONCLUSION AND RECOMMENDATIONS**

### **6.1 Introduction**

The research questions were developed using the ISO 9001 clauses and principles as a guidance document to help the study respond to fundamental research questions.

Both the employees of GDID and the customers managed to respond to the research objectives focusing on the key factors that affect the quality of public services, the measurements of service quality in public organisations, and the effective way to improve service quality through implementing ISO 9001:2015.

#### **The following are the research questions of the study**

- Identify the key factors affecting public service quality within public organisations.
- Determine the measurements of service quality for public organisations.
- Find an effective way to improve service quality in public organisations through the implementation of ISO 9001: 2015.

### **6.2 The key factors affecting the service quality within public organisations**

This section discusses the first objective of the study, the key factors affecting the service quality within public organisations. The section lists a number of factors that were mentioned by other researchers and the participants of this study.

#### **6.2.1 Insufficient equipment and resources**

The public sector has fewer resources and worse equipment than the commercial sector. Resource shortages limit the public sector's ability to provide for customer needs, even though the private sector is prepared and technologically savvy (Nidhi and Kumari, 2016). Resources are used more efficiently when there are reliable performance statistics available. Government projects and programs should be funded according to data from monitoring and evaluation, which should also be used to inform planning. Planning and

budgeting systems must make clear how they intend to use this information (Goldman, Ratemo, Sossou, Gounou *et al.*, 2022).

### **6.2.2 Lack of Leadership commitment and accountability**

According to Bryman (2013), leadership comprises a process of social influence where a group leader guides members toward a goal. As a result, those in leadership roles have some sway over the others who report to them. Creating and making visible a desired future is the main goal of management or leadership, claims Bryman (2013). Visible to all members of the company, in this case, the employees. Effective leadership is required to create and sustain a productive and stable workforce, which eventually impacts organisational effectiveness (Lim, Loo and Lee, 2017).

The researcher concluded that, among other things, a failure to follow the guiding principles of the ISO 9001 QMS is one of the elements affecting the quality of public services after considering all pertinent circumstances. Poor adherence to the service charter shows a challenge with their process approach and improvement efforts, while misplaced priorities show a lack of customer focus, accountability issues show a lack of performance by the leadership, poor communication shows a lack of relationship management and engagement of the people strategy, and a lack of adequate infrastructure and monitoring and assessment shows a need for continuous improvement.

### **6.2.3 Lack of monitoring and evaluation**

Although "M&E" is frequently used, evaluation has institutionalised itself much less thoroughly than monitoring in many countries. Some governments have developed national M&E or assessment policies, and organisations for guidance and cooperation have been established. To ensure effective government action and the use of M&E evidence in policy-making, planning, budgeting, and execution, these policies are typically not yet fully implemented. This is due to the lack of official or legal requirements for M&E, especially when evaluating public initiatives to ensure their efficacy (Goldman, Ratemo, Sossou, Gounou *et al.*, 2022). Due to the reflective and responsive nature of good governance, which is a process created to serve the interests of stakeholders in a timely and effective manner, it promotes an environment that is receptive of monitoring and



evaluation. Monitoring and evaluation, among other things, promote accountability, which helps with good governance. (Abrahams, 2019). In order to enable improved policymaking, budget decision-making, and management, effective monitoring and evaluation systems foster greater accountability, stronger accountability relationships, and a culture of performance inside governments (Mlambo, 2021).

### **6.3 The measurements of service quality for public organisations**

There are a number of measurements of service quality for public organisations. The most common measurements are discussed in this study include SERVQUAL model, the Gronroos model, and Service Quality GAP model.

#### **6.3.1 SERVQUAL model**

According to Seulki Lee (2022), as the discrepancy between the desired and actual performance increases, there is a higher chance of finding and fixing a problem. The SERVQUAL model has five dimensions of quality, according to Tjiptono (2019), which are tangibles, reliability, responsiveness, assurance, and empathy.

Seulki Lee (2022) concluded that SERVQUAL enables an organisation to evaluate and gauge the level of service that customers feel they are receiving, identify key components for quality control or specific components within those components, and employ strict management.

#### **6.3.2 The Gronroos model**

Image quality is greatly and favourably influenced by functional and technical quality, as demonstrated by Nurhadian and Khoirunurrofik (2022). Additionally, people's perceptions of a service's total quality are considerably and favourably influenced by its technical, functional, and image quality. According to research by Zaibaf *et al.* (2013), perceived quality has a positive and substantial effect on customer satisfaction and a positive and significant effect on image quality. Despite this, there is no connection between technical

quality, image quality, or any combination of the two, and perceived quality. According to research by Hamid and Yip (2016), people's perceptions of the services offered are positively and significantly impacted by reliability, empathy, and technical excellence.

### **6.3.3 Service Quality GAP model**

According to Hawazin Natto (2022), four gaps impact the discrepancy between what is expected and how the service perceives it. The first gap results from the misalignment between what customers want and what service providers think they require. The second gap is the difference between how well an organisation understands client requirements and how well it can translate those requirements into specifications. The third gap is the difference between the performance of the service and the stated service standards. Finally, the mismatch between the level of service provided to customers and the promises made in advertising and promotional materials constitutes the fourth gap.

### **6.4 Limitations of the study**

No research study can be conducted without restrictions, as Almutairi (2013) asserted. The study initially aimed to collect data from 25 GDID employees and 150 GDID customers; however, only 19 GDID employees were keen to participate in the study, and 113 customers of GDID were able to participate. The low participation in the study by GDID employees might have been caused by the fear of the workforce losing their jobs. Additionally, citizens might not have been keen to participate because they have lost hope in the Government.

This sample size for both employees and the customers might not be sufficient to draw a broad conclusion, and generally, the demographic information of the population sample might not accurately represent the entire population of Gauteng.

### **6.5 Recommendations for this study**

The importance of guaranteeing citizen satisfaction with public services has grown along with acknowledging citizens as the main focus of public services. The government's

purpose in providing public services is to satisfy its citizens, which is a sign of an effective government (Paudel and Gupta, 2019; Gupta and Shrestha, 2021).

Based on the analysis of the responses on the key factors that affect service quality in GDID, it appears that for GDID to be successful in their pursuit of ISO 9001 certification, the leadership must encourage a sense of unity in achieving QMS objectives, provide the employees with adequate training on the QMS, continuously communicate the department's goal of becoming ISO 9001 accredited, and emphasise the significance of adhering to the QMS.

Although the leadership has developed an ISO 9001 quality policy, in the opinion of the GDID workforce, there is still much that the leadership needs to work on. This is based on the analysis of the responses to the questions regarding the measures for service quality within public organisations.

The general public's opinion of the effectiveness of government services serves as a measure of that institution's effectiveness (Matthew, Henderson, and West, 2012). Customer satisfaction is the only truly meaningful measurement of public services.

Given the aforementioned, the participation of public servants is necessary to fulfil the requirements for ISO 9001 accreditation since the workforce play a crucial role in the design and improvement of service management methods offered by the public administration (Almeida, 2018; Huo, 2014). Hence public employees must receive quality principled education and training (Betloch-Mas, 2018), as this will enhance their capacity to deliver high-quality services and allow them to cultivate effective communication skills that will enable them to systematically improve processes, as well as clarity and individual participation (Almeida, 2018).

Customer satisfaction and service quality positively correlated. Customer satisfaction linked to factors including reliability, responsiveness, tangibility, and empathy. Dimensions of service quality influence the relationship between customer satisfaction (Agbor, 2011). With that said, the Batho Pele principles, which have been implemented by the DPSA to assist the public sector of South Africa to be more customer-focused, are

a privilege to public servants. Leadership must now put the Batho Pele concept into practice, which will influence the rest of the workforce because employee attitude is a direct reflection of leadership.

Based on the analysis of the responses regarding the application of ISO 9001:2015 for service quality in public organisations, it appears, in the opinion of the GDID workforce, that in order for the QMS to be effectively adapted, the department must first establish a culture with competent and motivated employees who are eager to fulfil the QMS's goals.

In order to eventually satisfy the department's clients, most of the workforce believes that the leadership still has to clarify ISO 9001 Quality Management System's objectives and the procedures that must be followed to reach those objectives. Moreover, before assigning responsibilities, the leadership must ascertain resource limitations and focus on adequately capacitating the department. Employees who are driven and qualified should be given management responsibility for the main processes so that they can influence the rest of the workforce with knowledge and passion.

Finally, the leadership must ensure that all the information required to operate, monitor, and enhance the system and its performance is accessible. In addition, leadership must guide the process of controlling systemic risks. The leadership must establish a department focused on its customers' demands. This department must know who its consumers are, what they need from it, and how to meet those needs. Through workshops and road shows, the leadership must constantly stress the need to adhere to this QMS's standards.

## **6.6 Recommendations for future studies**

A sample size of 113 GDID consumers and 19 GDID employees, which was too small to draw any conclusions that could be extrapolated to a population of roughly 16 million Gauteng Residents, was used in this study to examine a mixed population.

The challenges of citizen satisfaction and the implementation of ISO 9001 QMS could be more precisely addressed with a larger and more representative sample. In addition, further investigation is required to ascertain how inadequate infrastructure delivery affects customer satisfaction.

## **6.7 Conclusion**

There has been a significant shift from having power over citizens to sharing power with them. Because of the years-long emphasis on productivity, which has increased the public sector's dependence on the rational and scientific management approach, this new focus on relationships is critically needed (Lewis D, 2015). The Gauteng people's responses validated this statement. Several have suggested that the department consult with them at every stage of developing an infrastructure facility.

The study was able to answer the main research question of whether GDID's adoption of the ISO 9001 QMS is a realistic solution. According to the replies from the GDID employees, the workforce is well aware of the ISO 9001 quality policy, indicating that the department is on the right track towards completely adopting the QMS. In 2021, the GDID began introducing the adoption of the QMS along with a few awareness workshops, and in 2022, leadership created a quality policy.

The implementation of ISO 9001 is a practical way to address the challenges raised by the workforce, according to the responses from the workforce. Lack of leadership, a focus on the customer, employee engagement, challenges with the procedures, and client and customer relationship management are some of the highlighted difficulties. Adopting the seven principles of ISO 9001, which support this QMS, is one of the workable alternatives following an analysis of the responses.

To briefly summarise the result of the first research question, "What are the important factors affecting the quality in the public service sector?" it has been determined that, among other things, a lack of leadership commitment is one of the key determinants. The

leadership must emphasise the significance of conforming to ISO 9001 requirements, including demonstrating support and commitment in the efforts to fully embrace the QMS.

The ultimate indicator of quality services is customer satisfaction. The effectiveness of an organisation is determined by the broader public's perception of the efficiency of its services (Matthew, Henderson, and West, 2012). The best indicator of the services the department provides is the opinions Gauteng residents expressed on the department's infrastructure. One could argue that some participants mistakenly believed that the quality of infrastructure was the same as the calibre of services they received from the personnel who staffed our infrastructure facilities. While client departments utilise their own personnel, GDID solely owns the infrastructure buildings.

The adoption of a QMS has been steadily implemented in businesses and government entities to build systematised ways to continue to improve procedures and outcomes based on evidence (Fernandez-Daz, 2016; ISO, 2015). According to the literature and the findings of other researchers, implementing ISO 9001: 2015 within the public administration is an efficient way to increase service quality. First, management must support the QMS and provide it with the necessary resources. Next, management must educate the workforce about the benefits of ISO 9001 QMS. Finally, management is responsible for educating employees on how to align their processes with ISO 9001's requirements.

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## APPENDICES

### Appendix 1: Research ethics

**Research access:** All participants in the study were fully informed about the purpose of the study and the implications thereof. Letters of consent were requested from the Gauteng Department of Infrastructure Development and submitted to the Higher Degrees Committee (HDC) for the Cape Peninsula University of Technology for approval. The background of the study and the themes that the questions in the interview focused on accompanied requested letters. The letter clarified that the data collection would be through survey questionnaires and that no part of the interview would be published without the consent of the respondent.

**Observed research ethics:** Informed consent: During the request for participants to participate in the survey, the researcher clarified the contents of the survey. Furthermore, the researcher emphasised to participants their freedom to withdraw from the survey should they need to. The participants read and understood the research objectives and themes. Moreover, they were not forced by the interviewer to respond in a particular way. Therefore, the participation of the participants was voluntary and free.

**Anonymity and confidentiality:** The researcher additionally guaranteed the anonymity and privacy of the research participants. No harm to the subject: The researcher ensured that the participants were protected from physical or psychological harm.

**Confirmability:** The researcher ensured that the study results established trustworthiness and incorporated the views of the participants. The researcher also ensured that the study could be replicated. Hence, the researcher ensured that conformability had been achieved and that the findings of the study reflected the opinions of the participants.

## Appendix 2: Consent letter

TO: Mr. Thulani A. Mdadane  
Head of Department

FROM: Tolo Mosa Lorraine  
Business Analyst: PPPS

SUBJECT: **Motivation for a student to conduct research within DID**

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### 1. PURPOSE:

To obtain approval for a student to conduct her research within the Gauteng Department of Infrastructure Development

### 2. BACKGROUND:

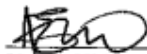
Meng Engineering Management in Quality Ms.L.Tolo in the school of Cape Peninsula University of Technology would like to conduct research on "*The Effects of ISO 9001:2015 on the quality of public services: A case study of GDID*" at the Gauteng Department of Infrastructure Development.

### 3. INTRODUCTION

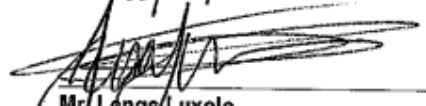
The aim of the study is to explore the effectiveness of using ISO 9001:2015 quality management systems within a South African public sector organization, namely The Gauteng Department of Infrastructure Development. The researcher will do a case study on the department with the overall aim of making recommendations to the department on how they can continuously deliver quality services, on time to the citizens of Gauteng.

The researcher will also examine the current levels of service delivery and customer satisfaction with the aim of making recommendations on how, when, where, and what to improve. The researcher will also aim to develop a quality policy for the department which will be integrated with the current management system that the department is using, which is the Infrastructure Delivery Management System (IDMS).

- Questionnaire is attached.
- The Application form to conduct research within the department is
- Also, attached to this Memorandum.



Ms. E. Mkhathshwa  
Supported/Not Supported/Supported as Amended  
Director: Research and Knowledge Management  
Date: 23/03/2022



Mr. Lengs Luxolo  
Supported/Not Supported/Supported as Amended  
Chief Director: IRPS  
Date: 24/03/2022

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It is hereby approved that the student Ms.L.Tolo be granted permission to conduct her study "*The Effects of Iso 9001: 2015 on the quality of public services: A Case study of GDID*" at the Department of Infrastructure Development



Mr Thulani Mdadane  
Head of Department: Gauteng Department of Infrastructure Development  
Date: 28/3/2022

Approved/not Approved /  Approved with amendments

### Appendix 3: Research Ethics Committee letter



#### FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

On **17 May 2022**, the Engineering and Built Environment Ethics Committee of the Cape Peninsula University of Technology granted ethics approval to **MOSA LORRAINE TOLO** student number **222636386** for research activities related to his research proposal at the Cape Peninsula University of Technology.

<b>Title of proposal</b>	The effect of ISO 9001:2015 on public service quality: The case of a Gauteng Provincial Government Department
--------------------------	---

**Comments:**

Data collection permission is required, permission letter to collect data attached

	18 May 2022
<b>Prof A Raji Chairperson (Alternate): Faculty Research Ethics Committee Faculty of Engineering and the Built Environment</b>	<b>Date</b>



## Appendix 4: Researcher Declaration

The declaration was done online through Google Forms. Available online:

<https://docs.google.com/forms/d/e/1FAIpQLSeE4nHw9vcq4A-oy7CYEbo0EEEnjvZJP4Xsj-APFnt4MbqnezA/viewform?vc=0&c=0&w=1&flr=0>. Accessed on 24 June 2022.

docs.google.com/forms/d/e/1FAIpQLSeE4nHw9vcq4A-oy7CYEbo0EEEnjvZJP4Xsj-APFnt4MbqnezA/viewform?vc=0&c=0&w=1&flr=0

### Quality of the delivery of public services: The case study of a Gauteng Provincial Government Department

Dear Sir/Madam

My name is Mosa Tolo. I am currently studying MEng in Quality at the Cape Peninsula University of Technology. As






part of the requirements of my study, I need to conduct a survey to find out how ISO 9001:2015 affects public service quality- using the Gauteng Department of Infrastructure Development (GDID). In this regard, I would like to invite you to participate in this study by filling out the survey questionnaire below. The survey will take approximately 5-10 minutes to complete. If there are any questions regarding the survey questionnaire, you may contact me for clarifications.

This questionnaire is divided into two sections including the Demographic Information and Decision-Making based on the participants' personal opinions. Therefore, your honest opinions to the statements from the questionnaire will be greatly appreciated.



In completing this questionnaire, you have the right to omit any questions if you feel uncomfortable. However, your valuable inputs will tremendously assist me in completing my research and adding value to the quality improvement for the service delivery of GDID. The information gathered will be treated strictly confidential and no personal identities will be included in the research documents, moreover, no personal information will be shared to the public. The data that will be collected from this study will be only used for academic purposes.

Thank you for taking the time to help me with my research.

# Appendix 5: Questionnaire for GDID employees

 The effect of ISO 9001:2015 on publ All changes saved in Drive    

**Questions** Responses **19** Settings

**Decision-Making**  

Your opinion regarding the following statements is ranked from "Strongly Agree" to "Strongly Disagree" (scaled from 1 to 5); 1-Strongly Agree, 2-Agree, 3-Neither Agree/Disagree, 4-Disagree, 5-Strongly Disagree

A: The key factors affecting the service quality within your organization







The following questions are about your own experience/opinion regarding the key factors that affect the quality of public services within GDID. Please select the number that best represents your opinion;

**A1. Services meet customers' expectations \***

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

**A2. The department is able to reduce non-conformance, errors, and bottlenecks \***

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A3. The department is effectively managing change and transformation \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

A4. Interested parties of the organization are being adequately identified \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

A5. There are effective business processes in place \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

A6. There is a proper risk management system in place \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A7. Funds to attend to the needs of the citizens are being effectively managed \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A8. There is well interpreted information about customer's expectations \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A9. There are sufficient planning, monitoring, and evaluation procedures in place \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A10. There is a full management commitment \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A11. Employees are motivated \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A12. Employees/workforce is being trained and empowered \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A13. There is adequate skills and knowledge among the workforce \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A14. The department makes use of the latest and updated work tools and software \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

A15. There is commitment and good ethical behavior amongst the workforce \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

A16. There is accountability and responsibility on the work/tasks performed \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

A17. There is no negative political interference within the department \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

A18. There is adequate customer/citizen participation \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B: The measurements for service quality within public organisations



The following questions are about your own experience/opinion regarding the measurements in place for service quality within the selected public organization. Please select the number that best represents your opinion;

B1. A clear vision and quality policy have been put in place by top management \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B2. There is continuous improvement in the daily operational performance of the department \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B3. The image and reputation of the department is improving \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B4. The organization effectively attends to the needs of the customers \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

B5. There is an improved participation among the workforce

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

B6. Employees are continuously meeting the set-out targets

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B7. The organization effectively gets rid of waste/bottlenecks \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

B8. There is a reduction in the cases of non-conformity \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

B9. There is a growing understanding of the importance of quality within the organization \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree



B10. The department has the ability to reach the targets of the interested parties \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

B11. The department effectively communicates with internal and external stakeholders \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

B12. The department has standardized business processes in place \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B13. There is a better transforming culture within the department \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B14. The workforce is able to evaluate their performance against personal objectives \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B15. There is an improving collaboration within directorates within the department \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B16. The workforce is able to effectively establish authority, responsibility, and accountability \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B17. Leadership is able to effectively manage resource constraints \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B18. There is better management of risks \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

C: Implementation of ISO 9001:2015 for service quality in public organizations



The following questions are about your own experience/opinion on how service quality in public organizations is improved through the implementation of ISO 9001:2015. Please select the number that best represents your opinion;

C1. A clear vision, mission and policy has been formed by top management \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

C2. Top management offers the workforce their training needs, resources, and the freedom to take responsibility \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

C3. The contributions of employees are inspired, encouraged, and recognized by \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

C4. The workforce recognizes the significance of their work and role in the organization \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

C5. The workforce accepts ownership of challenges/issues and their responsibility to resolve them \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

C6. Employees openly exchange and share information and experiences \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

C7. The department considers the customer's requirements and expectations \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

C8. Customers' needs and expectations are communicated throughout the organization. \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

C9. The department integrates the departmental objectives, customer needs, and expectations \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

C10. The department has set up a system to fulfill strategic goals in the most effective way possible \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

C11. All employees are aware of the quality policy as well as their respective duties and responsibilities to pursue mutual objectives and overcome internal obstacles \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

C12. An organization-wide approach is used to continually review and improve the department \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

C13. The workforce is given training on methods and tools for improvement \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

C14. Management makes decisions and takes actions based on a combination of facts and experience, as well as vision \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

C15. The department makes every effort to guarantee that information and data used in decision-making is accurate and reliable \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

C16. The department makes data and analysis results available to people who require them \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

C17. The department develops supplier connections that strike a balance between short-term \* gains and long-term considerations

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

---

C18. The department shares information and its future plans with its suppliers \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree



## Appendix 6: Closed-ended Questionnaire for GDID customers

### A. The key factors affecting the quality of public infrastructure

Your opinion regarding the following statements is ranked from "Strongly Agree" to "Strongly Disagree" (scaled from 1 to 5) as shown below.

A: The key factors affecting the quality of public infrastructure

The following questions are about your personal experience/opinion with the factors that you believe affect the level of quality of the public hospital, clinic, school, library, early childhood development center, or/and a licensing and testing department that you mostly make use of in Gauteng. Please select the number that best represents your opinion.

A1. Specification flaws in the design stage \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A2. Lack of experienced project managers during construction \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A3. Making decisions based on cost rather than quality \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A4. Lack of skilled workers \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A5. Lack of corrective and preventative actions regarding poor quality \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A6. Lack of involvement of the end users (citizens) during construction \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A7. Changing specifications during construction \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A8. Limited construction time imposed by project clients \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A9. Poor quality of raw materials \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

A10. Lack of quality planning, control, and improvement \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

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Clear form

## B. Customer perceptions of infrastructure quality

The following questions are about your own experiences/opinions of the public infrastructure service that you utilize. Please select the number that best represents your opinion.

B1. Prior to the facility's construction, the community was informed and engaged <sup>\*</sup> about building decisions

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B2. The local community was involved in the infrastructure construction from <sup>\*</sup> inception to delivery

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B3. The infrastructure building is safe and secure <sup>\*</sup>

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B4. The infrastructure has running water, electricity and ablution facilities \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B5. The infrastructure is easily accessible to the locals \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B6. There is adequate seating for clients, end users, etc \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B7. The infrastructure provides wheelchair access for clients, end users, etc. \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B8. There is signage throughout the facility \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B9. There are visible fire extinguishers \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

B10. Staff is available and helpful \*

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

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## C: Infrastructure quality assessment

Please use the following scales below to rate the quality level of the 10 different types of infrastructure structures that GDID is responsible for building.

1- Excellent 2- Good 3- Satisfactory 4- Poor 5- Very Poor

### C1. Hospital \*

	1	2	3	4	5	
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Poor

### C2. Clinic \*

	1	2	3	4	5	
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Poor

### C3. School

	1	2	3	4	5	
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Poor

C4. Library \*

	1	2	3	4	5	
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Poor

C5. Early childhood development center \*

	1	2	3	4	5	
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Poor

C6. Licensing and testing department \*

	1	2	3	4	5	
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Poor

C7. Roodeplaat and Suikerbosrand nature reserves \*

	1	2	3	4	5	
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Poor



C8. Gauteng Provincial Government (GPG) owned Department Buildings \*

	1	2	3	4	5	
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Poor

C9. Child & Youth Care Centre \*

	1	2	3	4	5	
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Poor

C10. Nursing College \*

	1	2	3	4	5	
Excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Poor

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## Appendix 7: Open-ended Questionnaire for GDID customers

### Comments

Please express your general thoughts, opinions, and recommendations about the Gauteng Provincial Government's infrastructure

Comments \*

Your answer

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## Appendix 8: Open-ended Responses from GDID customers

### Comments

#### Comments

113 responses

None

None

No comment

N/A

People are suffering out there 😞 with lack of infrastructure

There's improvement so far that shows that our municipality is trying but problem is lack of job for youth

There is serious lack of maintenance of public buildings in Gauteng

A lot more of these infrastructures could do with well planned and regular maintenance. This though should be second to the upgrading of these infrastructures. They are mostly old and outdated which makes one also question their safety standards.

113 responses

Government infrastructure requires serious maintenance and intervention.

Create more jobs and hire qualified candidates

What I would recommend is getting it right the first time then there wouldn't be a need to go and have to spend more money trying to fix what could have been done only once.  
2. Making sure that funds allocated to a certain activity is enough before starting and using the money for that specific thing then we wouldn't have unfinished roadworks etc.  
3. Training employees to have good customer service could also go a long way.

Development of schools and infrastructure is needed.

No comments

More end to end processes are to be utilised to achieve best results in terms of facilities and services.

More bottom up approaches to development should be adopted. Not just in the conceptual phases of projects but throughout the process of development. That means users/consumers can then appreciate the project, contribute and better use the facility when it is operational.

113 responses

The other issue is operational management. Some facilities are very useful and convenient when new but due to lack of maintenance they become dilapidated.

Qualifying individuals need to be given these tenders

It is moderate.

Poor communication

Our government is failing us!!!!

It is very bad

Quality material and good leadership is imperative. Which is not implemented enough.

N

no comment

113 responses

N/a

Government must involve communities and hire people with skills from the same communities, they must also hire more health workers to improve service within the health care sector.

Poor services delivered

In most areas there are no suggestion boxes and we are not told about ways to lodge complaints

Manager/senior staff are not committed service. The buck is passed around.

It needs thorough improvements

The government needs to change its mindset in order to bring change to the entire country

They should improve their infrastructure. They need to hire experienced people instead of doing things cheap just to eat the money.

113 responses

The condition of the infrastructure is not upto standard, the ablution system is always the worst and very poor house keeping. You can see decay in some of the buildings.

Quite average for a province that holds a world class city

No comment

Needs to be improved

A quality products have to be used when building infrastructures.

no comments

The infrastructure is slowly getting better

The government as well as his employees need to understand that they must give us service that is adequate

113 responses

Infrastructure has reached its expected useful life & therefore plans to upgrade should be in place. Holistic approach involving all relevant stakeholders should be adopted to bring about changes that suit the current Situations that we are facing.

Very well

More can be done. Proper protocol must be followed to ensure that the safety comes first

Poor

Infrastructure maintenance must be a norm.

All good

Needs work

The infrastructure is usually built well and well planned.



113 responses

Renovations should take place, skilled workers must be hired. Employees must practice batho Pele principles

Dear Madam

The thing with SA is that we are dealing with very arrogant municipalities where currently most of the infrastructure that is in use today it was build back back then before the 1980s right. And i am not saying that there's something wrong with that the problem that we have is the lack of accountability regarding Repairing it, most of our infrastructure was build back then right the question how can we sustain it for the next 50 years or so, we can sustain it only if we want our municipalities when it comes to Repairing our infrastructure it is as if they want our infrastructure to be damaged even more than it is currently. Let me give an example with potholes, They hire contractors right after the completion of these projects no one from the municipality ever goes there to do a simple report about the work that was done cause you will find that the contractors came to do project after completing it they would still be like "a foundation of another pothole" wher the problem was not even solved but the money was used.

Now let me talk about what happened during covid our infrastructure was damaged not by our communities but by those in power cause i can definently tell you that they were people who where hired to reconstruct these buildings train stations

113 responses

There is a lot of work that needs to be done to better the state of facilities & service rendering

Lot can be improved

Old buildings should be renovated. Roads and traffic lights have to be maintained at all times.

They should focus on Quality rather than "Just" completing infrastructure. Most of their buildings don't accommodate disabled people. Furthermore, they designers don't take into consideration the capacity of people that will utilize the buildings

Needs more skilled and Qualified people

There is room for improvement

They should improve the quality, and build sustainable infrastructure

They need to be monitored and workers need to be held accountable for not providing the expected services.

146

113 responses

They need to invest in a professional building that welcomes the public

I've got none to comment on.

Where i stay the government infrastructure needs serious revamping

nonw

I believe they can do better, there's always room for improvement.

The problem lies with the construction business owners. The government will provide the necessary amounts of money for the project but the owner will use more of the basic money for construction for their personal use then end up using less material. The government should provide funds based on the project schedule than providing funds all at once

The Government needs to do alot more than they are doing currently and also look into hiring helpful and friendly staff.

113 responses

There should be honest people for service delivery. Where there's no integrity, selfish people gain and the community at large suffers.

Poor projects management

Nothing from my side.

GP governments has a lot to change.

Gauteng Government is useless

Would love to see more improvements

very poor infrastructure

Gauteng government department need improvement

Not well managed

113 responses

Old buildings are not properly maintained at most of these facilities.

Government should do away with tenders

Whilst budget exist, quality, tender processes don't make the products guaranteed based on government looking to get a better price whilst bidders overprice products based on existence that the department will pay.

Most if not all are not OHSA compliant due lack of required maintenance and servicing of lifts

The staffs behaviour is questionable. The infrastructure needs to be keep up-to-date

There is need for a Stakeholders engaged developmental approach so as to meet all relevant needs of all end users.

Heidelberg hospital service is very poor

Infrastructure should be developed with the people not for the people they are the users after all

113 responses

Good

The services are very poor, no doctors at the clinics. Learners are more than 70 in a 40 learners class and the library no longer works

The employment of less qualified employees has a negative impact on the provision of quality infrastructure.

It will be very good if this will be taken it consideration

Project managers must be fully involved in all projects

.

Clinics are always full, the service is poor and most of the times there is no medication. This is unfair for me as a tax payer because medical aid is expensive. The state of our clinics and hospitals is depressing, we need qualified people to run the state not comrades who have no qualifications and experience and are not interested in the well being of South Africans.

113 responses

Answered honestly

Communicate and involve constituents

The infrastructure here in gauteng is a bit better compared to other provices and rural areas which are normally neglected by the government

There's a lot of improvement that needs to done and also citizens should be included in decision making.

They need to upgrade some of the old buildings to represent our future, not our past.

I wish they made them bigger and more accessible because even the ones that are open to the public seem to exclude people like Hillbrow Library not letting kids take out books in the children's section.

none

Na

149

Proper maintenance of currently existing infrastructures can help keep them in a good condition for the long run.

Routine maintenance and upkeep of facilities is required. As a lot of the infrastructure I see in clinics and hospitals deteriorates without corrective action.

Poor services

[View 4 more responses in Sheets](#)

Average					
All the best to you.					
Newly constructed infrastructure is good once completed. Maintenance of old buildings is poor					
They must do better					

## Appendix 9: Statistical Results

### Workforce Demographic Information

#### Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	7	36.8	36.8	36.8
	Male	12	63.2	63.2	100.0
	Total	19	100.0	100.0	

#### Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	African	17	89.5	89.5	89.5
	Colored	2	10.5	10.5	100.0
	Total	19	100.0	100.0	

#### Age Range

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	26-35	7	36.8	36.8	36.8
	36-45	8	42.1	42.1	78.9
	46 and more	4	21.1	21.1	100.0
	Total	19	100.0	100.0	

### Highest level of qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor/BTech Degree	6	31.6	31.6	31.6
	Masters Degree	4	21.1	21.1	52.6
	National Diploma/Diploma	5	26.3	26.3	78.9
	Postgraduate/Honors Degree	4	21.1	21.1	100.0
	Total	19	100.0	100.0	

### Number of years working in the public sector

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-4 years	2	10.5	10.5	10.5
	10-14 years	6	31.6	31.6	42.1
	15-19 years	3	15.8	15.8	57.9
	20-29 years	1	5.3	5.3	63.2
	30 years and more	1	5.3	5.3	68.4
	5-9 years	6	31.6	31.6	100.0
	Total	19	100.0	100.0	

### Name of the metropolitan that you reside in

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	City of Ekurhuleni	3	15.8	15.8	15.8
	City of Johannesburg	9	47.4	47.4	63.2
	City of Tshwane	7	36.8	36.8	100.0
	Total	19	100.0	100.0	

## Customers Demographic Information

## Frequency Table

### 1. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	52	46.0	46.0	46.0
	Male	59	52.2	52.2	98.2
	Prefer not to say	2	1.8	1.8	100.0
	Total	113	100.0	100.0	

### 2. Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	African	111	98.2	98.2	98.2
	Colored	1	.9	.9	99.1
	Indian	1	.9	.9	100.0
	Total	113	100.0	100.0	

### 3. Name of the metropolitan that you reside in

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	City of Ekurhuleni	20	17.7	17.7	17.7
	City of Johannesburg	47	41.6	41.6	59.3
	City of Tshwane	37	32.7	32.7	92.0
	Sedibeng	6	5.3	5.3	97.3
	West Rand	3	2.7	2.7	100.0
	Total	113	100.0	100.0	



#### 4. Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	21	18.6	18.6	18.6
	26-35	70	61.9	61.9	80.5
	36-45	18	15.9	15.9	96.5
	46 and more	4	3.5	3.5	100.0
	Total	113	100.0	100.0	

#### 5. Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed	67	59.3	59.3	59.3
	Other	14	12.4	12.4	71.7
	Running a business	9	8.0	8.0	79.6
	Student	23	20.4	20.4	100.0
	Total	113	100.0	100.0	

#### 6. Highest level of education

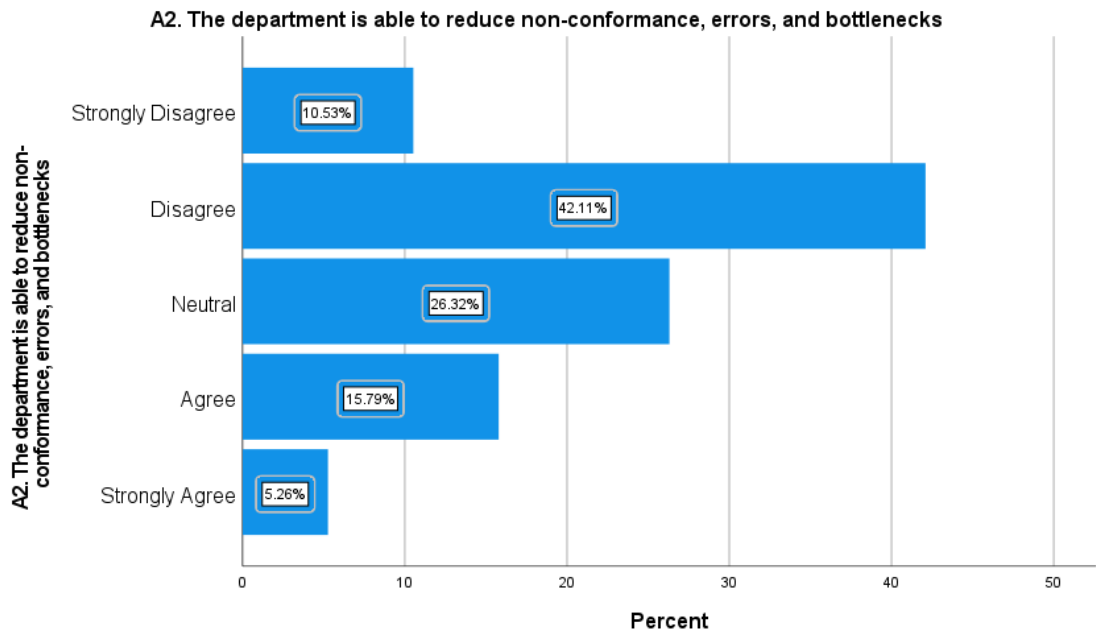
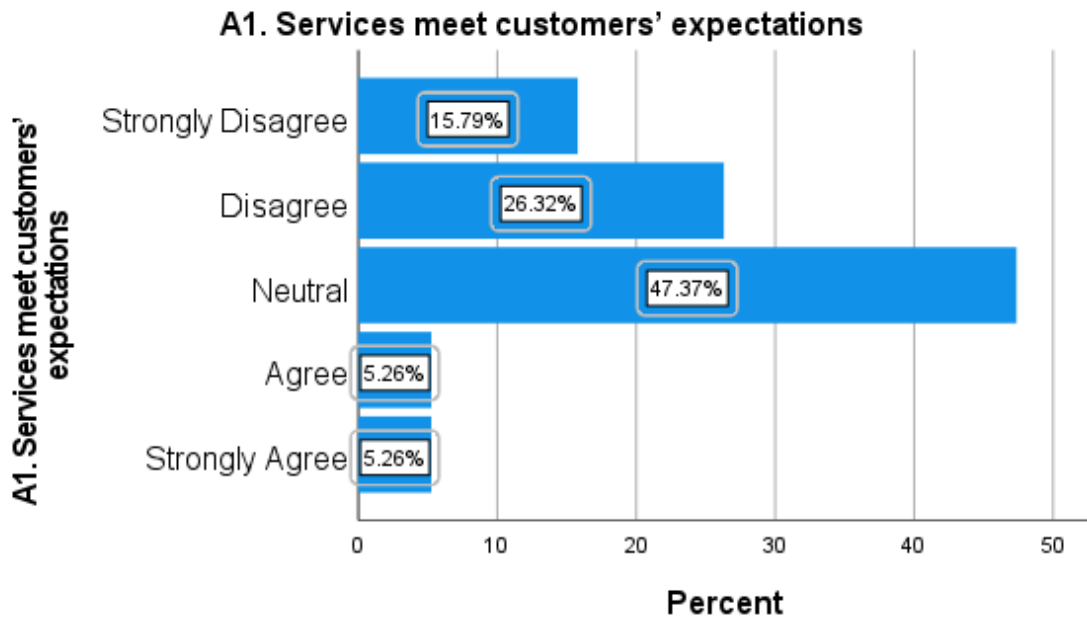
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor Degree/BTech	31	27.4	27.4	27.4
	Bachelor/Honors	4	3.5	3.5	31.0
	Doctor of Philosophy	2	1.8	1.8	32.7
	Honors/Post-graduate Diploma	22	19.5	19.5	52.2
	Masters Degree	4	3.5	3.5	55.8
	National Diploma/Diploma	25	22.1	22.1	77.9
	National Senior Certificate	21	18.6	18.6	96.5
	other	4	3.5	3.5	100.0
	Total	113	100.0	100.0	

## 7. How long have you lived in Gauteng?

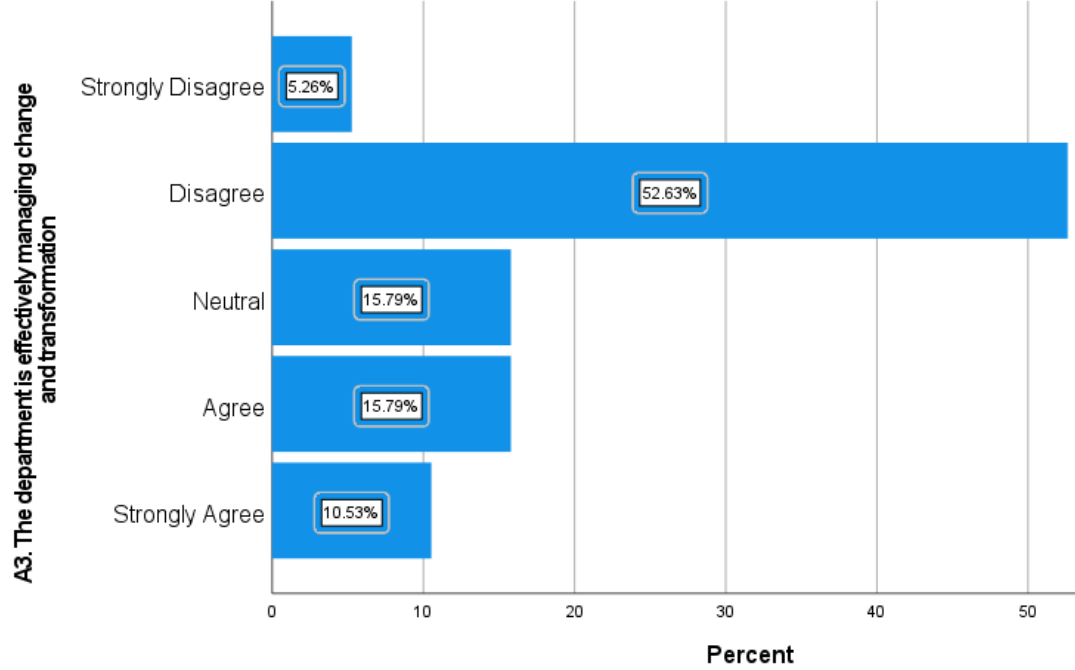
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-9 Years	40	35.4	35.4	35.4
	10-19 Years	31	27.4	27.4	62.8
	20-29 Years	26	23.0	23.0	85.8
	30-49 Years	14	12.4	12.4	98.2
	50 Years and more	2	1.8	1.8	100.0
	Total		113	100.0	100.0

## Appendix 10: Responses from the Workforce

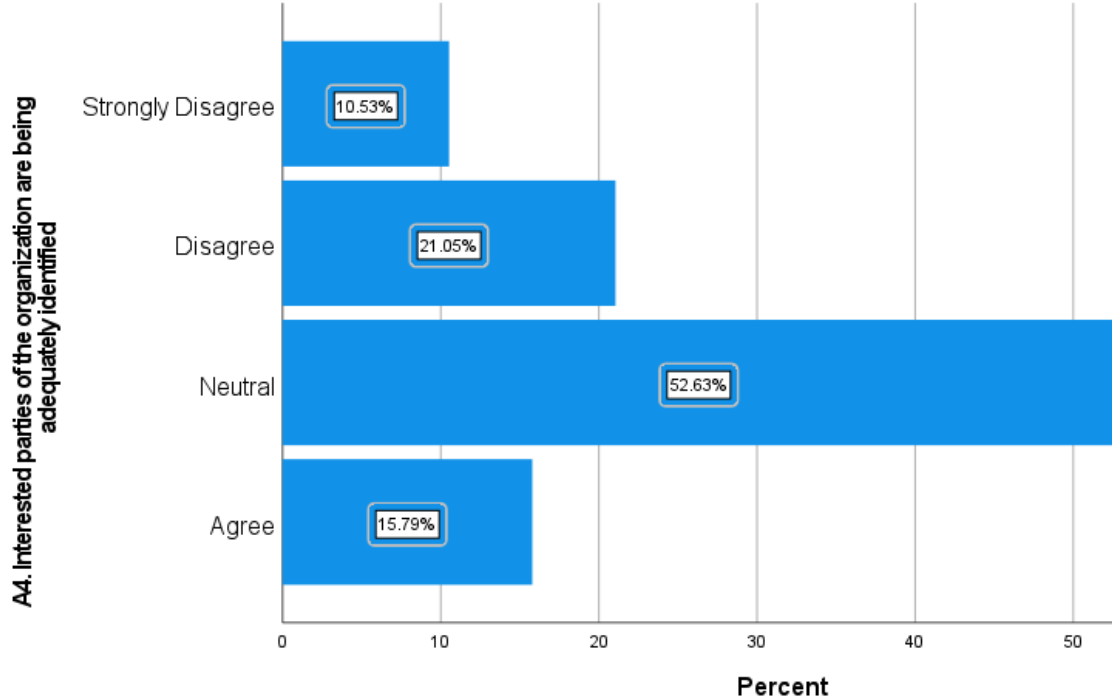
The research objective; The key factors affecting the service quality within the organisation were responded to by all the respondents.

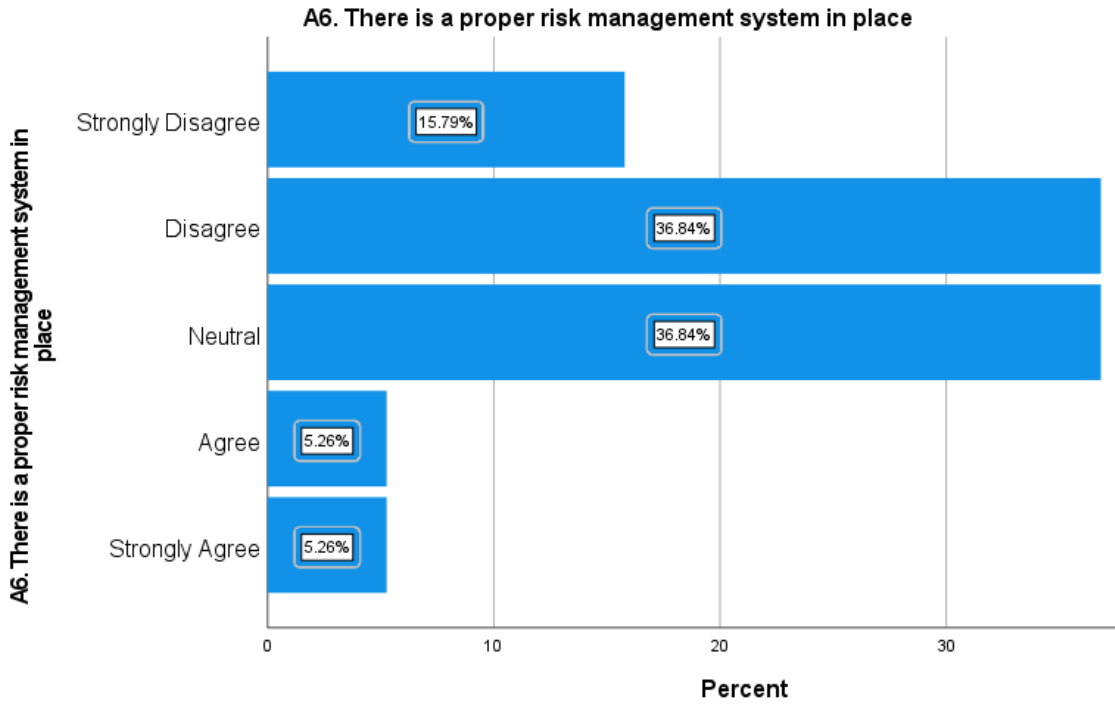
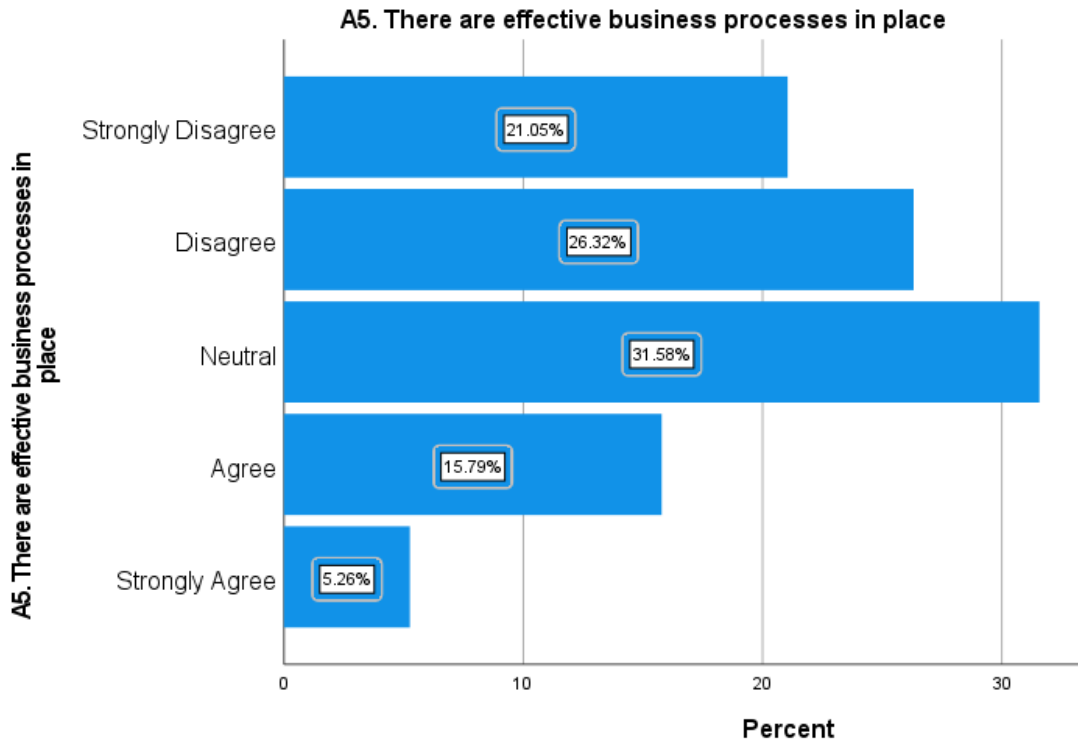


**A3. The department is effectively managing change and transformation**



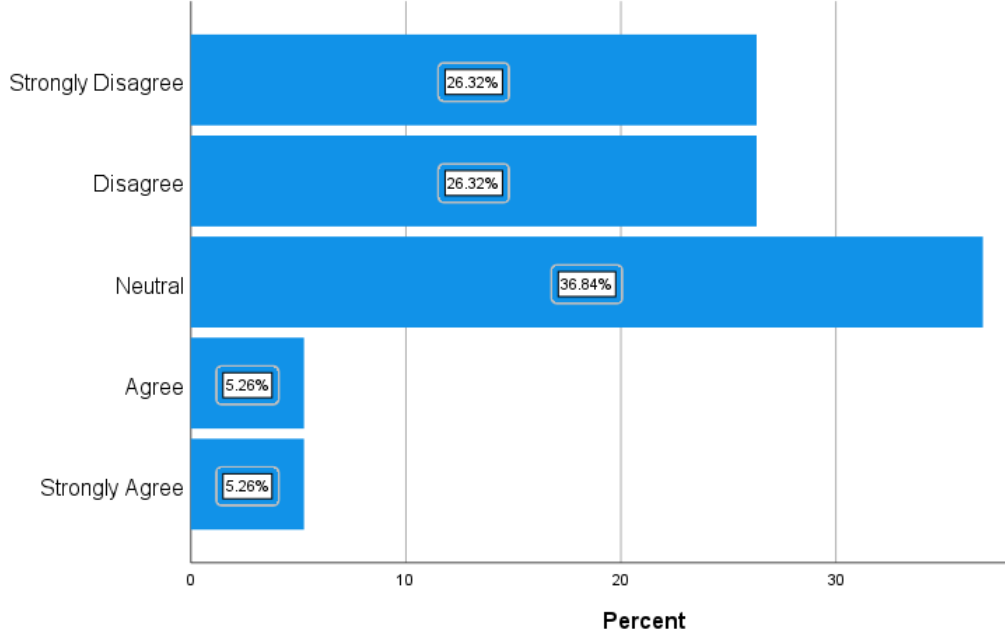
**A4. Interested parties of the organization are being adequately identified**





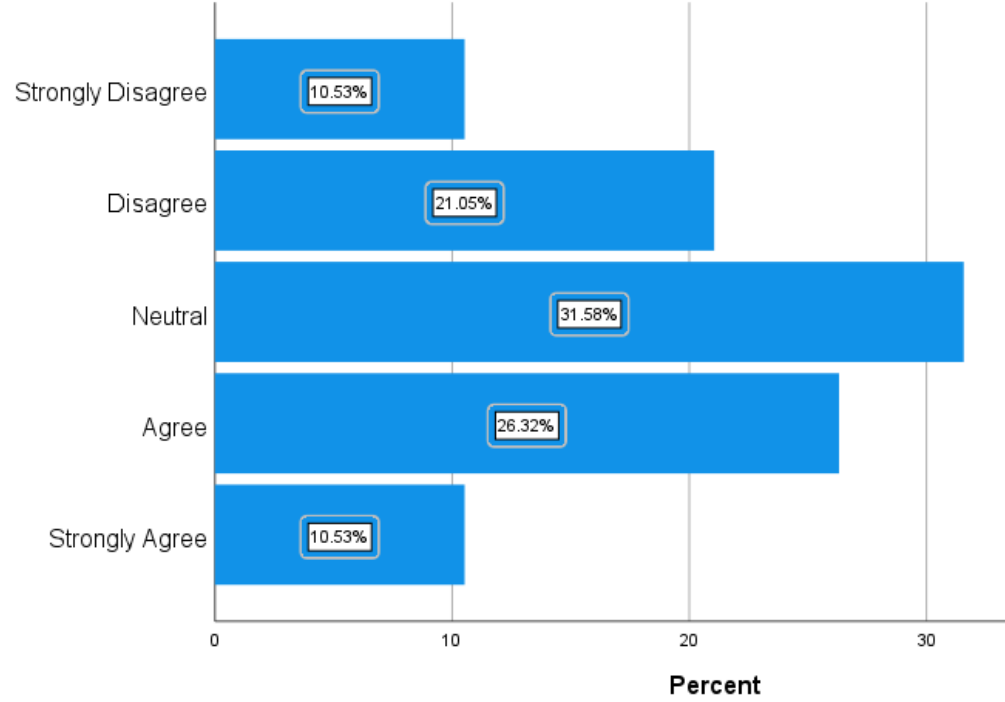
**A7. Funds to attend to the needs of the citizens are being effectively managed**

A7. Funds to attend to the needs of the citizens are being effectively managed



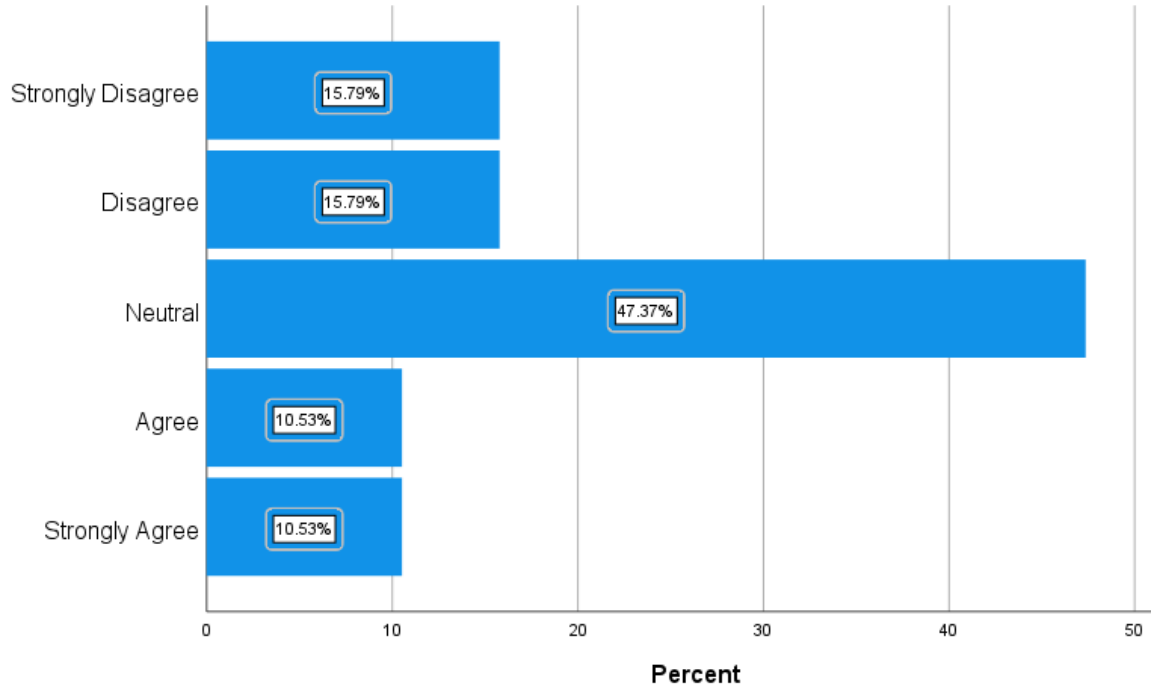
**A8. There is well interpreted information about customer's expectations**

A8. There is well interpreted information about customer's expectations



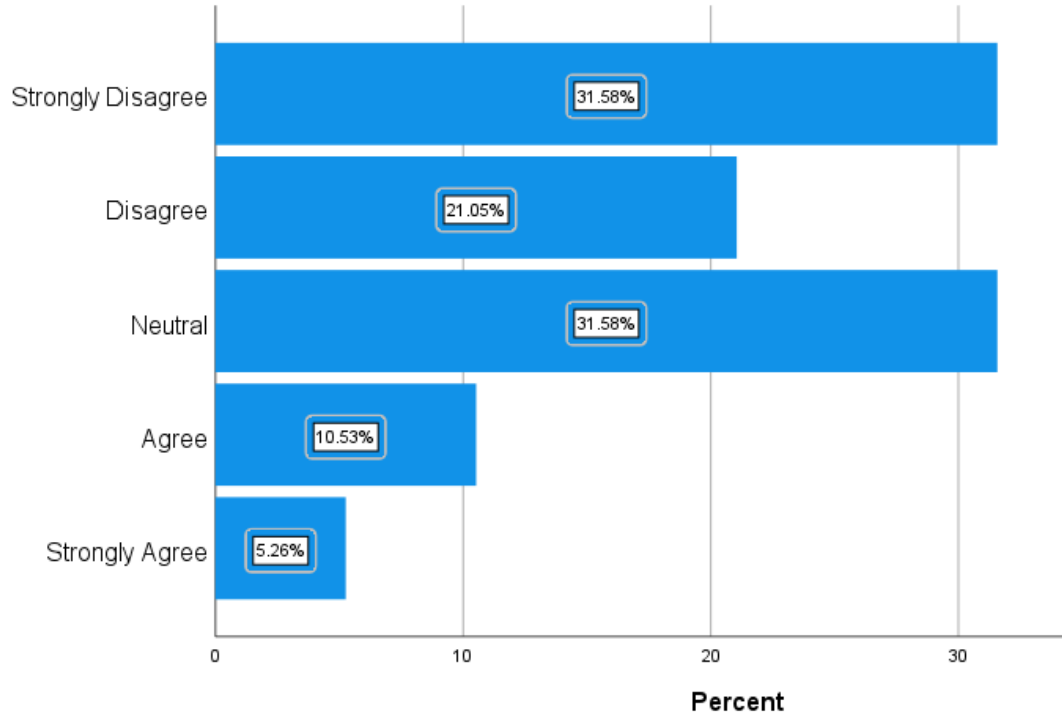
**A9. There are sufficient planning, monitoring, and evaluation procedures in place**

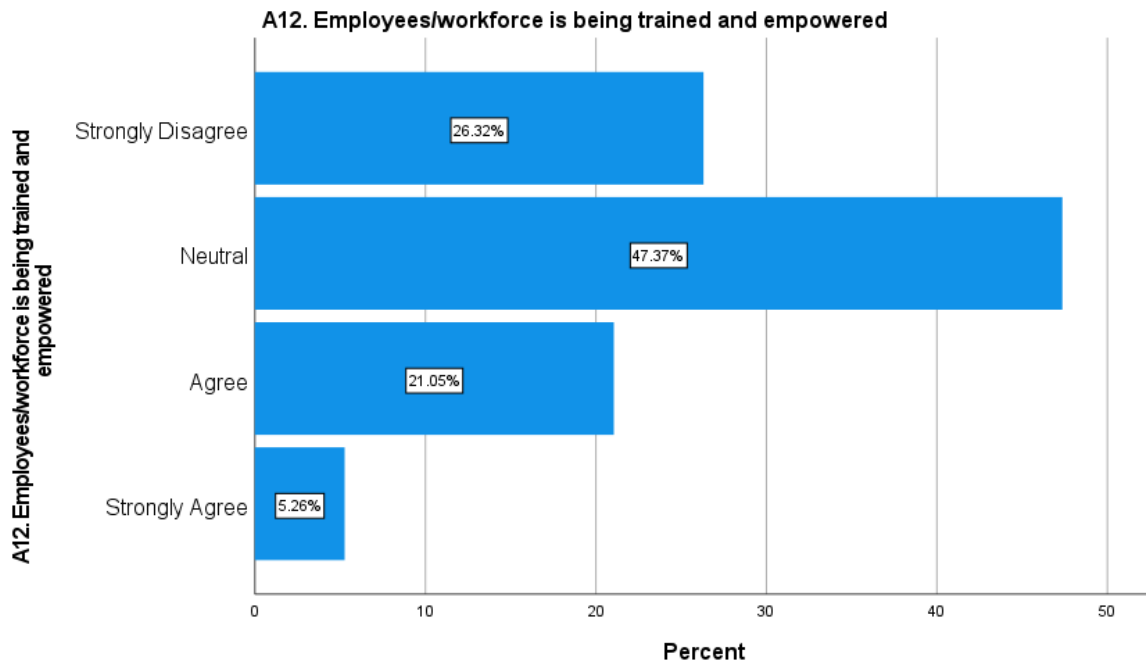
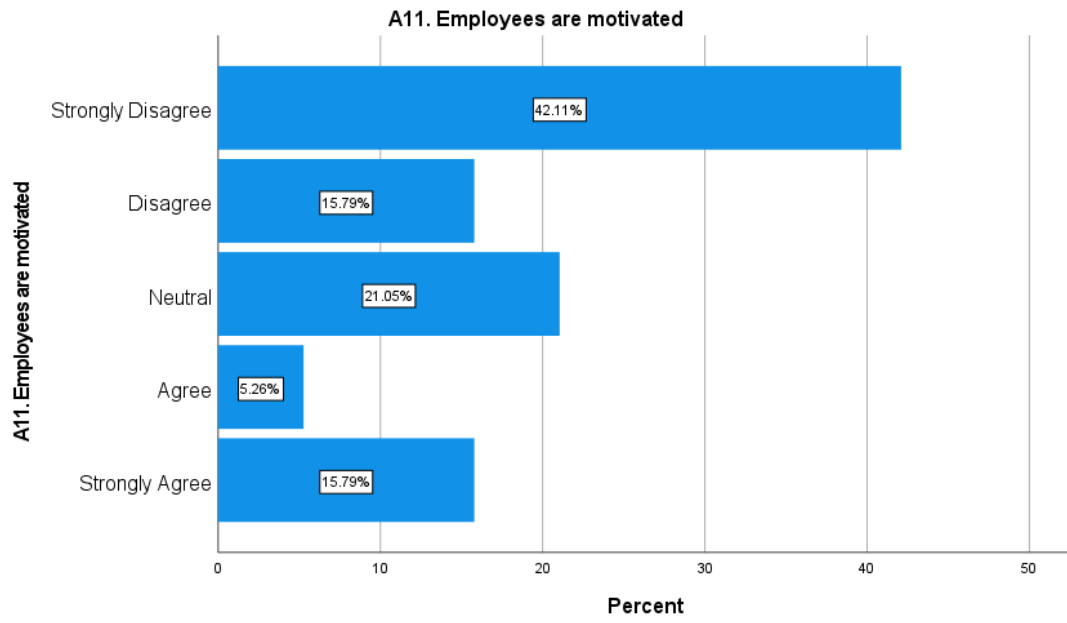
A9. There are sufficient planning, monitoring, and evaluation procedures in place



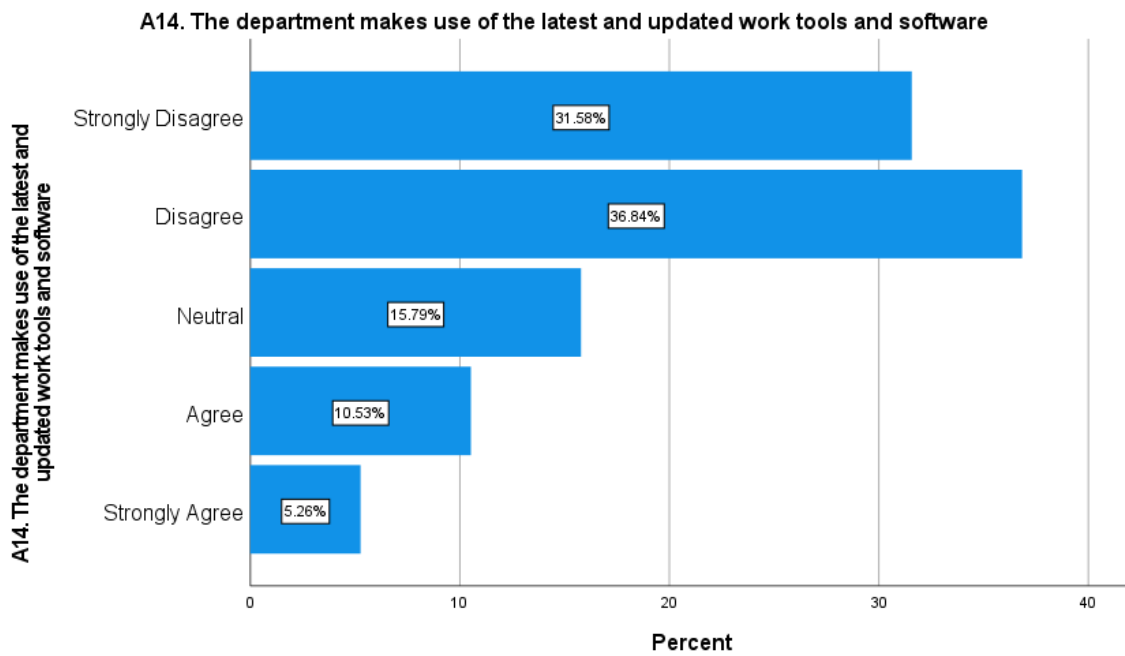
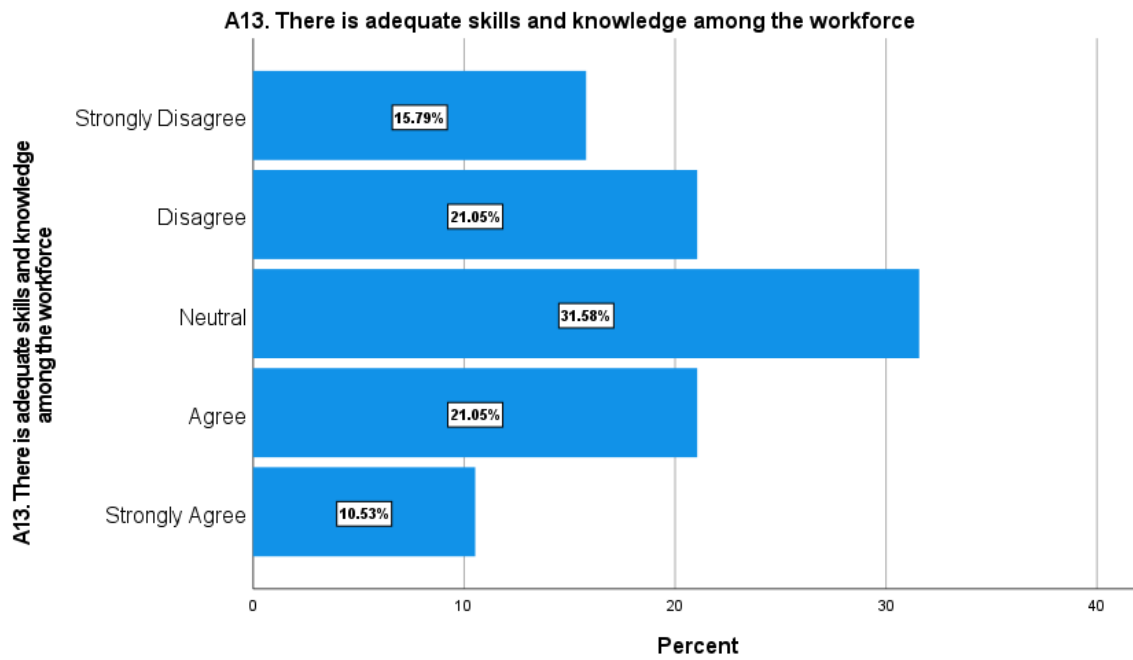
**A10. There is a full management commitment**

A10. There is a full management commitment

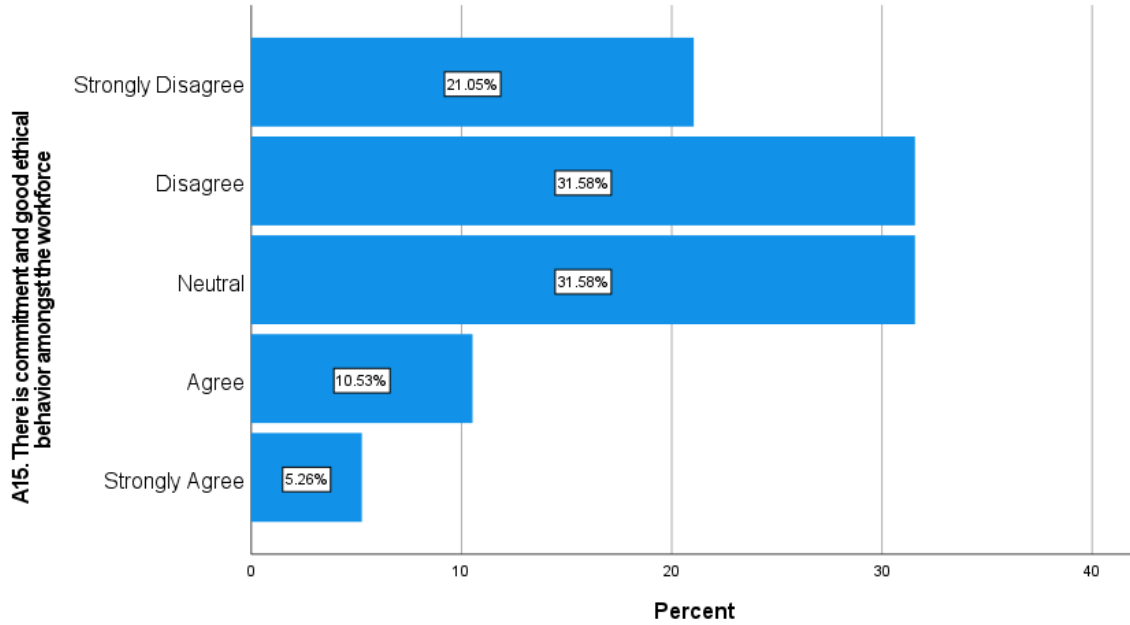




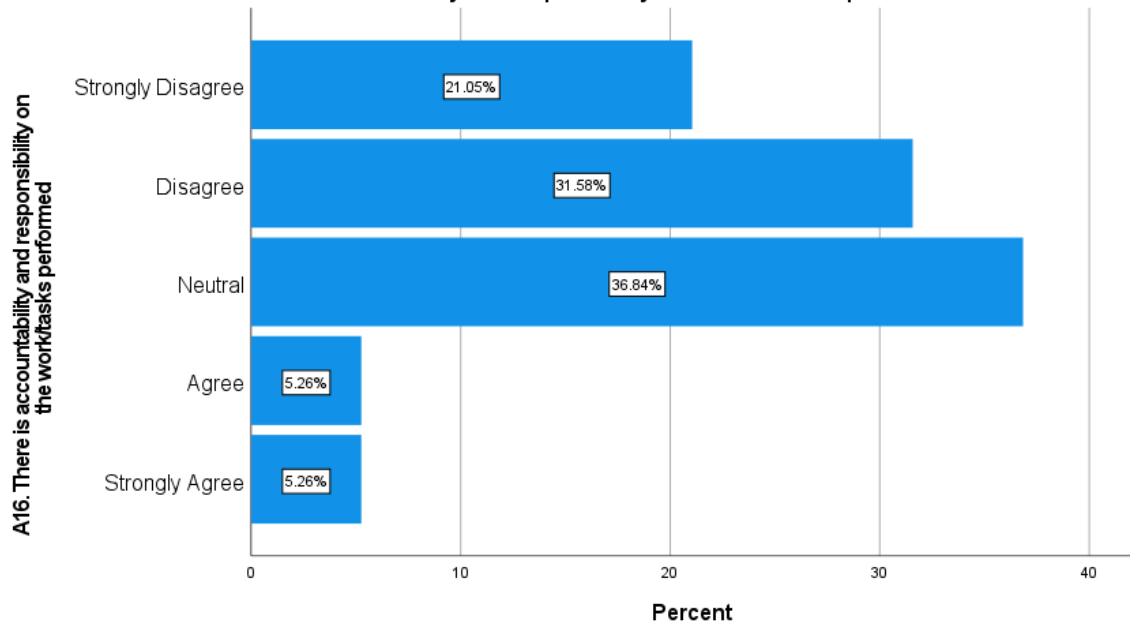


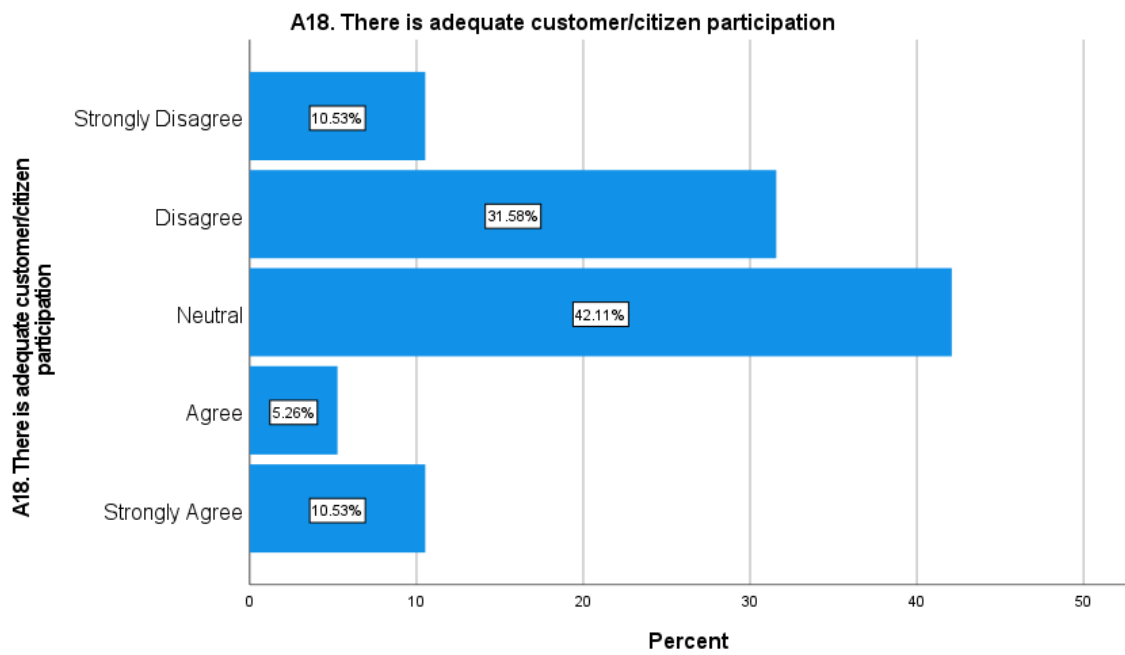
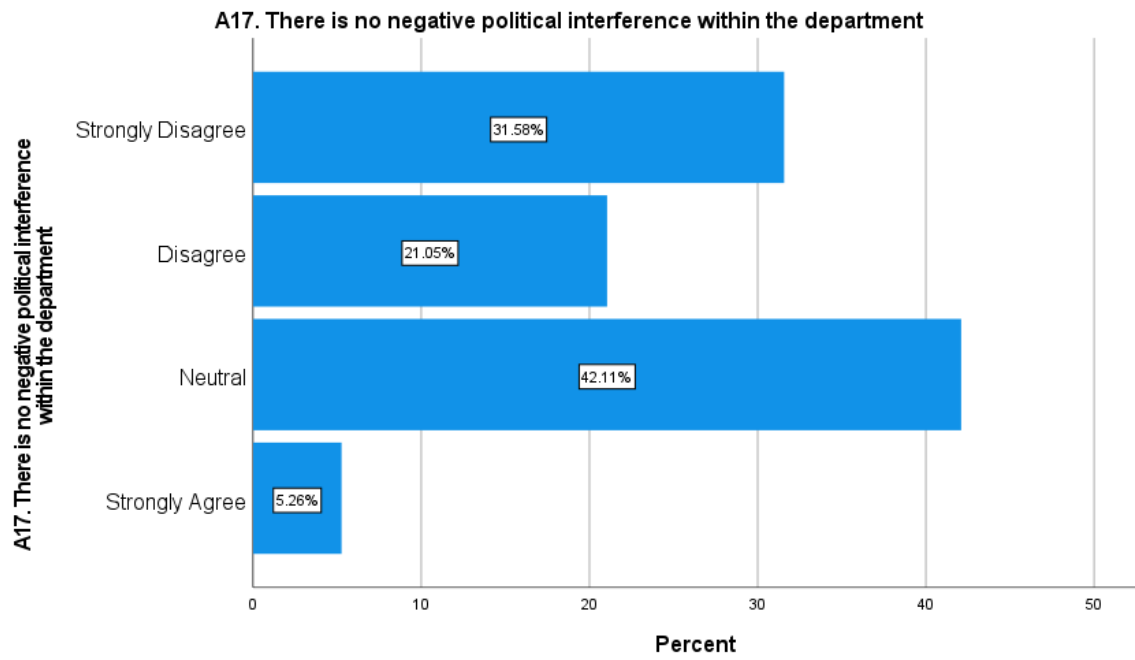


**A15. There is commitment and good ethical behavior amongst the workforce**

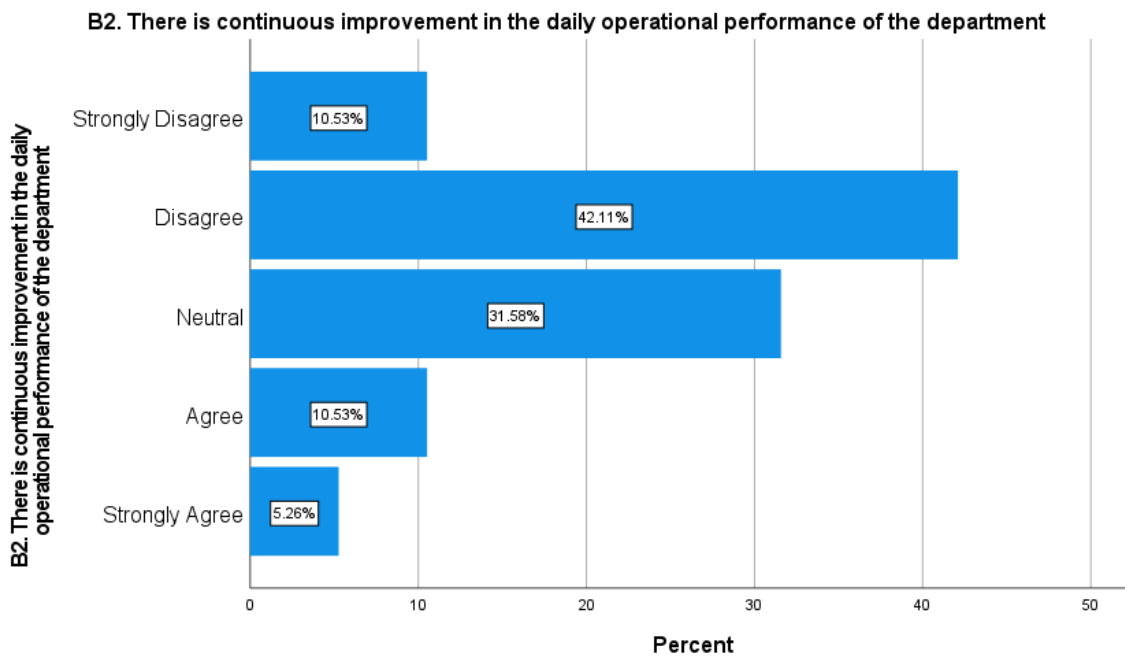
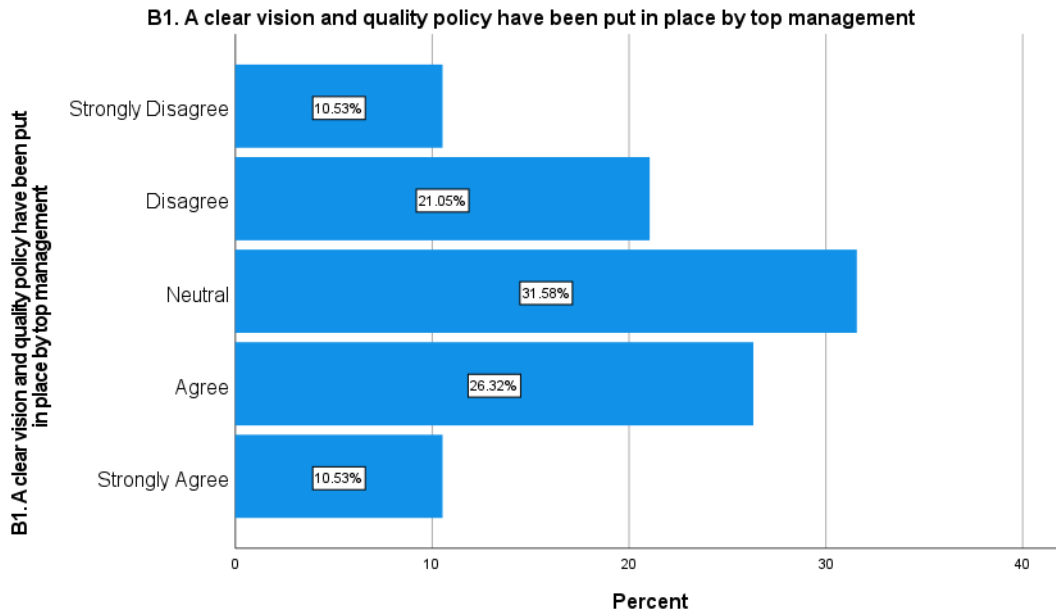


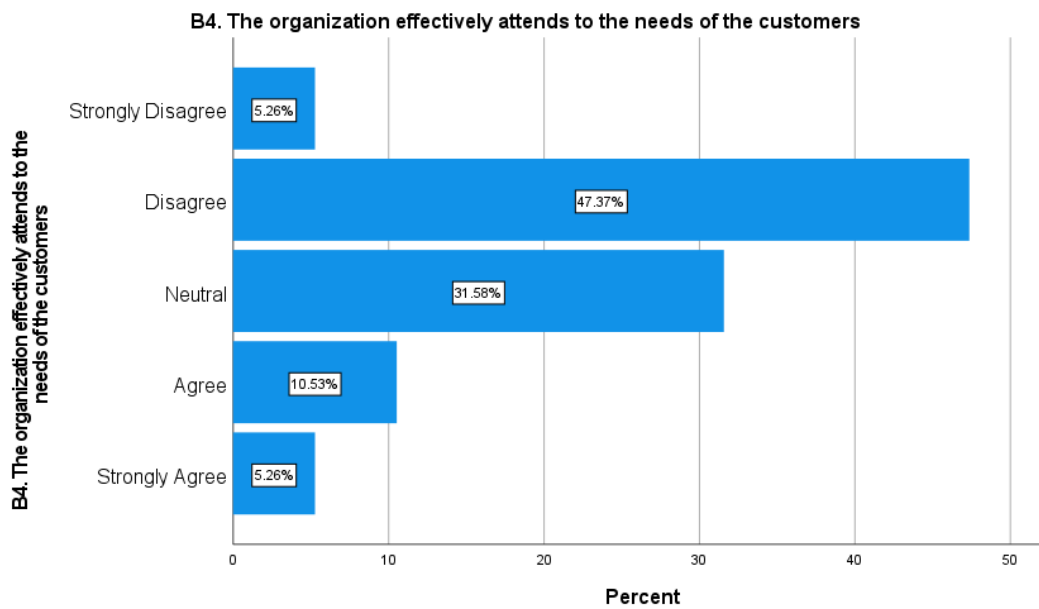
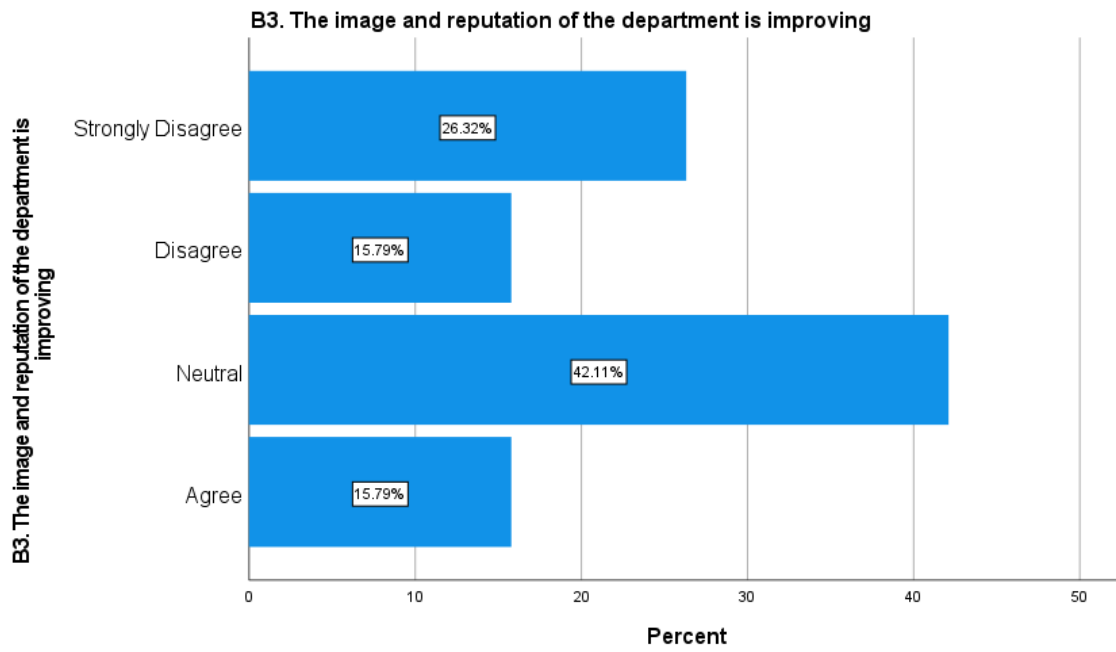
**A16. There is accountability and responsibility on the work/tasks performed**

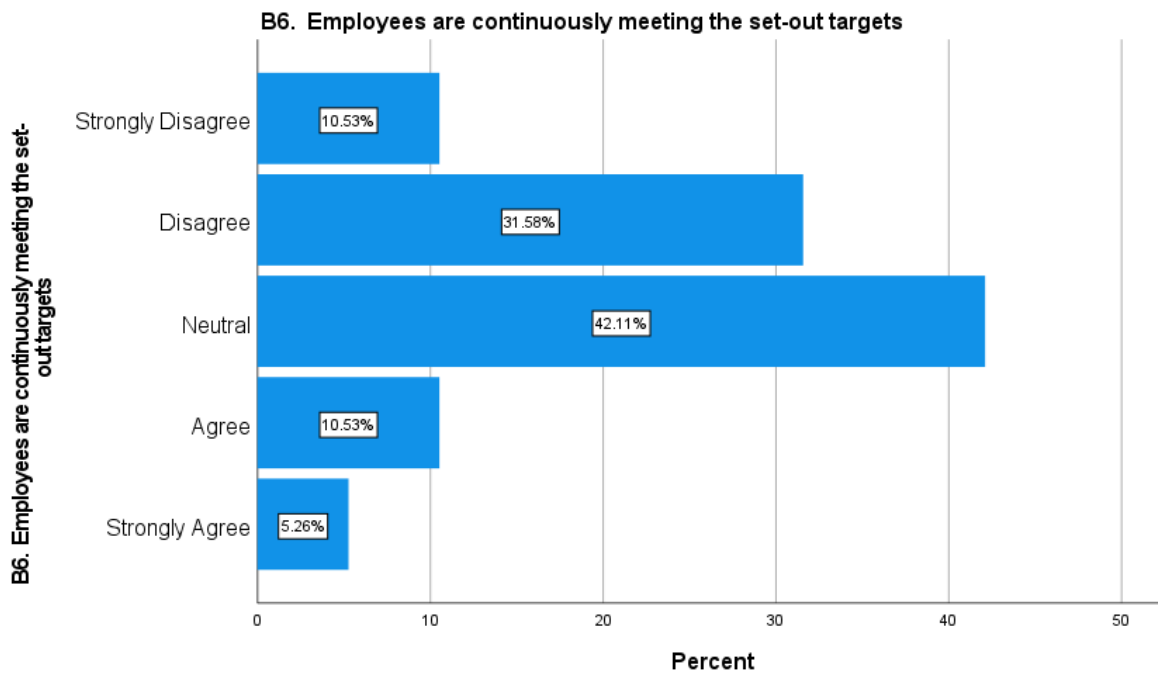
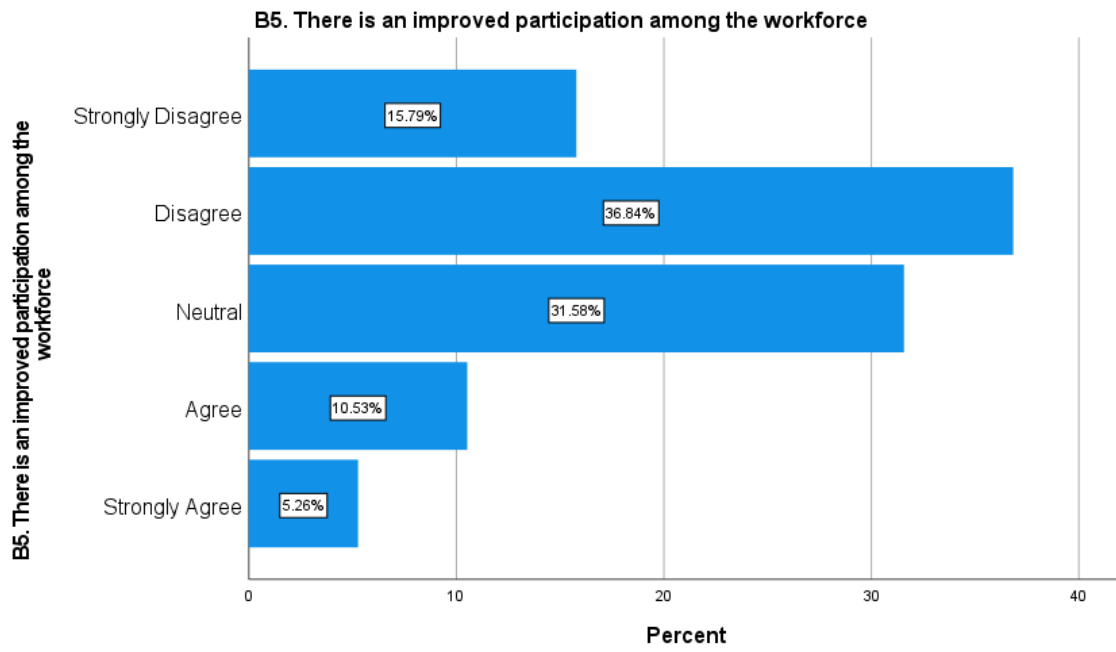


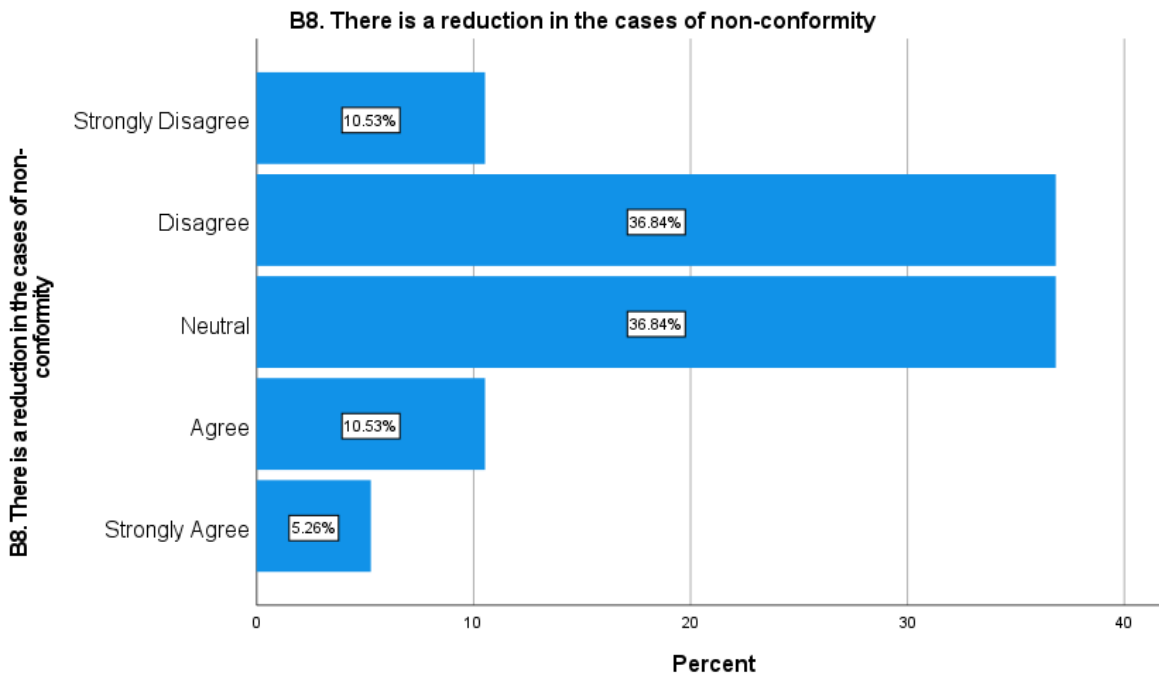
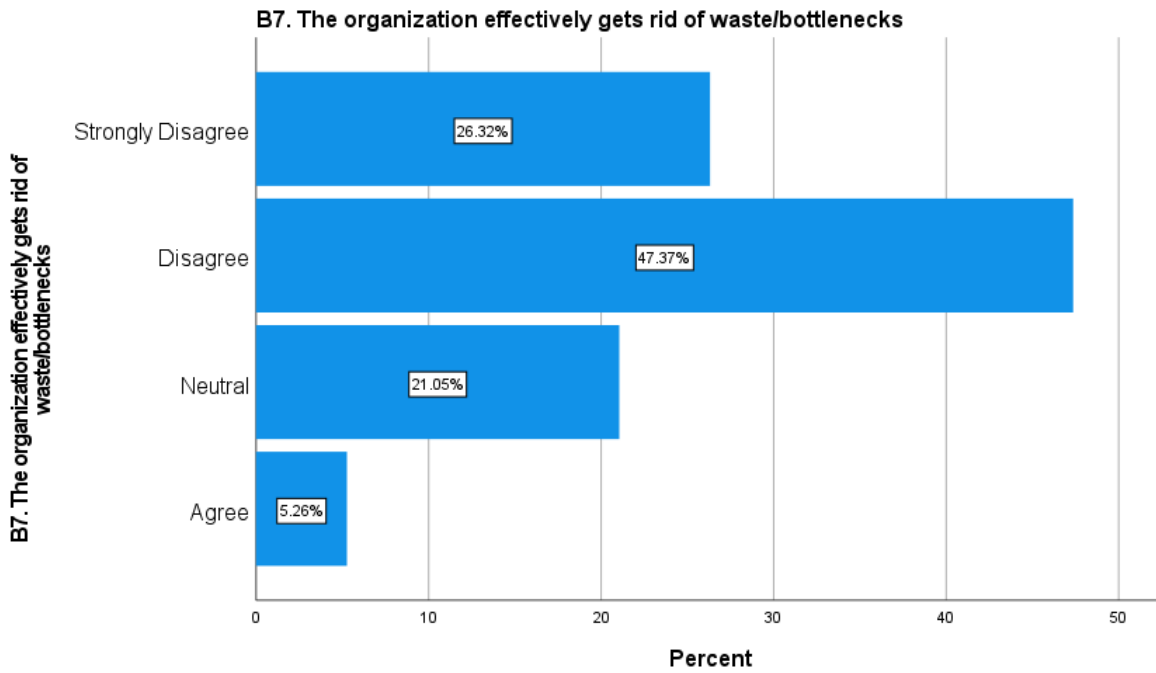


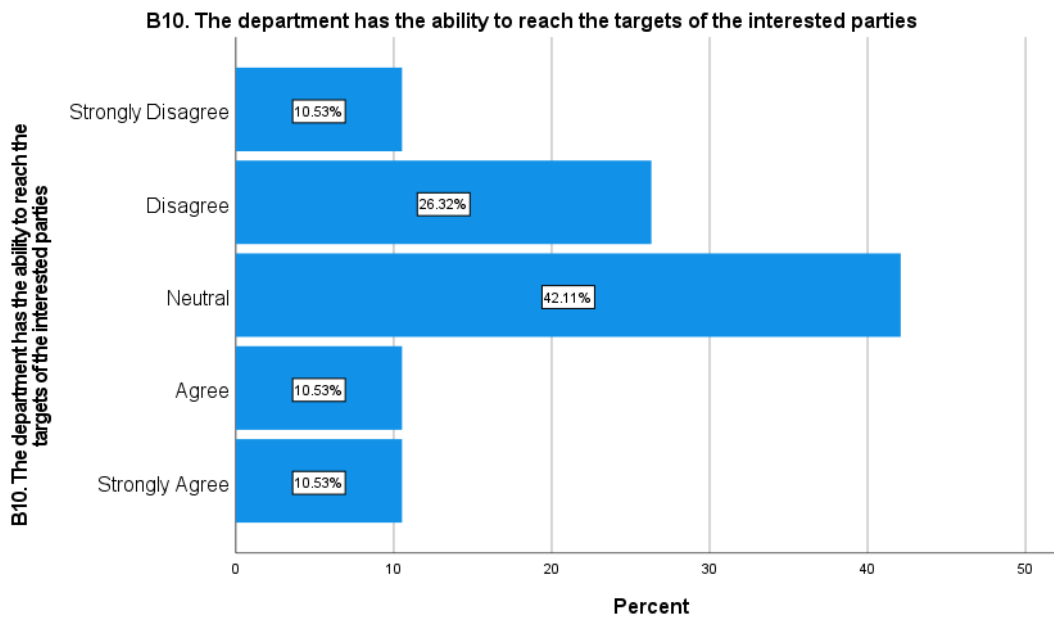
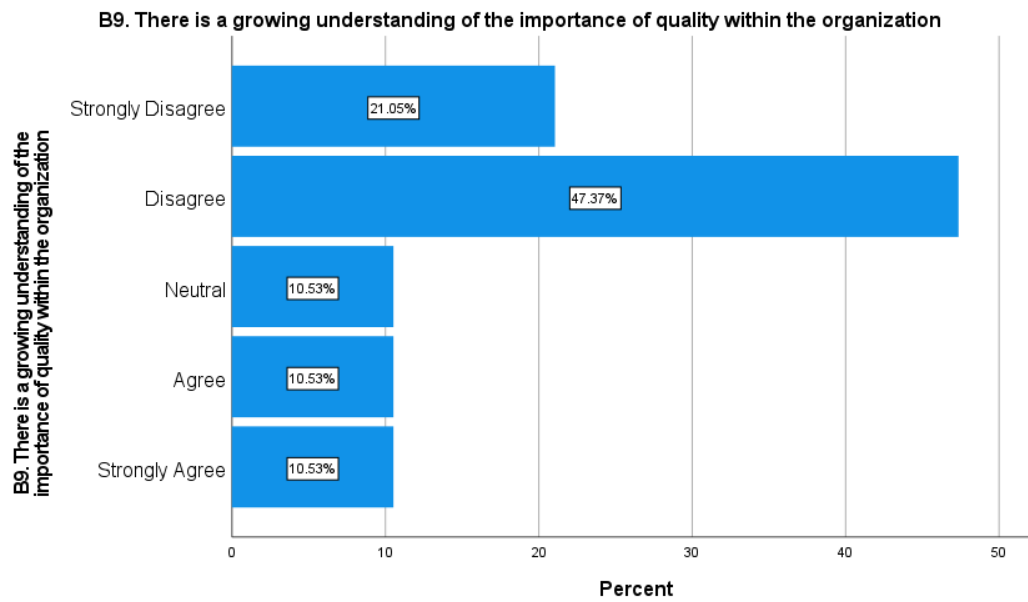
The research objective; the measurements for service quality within public organisations, was responded to by all the respondents.





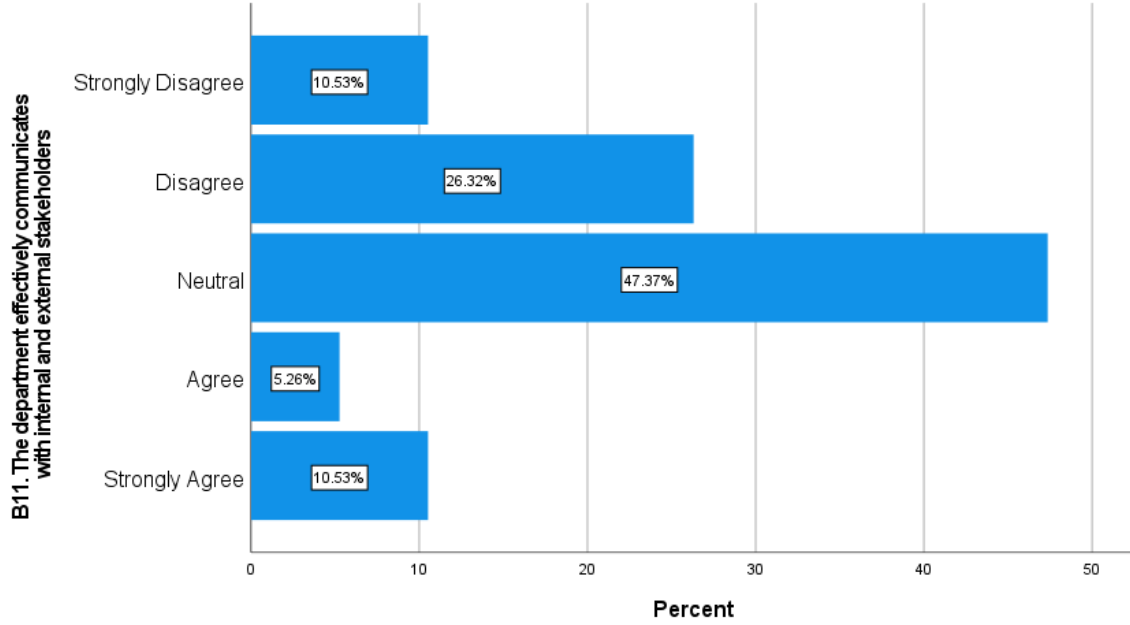




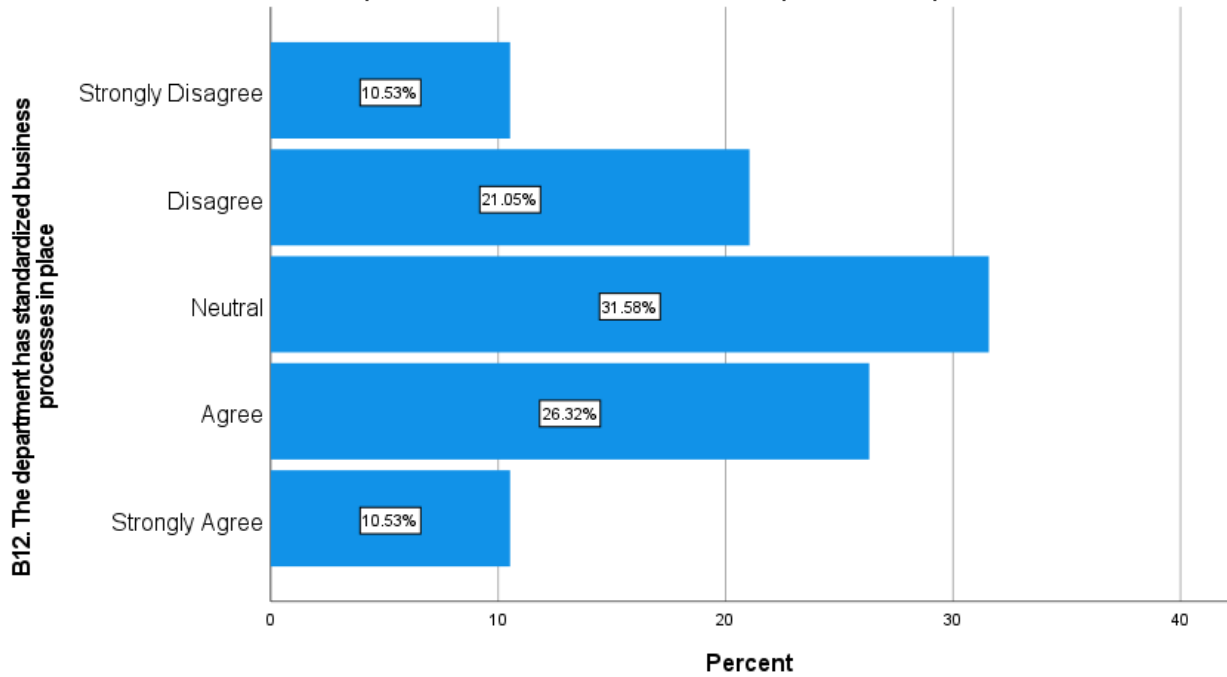


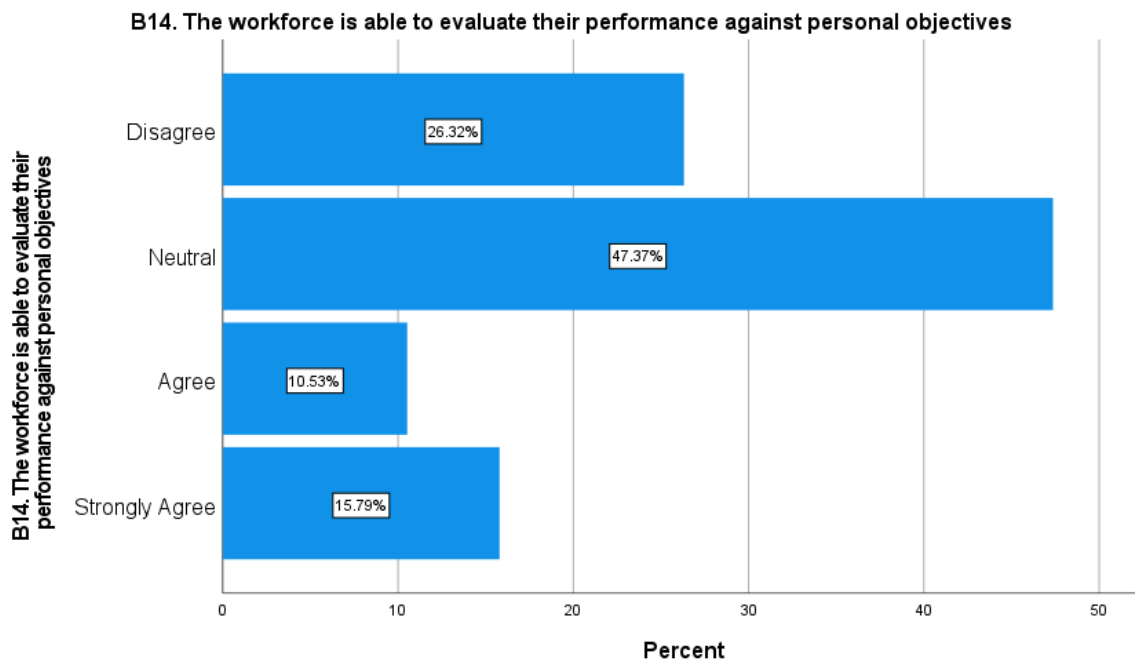
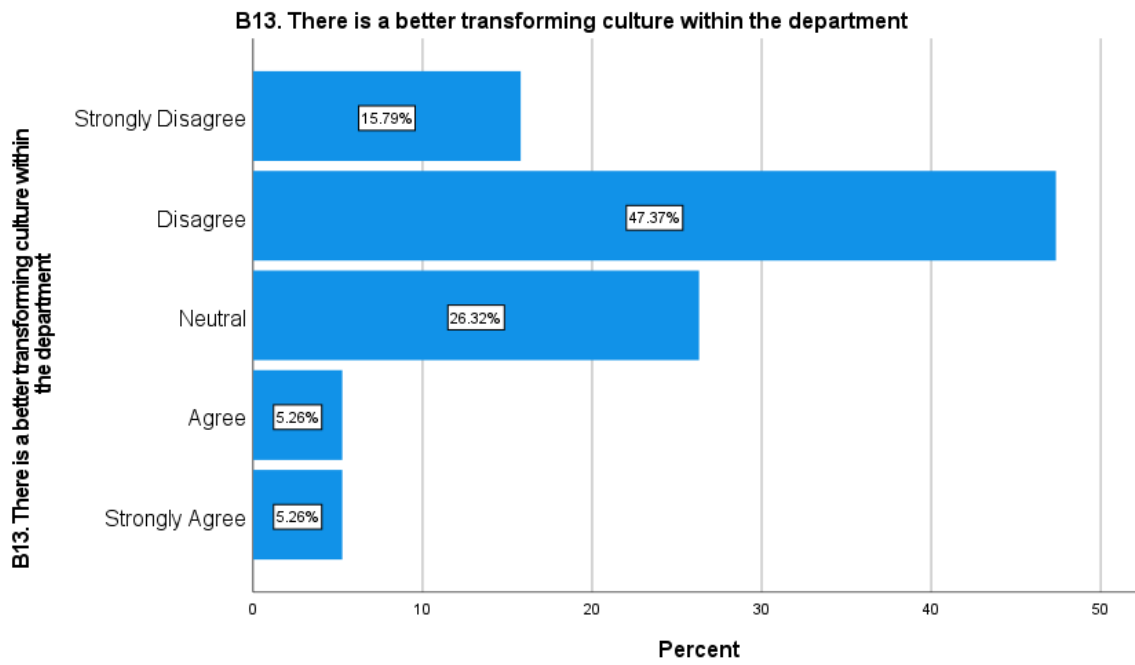


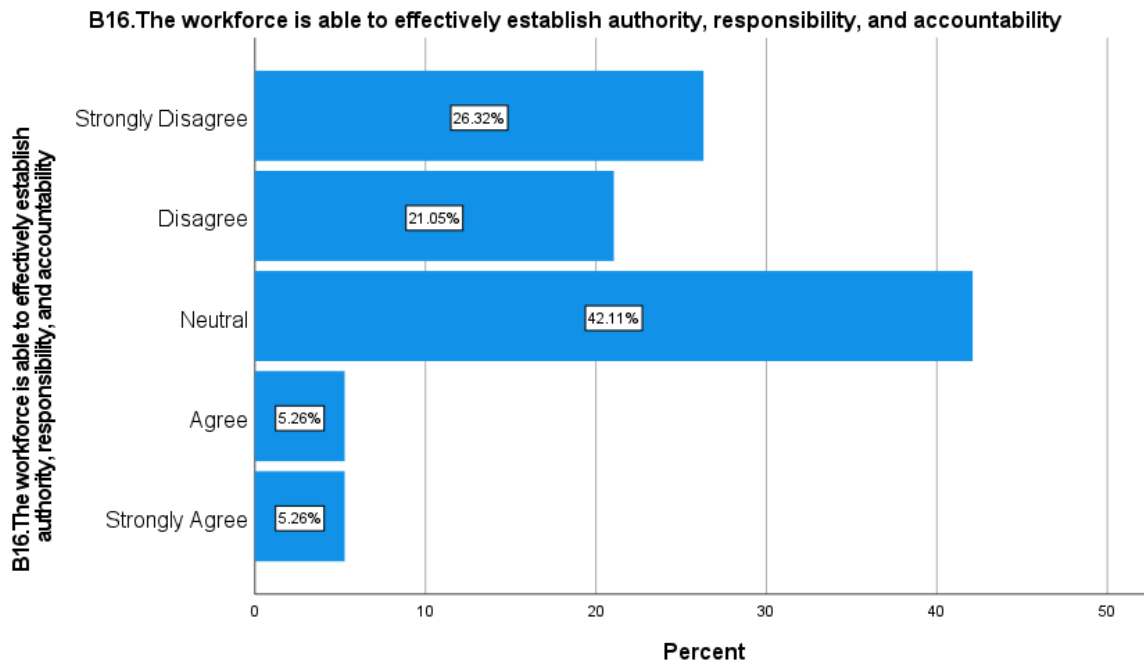
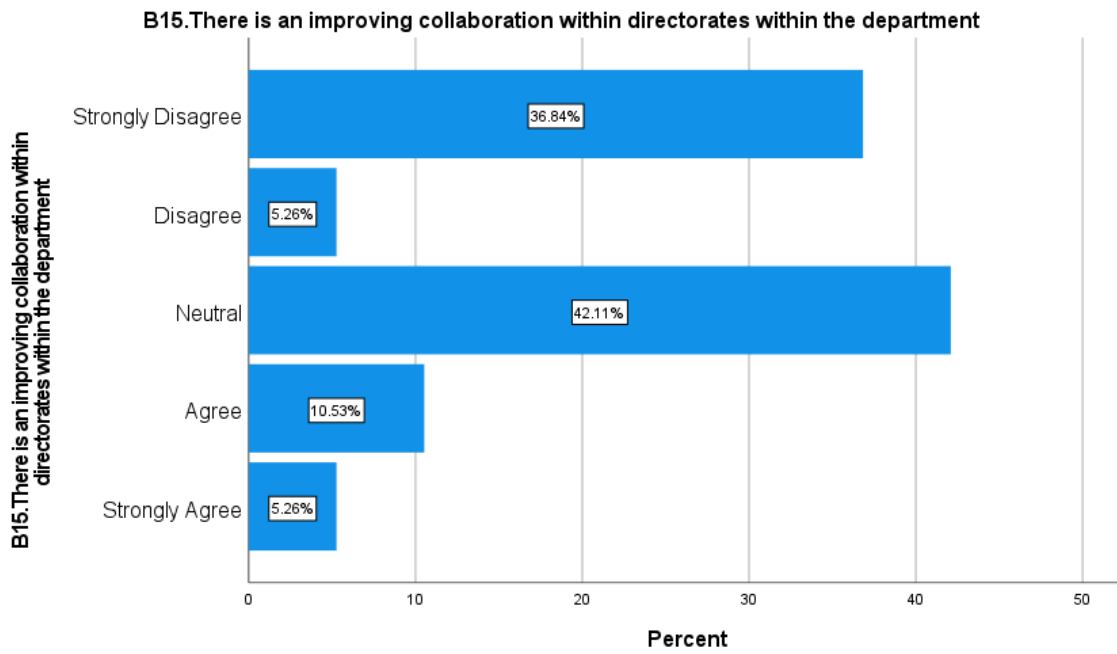
**B11. The department effectively communicates with internal and external stakeholders**



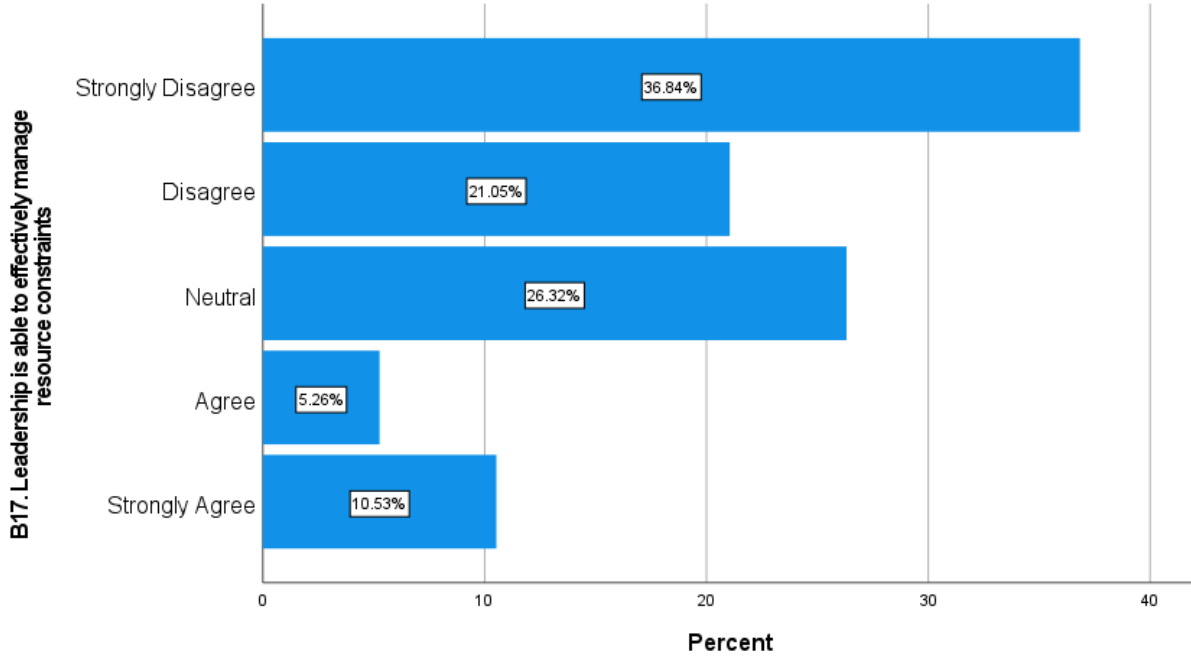
**B12. The department has standardized business processes in place**



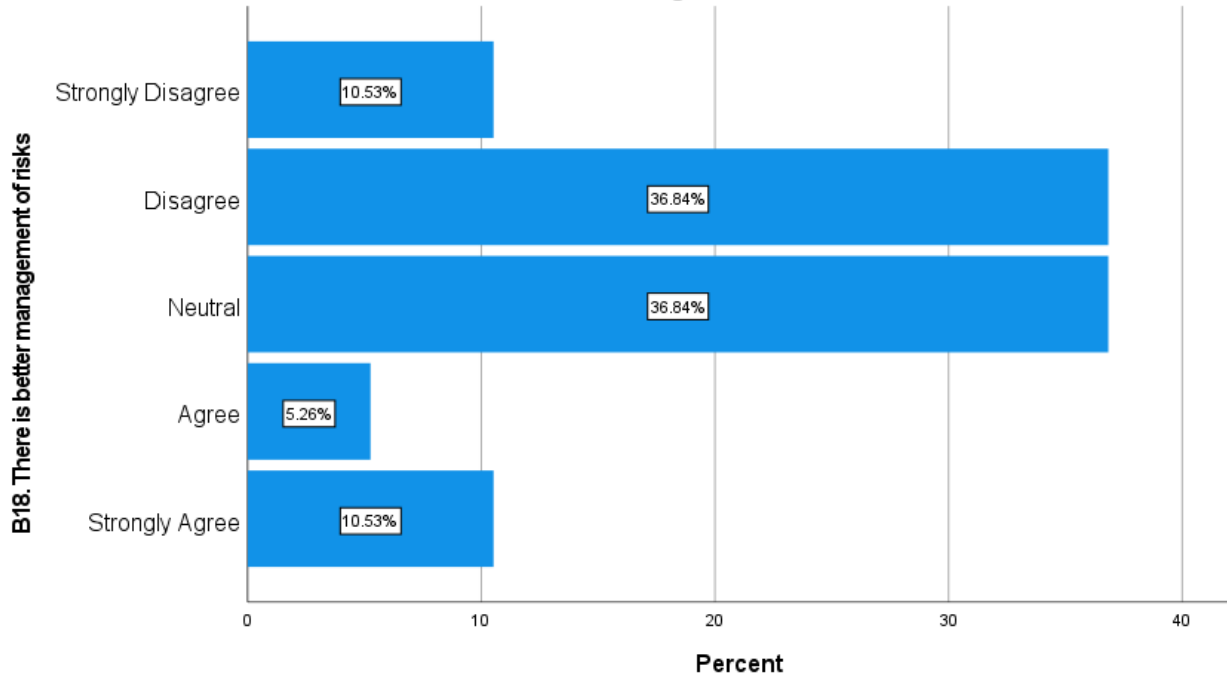




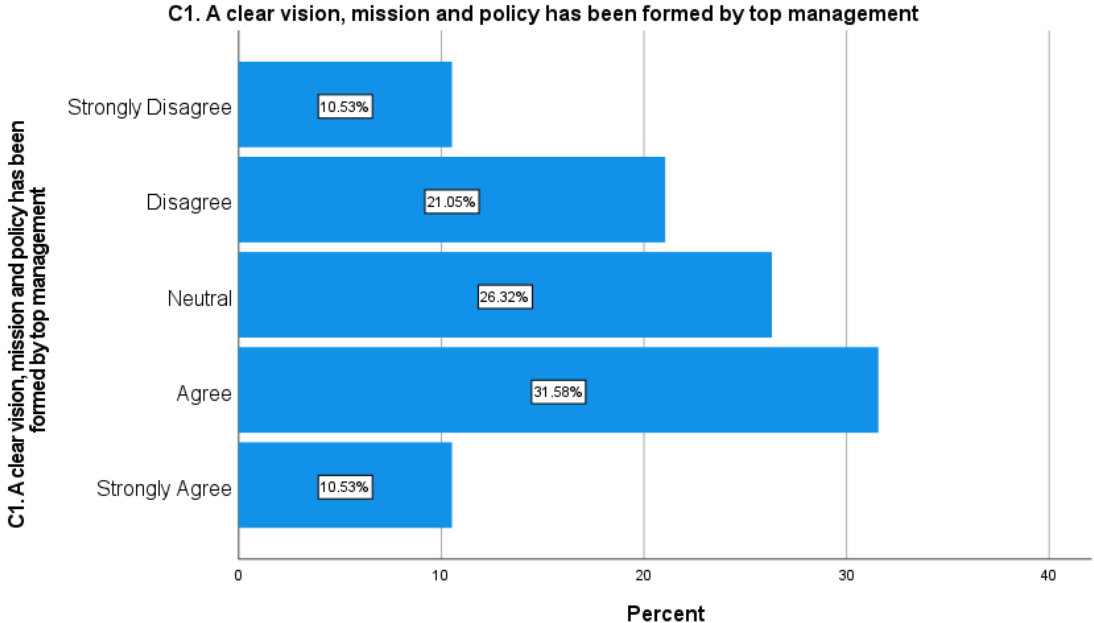
**B17. Leadership is able to effectively manage resource constraints**



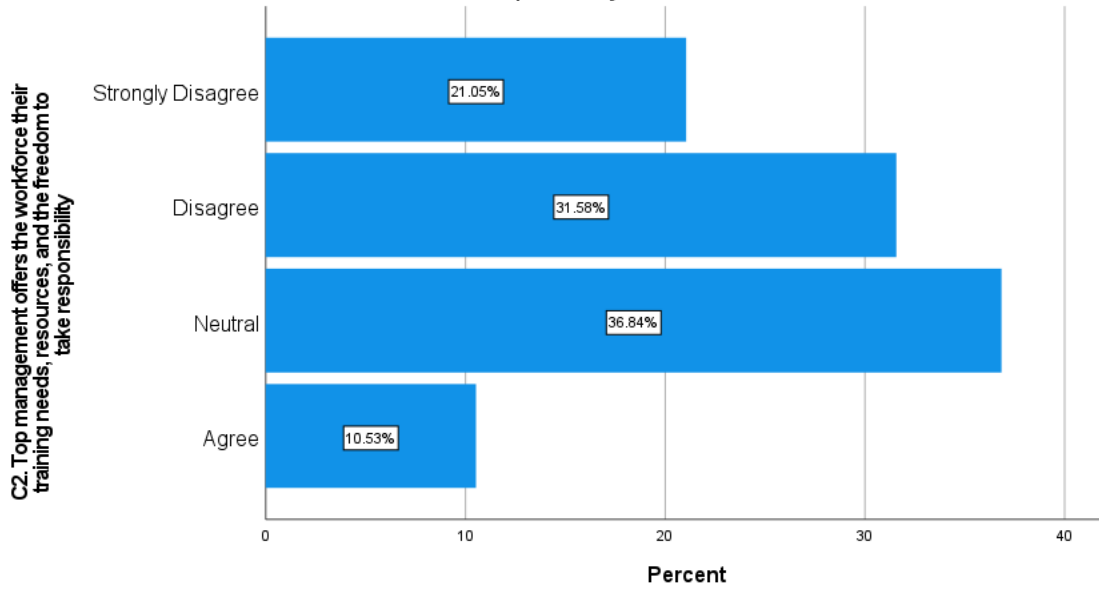
**B18. There is better management of risks**



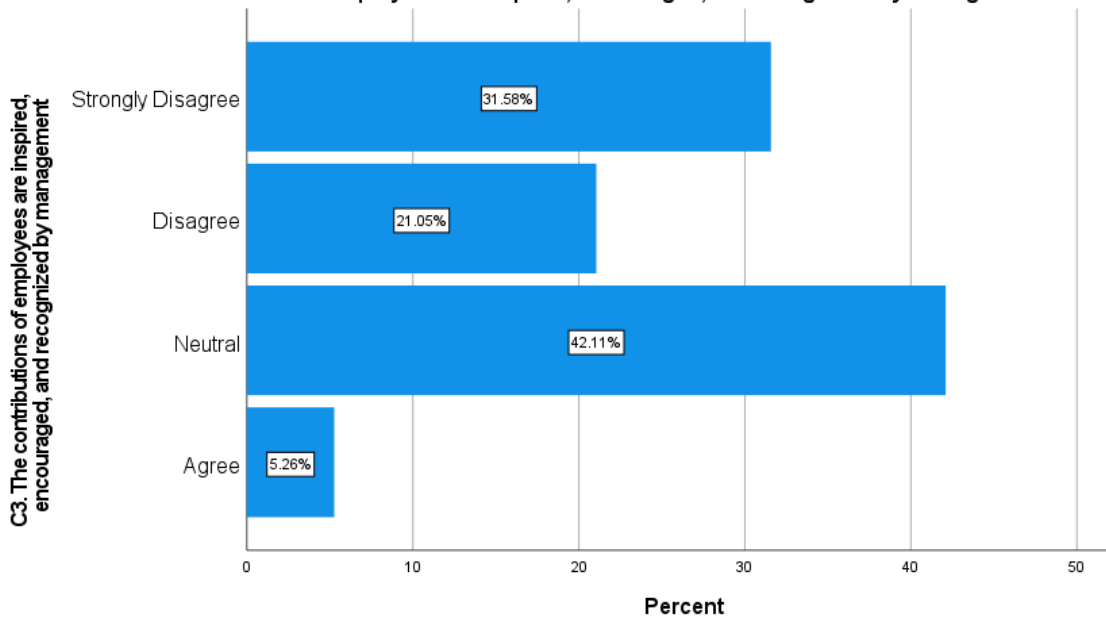
The research objective; Implementation of ISO 9001:2015 for service quality in public organisations was responded to by all the respondents.



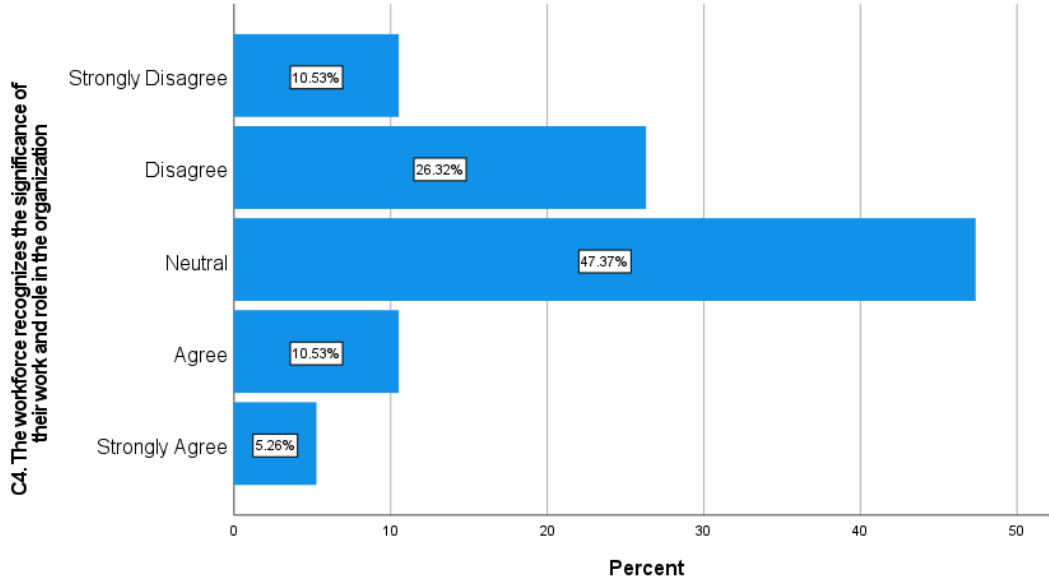
**C2. Top management offers the workforce their training needs, resources, and the freedom to take responsibility**



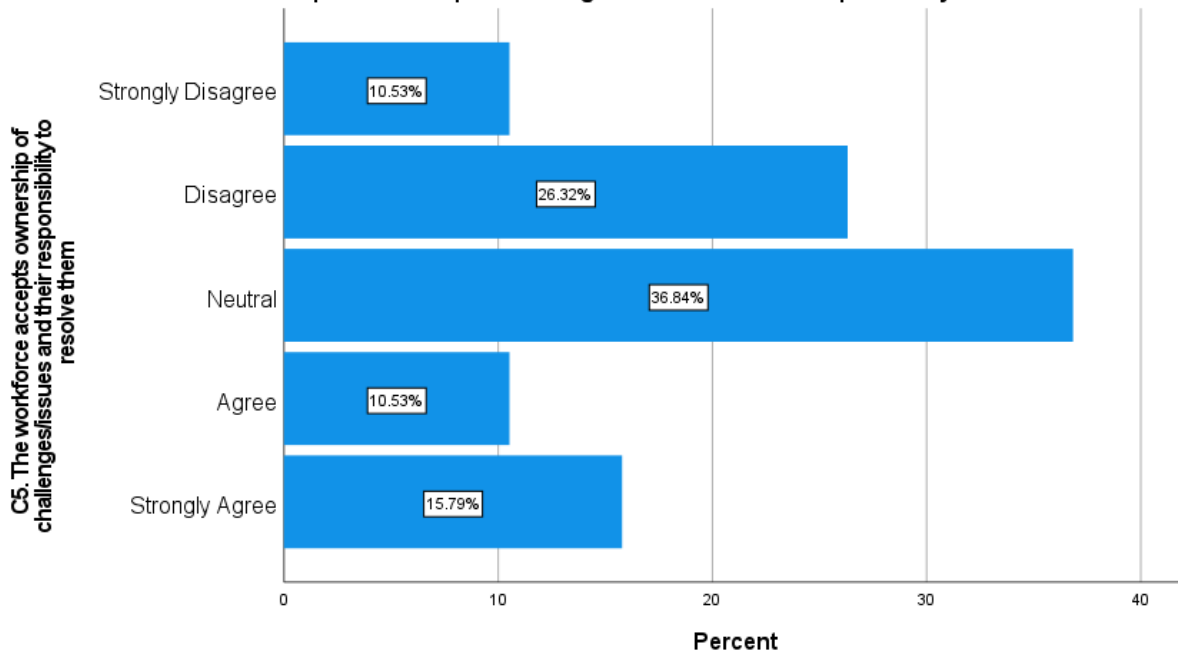
**C3. The contributions of employees are inspired, encouraged, and recognized by management**

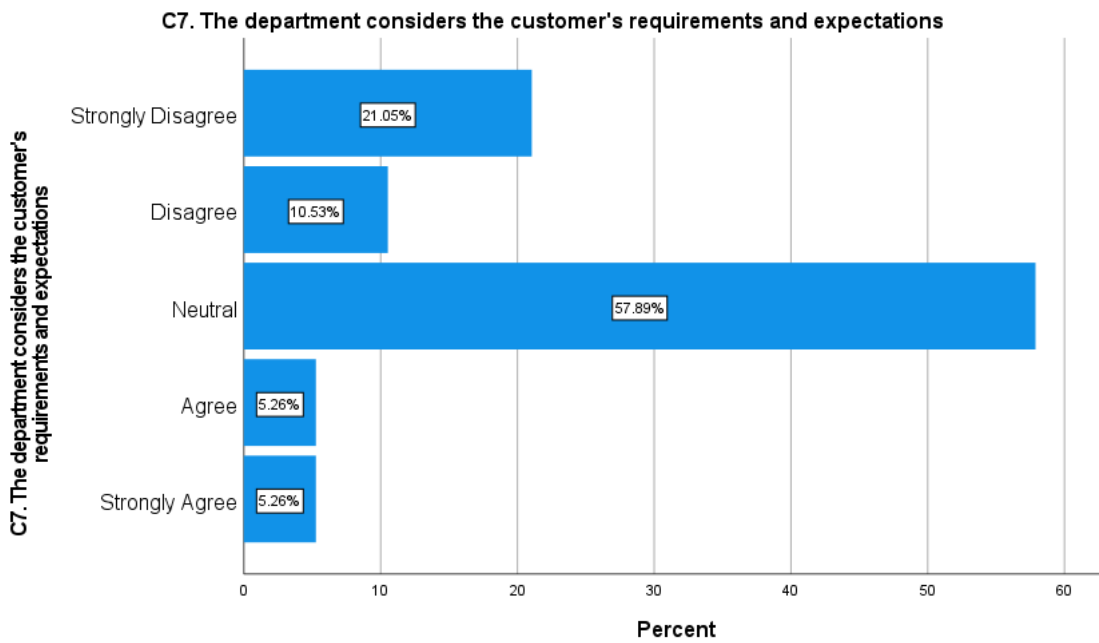
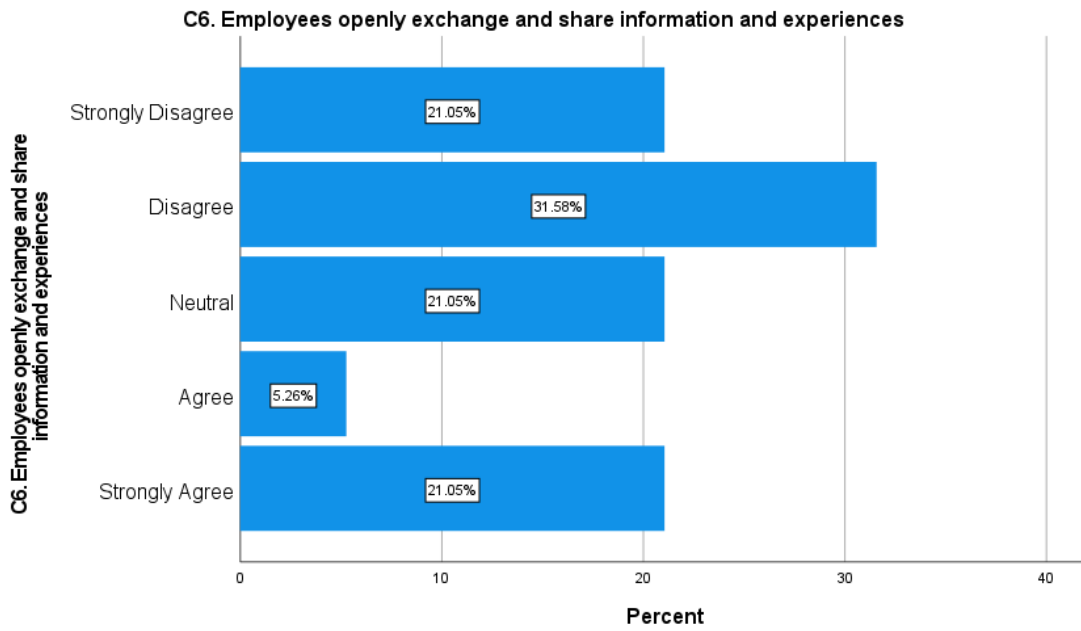


**C4. The workforce recognizes the significance of their work and role in the organization**



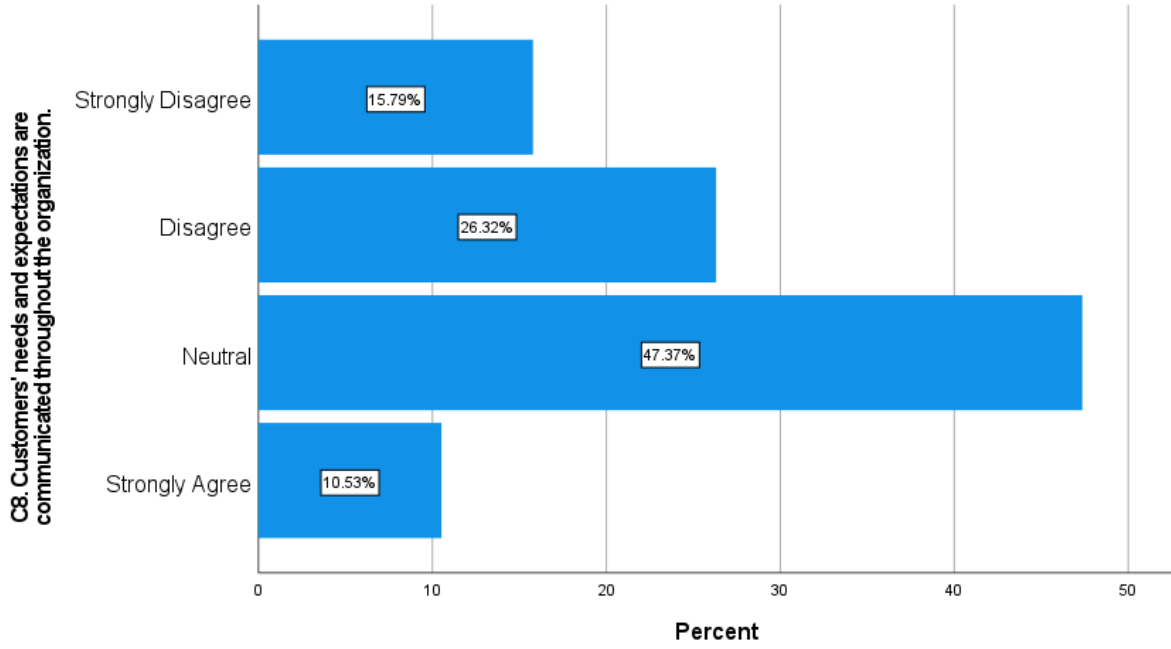
**C5. The workforce accepts ownership of challenges/issues and their responsibility to resolve them**



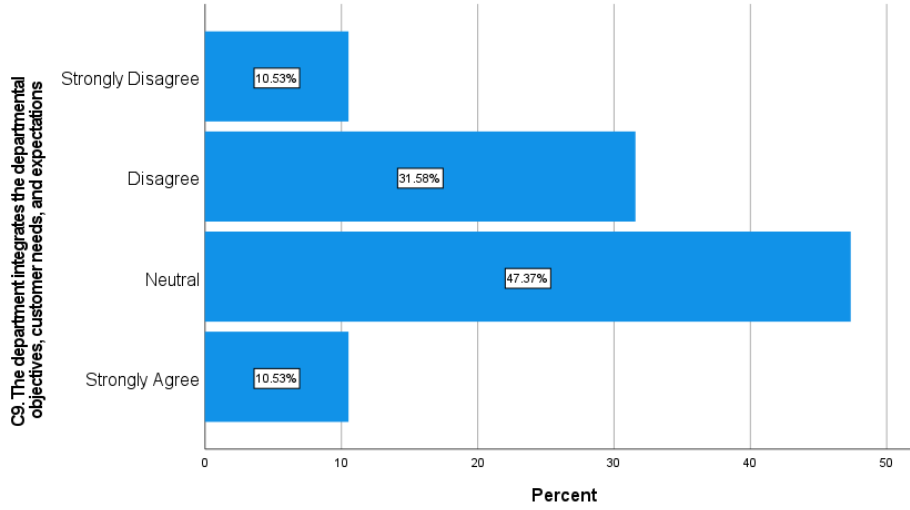


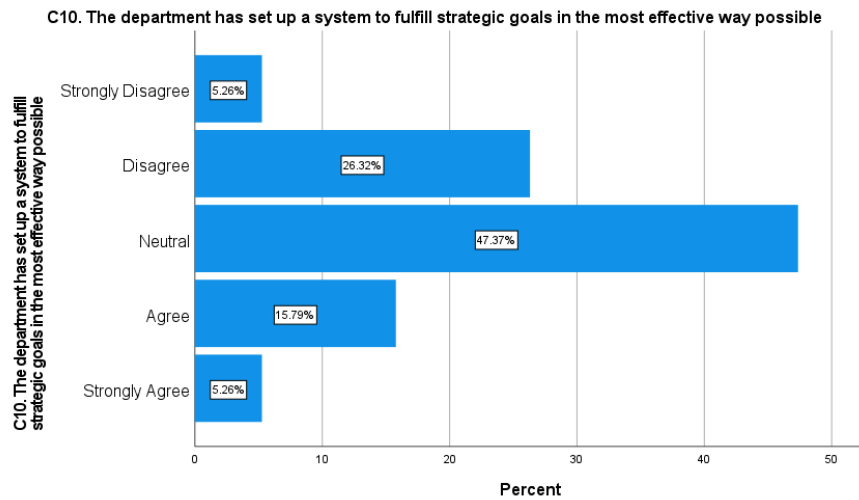


**C8. Customers' needs and expectations are communicated throughout the organization.**

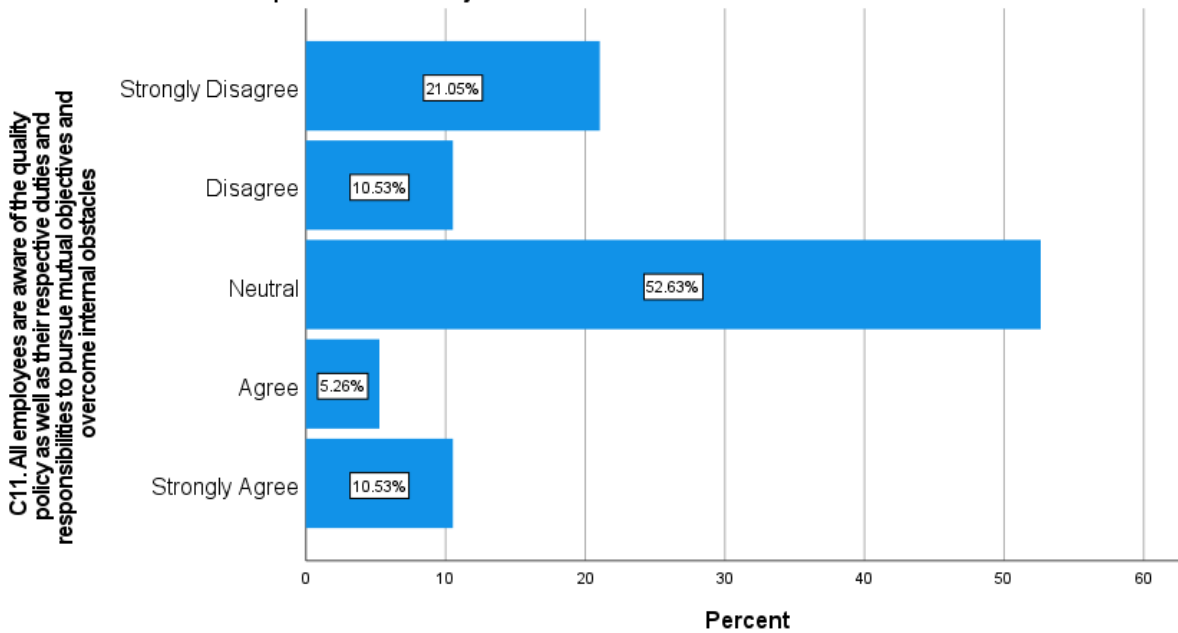


**C9. The department integrates the departmental objectives, customer needs, and expectations**

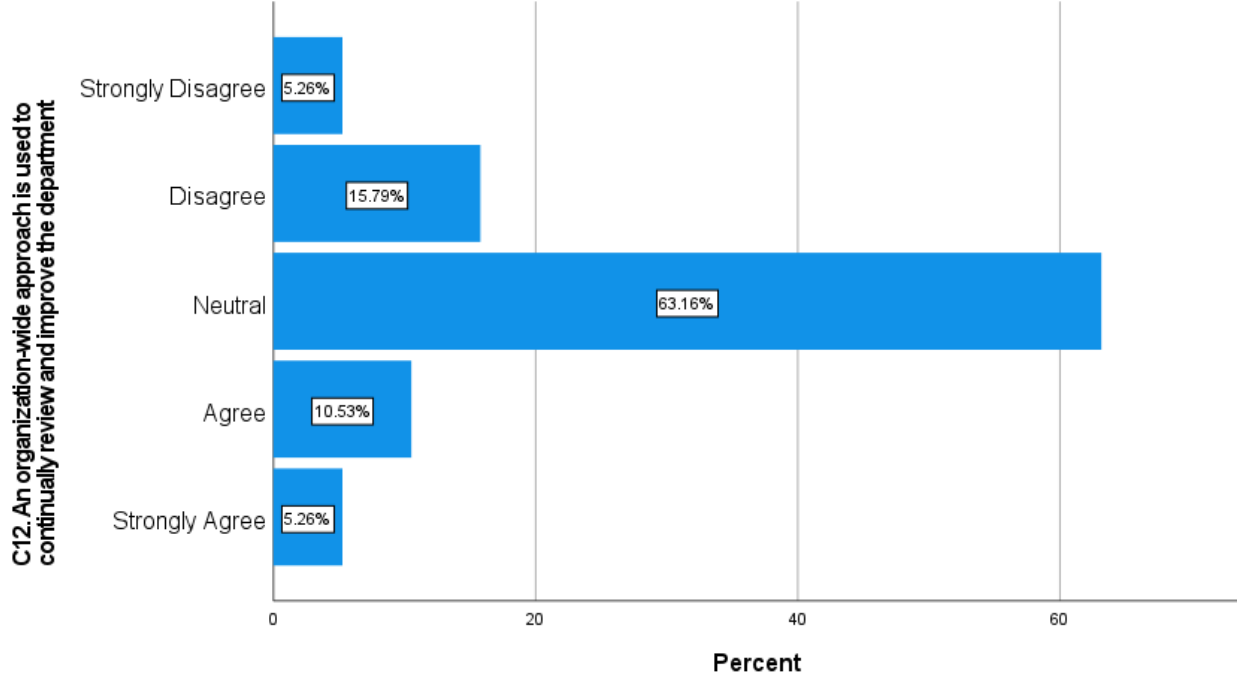




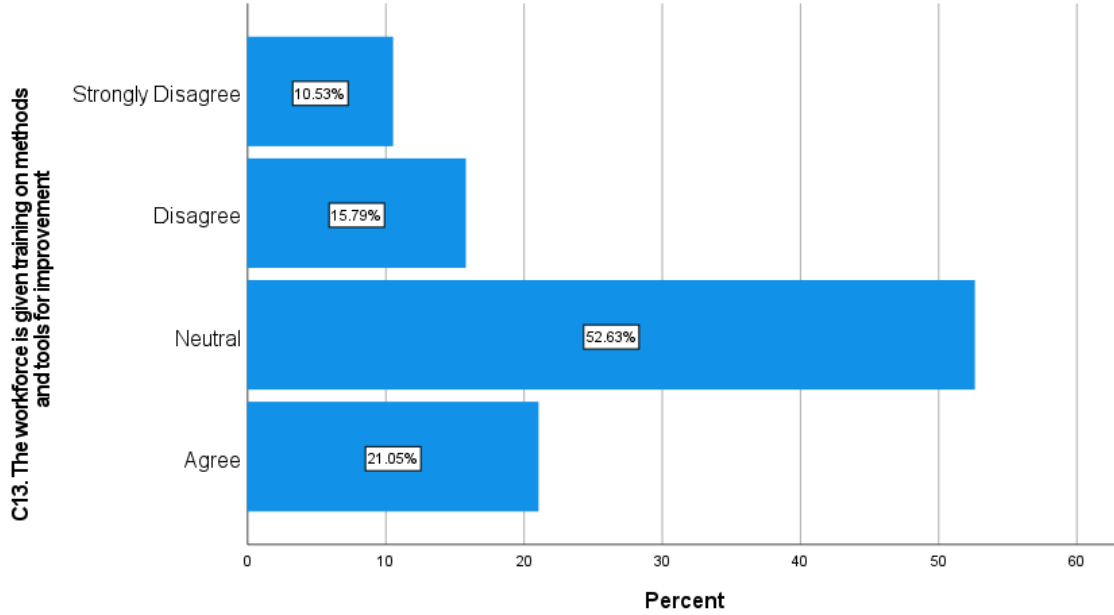
**C11. All employees are aware of the quality policy as well as their respective duties and responsibilities to pursue mutual objectives and overcome internal obstacles**



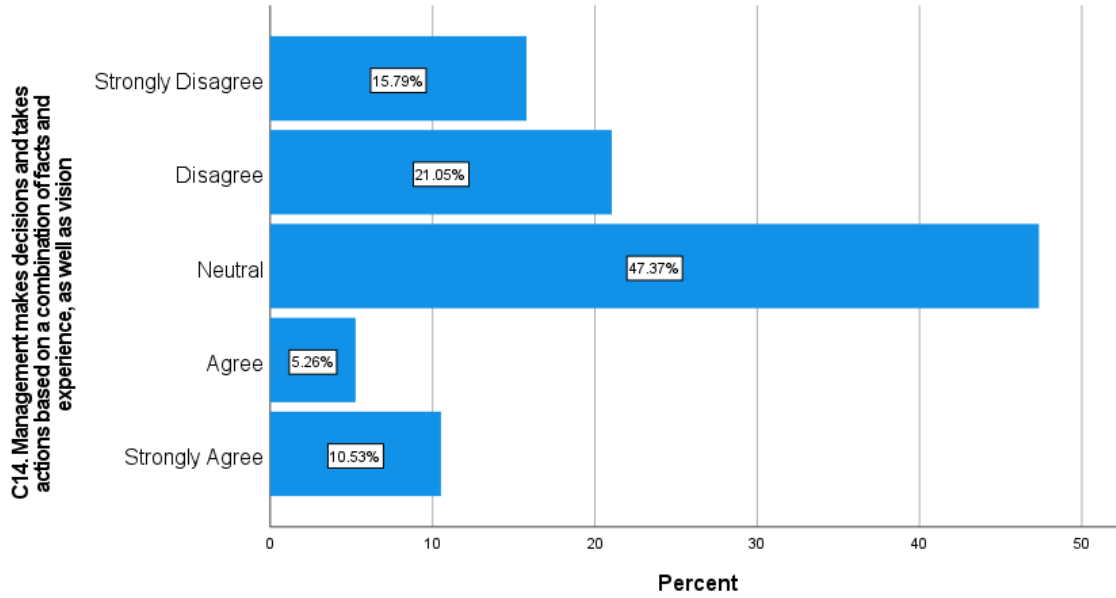
**C12. An organization-wide approach is used to continually review and improve the department**



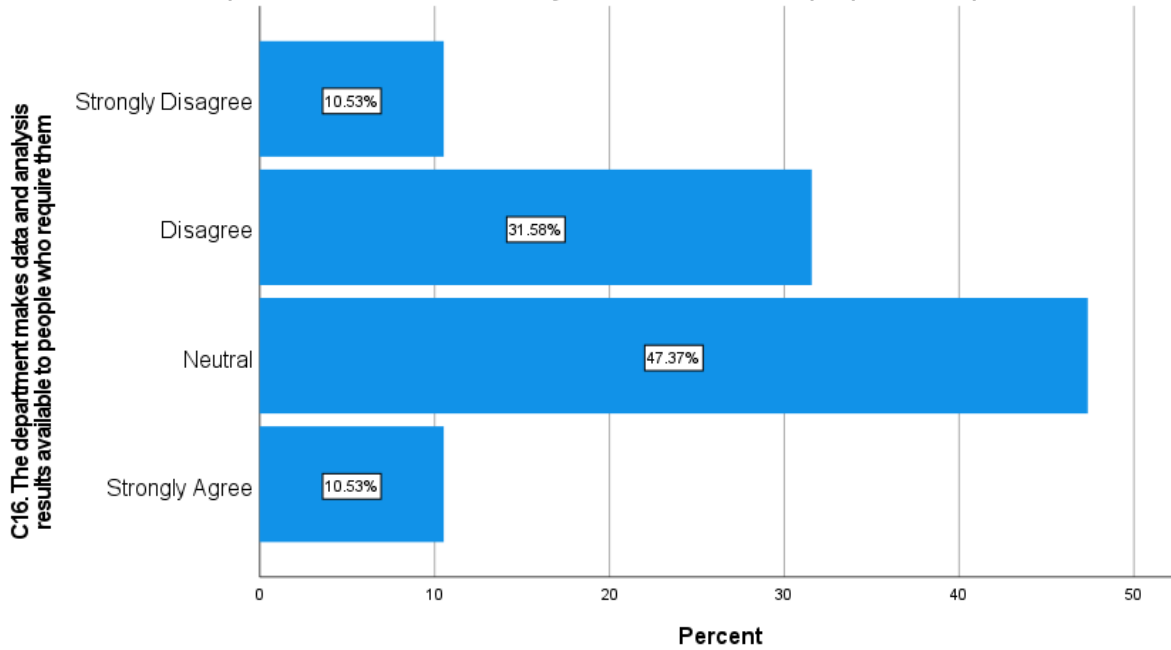
**C13. The workforce is given training on methods and tools for improvement**



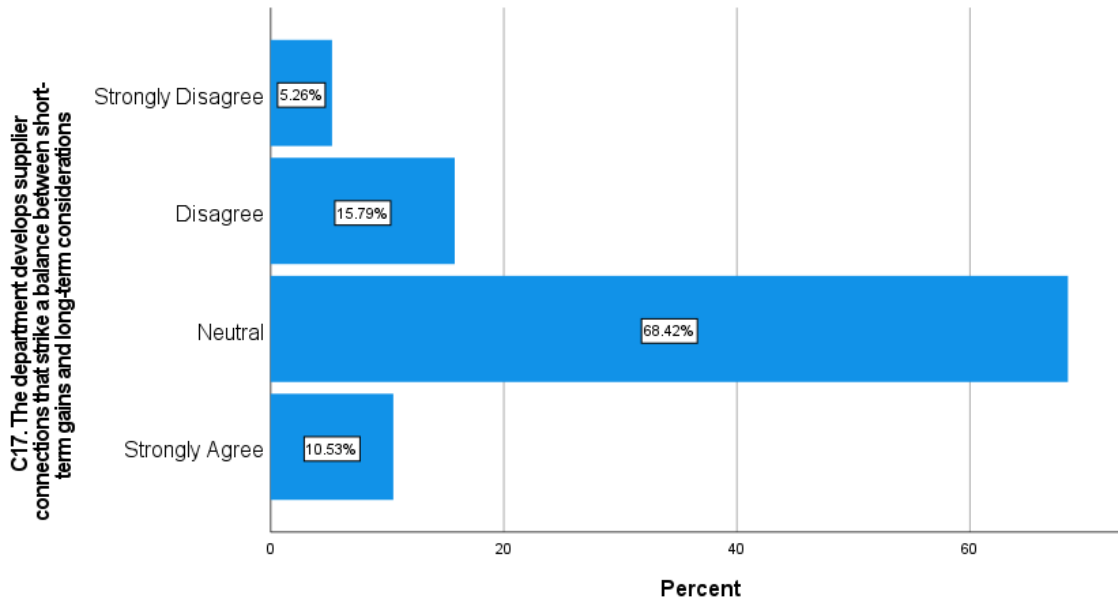
**C14. Management makes decisions and takes actions based on a combination of facts and experience, as well as vision**



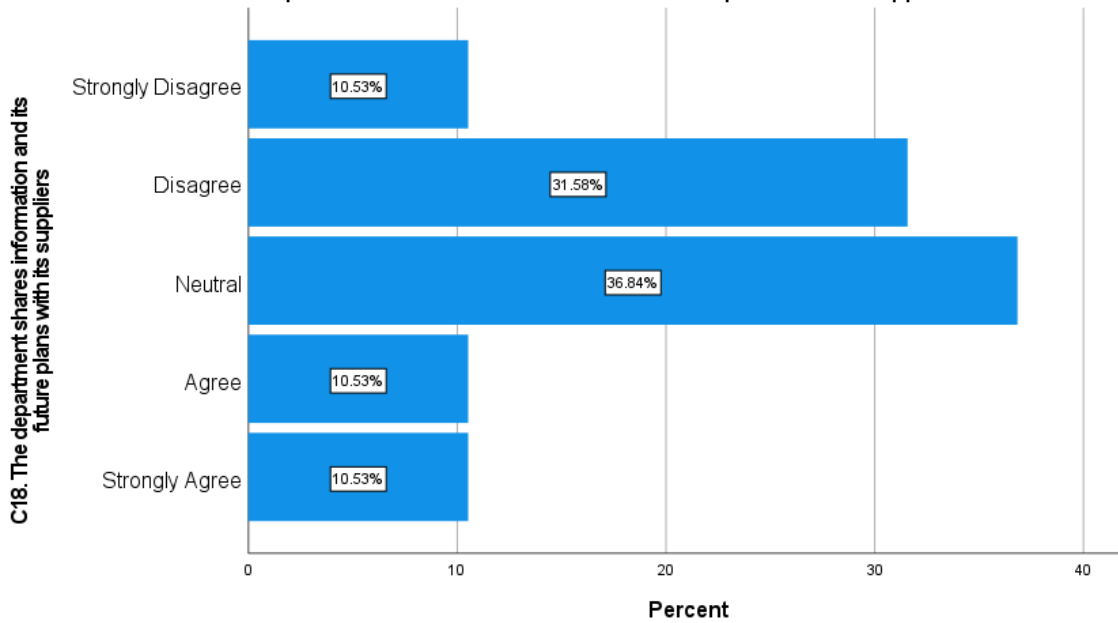
**C16. The department makes data and analysis results available to people who require them**



**C17. The department develops supplier connections that strike a balance between short-term gains and long-term considerations**

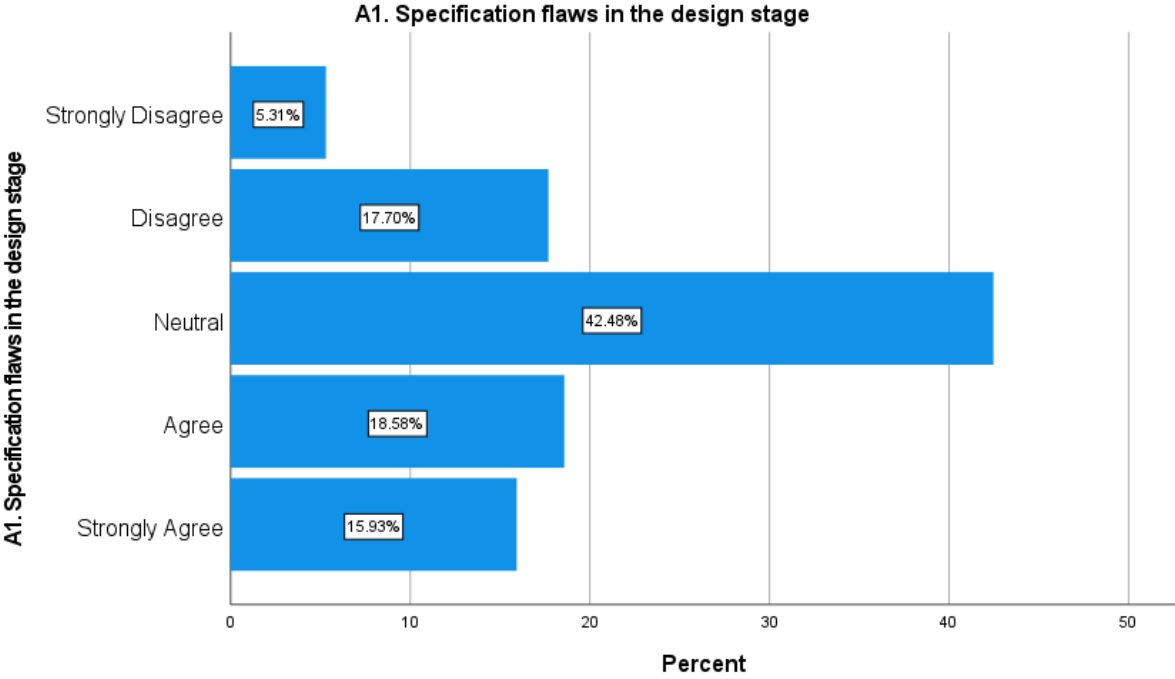


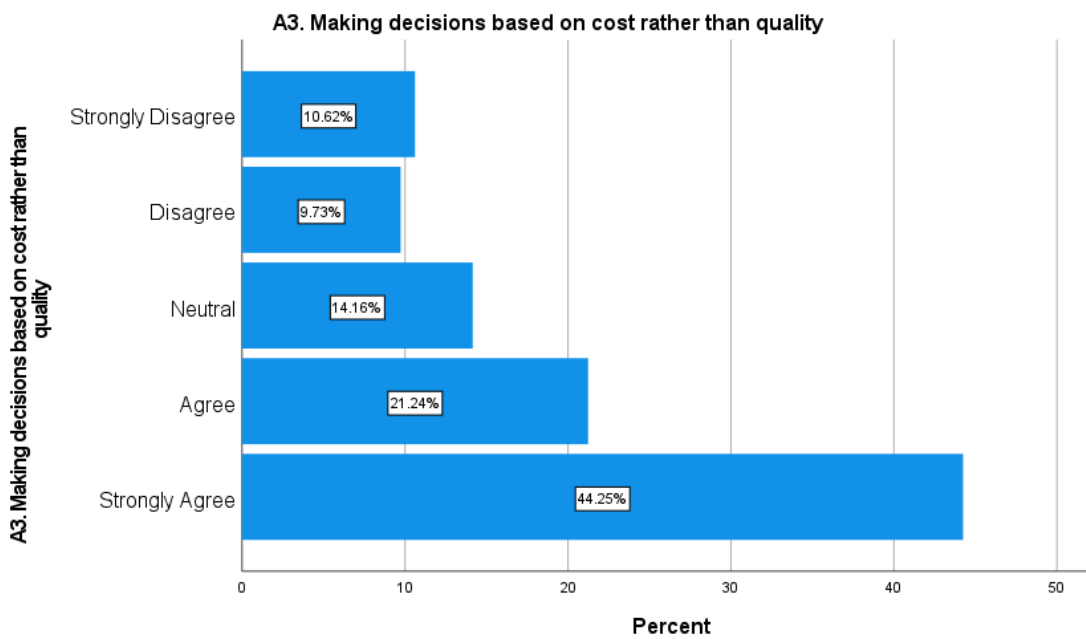
**C18. The department shares information and its future plans with its suppliers**

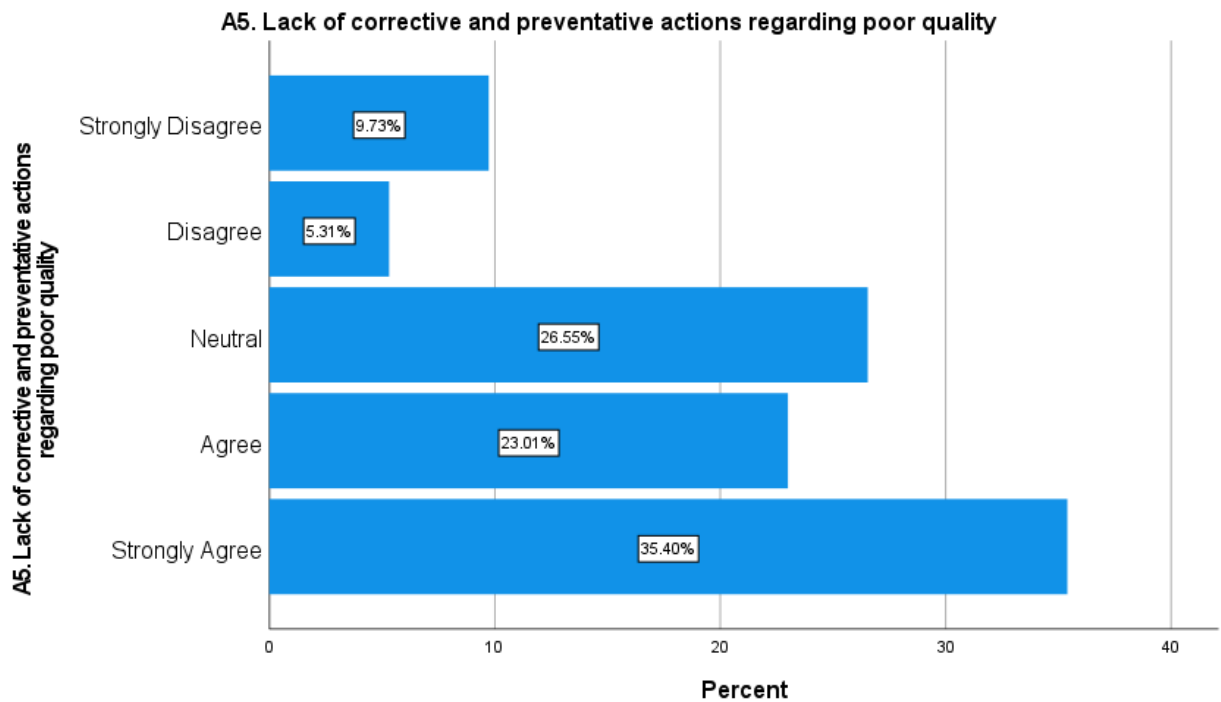
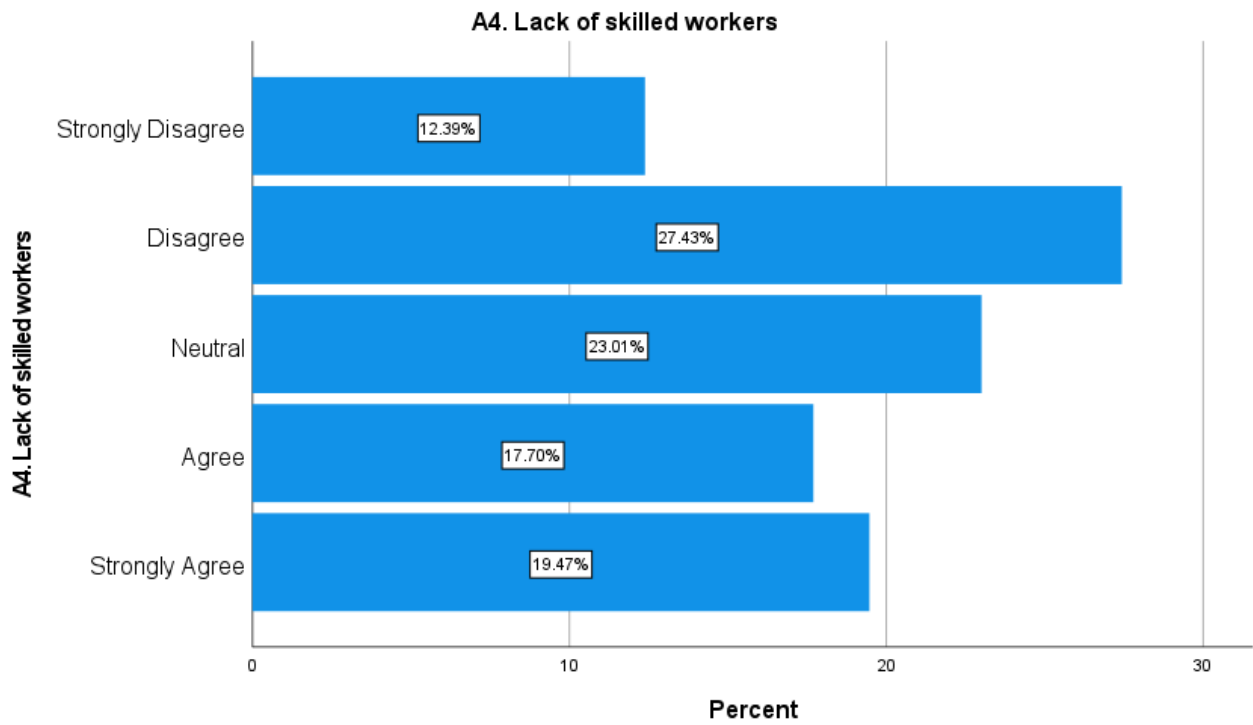


Appendix 11: Responses from the customers

The research objective; The key factors affecting the quality of public infrastructure were responded to by all the respondents.

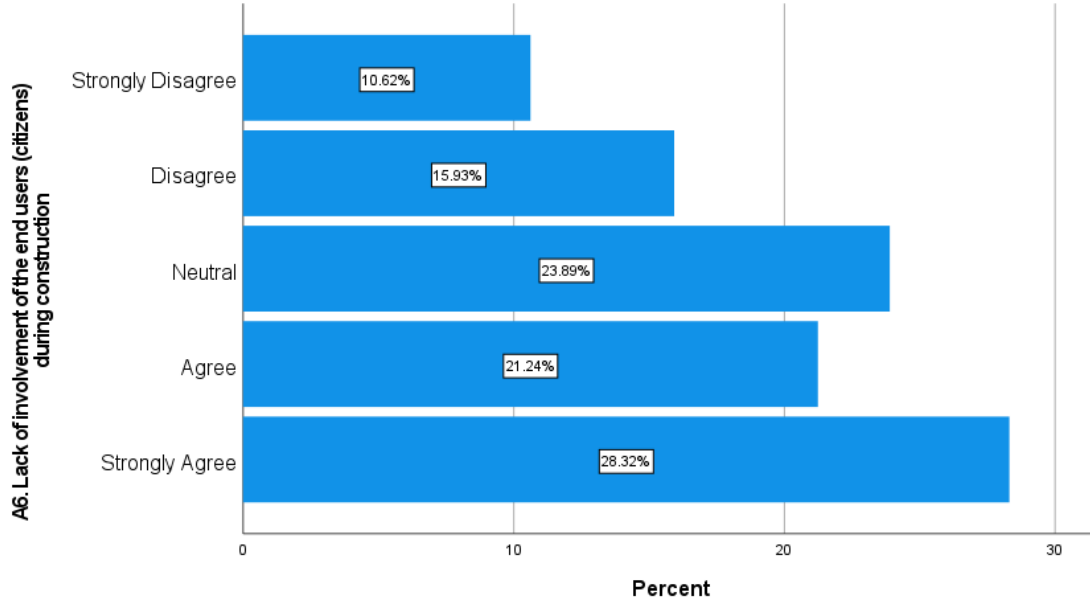




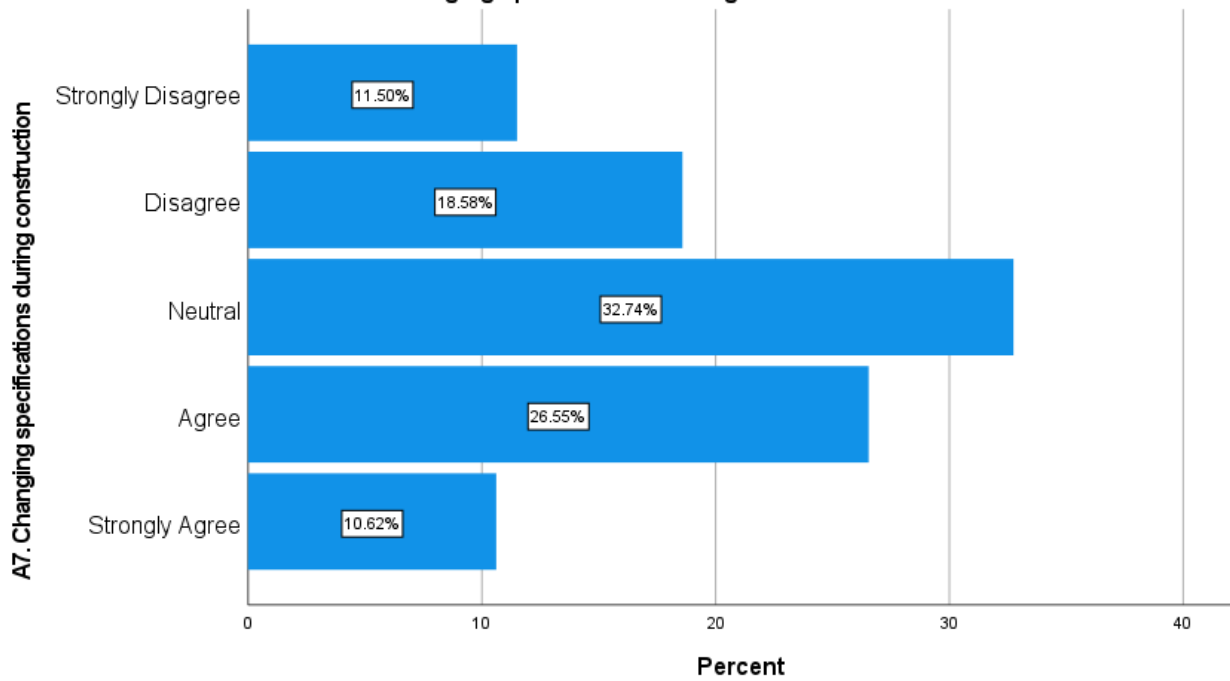


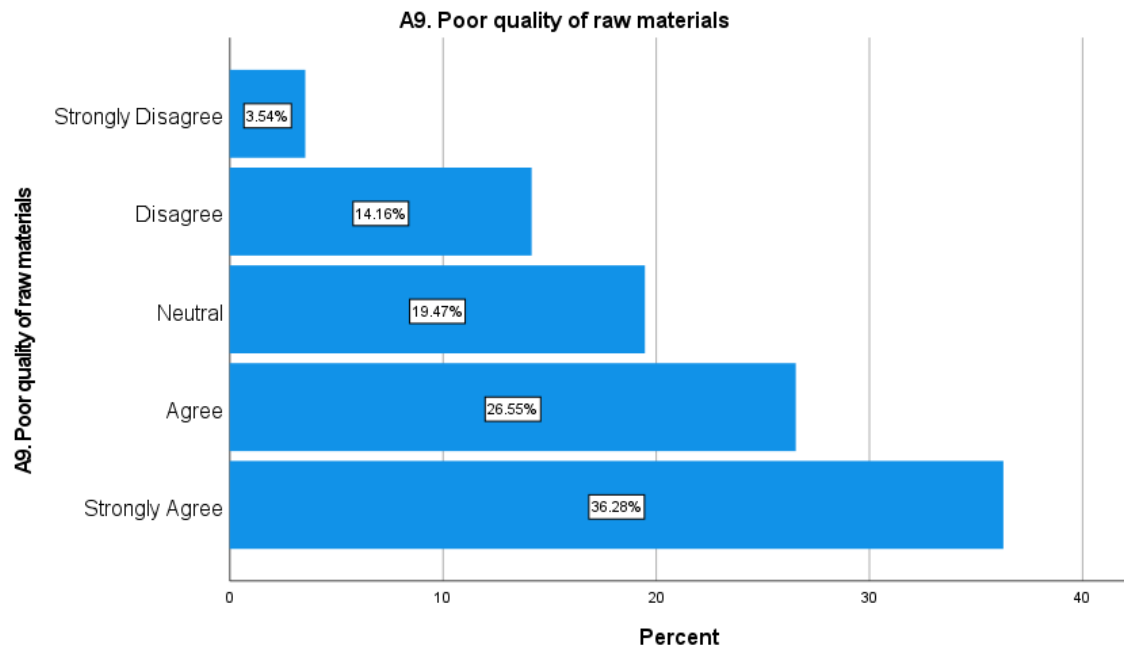
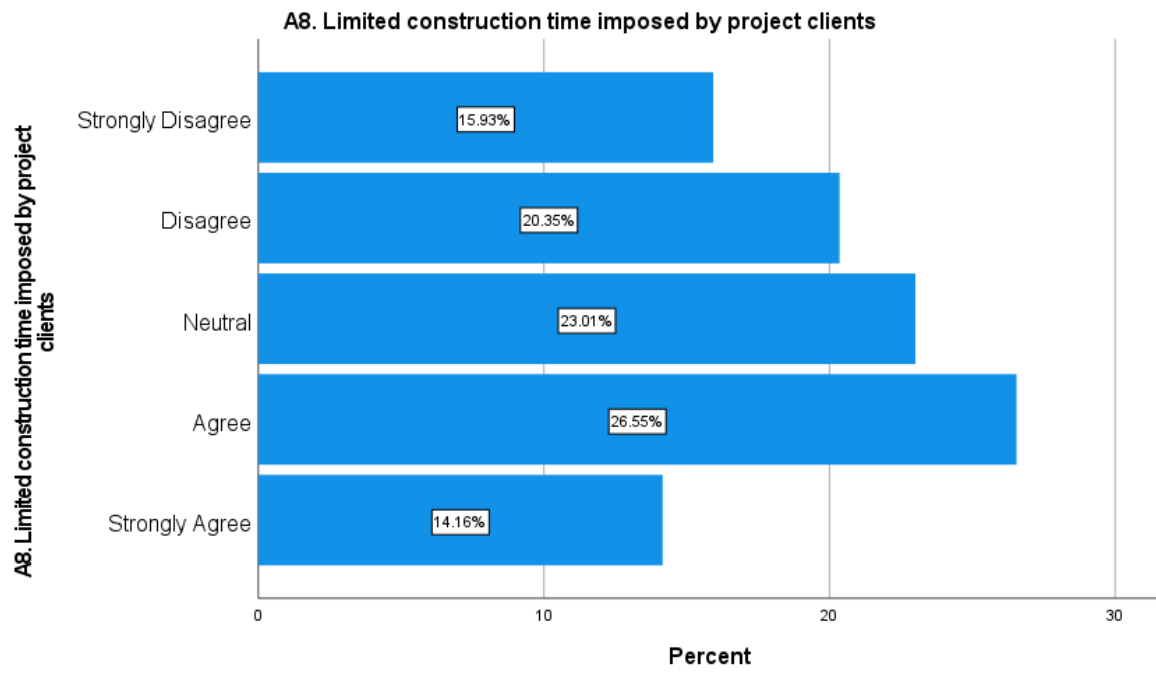


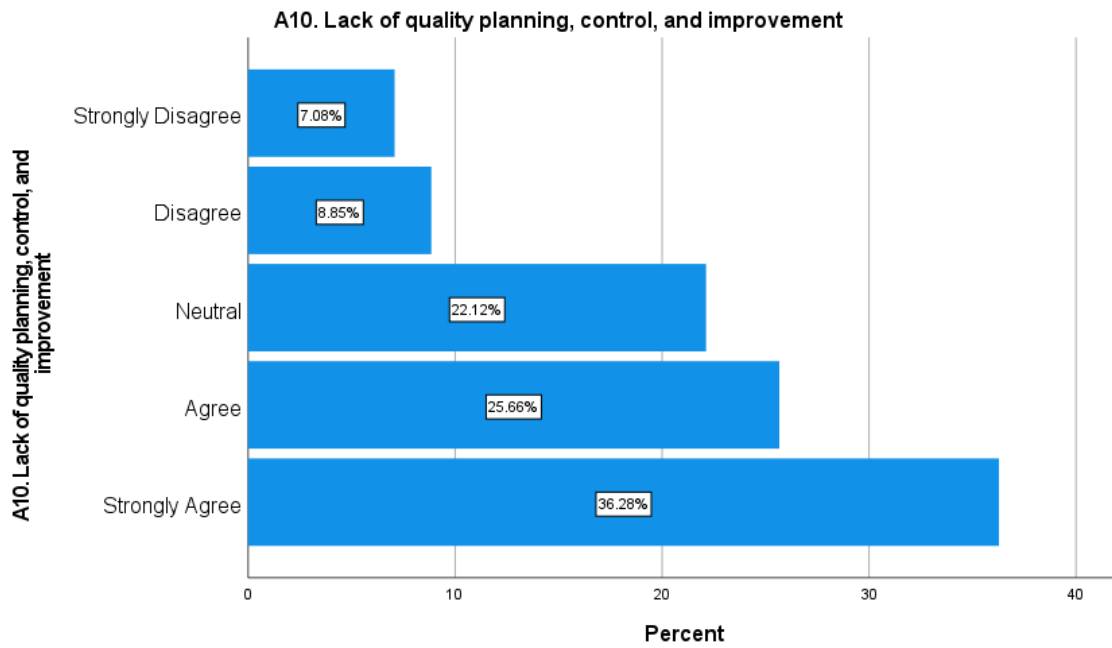
**A6. Lack of involvement of the end users (citizens) during construction**



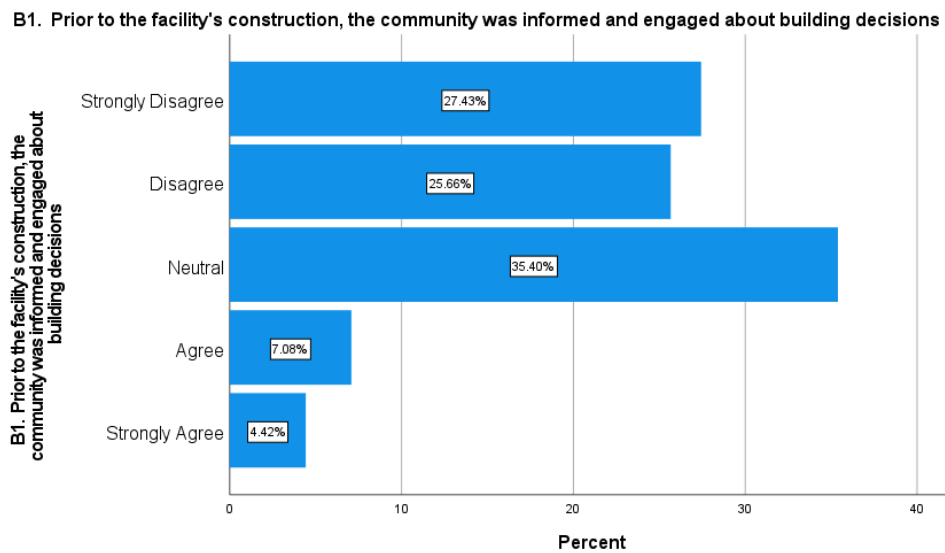
**A7. Changing specifications during construction**



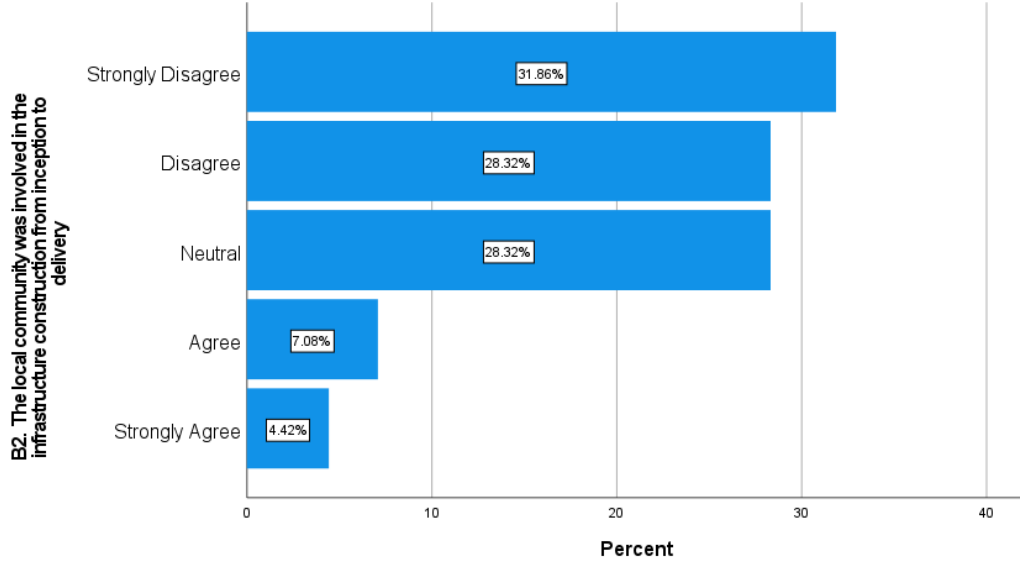




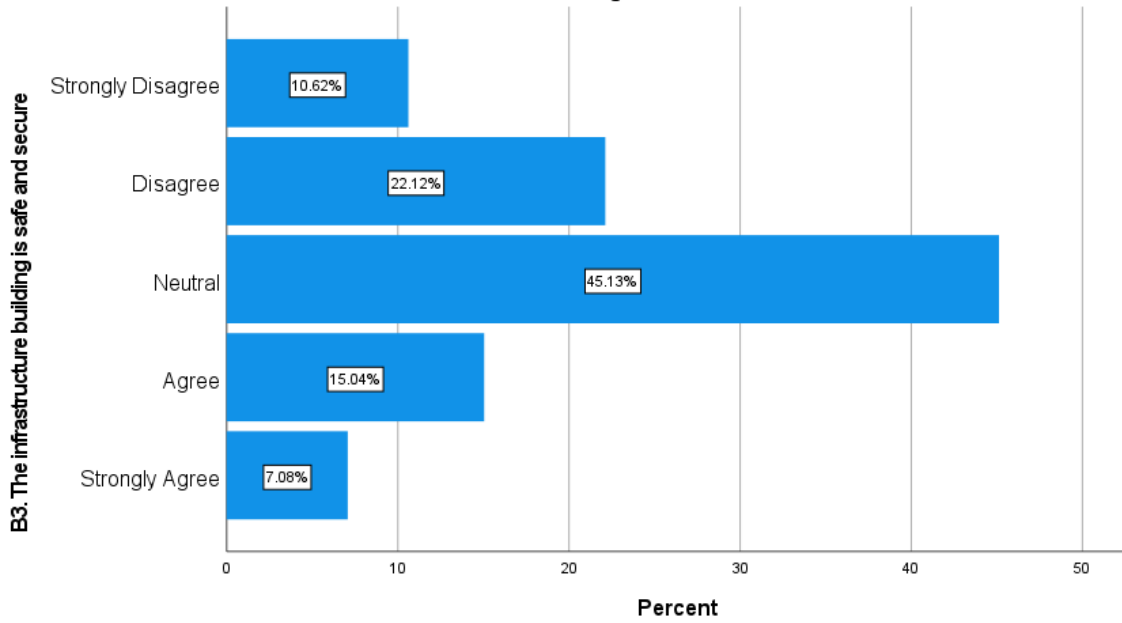
The research objective; Customer perceptions of infrastructure quality were responded to by all the respondents.



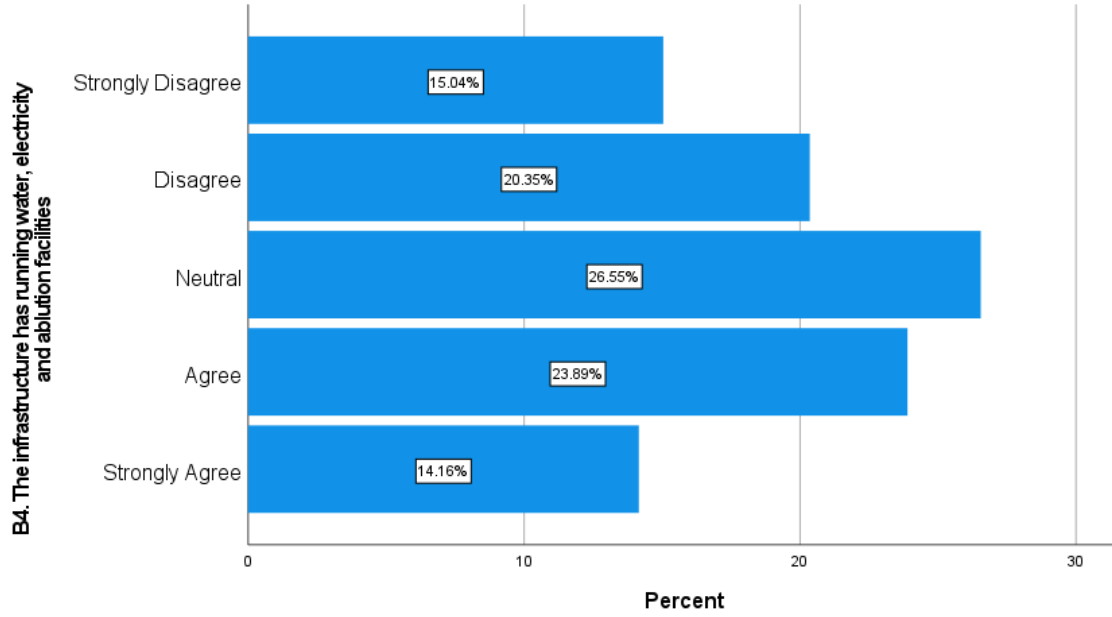
**B2. The local community was involved in the infrastructure construction from inception to delivery**



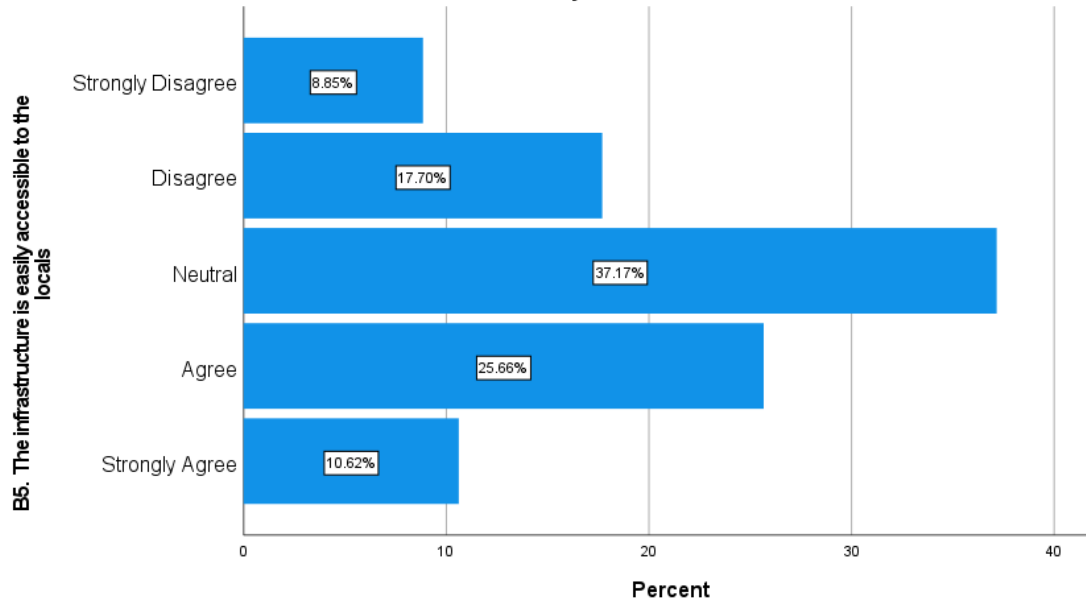
**B3. The infrastructure building is safe and secure**

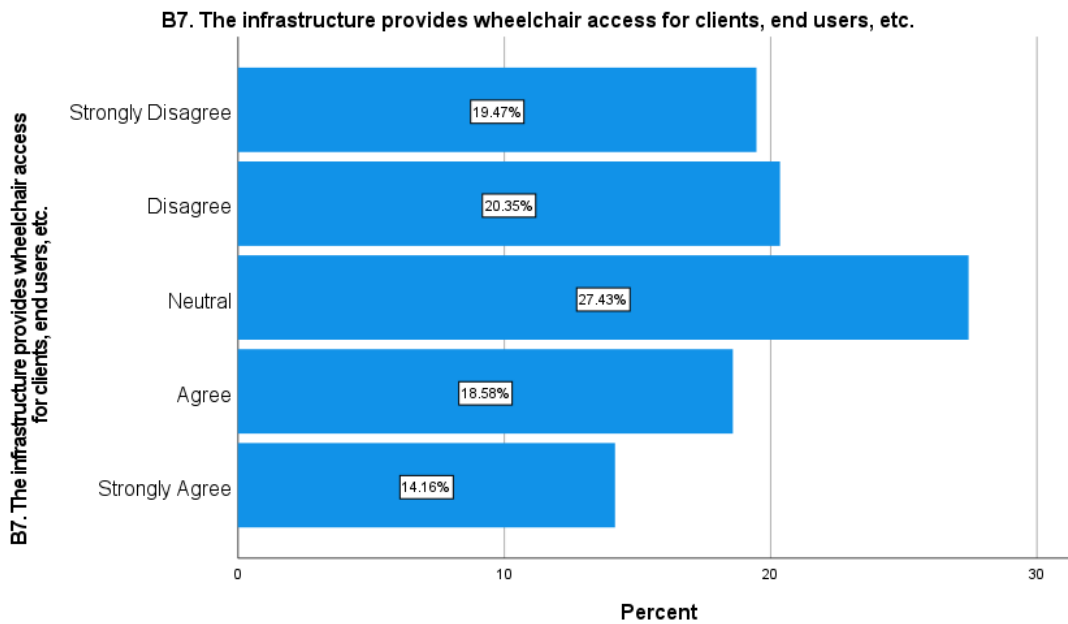
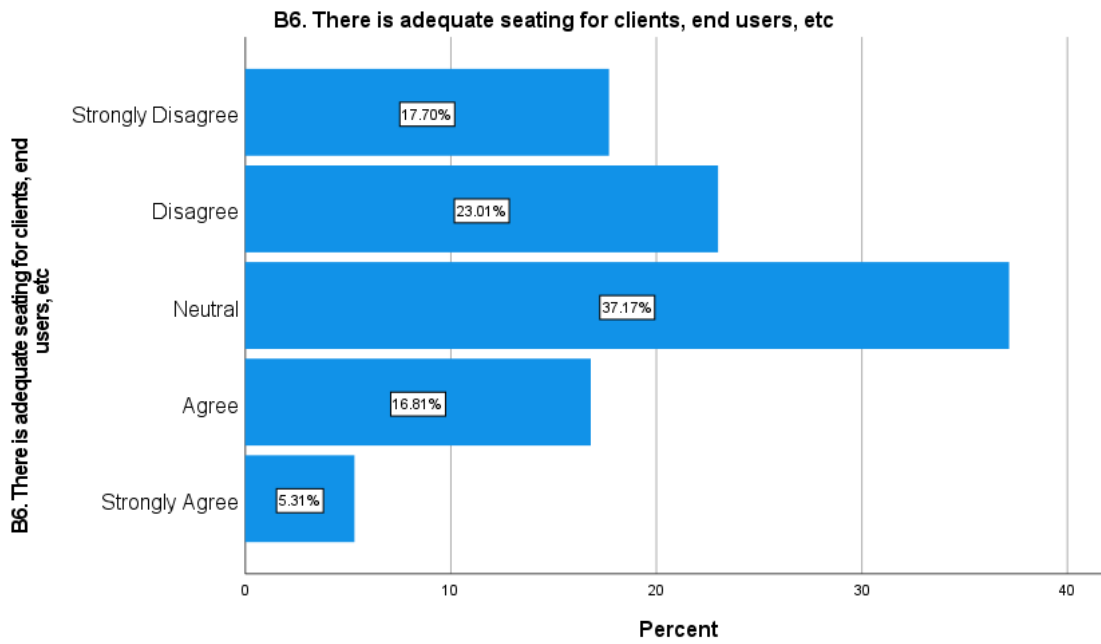


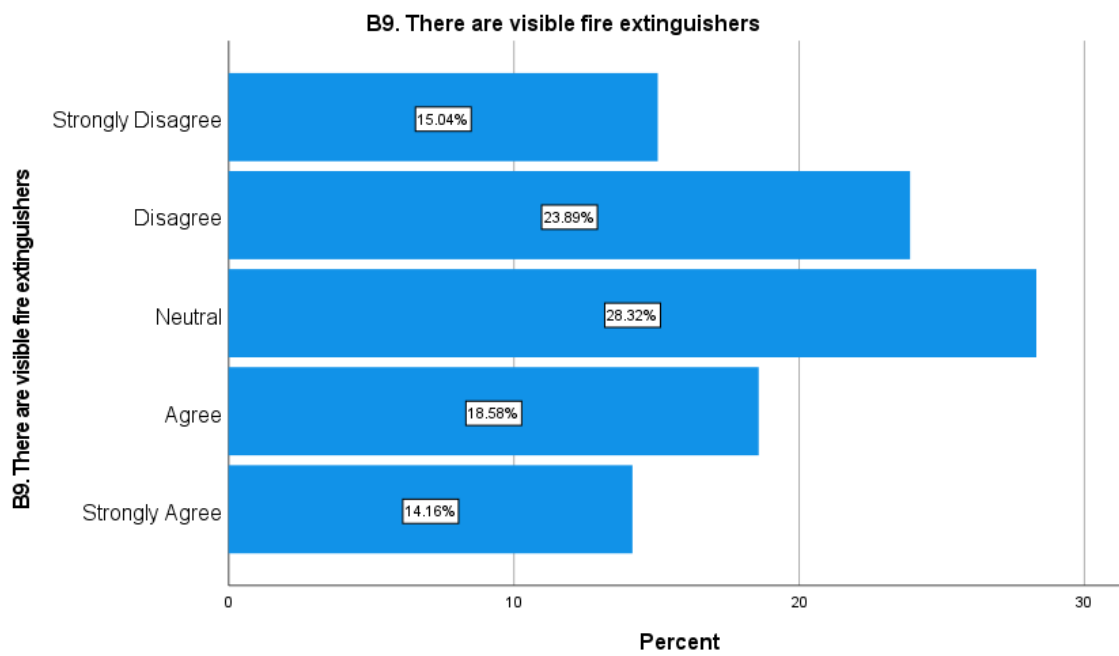
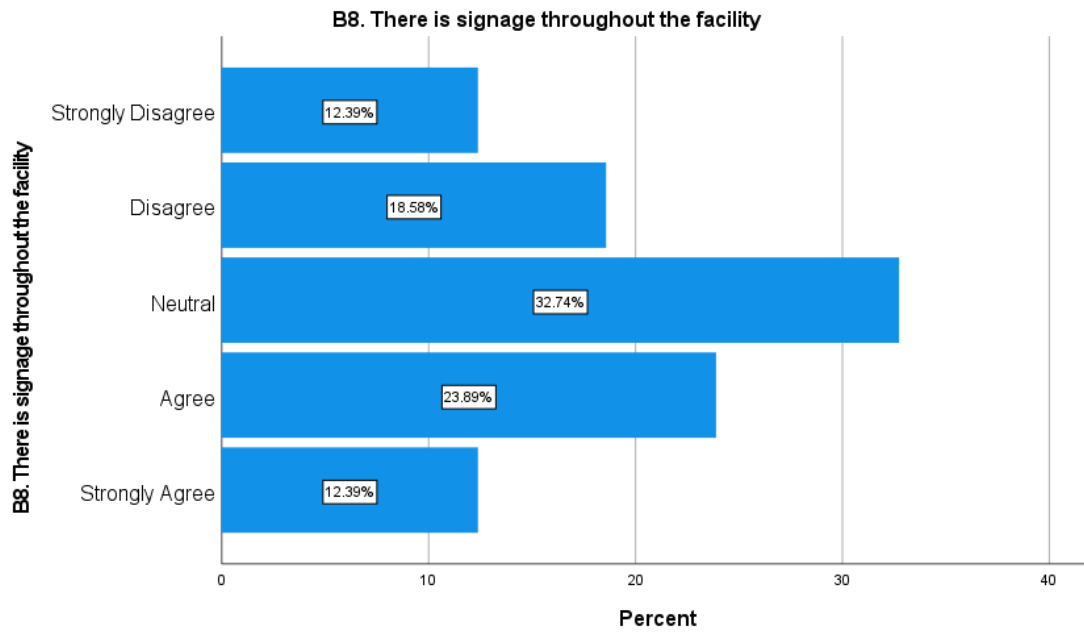
**B4. The infrastructure has running water, electricity and ablution facilities**

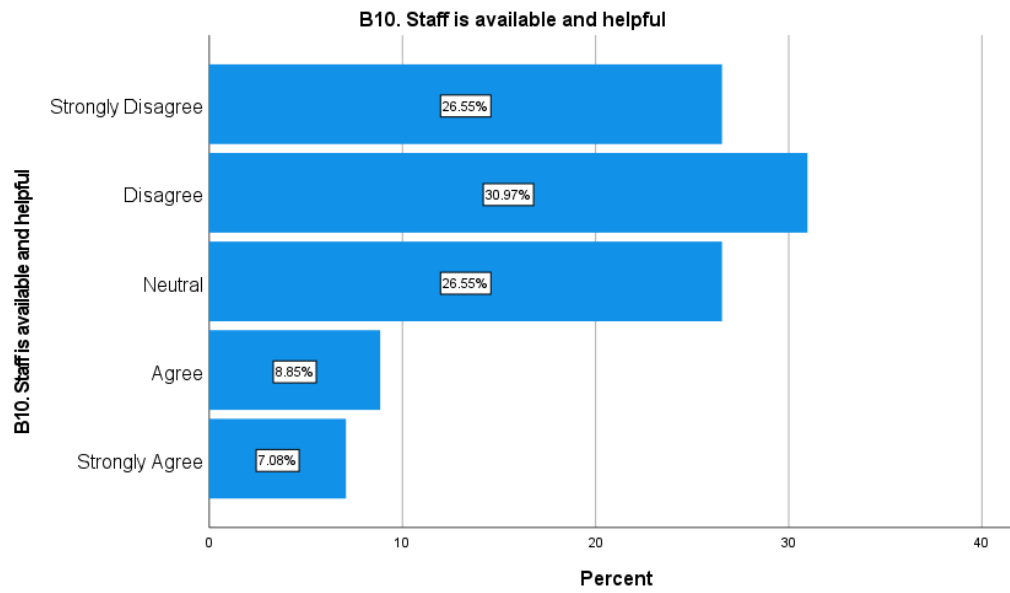


**B5. The infrastructure is easily accessible to the locals**









The research objective; Infrastructure quality assessment, was responded to by all the respondents.



