



**Evaluating the role of project management in service delivery: the case of
eThekweni Municipality, KwaZulu-Natal**

By

Xola Mjaja

221121567

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Supervisor: Dr. Mlondi Vilakazi

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ABSTRACT

The primary function of local government is to deliver essential services, which is implemented through the execution of various projects. Residents of eThekweni Municipality have voiced their frustrations concerning insufficient service delivery and the poor quality of projects. This study aims to examine how project management and service delivery are linked in eThekweni Municipality, to establish the project management tools that may be in place to ensure the delivery of high-quality projects and evaluate the control and monitoring tools that are in place to measure project managers' performance. Furthermore, the study aims to identify internal and external challenges of project management in eThekweni Municipality, and to evaluate project management's role in service delivery in eThekweni Municipality. The study employed a qualitative research approach based on an interpretivist paradigm and corresponding relativist worldview. The study sample comprised fifteen (15) eThekweni Municipality officials who were purposively selected to evaluate the role of project management in service delivery in the municipality. Face-to-face, semi-structured interviews were conducted to collect data, which was then transcribed and analysed using the Nvivo Version 20 software thematic method of analysis. The software was employed to identify the common themes that emerged from the research participants' responses. The findings of the study revealed that project management plays a crucial role in service delivery to ensure the successful execution of high-quality projects. However, eThekweni Municipality is experiencing internal and external challenges that undermine effective project management and hinder the successful execution of high-quality projects. These challenges include budget constraints, inexperienced contractors, delays, and threats by business forums. The research indicated that conventional approaches are predominantly employed in project implementation at eThekweni Municipality, with a notable absence of project management tools and techniques. Currently, the municipality lacks a project management policy or documentation that delineates the procedures for project execution. Additionally, there are no formal forums for comprehensive discussion and resolution of project management challenges. The study revealed a need for eThekweni Municipality to develop a project management policy to ensure a consistent approach throughout the Council in executing projects and to enhance service delivery to its residents. Furthermore, the study revealed a need to formulate a comprehensive strategic response plan that could serve as a guiding framework for the municipality to effectively address the known challenges encountered during the various phases of the project management lifecycle.

Keywords: eThekweni Municipality, Infrastructure, Local government, Project management, Projects, Service delivery, South Africa.

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LIST OF ACRONYMS

AGSA	-	Auditor General of South Africa
CLOs	-	Community Liaison Officers
D-B	-	Design-Build Method
HSETA	-	Human Settlements, Engineering and Transport Authority
IDP	-	Integrated Development Plan
IPD	-	Integrated Project Delivery
ISDs	-	Institutional Social Developments
KZN	-	KwaZulu-Natal
MFMA	-	Municipal Finance Management Act
P-A	-	Principal-Agency Theory
PMBOK	-	Project Management Body of Knowledge
PMI	-	Project Management Institute
PMU	-	Project Management Unit
PPPs	-	Public-Private Partnerships
SDBIP	-	Service Delivery Implementation Plan
SDP	-	Spatial Development Plan
SLA	-	Service Level Agreements
TPM	-	Theory of Project Management
VCI	-	Visual Condition Index
WBS	-	Work Breakdown Structure

CHAPTER ONE: INTRODUCTION TO THE STUDY

1.1 Introduction

A municipality is part of the local government and refers to a geographical area defined by the Municipal Demarcation Board (Mathebula, 2018). Adeyemo (2005) states that a local government is not sovereign; instead, it is governed by rules and regulations enacted by the national government. In the past, local governments had different roles and responsibilities. In colonial times, local authorities' primary function was maintaining law and order. However, the emergence of independent democratic countries resulted in local government authorities shifting the focus away from maintaining law and order to providing public service (Adeyemo, 2005). In South Africa, the public is becoming more vocal as they begin to comprehend the services that municipalities are mandated to dispatch to citizens. Leaders both in Africa and worldwide chanted the phrase '*Aluta continua*', signalling their commitment to persevering through difficult times of hardship and injustice. Rulashe (2022) describes '*Aluta continua*' as a phrase that previously motivated and brought optimism to oppressed citizens. In South Africa, decolonisation and the realisation of a democratic state in 1994 brought hope to the people for a more equitable society and improved living conditions. However, in the post-apartheid era, the ordinary citizens of South Africa continue to face challenges and hardships on daily basis.

The primary role of any municipality is to be responsive to the public by ensuring that people within the municipality's area of jurisdiction are provided with the basic services they need. Citizens demand evidence on the ground to show the service delivered by the local government and to prove that there is value for their rates and taxes that are paid every month (Van der Walt, 2005). The communities of eThekweni Municipality, comprising ratepayers' associations from different suburbs and residents from townships and informal areas (rural) have been and continue to show their frustration and dissatisfaction with poor service delivery. The frustration is seen on national television, where stories have been reported of the residents of eThekweni Municipality embarking on protests and blocking main routes to voice their dissatisfaction with inefficiency and a lack of service delivery by the municipality.

The high levels of poverty and the lack of public services in South Africa, particularly in the black population and townships, are a result of poor service delivery.

Unfortunately, the COVID-19 global pandemic, looting in July 2021 and the April and May 2022 and January 2024 flood disasters have added to eThekweni Municipality's service delivery challenges. The COVID-19 global pandemic resulted in a descending momentum of the collection rate in all municipalities, which will take a very long time to fix (Maharaj & Reddy, 2021). eThekweni Municipality suffered widespread infrastructure damage during the flood disasters with damage to the economy and the infrastructure of eThekweni estimated to be R25bn due to the looting in July 2021 and the April and May 2022 flood disasters (South African Institute of Valuers, 2022). Infrastructure such as roads, bridges, stormwater systems, water systems, human settlements and sanitation were severely affected. The municipality then reprioritised a portion of its 2022/2023 budget of R2.1bn to rehabilitate and restore critical infrastructure (Kaunda, 2023).

The undesirable increases in protests and strikes suffered by local governments in South Africa is due to poor delivery of quality service in the execution of municipal projects (Adewumi, 2022). The struggle for improved service provision is brought about by dysfunctional municipalities, corrupt leaders and numerous other systematic challenges (Wasserman, Chuma & Bosch, 2018). Similarly, Rulashe (2022) states that the challenges of lack of basic quality service delivery affecting the citizens of South Africa are due to corruption and municipal maladministration in the execution of project management in municipal initiatives. Adewumi (2022) further adds that poor project management remains a challenge, not only in South Africa but more widely in Africa. An example of this poor project management was investigated in a study by Musau and Kirui (2018), who found that county governments of Kenya demonstrated significant project management deficiencies in the execution of nearly all their planned projects. Effective project management is accomplished through project management lifecycle phases that encompass initiating, planning, executing, monitoring, controlling, and closing. The Project Management Body of Knowledge (PMBOK) Guide (Project Management Institute [PMI], 2021) defines a project life cycle as the sequence of phases a project undergoes from initiation to close-out. The primary challenges in ensuring effective project management involve fulfilling all project aims and objectives while simultaneously alleviating project constraints (Musau & Kirui, 2018).

The impact of apparent poor project management in the strategic and operational processes of service delivery needs to be examined in eThekweni Municipality, hence the formulation of this

research. This chapter introduces the study's background and scope, detailing the problem statement, research aims, and objectives that guided the study. This chapter will also briefly discuss the limitations encountered during the research process. Moreover, this chapter outlines the structure of the subsequent chapters comprising the dissertation.

1.2 Study background

There is considerable evidence indicating that the future growth and achievements of both public and private sector entities largely depend on successfully developing and executing projects that create innovative and advanced infrastructure and provide exceptional public services to citizens, including basic services meant to be provided by municipalities (Ika, 2012). All South African citizens have a right to basic services, as enshrined in the Constitution. These basic services include human settlements, water, electricity, health, roads, street lighting, traffic control, refuse collection, and sewage disposal. eThekweni Municipality is one of the eight metropolitan municipalities of South Africa and is the only Category A municipality in the province of KwaZulu-Natal (KZN), located on the east coast of South Africa. 'Category A' means eThekweni Municipality has exclusive legislative authority in the eThekweni area. The municipality has a total population of 3,5 million people (eThekweni Municipality, 2024a). While the Municipality comprises predominantly 74% black Africans, it has a mixed population facing multiple social, economic, environmental and governance challenges. 63.4% of eThekweni Municipality has flushed toilets connected to sewerage, 60.2% have piped water connected inside the properties, and 89% of the population has electricity (Statistics South Africa, 2024). eThekweni Municipality currently has a growth population rate of 1.08% (Statistics South Africa, 2024).

According to Section 155(7) of the Constitution of the Republic of South Africa, 1996, the national and provincial governments are mandated to ensure that municipalities efficiently fulfil their service delivery responsibilities (Republic of South Africa, 1996). eThekweni Municipality therefore has a constitutional mandate of providing, distributing and maintaining healthy living conditions for eThekweni communities as per schedules 4 and 5 of the Constitution (Republic of South Africa, 1996). The municipality is mandated to provide uninterrupted basic service to 3,5 million people through projects managed by eThekweni Project Managers. However, eThekweni Municipality faces major challenges related to the lack of basic quality service delivery, which greatly affects residents. This is due, as has been posited by previous research, on the one hand, to corruption and municipal maladministration in the

execution of project management in municipal initiatives (Wasserman, Chuma & Bosch, 2018). On the other hand, Ika (2012) also mentions that most failed projects illustrate issues such as poor financial management, the absence of appropriate schedules and plans, inadequate stakeholder engagement, and ineffective development strategies. All these identified issues that may affect the provision of basic service delivery are encompassed within the scope of project management.

1.3 Significance of study

Project management is at the core of service delivery in the local government, especially in the new democratic dispensation of South Africa that emerged in 1994. Project management systems form part of government mechanisms that seek to address the history of apartheid that was characterised by exploitation of the black population and denial of effective service delivery (Adewumi, 2022). A survey by Adewumi (2022) indicated that local government in South Africa faces numerous financial resource challenges, such as the low budgetary financial allocation from the National Treasury. Additionally, the study revealed that mismanagement of funds and personal glorification impact the management and execution of projects. Similarly, Moji, Nhede and Masiya (2022) found that municipalities in developing countries face financial management challenges such as the misuse of public funds, fraud and corruption. Moji, Nhede and Masiya's (2022) findings further unpack the challenges that are hindering service delivery in municipalities, which include ineffective internal control mechanisms, unproductive audit committees, management's failure to enforce consequences, and the limitations in progress checks by the Auditor General of South Africa (AGSA).

Agba, Akwara and Idu (2024) in their study argued that local government service delivery has continued to decline and is in a state of disorder as a result of financial allocation challenges. Similarly, Mabika (2021) revealed delays in allocating funds from the National Treasury, and found that the overall budget allocated for service delivery is low. Mabika's (2021) study further revealed that political interference and the procurement of incompetent service providers impact the quality of service delivered. Additionally, in their findings, Durdyev and Hosseini (2020) unpacked the factors that contribute to poor service delivery, namely: inadequate communication, ineffective planning, inexperienced staff, and financial mismanagement.

The findings from previous studies show a significant challenge in the way in which the oversight is carried out in terms of projects that are implemented to improve the livelihoods of citizens, hence the formulation of this study which examines the role of project management tools and techniques that are essential to ensure that the oversight on projects is executed seamlessly within specified scope, quality, time, and budget. As stated by Backlund, Chron  er and Sunqvist (2014), to achieve project objectives effectively, project managers must consider three aspects of project management methodologies: quality, cost, and time. The researcher has identified a gap in the available literature from previous studies and seeks to close the gap within the context of eThekwini Municipality.

This study is significant in several aspects. Firstly, it seeks to address identified gaps in the literature by extensively analysing and evaluating control measures developed by the local government of eThekwini Municipality to select experienced and capable project managers for a specific project. Secondly, the study will determine how the performance of the selected project managers is assessed throughout the five phases of the project lifecycle and the challenges encountered in this process. The study will further evaluate whether the local government has developed project management committees where project management challenges are discussed and addressed. Lastly, the study will determine if there are any dedicated investments for the continuous development of project managers.

1.4 Problem statement

eThekwini Municipality has been certified by the Department of Cooperative Governance and Traditional Affairs as an efficient and financially operable municipality. Additionally, the municipality has received an unqualified audit report for five consecutive years (Kaunda, 2023). However, despite these positive assessments, the AGSA has also cited challenges experienced by eThekwini Municipality, including irregular expenditure (Kaunda, 2023). The results presented in the Service Delivery and Budget Implementation Plan indicated that eThekwini Municipality's performance in providing quality basic service was 56,25% (eThekwini Municipality, 2022). This percentage, when considering the quality of basic service, indicates that the municipality is lacking in the delivery of adequate service to its residents, as mandated by the Constitution of the Republic of South Africa. According to Zwikael, Chih and Meredith (2018), the effective and efficient management of projects within local government is essential for the successful execution of infrastructure initiatives.

Disregarding the potential benefits of project management principles and initiatives could lead to considerable losses for the government and the citizens at large (Zwikaël et al., 2018). Thus, to ensure that the benefits of projects are achieved, the project management discipline has intensified its focus on project benefit management.

The Service Delivery and Budget Implementation Plan is a municipal performance monitoring tool and a legislated requirement per the Municipal Finance Management Act (MFMA) (Act No. 56 of 2003) (Republic of South Africa, 2004). The MFMA has four elements: drafting and preparing budgets, management of revenue and expenditure, reporting, and control (Republic of South Africa, 2004). It has been proven that municipalities are at the core of the citizens' struggles, as shown in the Local Government Audit Outcomes 2020–2021 (AGSA, 2021). The AGSA indicated that at that time there had been no progress in the audit results for most of the municipalities. Additionally, an audit of compliance with legislation revealed that effective mitigating measures are not implemented in municipalities to control fruitless and wasteful expenditures. Moreover, no disciplinary actions or consequence management exists for officials who contribute to fruitless and wasteful expenditure (Department of Cooperative Governance and Traditional Affairs, 2023).

Ika (2012) mentions that the prevalence of project failures in Africa draws attention to the necessity for re-evaluating project management practices. He further adds that effective project execution necessitates the involvement of various local government departments to address the challenges associated with project management. In their research findings, Ngcobo and Mahlambi (2019) reveal that project management planning and programming of the work are executed poorly in eThekweni Municipality, resulting in significant delays in the project's completion. Musau and Kirui (2018), in their findings, recommend that a project team must be trained and developed to understand the importance of project planning, monitoring, and execution at every level. While there are studies on project management challenges and how project management can be improved in local government, these studies have not investigated the project management systems currently in place in eThekweni Municipality. Therefore, this study seeks to address the existing gap by assessing the project management systems, frameworks, and methodologies employed in eThekweni Municipality aimed at enhancing service delivery.

In this study, the role of project management in improving service delivery in eThekweni Municipality will be evaluated, for the municipality to be able to ensure the successful

execution of projects. Furthermore, the study seeks to address project management and service delivery challenges in eThekweni Municipality through informed policy recommendations that can be adapted and implemented across the municipal jurisdiction.

1.5 Focus of the study

The research concentrates on evaluating the project management role in the service delivery function of eThekweni Municipality. It focuses on the experiences, feelings and perceptions of officials from infrastructure units in terms of project management.

The study will be conducted within the Human Settlements, Engineering and Transport Authority (HSETA) of eThekweni Municipality. This unit is responsible for designing and constructing civil infrastructure projects such as roads, bridges, stormwater drainage and human settlements (eThekweni Municipality, 2023). The study will consider possible challenges the researcher may encounter during interviews with selected participants, and mitigation measures will be outlined. The recommended strategies to improve project management in eThekweni Municipality will be provided.

1.6 Study objectives

The objectives of the study are as follows:

- To examine how project management and service delivery are linked in eThekweni Municipality's infrastructure units, especially within the units responsible for implementing infrastructure projects;
- To determine how project managers are currently undertaking project management and evaluate the control and monitoring tools that are in place to measure project managers' performance;
- To identify the challenges that exist with project management that project managers of eThekweni Municipality are currently experiencing; and
- To identify strategies to improve project management in eThekweni Municipality to ensure successful planning and execution of projects.

1.7 Aim and research questions

The study aims to examine the current role of project management and how frequently this role forms part of strategic initiatives and sessions conducted by senior management of eThekweni Municipality to identify gaps and obstacles that result in poor service delivery.

The research questions guiding the study are as follows:

- How important is project management in eThekweni Municipality, especially within the units responsible for implementing infrastructure projects?
- How are project management systems currently being used to manage service delivery?
- What are the challenges faced by project managers in eThekweni Municipality?
- How can project management in eThekweni Municipality be improved to ensure successful project planning and execution?

1.8 Overview of research design

Qualitative research was utilised in this study to gain a comprehensive understanding of project management's role in the service delivery functions of eThekweni Municipality. Khan (2014) defines qualitative research as a method rooted in specific traditions that delve into social or human issues for understanding. Khan (2014) further states that qualitative research assumes a multifaceted, interconnected reality that connects the researcher with the subject. Qualitative research is used to investigate previously unexplored antecedents and factors (Khan, 2014). On the other hand, Hammarberg, Kirkman and De Lacey (2016) state that qualitative research methods are suitable when specific facts are required to address research objectives and questions when seeking general or probabilistic information on opinions, attitudes, perspectives, beliefs or preferences, when forming hypotheses based on linked variables before data collection, and when the research question is well-defined, clear and unambiguous.

The qualitative research method is used to address inquiries concerning experiences, meanings and perspectives, often from the participant's viewpoint (Hammarberg, Kirkman & De Lacey, 2016). Qualitative data analysis occurs simultaneously with data collection to develop an evolving understanding of research questions, guiding sampling and questions being asked (Moser & Korstjens, 2018). Qualitative data is gathered through various data collection methods such as small group discussions, semi-structured interviews and in-depth interviews (Hammarberg, Kirkman & De Lacey, 2016) and the researcher's duty is to gather

information by actively listening and prompting the other person to talk (DiCicco-Bloom & Crabtree, 2006).

The qualitative research method was employed in this study to allow for an in-depth investigation that would generate data to address the research objectives. The qualitative approach was selected as it allowed the researcher to acquire insight and a comprehensive understanding of the role of project management in the service delivery of eThekweni Municipality and to examine how project management and service delivery are linked in eThekweni Municipality's infrastructure units. Furthermore, this research method was employed to assess how project managers are currently managing projects and to evaluate the control and monitoring tools in place to measure their performance. Finally, the challenges faced by project managers at eThekweni Municipality were examined, and strategies to enhance project management were identified.

In line with the qualitative research design, data in the study was collected through the use of semi-structured interviews. Semi-structured interviews enabled the researcher to obtain a more profound understanding of the research area and to fulfil the study's objectives. Additionally, semi-structured interviews allowed the researcher to encourage participants to expand on their responses, clarifying specific points that arose during the interview. Fifteen (15) participants were purposively selected because they are involved in all stages of the project management lifecycle, which includes the initiation phase, planning phase, execution phase, control and monitoring phase, and close-out phase. The selected participants have a vast knowledge of the operations of the project management system within the municipality and the challenges linked to them. The data collection instrument, that is, the semi-structured interview schedule, was tailored for the selected participants and the interviews were audio recorded with the participants' consent. Thematic analysis using NVivo Version 20 software was conducted to analyse the data collected from semi-structured interviews.

1.9 Limitations of the study

The study was limited to eThekweni Municipality officials from the various departments within the HSETA cluster. The researcher encountered a challenge when participants opted not to respond to the invitation to participate in the study. Nevertheless, the researcher pursued follow-up communications through telephone calls and personal visits to the participants' offices, in this way effectively addressing the challenge at hand.

Due to limited timeframes, the study did not include participants from units or departments that support the infrastructure units; these departments include but are not limited to Supply Chain Management and Treasury. The effectiveness of these departments has a direct impact on project management in eThekweni Municipality. Therefore, difficulties stemming from inefficient operations in these departments can impede project management and lead to poor service delivery. The departments were not consulted in the study due to the limitations in the timeframe that the researcher had to adhere to in conducting the study. Considering this limitation and the fact that the study only focused on eThekweni Municipality, future research could expand to include two municipalities and encompass all departments that provide support to the infrastructure departments.

1.10 Structure of the study

Chapter 1 – Introduction

This chapter focuses on introducing the nature and purpose of the study by outlining the background to and motivation for the study, as well as the aim and objectives that guided the study. The significance of the research and the problem statement are presented in this chapter, revealing the importance of project management in service delivery and the potential causes of poor service delivery in the context of this research. The chapter also presents the research methodology employed and notes the limitations faced in conducting the study.

Chapter 2 – Literature Review

The literature that the researcher reviewed to develop an understanding of the area of study and to broaden the perspective of the research topic is presented in this chapter. The chapter begins with a conceptualisation of project management and service delivery, before examining service delivery in the global context and then narrowing the discussion to Africa, and then to South Africa and the province of KZN. The chapter evaluates the importance of national government in project management and the delivery of successful projects to citizens. The theoretical framework underpinning the study, which draws upon Principal-Agency (P-A) Theory and Theory of Project Management (TPM), is also presented in Chapter Two.

Chapter 3 – Research Methodology

This chapter outlines the qualitative research design selected for the study. The chapter outlines the interpretivist paradigm that informed the study as well as the relativist perspective that

allowed the researcher to understand the multiple perspectives of project management in eThekweni Municipality offered by the participants. The specific data collection and analysis methods are presented, including the rationale for employing purposive sampling to select participants to be included in the study, the use of semi-structured interviews, and the thematic analysis technique that was used in data analysis. An examination of the validity and reliability of the collected data, as well as the ethical considerations borne in mind in the study concludes the chapter.

Chapter 4 – Presentation of Findings

This chapter outlines the critical findings of the study that emanated from the interviews conducted with eThekweni Municipality officials. The key findings are analysed in relation to the main themes and sub-themes identified during the data analysis stages in terms of the research objectives that guided the study, which broadly encompass the challenges faced by eThekweni Municipality project managers during the project lifecycle in the provision of services to its residents.

Chapter 5 – Discussion of Findings

This chapter discusses the key findings of the study in further depth, by contextualising the findings in light of the literature reviewed, establishing similarities or divergence from past research. The main themes identified during the thematic analysis conducted on the data contained in the interview transcripts will be elaborated upon and compared with the conclusions and recommendations of previous studies.

Chapter 6 – Conclusion and Recommendations

This chapter summarises the study's key findings by addressing the conclusions that can be drawn from the findings to answer the aim and objectives of the study. Based on the critical findings and the conclusions drawn, the recommendations for Senior Managers and project managers to improve project management in eThekweni Municipality will be provided. This chapter will also make recommendations for areas related to the research topic that require further investigation.

1.11 Conclusion

The service delivery protests and unrest within eThekweni Municipality cannot be overlooked as they signal a significant challenge in addressing dissatisfaction within the municipality's

provision of services to its residents. eThekweni Municipality needs to identify the underlying root causes of service delivery challenges in order to resolve them, with a focus on harnessing effective project management as a key factor. This chapter provided an overview of the background to the study and the pressing need for research into the role of project management in the service delivery functions of eThekweni Municipality. The significance of the study was highlighted, and the focus of the research, the problem statement and the research aims and objectives were outlined. The chapter also stated the key questions to be answered in the research and the methods that were used to address these in conducting the research. The limitations of the study were also briefly considered. Lastly, the structure of the chapters to follow in the thesis was outlined. The next chapter presents a thorough consideration of existing literature based on the review that was undertaken by the researcher to acquire insights into the existing knowledge on the role of project management in service delivery.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The decline in government entity trust, particularly among African citizens, can be attributed to persistent service delivery backlogs, which remain a significant ongoing challenge (Ajayi & De Vries, 2019). Service delivery protests have become prevalent in South Africa. Despite the government's implementation of numerous strategic plans, policy frameworks, programs, and mechanisms to evaluate and monitor performance for enhancement of service delivery, widespread dissatisfaction has emerged due to service-related issues (Ajayi & De Vries, 2019). The citizens are fully aware that access to efficient, affordable and high-quality public service is a legitimate and expected need of all individuals worldwide. Therefore, it is the role of the local government to establish an appropriate and conducive environment that enables the successful delivery of service (Majekodunmi, 2012). However, service delivery deficiencies and backlogs have increased in South Africa since the democratisation process, resulting in service delivery unrest, which has become a prevalent issue in the country (Ajayi & De Vries, 2019). Infrastructure service delivery is carried out through project execution, with project planning and implementation relying on the use of project management techniques.

This literature review aims to evaluate the use of project management techniques in planning and implementing infrastructure projects, particularly in the context of public service delivery. Additionally, the review seeks to identify the selection criteria of project managers for specific projects, including the performance metrics used to evaluate their effectiveness. The review of existing literature seeks to address the following question: Is project management contributing to poor service delivery? Since project management is a broad concept, this study seeks to establish which component/s of the project management lifecycle may contribute to poor service delivery and the causes thereof. This chapter reviews previous project management and service delivery studies through conceptual, empirical and theoretical arguments. To this end, the review is divided into several sections that present different theoretical perspectives drawn from peer-reviewed articles and scholarly contributions. The first section of this chapter starts with conceptualising project management and service delivery. The second section discusses the empirical literature on project management and service delivery across the globe, and then in Africa, South Africa, and finally eThekweni Municipality. Thereafter, the chapter discusses the literature related to the theoretical framework adopted to underpin this study.

2.2 Conceptualising project management

In the academic world, projects are viewed as instruments, and project management is perceived as a collection of methods and strategies for organising and overseeing complex tasks (Söderlund, 2004). According to the PMBOK Guide (PMI, 2021), a project is a short-term commitment performed to produce an exceptional product, service or result. A project always has three main components: specific project scope, which is the desired result; schedule, which is the start and end date of the project; and lastly, resources, such as people, tools and equipment required for the successful completion of the project (PMI, 2021). The three elements determine the project's overall cost (Portny & Portny, 2022). Projects are developed to serve as catalysts for bringing about change or, put simply, a way to shape the future (Comi & Whyte, 2018).

Similarly, Huemann (2022) mentions that projects are designed to bring about positive changes in organisations and society, such as economic, social and environmental benefits for project key stakeholders. Project management is the essential tool to ensure that projects deliver value (PMI, 2021). The project value is defined as the worth of a project to its funding organisations; in the context of this study, it refers to the eThekweni Municipality and the residents within the municipality. The project value is seen in the difference between its benefits, drawbacks, and lifecycle costs (Zwikaël & Smyrk, 2012). A project has a clear goal and purpose with defined end items, deliverables or outcomes to attain specific benefits. Nicholas and Steyn (2020) conceptualise a project as implementing new approaches. They further explain that a project is a one-time and non-repetitive endeavour. Figure 2.1 on the following page shows the three-dimensional project goals that are a target of every project, namely cost, time and performance.

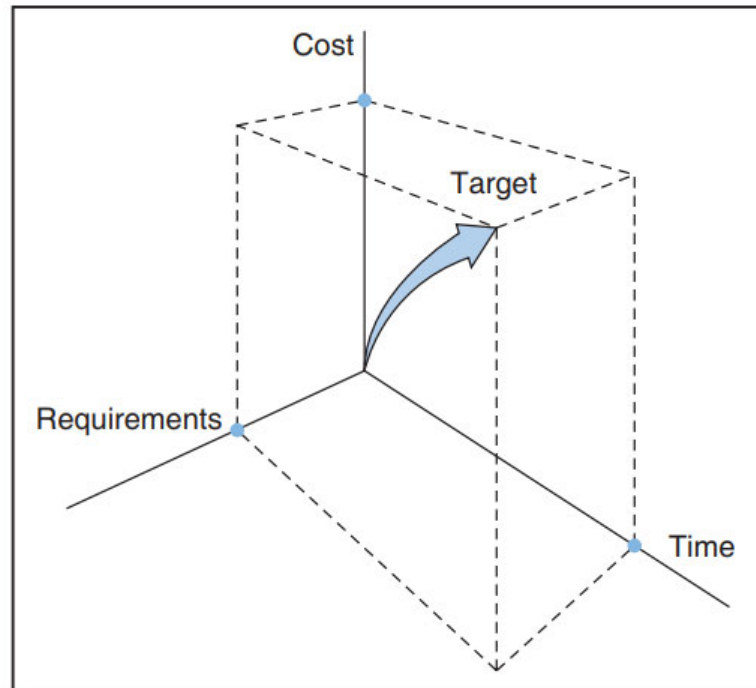


Figure 2.1: Three-dimensional project goal (Source: Nicholas & Steyn, 2020)

The project management industry in South Africa has developed theoretical fields applicable to the profession and has established a professional association, the Project Management Institute (PMI). The PMI describes the Project Management Body of Knowledge (PMBOK) as a term that outlines the expertise built into the project management profession. The PMBOK encompasses established traditional methods that are extensively employed, alongside innovative approaches that are growing within the industry. The body of knowledge encompasses both published and unpublished materials. This collection of knowledge is constantly evolving.

Additionally, academic journals are dedicated to research in the field of project management, for instance, the PMI's Project Management Journal and the International Journal of Project Management. There are also conferences and symposia dedicated to the field. The PMI-led structuration led to the creation of the PMBOK. The assumption in PMBOK is that all project management knowledge revolves around themes such as the management of the scope of works, quality of the deliverables, stipulated timeframes, cost estimates, risk analysis, human resources, procurement of services, contract administration, communication and stakeholder engagement (Packendorff, 1995).

Project management refers to the use of skills, tools and techniques that can be applied to implement project tasks and activities to achieve the desired project objectives (Musau & Kirui, 2018). Ika (2012) defines project management as the art and science of transforming ideas into tangible outcomes and abstract concepts into concrete realities. Similarly, Gido, Clements and Baker (2018) define project management as planning, organising, co-ordinating, leading and directing resources to achieve the project objective. In other words, project management is a plan that relates to planning the work activities and working on the planned activities. The PMI defines project management as the use of skills, knowledge, tools and techniques to deliver something valuable to people (Careri, 2022). The benefit of good project management is a satisfied customer, and good project management results in good project performance. However, good project performance must be thought of as a comprehensive concept that encompasses the objectives of all project stakeholders through the project lifecycle. Artto, Kujala, Dietrich and Martinsuo (2008) state that the perspectives of project stakeholders influence the implementation of individual projects and project management strategies.

Nicholas and Steyn (2020) mention that the critical aspect of project management is the pivotal role played by the project manager. A project manager is tasked with the overall responsibility of planning, directing, monitoring and controlling the contributions of all project stakeholders toward achieving the project goal (PMI, 2021). In the context of this study, the relevant stakeholders in the eThekweni Municipality construction projects are: the client; eThekweni Municipality; the service providers, contractors and consultants; and the community, which comprises the ward councillors and the residents. In other words, project management tools and techniques alone do not independently ensure a successful project as there are many stakeholders involved in projects. Project managers' tasks include the control of budgets, schedules and scope of work activities. However, projects have specific characteristics that must be considered, such as the goals, stakeholders, environment, and potential hazards, all of which dictate a wide range of criteria for success and critical factors that must be borne in mind by project managers (Cserháti & Szabó, 2014).

In project goal setting, the first phase of the project lifecycle, the interests of all stakeholders involved and the environment in which the project is undertaken should be considered. Figure 2.2 on the next page shows the five phases of the project management lifecycle: project

initiation phase; project planning phase; project execution phase; project monitoring and control phase; and project closure phase.



Figure 2.2: Project management cycle (Source: Good, 2024)

Gido, Clement, and Baker (2018) and Zwikael and Huemann (2023) define each project lifecycle phase as follows:

Project initiation phase – in this phase, the project owner identifies, selects and sets project targets by conducting feasibility studies and developing project proposals.

Project planning phase – this phase entails the strategy development, which includes a definition of the project scope of works, specification about expected quality standards, creation of project schedule, creation of bill of quantities, budget, development of work breakdown structure, and allocating roles and responsibilities to the selected project team.

Project execution phase – involves tracking progress on site by managing the project team, managing project stakeholders, and identifying and managing project risks.

Project monitoring and control phase – involves the project control process, which includes monitoring and controlling activities by the project owner and relevant stakeholders and updating the project schedule with actual progress by utilising agile project management techniques.

Project closure phase – project outputs are handed over to the project owner in this phase. Benefits realisation is secured, lessons learned are documented in the close-out project report, and all project information is filed away correctly.

Kaufmann and Kock (2022) confirmed in their study that if operational tools and techniques developed for each phase of the project lifecycle are utilised for project coordination and followed precisely, with each activity broken down into tasks and allocated to the resources that form part of the project team, the project will yield positive results. The breaking down of activities into individual tasks is called work breakdown structure (WBS). Figure 2.3 below shows WBS attributes and concepts for constructing a house project.

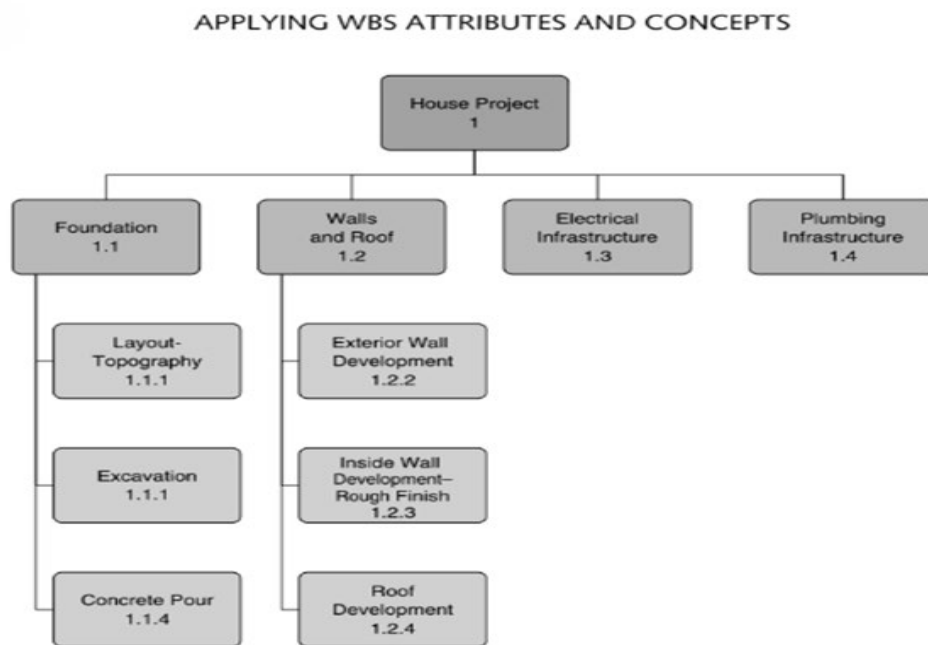


Figure 2.3: Human Settlement work breakdown structure (WBS) (Source: Norman, Brotherton & Fried, 2008)

Siarni-Irdemoosa, Dindarloo and Sharifzadeh (2015) mention the importance of a comprehensive and effective WBS in project management planning in that the structure aims to pinpoint the activities and work packages necessary to complete a project task. WBS is similar to the specialisation and division of labour in mass production planning and allocates distinct tasks to individuals by identifying controllable action sequences (Packendorff, 1995). This structure divides projects into stages, deliverables and work packages, playing a crucial role in the planning process. Consequently, it can positively influence other phases of the project lifecycle. WBS also positively influences task definition and project scheduling through

Gantt charts, risk analysis, response and monitoring tools. Figure 2.4 below shows a Gantt chart for constructing a house that typically falls under the Human Settlements Unit of eThekweni Municipality.

Gantt Chart for house construction

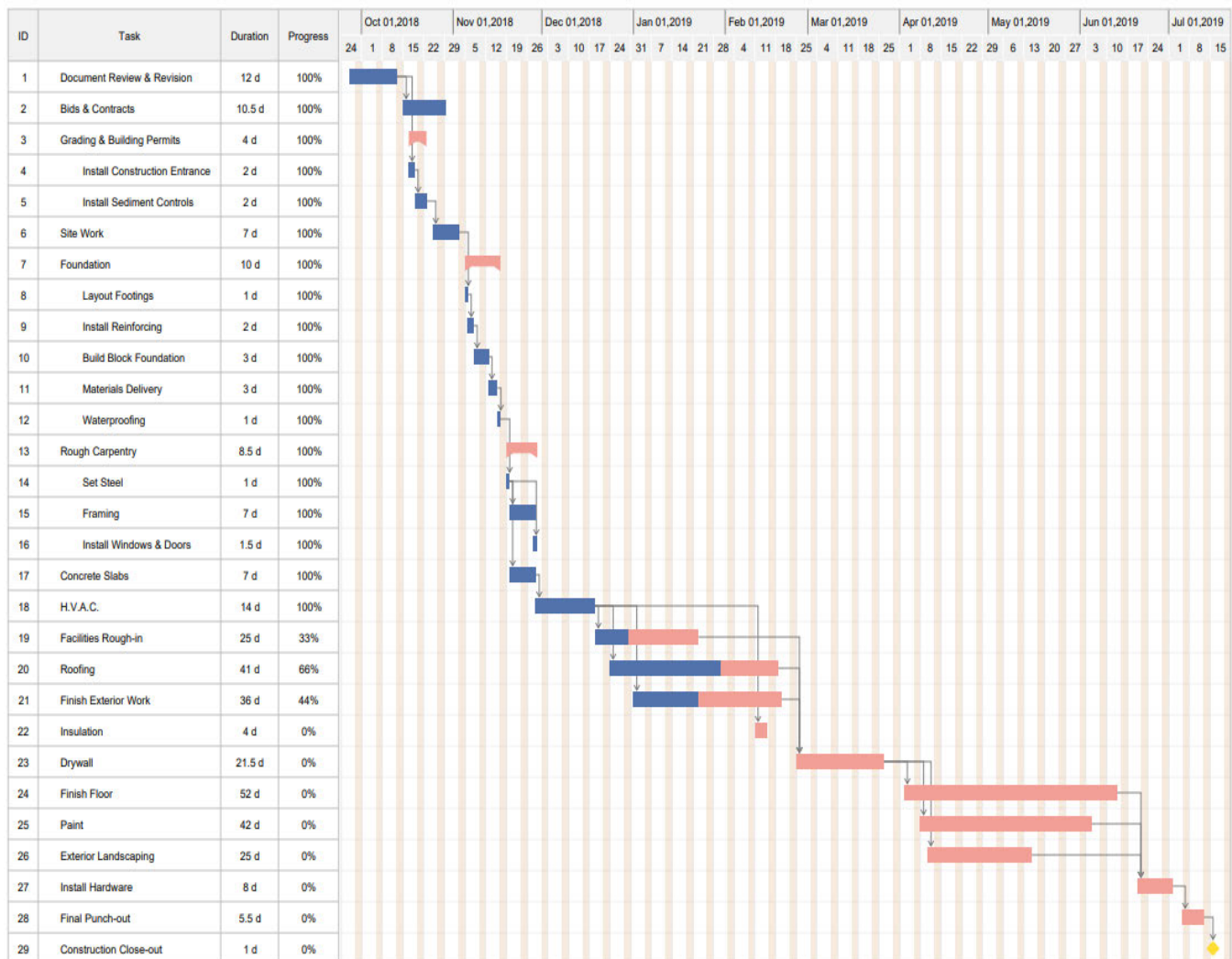


Figure 2.4: Example of a Gantt Chart for house construction (Source: *EDrawsoft.com*, 2024)

The PMBOK Guide (PMI, 2021) defines the Gantt chart as a chart that lists activities on the vertical axis, with dates displayed horizontally and activity durations presented as bars arranged based on their start and end dates. Similarly, Gido, Clement and Baker (2018) define a Gantt Chart as a chart that displays the estimated duration of each task using bars on a horizontal timeline or presents tasks graphically in a network diagram to show task sequence and relationships.

Cost and time are often related in project management, while quality is a competing factor with these two performance indicators (Bjorvatn & Wald, 2018). A successful project is delivered on time, within budget, and with quality, as prescribed in the project specifications. In the context of this study, service delivery is of great importance to eThekweni Municipality's beneficiaries. The municipality's infrastructure projects must be completed within a stipulated period and handed over for public use. The project manager's role is to ensure that the stipulated handover date in the contract is achieved when implementing public sector projects; however, this task is challenging for project managers (Musau & Kiri, 2018). Makahaube (2020), in his study, stated that eight factors contribute to the overall project management performance level in local government. He further categorised the eight factors into primary and secondary factors. The primary factors were: the number of project managers available; capacity; capability; and process maturity level. The secondary factors were identified as: the project's working-hours utilisation, knowledge growth; investment for project manager development; and project manager retention (Makahaube, 2020). Numerous studies have revealed that utilising project management techniques is beneficial to organisations as they increase productivity, promote high returns on investment, and contribute to project success (Gido, Clement & Baker, 2018).

2.3 Conceptualising service delivery

Lovelock and Wright (2002) state that service delivery involves providing services and products directly to customers or clients. Similarly, Nealer (2007) defines service delivery as providing public services and activities to the public's satisfaction. Service delivery focuses on the location, timing and method of providing a service or product to the customer, considering its fairness and unfairness (Martins & Ledimo, 2015). In other words, the products and services provided to customers by government agencies or private firms must adhere to specified standards and be tailored to suit the environment and circumstances of the location (Kalonda & Govender, 2021).

Eigeman (2007) conceptualises service delivery as an essential function and indispensable aspect of the interaction between government entities and the public. Additionally, he further explains that service delivery is not isolated; instead, it is intricately interconnected with the broader dynamics of government, society and citizens because the government represents a complex body. Similarly, Kalonda and Govender (2021) state that service delivery is complex as it necessitates satisfying customers in terms of quality while adhering to national rules and

regulations and incorporating project management tools and techniques. Furthermore, Goldstein, Johnston, Duffy and Rao (2002) conceptualise service as the ‘how’ and the ‘what’ of service design, bridging the gap between customer requirements and an organisation’s strategic goals and objectives.

Service delivery provision is dependent on project management tools and techniques. As stated by Zwikael and Huemann (2023), the project owner, in the context of this study eThekweni Municipality, is supported by control mechanisms such as project management techniques to ensure that there is value for money in the planning, design and implementation of infrastructure service delivery. In other words, project management in service delivery ensures that project objectives are aligned with organisational strategic objectives. In his research, Ngcamu (2019) recommended that future studies should concentrate on evaluating municipal employees' performance and competency levels. Therefore, this study seeks to close the identified gap through the evaluation of the role of project management in eThekweni municipality, focusing on how internal project managers are selected for projects and the applied performance monitoring tool for this critical resource in ensuring the successful implementation of projects. The effectiveness of project management in service delivery relies on the competency, skills and experience of project managers who serve as municipal officials and consultants, an area of focus that is explored in this research.

2.4 Service delivery in the world

The project management technique used in the construction industry involves procuring goods and services from external service providers. Public procurement plays a crucial role in a country’s economy and public spending, serving as a critical gauge of government effectiveness due to its impact on service delivery (Fourie & Malan, 2020). In local government, consultants and contractors are procured to provide services for designing and constructing infrastructure projects. Yap and Lim (2023) mention that the traditional method of construction procurement fosters confrontational attitudes amongst project stakeholders such as contractors and engineering design consultants, where the focus is on individual and organisational benefits, which may result in inefficiencies and poor project management. In the Malaysian construction industry, the traditional procurement method is the most widely utilised approach, while other mega projects in the country use the Design-Build (D-B) method (Yap & Lim, 2023). When traditional procurement is employed, collaboration between project stakeholders becomes challenging.

These challenges arise from separating the engineering design phase, typically handled by consultants, and the implementation phase, customarily managed by contractors. The division between design and implementation phases may lead to project delays, poor communication, poor project quality, and overall inefficiencies in project performance (Yap & Lim, 2023). In developed countries, the D-B procurement method is preferred due to its efficient project delivery system, leading to increased project success (Lee, Rahman & Doh, 2021). Additionally, Lee, Rahman and Doh (2021) revealed that the D-B method produced projects with high success rates in developed countries and eliminated the challenges of separating the design and implementation phases. The challenges they identified related to disputes and conflicts during the implementation phase, resulting in project delays, poor quality, increased costs, and poor overall service delivery.

In China, there is a strong demand for infrastructure. However, the country is encountering difficulties due to insufficient government funding and the increased instances of local government seeking private partnerships through public-private partnerships (PPPs) (Shrestha & Martek, 2015). In China, PPPs are utilised as a dependable method for executing infrastructure projects, although challenges related to agency problems do exist (Shrestha & Martek, 2015). While the findings of these previous studies are illuminating in understanding the challenges faced in the provision of service delivery, Ofori (2019) states that there have been arguments related to the applicability of studying construction industries in developing countries using concepts and methods that may only be applicable in developed countries. Therefore, more research into the specific circumstances facing developing countries, and the challenges faced by local government in service delivery in these contexts are required.

2.5 Service delivery on the African continent

A study conducted by Agba, Akwara and Idu (2024), which focused on the government of Kenya, revealed that all spheres of government in the country have substantial gaps regarding the efficient and effective execution of planned projects. Additionally, the study revealed that all spheres of government in the African continent face the major challenge of monitoring and supervising various planned service delivery projects. Musau and Kirui (2018) found that the citizens of Nigeria have lost trust in their local government because while local government spheres are institutions that have been developed to address the needs of citizens, they are failing to do so. This challenge has a negative impact on building a solid foundation for a prosperous Africa. The construction industry of Ghana utilises the traditional procurement

method, where the design and implementation phases are separated (Osman & Sheng, 2023). Osman and Sheng (2023) further state that project management competencies, including the separation of design and implementation phases, have been a fundamental determinant of project success, including the success of construction firms and the construction industry. Their findings are thus in contrast to the study conducted in Malaysia by Yap and Lim (2023), which revealed that the division between design and implementation phases leads to project delays, poor communication, poor project quality, and overall inefficiencies in project performance.

A study conducted by Marumahoko (2020) in Zimbabwe in the City of Mutare revealed massive dissatisfaction with service delivery from the residents, resulting in public protests, mass meetings, and submissions of memoranda and election boycotts. The residents expressed dissatisfaction with portable water supply, disposal of wastewater, solid waste disposal and management, human settlements, and health facilities. Marumahoko (2020) further found that the prevailing state of service delivery in the City of Mutare was due to the city's limited ability to tackle systemic and institutional challenges that affect service delivery. These systemic and institutional challenges included underperforming senior managers, a lack of capacity of councillors, corruption and ethical deficiencies.

2.6 Service delivery in South Africa

The Department of Cooperative Governance and Traditional Affairs' annual report for the financial year 2022/2023 highlighted that the challenges that municipalities in South Africa face stem from a lack of institutional capacity, ineffective governance, poor financial management, widespread corruption and politics. Twenty-two out of sixty-six municipalities were classified as dysfunctional in 2022, clearly indicating that there are challenges in critical areas such as administration, governance, financial management, service delivery and local economic growth. Fourie and Malan (2020) explain the financial management challenges by pointing out that South African municipalities struggle to spend the allocated capital or operational budget effectively. Under-expenditure directly impacts service delivery because this lack of expenditure indicates poor performance on projects for which funds were intended, or it shows that a municipality experiences delays in commencing with projects due to various factors, hence the inability to spend funds.

Fourie and Malan (2020) further clarify that under-spending may occur due to various factors, including challenges in project planning and execution, as well as shortages in project

management and financial management skills that cause delays in project commencement and contribute to under-spending. All the main factors contributing to under-spending in municipalities fall under project management lifecycle phases namely project initiation, project planning, project execution, control and monitoring, and project close-out (Gido, Clements & Baker, 2018). Van der Walt and Haarhoff's (2004) study concluded that the service delivery literature reviewed at that time, ten years after the emergence of a democratic South Africa, revealed that the focus had been on formulating processes, frameworks and systems. The assumption was that the formulated frameworks and systems would be implemented after this initial ten-year period. However, thirty years after the advent of democracy, in 2024, the status quo in local government service delivery remains unchanged.

Ofori (2019) states that there should be a significant focus on the governance of projects in developing countries like South Africa due to the difficulties of implementing and enforcing laws and regulations, which are often outdated and not suitable for the context, as well as weak institutional frameworks, and limited executive capacity. Thus, this study seeks to evaluate the role of project management in service delivery in eThekweni Municipality, which greatly depends on the professionalism of the project manager. Ofori (2019) further identified a gap in the literature, and recommended that further studies on project management professionals' skills, experience, and technical competence in developing countries be conducted. Therefore, this study also seeks to address the identified gap by interrogating the competence of project management teams responsible for project managing infrastructure projects in eThekweni Municipality. Additionally, the study aims to examine how projects are allocated to project managers and how the performance of project managers is evaluated in eThekweni Municipality.

2.7 Service delivery in eThekweni Municipality, KZN

Service delivery in KZN is a significant challenge that is always at the centre of the difficulties that residents in the province face. Several municipalities in KZN are considered dysfunctional due to a lack of service delivery. According to the KZN Department of Human Settlements Annual Performance Plan 2022/2023 - 2024/2025 (KZN Department of Human Settlements, 2025), KZN is ranked as the province with the second highest backlog in terms of housing provision in South Africa, and eThekweni Municipality is the main contributor to this

state of affairs. The province has a water supply backlog of 65% and in the rural areas of KZN, people still walk kilometres to access potable water. Mpani (2019) states that the critical service delivery challenges faced in the province are maladministration, quality of hired candidates, and financial bankruptcy.

eThekwini Municipality's service delivery targets and key strategic objectives are presented in the Service Delivery Implementation Plan (SDBIP), which forms part of the MFMA (Act No. 56 of 2003) regulation (Republic of South Africa, 2004). The SDBIP is a tool that South African municipalities use to ensure that the Integrated Development Plan (IDP) and the allocated budget to the municipality by the National Treasury are aligned. The SDBIP monitors the municipality's annual and quarterly performance (eThekwini Municipality, 2024c). De Visser (2005) defines the IDP as a plan that serves as the primary strategic planning tool that directs and influences all planning, development decisions, and management within the municipality. Figure 2.5 below shows the strategic direction and planning cycle of eThekwini Municipality. It illustrates that the IDP informs the budget as the municipality's strategy; the budget is then allocated to the municipality's service delivery priorities and strategic objectives and presented in the SDBIP. Lastly, the municipality's performance is monitored every quarter, and an annual report is compiled to outline the targets, achievements, underachievement, and challenges that resulted in targets not being met.

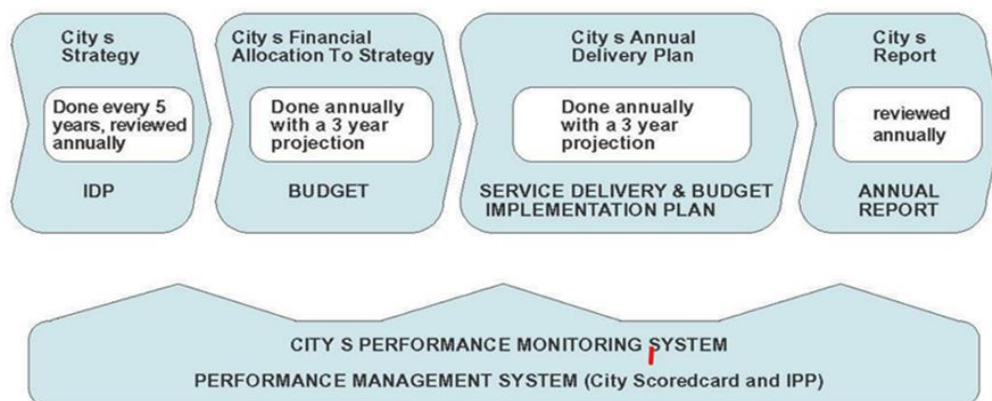


Figure 2.5: Strategic direction and planning cycle (Source: eThekwini Municipality, 2024c)

eThekwini Municipality had successfully provided access to water to 982,000 households and basic sanitation to 877,000 households (eThekwini Municipality, 2020). However, the recent April 2022 and January 2024 flood disasters reversed the progress that was previously made by the municipality. The floods severely impacted the municipality's roads and bridges, making them the most affected forms of infrastructure. More than 60% of eThekwini residents faced

service unavailability during and after the 2022 flood disaster due to lack of access (Kaunda, 2023).

eThekwini Municipality faces substantial service delivery challenges, for instance, the municipality has a sewer backlog of 296 133 consumer units with a delivery range of 2000-3000 consumer units per annum (eThekwini Municipality, 2024b). The electricity backlog is 374 544 consumer units with a delivery range of 8000-14000 consumer units per annum; the water backlog is 187 790 consumer units with a delivery range of 2000-3000 consumer units per annum; the roads backlog is 1774km with a delivery range of 47-50km per annum; and human settlement faces a backlog of 469 500 houses. It will take approximately 56 to 82 years for eThekwini Municipality to clear the existing basic infrastructure backlog (eThekwini Municipality, 2024b).

The significant number of households lacking suitable homes suggests an underlying prevalent issue contributing to the aforementioned high numbers. eThekwini Municipality has developed a spatial, natural and built environment plan to enhance the municipality's influence on service delivery goals and outcomes (eThekwini Municipality, 2024d). As part of the IDP, a Spatial Development Plan (SDP) outlines a municipality's spatial distribution of land uses, guiding its implementation and impact (Mvuyana & Nzimakwe, 2022). Mvuyana and Nzimakwe (2022) highlight apprehension regarding the effectiveness of spatial planning in eThekwini Municipality amidst strong political and economic influences, especially when institutional capacities are constrained.

Mvuyana and Nzimakwe (2022) further contend that emphasis has shifted away from understanding how individuals relocate and navigate to a city, in this instance Durban, the reason behind their decisions, and the impacts on their livelihoods and survival patterns. As a result, SDP fails to accomplish the intended transformation towards more inclusive and socially integrated cities as it neglects to address issues such as poverty, policy and institutional interest. The Department of Human Settlements within eThekwini Municipality will continue chasing a moving target if the root cause of why individuals are relocating to the city is not addressed by the national government.

The Department of Human Settlements in eThekwini Municipality will be unable to address the housing backlogs effectively if the issues related to the root causes behind the relocation of people to the city are not addressed holistically. Mabunda, Mvunabandi and Chonco's (2023)

research findings indicate a significant issue of financial mismanagement in eThekweni Municipality; this problem is primarily attributed to a lack of knowledgeable and skilled workers, as well as political interference from the administration. Their findings further indicate multiple skills shortages, leading to the recruitment of untrained individuals in crucial positions within the municipality. Project management is vital in ensuring efficient service delivery within eThekweni Municipality as it is essential for the effective and timely execution of services. Similarly, the findings by the AGSA on the management report for the year 2022/2023 for eThekweni Municipality indicated poor project management, which resulted in ineffective oversight by project managers, especially in the planning and execution phases of the project lifecycle.

Poor project management results in poor quality in the implementation of projects on-site by contractors and cost overruns that aggravate the allocated budget of the municipality. It impedes the available funds for other planned infrastructure projects, resulting in infrastructure backlogs being carried over to the following years due to insufficient budget. Additionally, a finding on fruitless and wasteful expenditure on infrastructure projects and internal deficiencies in financial management due to non-compliance with the MFMA was highlighted in the AGSA's management report (AGSA, 2023)

The above narrative suggests that eThekweni Municipality is committed to aligning with relevant laws and regulations to uphold clean governance and administration. However, service delivery backlogs in eThekweni Municipality are evident, indicating that other underlying challenges must be addressed for improved service delivery. This study seeks to evaluate project management's role in service delivery in eThekweni Municipality because the municipality seems committed to implementing laws and regulations that result in good governance and administration. Additionally, this study seeks to evaluate how the project management systems in eThekweni Municipality are used to improve the municipality's capability to deliver efficient and quality service to its residents.

2.8 The role of the South African national government in service delivery

The fundamental role of the National Treasury is to oversee the financial operations and management of South Africa's national government. The National Treasury is also mandated by the Constitution to support economic growth, effective and efficient governance, socio-economic progress, and improved living standards of all South African residents (Republic of

South Africa,1996). Adewumi (2022), in his research findings, revealed that numerous financial resource allocations impact project management. The delays in the allocation of funds from the national treasury to municipalities have an impact on project management and service delivery. Van der Walt and Haarhoff (2004) state that local government municipalities are expected to strategise by structuring and managing the formulation of budget planning processes to give the most crucial consideration to public basic needs.

The preceding sections have provided a thorough context and explication of the importance of proper planning and efficient project management in the delivery of public services by municipalities in South Africa, as well as the challenges faced by eThekweni Municipality in service delivery provision to its residents. The following section outlines the theoretical framework that was employed to underpin and guide the formulation of the research study.

2.9 Theoretical framework

Theories are developed to explain, forecast and recognise a phenomenon, sometimes challenging current knowledge within critical assumptions or behaviour predictions. A theory is the basis for researchers to make assumptions and forecasts generated from similar research studies, potentially leading to new knowledge on the research problem (Labaree, 2013). Varpio et al. (2020) state that a theory comprises rationally related propositions demonstrating the relationships among various constructs and propositions. Labaree (2013) defines the theoretical framework as a structure that underpins a theory in a research study. It must align with the study's identified research problem, questions and objectives. The theoretical framework is thus a rationally developed and interconnected set of concepts and premises derived from one or more theories by researchers to support a study (Varpio et al., 2020).

This study employed the Principal-Agency (P-A) theory and Theory of Project Management (TPM) in order to address the research problem and study objectives. Two theories have been chosen because the researcher believes that using only one theory might not appropriately address the research problem and the study objectives. The P-A is a risk management theory; therefore, it is employed in this study to comprehend how the principal allocates resources and delegates roles and responsibilities to the agents. Additionally, this theory is used to understand the risks associated with the project management lifecycle, including but not limited to the procurement of service providers to design and implement construction projects on behalf of the principal.

The TPM, on the other hand, is employed to comprehend how eThekweni Municipality, in the context of this study, plans to control or mitigate project management risks during planning and execution phases, including the risks that are outside its control which have severely affected KZN in recent years such as flood disasters and the COVID-19 pandemic. The identified risks and their associated impacts on service delivery will be considered in light of the TPM and the insights that the theory can offer in this regard. The TPM comprehends the project lifecycle and its associated risks within project management quite extensively and is thus appropriate for this study which focuses on the challenges faced by eThekweni Municipality in the delivery of essential services to its residents.

2.9.1 Principal-agency (P-A) theory

The original purpose of P-A theory was to determine the expenses associated with coordinating labour and management in economics. Moreover, it questioned conventional justifications for tensions in political interactions, particularly in democratic settings, between elected leaders and the permanent administrative body (Coletta, 2013). In recent years, the P-A theory has attracted greater attention in academia as it provides a relevant lens for researching project management in the construction industry. Projects, in general, are associated with risks. Risk management in project management is thus one of the crucial elements where risks are identified in the initiation and planning phases of the project lifecycle, and measures are put in place to mitigate identified risks for the successful implementation of the project. In their research findings, Ceric and Ivic (2021) revealed that the critical components of P-A theory in construction and project management are contracts, administration, relationships, project costs, information systems, risk management and trust. Figure 2.6 on the following page shows the principal-agent relationship as the central aspect of the P-A theory, encompassing factors like monitoring, risk preferences, moral hazard, incentives, information asymmetry and adverse selection.

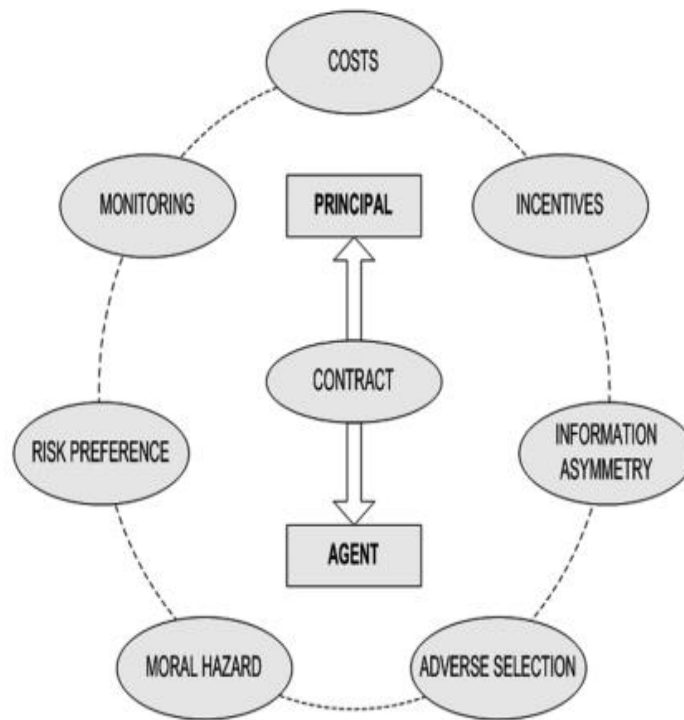


Figure 2.6: Basic elements of agency theory (Source: Van Slyke, 2007)

Popović, Kuzmanović and Gušavac (2012) state that the principal is the owner in control, while agents serve as employees under the principal's authority. In P-A theory, the principal authorises the agent to act on his behalf due to the agent's expertise or knowledge (Miller, 2005). Projects, in general, are unique and demand skills and expertise for effective management. Miller (2005) further explains that in P-A theory, trade-offs are central. It is not unexpected that the nature of these trade-offs evolves subtly with changing conditions, leading to varied solutions in different contexts. Project management in construction projects involves numerous stakeholders, namely, the principal, which in the case of this study is the client, eThekweni Municipality, the project management team, which are the officials within the HSETA cluster that are responsible for project management of construction projects, as well as the other stakeholders namely the community, contractors, consultants, workers and politicians. All project stakeholders are responsible for ensuring that the project goals are achieved. The significance of this theory to this study cannot be emphasised enough because the collaboration and working relationship between relevant stakeholders is crucial within a project and needs to be appropriately managed for effective and efficient service delivery.

Therefore, from the above statements, the assumptions of P-A theory revolve around the establishment of a strong relationship between the principal and the agent. A broad spectrum

of government operations that influence service delivery can be analysed through the lens of the P-A theory. eThekweni Municipality, in the context of this study, represents the principal in the P-A theory, and the HSETA project management teams and service providers, such as the consultants and contractors, represent agents who are the eyes and ears of the principal in the construction of projects. The principal and agents must deliver essential services to eThekweni residents through project and construction management. This theory is employed in the study to understand the management of project risks by the principal, agent, and all other project stakeholders.

The challenges related to risk stem from the imperfections of principals which, in the context of this study refers to eThekweni Municipality, and the absence of immediate information and support required by the agents and the officials who have been given the role of project managers. These external service providers are the consultants and contractors. The imperfections of principals result in agents prioritising their own interests over those of the principals (Popović, Kuzmanović & Gušavac, 2012). The utilisation of P-A theory seeks to understand how risks are managed and shared amongst project stakeholders, especially the key stakeholders such as the principal, agent, designers (consultants) and implementors (contractors) of the project. The main objective of contracting to consultants and contractors is to increase the capacity of professionals and share project risk. Consultants and contractors are reimbursed for the work done; reimbursement drives contractor and consultant interests. The self-interests for both the principal and the agent are reflected in Figure 2.7 below. The principal delegates, controls and monitors work to be performed by the agent, and the agent expects reimbursement for work that has been performed.

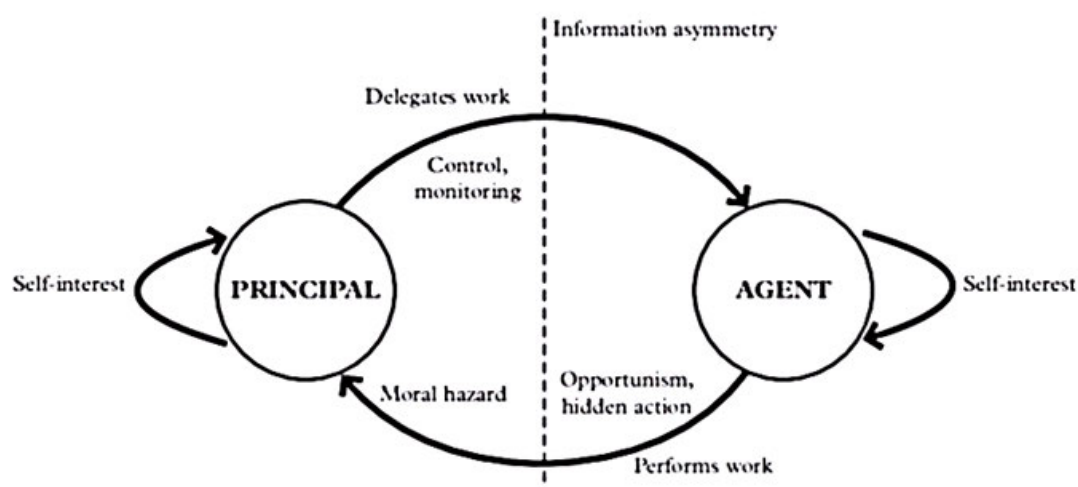


Figure 2.7: The agency theory with the assignment of work from the principal to the agent (Source: Van Slyke, 2006)

An insight into accountability is also critical in P-A theory. According to Cerić and Ivic (2021), principals and agents are motivated by self-interests and opportunism. Conflict can thus arise between the principal, the municipality and the consultants or contractors, who are agents, if they act opportunistically to serve their own interests, and do not deliver as expected (Cerić & Ivic, 2021).

The P-A relationship between the national government, represented by the National Treasury, and the local government, represented by eThekweni Municipality, can also be viewed in light of the P-A theory, as the funding to construct projects is administered by the National Treasury, including the auditing by AGSA of projects implemented by municipalities. A conflict can arise if there are delays in the allocation of funds or if there is an inadequate budget, resulting in delays in the construction of projects. Additionally, non-compliance with financial regulations by agents of eThekweni Municipality and its civil servants, such as municipal officials and service providers, can also result in a conflict.

The P-A theory suggests that municipal officials may engage in unethical behaviour which results in non-compliance with financial regulations (Khaile, Davids & Khaile, 2021). Zwikael and Meredith (2018) mention that the P-A theory posits that while project managers are responsible for delivering outputs, they should not be solely accountable for managing project benefits. In the context of this study, project managers are twofold: the municipal officials within eThekweni Municipality and the external service providers. Therefore, municipal officials within infrastructure departments are responsible for both the output and managing project benefits by ensuring a return on investment. Municipal officials are employees of the project owner and, therefore, must act in the best interests of the owner. Badewi (2016) mentions that the key role of the project owner is to ensure that anticipated benefits from projects are realised. However, external service providers such as contractors and consultants are only responsible for delivering outputs.

2.9.2 Theory of project management (TPM)

According to Packendorff (1995), the early origins of theoretical work on project management emerged before the Second World War. One of the most frequently used project management tools, the Gantt chart, based on the work of Henry L. Gantt, was developed in 1930. Packendorff (1995) adds that project management became an essential theoretical field in the 1950s. Project management is a technique that is crucial for any successful business operation;

it has seen rapid growth and evolution in the latter part of the 20th century, emerging recently as a science (Uzulāns, 2016).

The TPM was developed to serve numerous functions. This theory forecasts the future and assists in creating project management tools that assist in planning, designing, monitoring and analysing projects. It provides themes to project stakeholders with the common goal of achieving project objectives (Uzulāns, 2016). The project lifecycle in project management consists of five phases: initiation, planning, control, monitoring, and close-out phases. Project risks exist throughout all five stages of the project management lifecycle. Practical risk mitigation tools and techniques are thus essential for efficient and effective project management. The TPM is employed in this study to holistically comprehend project management through the nine knowledge management areas stated in the PMBOK, namely project integration, scope, time, cost, quality, communication, human resources, risk, and procurement (Yung, 2015).

Warburton and Cioffi (2014) recommend that during any project changes, project managers must focus on the network structure because changes in the network structure lead to cost and schedule impacts. The network structure is a diagram that shows the project scope of works as nodes and clearly illustrates dependencies between tasks as arrows. Figure 2.8 on the following page shows the typical construction project network, which requires skills and expertise to produce optimum results.

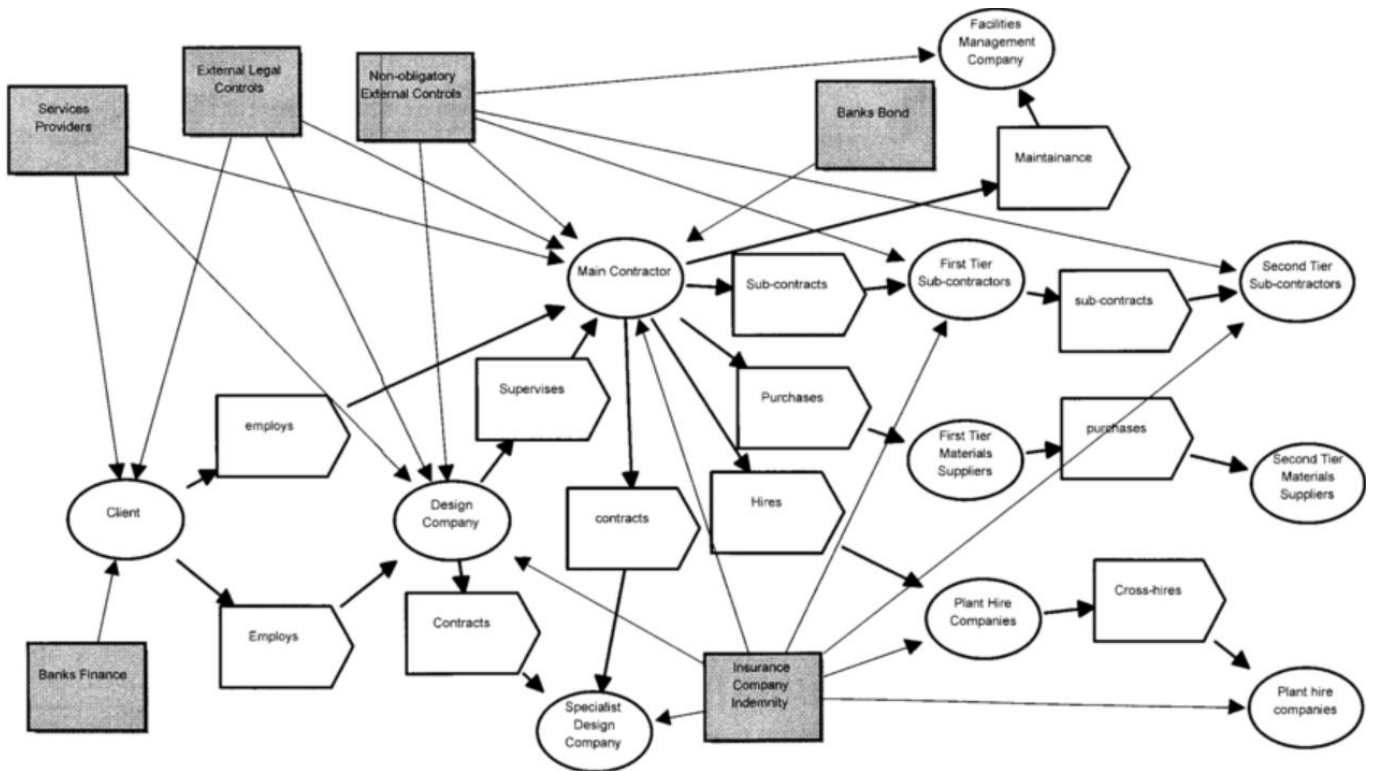


Figure 2.8: Construction project network (Source: Brown et al., 2001)

The significance of the network structure highlights the need for increased focus during scope development. The assumption of the TPM is that a change in the network structure during project implementation will influence cost and schedule (Warburton & Cioffi, 2014). Project management is commonly linked with risks, especially in an uncertain world. Ika and Munro (2022) refer to the risks that are associated with project management as blind spots: ‘run-of-the-mill’ projects at the expense of involving ‘push-the-envelope’ projects. The KZN province, where eThekweni Municipality is situated, has declared a state of disaster in recent years due to uncertainties such as the COVID-19 pandemic that broke out in 2020, the looting in 2021 and the devastating floods that took place in 2019, 2022 and 2024 (South African Human Rights Commission, 2024). The TPM is used to comprehend how project management adapts to emerging risks and pushes the boundaries through innovation to ensure that scope, time, cost and quality are met.

On the other hand, according to Koskela and Howell (2002), the TPM is criticised for its perceived emphasis on project planning over project execution. Koskela and Howell (2002) argue that this concept applies more to manufacturing industries and not to construction projects. In Figure 2.9 below, Koskella and Howell (2002) further unpack what constitutes the project management theory relative to the stages of the project management lifecycle.

Theory of project		Conceptualization: Project is a transformation of inputs to outputs Principles: 1 The total transformation of a project can be decomposed into manageable and well-understood sub-transformations, tasks 2 A project can be realized in an optimal manner by realizing each task in an optimal manner and the tasks in optimal sequence Corollary: Project performance can be performed by improving the tasks Assumptions: 1 Tasks are independent, except sequential relationships 2 Tasks are discrete and bounded 3 Uncertainty as to requirements and tasks is low 4 All work is captured by top-down decomposition of the total transformation 5 Requirements exist at the outset and they can be decomposed along with work
Theory of management	Theory of planning	Conceptualization: There is a managerial part and an effector part in the project; the primary function of the managerial part is planning, and the primary function of the effector part is to translate the resultant plan into action. Principles: 1 Knowing the current state of the world, the desired goal state, and the allowable transformations of state that can be achieved by actions, a series of actions, the plan, can be deduced. 2 The plan is translated into reality by the effector part of the organization. Assumptions: 1 Translating a plan into action is a simple process, by following directions. 2 The internal planning of a task is a matter of the person to whom the task has been assigned
	Theory of execution	Conceptualization: Managerially, execution is about dispatching tasks to work stations. Principle: When, according to the plan, the time has arrived to begin task execution, it is authorized to start, in speech or in writing. Assumptions: 1 The inputs to the task and the resources to execute it are ready at the time of authorization. 2 The task is fully understood, started and completed according to the plan once authorized.
	Theory of control	Conceptualization: There is a process to be controlled, a unit for performance measurement, a standard of performance and a controlling unit (thermostat control). Principle: The possible variance between the standard and the measured value is used for correcting the process so that the standard can be reached Assumptions: 1 The process is of continuous flow type, the performance of which is measured at aggregate terms 2 The process can easily be corrected by the control available.

Figure 2.9: The underlying theories and assumptions of project management (Source: Koskela & Howell, 2002)

However, Koskela and Howell (2002) also criticise the original underlying project management theories, arguing that the foundational basis is outdated. They advocate for a new, broader, and more robust theoretical framework with a paradigm shift in the project management discipline, as illustrated in Figure 2.10 on the next page.

<i>Subject of theory</i>		<i>Relevant theories</i>
Project		Transformation Flow Value generation
Management	Planning	Management-as-planning Management-as-organizing
	Execution	Classical communication theory Language/action perspective
	Control	Thermostat model Scientific experimentation model

Figure 2.10: Ingredients of a new theoretical foundation of project management (Source: Koskela & Howell, 2002)

Similarly, Packendorff (1995) identified three main shortcomings of project management research and theory; he stated that the TPM is often seen as a theoretical framework that lacks substantial empirical evidence. He further criticised the TPM in terms of the fact that projects in the project management theory are only seen as tools.

2.10 Conclusion

This chapter has conceptualised and unpacked project management and service delivery through a review of empirical and theoretical literature. The literature reviewed demonstrates that project management is among the root causes of poor service delivery in local government. The common factors identified are poor planning, financial mismanagement, and lack of control and monitoring of projects during the implementation phase. All the identified factors fall under the project management lifecycle phases. Therefore, the focus should shift from the unavailability or insufficient infrastructure budget allocated to local government to implement infrastructure projects, and should instead concentrate on optimising available financial and human resources. Additionally, the literature reviewed demonstrated that efficient project management in service delivery is crucial, and municipalities must acknowledge the project management field by investing significantly in it to ensure the production of high-quality projects. Finally, the two main theoretical frameworks underpinning this study were outlined, namely P-A theory and the TPM. The principal in this study refers to eThekweni Municipality, while the HSETA project management teams and service providers, such as the consultants and contractors, represent the agents. The TPM is also employed in this study to offer an understanding of project management through the nine knowledge management areas and how

these can be applied to service delivery in eThekweni Municipality. The next chapter presents the methodology that was employed in the study and highlights the main methodological and ethical concerns borne in mind by the researcher in conducting the research.

CHAPTER THREE: RESEARCH METHODOLOGY, DESIGN AND METHODS

3.1 Introduction

The previous chapter included a review of pertinent literature consulted by the researcher to understand previous research findings on project management's influence on service delivery, especially in local government. This chapter outlines the research methodology employed in the study, which centres on the role of project management in service delivery in the HSETA cluster of eThekweni Municipality. The term 'research', derived from the combination of 're', meaning 'again', and 'search' signifies the repeated inquiry into a subject. It refers to a systematic investigation to acquire new insights into existing knowledge. Therefore, research is an intellectual endeavour characterised by meticulous analysis and exploration (Pandey & Pandey, 2021). This chapter begins with a thorough examination of various research methodologies, designs, methods, philosophies and paradigms. A particular focus is on the qualitative research method and the rationale behind selecting this approach as applicable to this study. The chapter then outlines the purposive sampling technique used to identify participants and motivates for the use of semi-structured interviews, which were chosen as the data collection instrument for this study. The chapter also details the data analysis method, namely thematic analysis, and the measures taken to ensure data credibility and validity. Lastly, the chapter outlines and addresses ethical considerations that were addressed and the corresponding actions that were implemented by the researcher in conducting the research.

3.2 Research methodology

Research is a methodological analysis (Nayak & Singh, 2015), and all research is built on existing studies and knowledge. The existing knowledge is the foundation of any research, irrespective of the discipline. Bouchrika (2024) states that research is about responding to previously unanswered questions from previous studies by providing recommendations that contribute positively to the current body of knowledge. According to Bouchrika (2024), research methodology is the collection of approaches or guidelines to direct the research, including the values, philosophies and principles that support the chosen study approach.

The field of business research is evolving at an incredible speed, while still remaining fragmented and interdisciplinary (Snyder, 2019). Businesses and governments have concentrated on research to address operational challenges that may present obstacles to the

implementation of their initiatives due to the evolving and complex world. Government plans, policies and procedures are guided by research. For instance, government's available budget to meet the needs and desires of citizens depends on intensive investigation that is carried out through research that explores peoples' needs, in the case of this study, service delivery provision in eThekweni Municipality. Alternative plans, practices and policies can all be evaluated through research (Kothari, 2004).

3.3 Research design and methods

The research design is the researcher's plan of action. It outlines how the study will be conducted to fulfil the clearly defined research objectives (Saunders, Lewis & Thornhill, 2019). The research design encompasses the research methods, which are the approaches to data collection, analysis and interpretation that researchers propose for their investigation (Creswell & Creswell, 2018). To conduct research, a researcher is required to make a methodological choice of which research design to implement from the following three designs: quantitative, qualitative, or mixed research design. Creswell and Creswell (2018) reiterate that when researchers begin outlining how the study will be conducted, the main focus should be on the philosophical worldview assumptions to be brought to the study and the research design associated with the worldview. The philosophical worldview is critical in translating the design approach into practice.

Figure 3.1 below shows the 'research onion', a model developed by Saunders, Lewis and Thornhill (2019) to guide the research design process, which includes all the elements of conducting an informed research study.

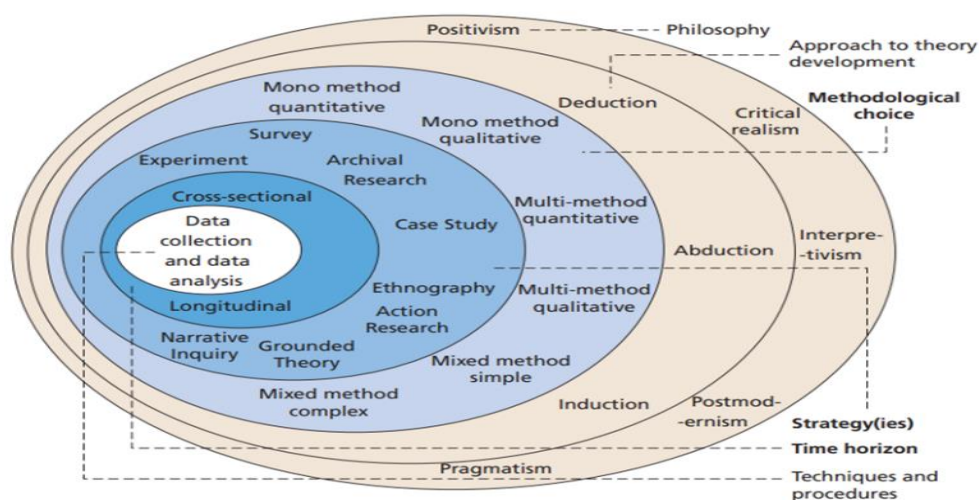


Figure 3.1: Research Onion (Source: Saunders, Lewis & Thornhill, 2019)

The research onion clearly outlines the order in which a research study should be conducted, with the centre of the onion being the data collection driver (Saunders, Lewis & Thornhill, 2019). The research design for the present study was based on the notion of the research onion developed by Saunders, Lewis and Thornhill (2019). The following section will detail the philosophical worldviews and research design methods mentioned above, namely the quantitative, qualitative and mixed designs, and how the researcher came to a decision regarding which would be most applicable to this study.

3.3.1 Quantitative research design

Quantitative research aims to quantify data, find matches and conclude results for a general population. Its purpose is to measure, count or quantify a research problem. Quantitative research seeks to give answers to the questions of how much? How often? What proportion? Which variables are linked? (Hennink, Hutter & Bailey, 2020). Creswell and Creswell (2018) mention that the difference between quantitative and qualitative research is that quantitative research uses numerical data while qualitative research does not rely on the use of numerical data. Researchers adopt quantitative research in their studies to scientifically test or verify theories or explanations. The researcher develops assumptions or hypotheses for the theories and explanations; at the end of the data analysis, the results will support or refute the hypotheses (Creswell & Creswell, 2018). Quantitative research collects statistical data to analyse and establish a correlation between patterns.

The researcher's perspective on the above form of research is that quantitative research analyses patterns in statistical data. In contrast, qualitative research aims to gain in-depth knowledge to help unpack and explain the root causes of behaviour, beliefs and actions. A quantitative design was not used for this present research study since the study aims to gain in-depth insight into the views, perceptions and experiences of study participants regarding the role of project management in the service delivery of eThekweni Municipality.

3.3.2 Mixed methods research design

The mixed methods design is a form of research in which the researcher in a single study gathers information, analyses collected data, integrates the results, and draws interpretations using qualitative and quantitative approaches (Doyle, Brady & Byrne, 2009). Doyle, Brady and Byrne (2009) state that mixed methods research emerged due to the restrictions of using either qualitative or quantitative research methods, and has become the preferred legitimate

alternative to the qualitative and quantitative methods. Likewise, Creswell and Creswell (2018) state that the mixed design method involves collecting data by integrating quantitative and qualitative design methods. The researcher utilises separate designs that may include philosophical assumptions, hypotheses and theoretical frameworks. Creswell (2015) mentions that the mixed design method is used in research studies where data collection is conducted in phases, the first phase of which involves the qualitative research paradigm and the second phase of which involves the quantitative research paradigm. It is used to gain an in-depth understanding of a research problem in its totality. A comprehensive research problem analysis is achieved when quantitative and qualitative research methods are combined in a single study.

Mixed methods research is time-consuming because it incorporates both qualitative and quantitative research design methods. The data collection for mixed methods research is extensive and can lead to complications should there be variance in the outcome of results between the qualitative and quantitative methods. Mixed methods research was not selected for this present study, as the study involves an in-depth investigation and examination of perceptions and experiences of the officials that form part of project management teams in the HSETA cluster. In-depth knowledge is required so that the researcher can respond to the study objectives regarding project management's role in the service delivery of projects in eThekweni Municipality. Due to time constraints, an extensive study that involved mixed methods research was not considered ideal for the researcher.

3.3.3 Qualitative research design

Hennink, Hutter and Bailey (2020) state that the qualitative research approach is not easily definable because it is an all-inclusive term with an extensive scope of different techniques and philosophies. However, Hennink, Hutter and Bailey (2020) do define the qualitative research as an approach that exhaustively supports researchers in examining participant's experiences. Qualitative examination uses specified research methods such as in-depth interviews, focus group discussions, observation, life stories and biographies. On the other hand, Creswell and Creswell (2018) define qualitative research as an approach that seeks to discover and gain in-depth knowledge of the meaning of people or groups assigned to a societal problem. Qualitative research is appropriate for a study that examines, explores and understands participants' perceptions as it allows researchers to fully comprehend the complexities of frequent occurrences and the meaning of interpretations that lead to a specific behaviour. Additionally, in this research design, data is collected by developing questions and procedures that involve

the participant's setting, formulating study themes from specifics, and lastly, the researcher is able to clarify the meaning of the data (Creswell & Creswell, 2018).

This study employed a qualitative research design to gain comprehensive knowledge and understand project management's role in the service delivery of eThekweni Municipality. The qualitative research design was employed as it allowed the researcher to address the study objectives in some depth, which are: to examine the role and importance of project management in eThekweni Municipality HSETA infrastructure clusters, especially within the departments that are responsible for implementing infrastructure projects; to determine how Project Managers are currently undertaking project management; to identify the challenges that exist with project management that Project Managers of eThekweni Municipality are presently experiencing; and to identify strategies to improve project management in eThekweni Municipality to ensure successful planning and execution of projects. The data was collected through semi-structured face-to-face interviews with selected participants from infrastructure departments within the HSETA cluster. The selected cluster is responsible for project managing service delivery projects in eThekweni Municipality.

3.4 Research philosophy

Research philosophies commonly serve as the basis of research (Creswell, 2013) and encompass the epistemological and ontological assumptions that underpin the research design and choice of appropriate research methods (Kumatongo & Muzata, 2021). In research methodology, ontological and epistemological principles are translated into guidelines to indicate how the research will be performed. These philosophies outline the regulations, processes, and practices that will administer the research (Nayak & Singh, 2015). The research philosophy forming the foundation of this study, as well as the associated epistemology and ontology will be outlined in the subsequent sections.

3.4.1 Epistemology and ontology

Epistemology and ontology serve as the foundation of research, similar to how footings are essential for building a house (Grix, 2004). Kumatongo and Muzata (2021) define epistemology as the theory of knowledge. Epistemology explains how a researcher understands reality and the assumptions regarding acquiring and accepting knowledge (Kumatongo & Muzata, 2021). Gall, Gall and Borg (2003) define epistemology as the philosophical branch

that examines the nature of knowledge and the methods through which knowledge is obtained and confirmed.

Ontology defines knowledge and assumptions about reality (Kumatango & Muzata, 2021). Richards (2003) states that ontology encompasses the essence of our beliefs regarding reality. Researchers hold assumptions about reality, its existence, and its knowable aspects. The ontological assumptions of the researcher influence how they perceive and investigate the objects of their research. The research objects in business and management include organisations, managers, human beings and their working lives, organisational events, and artifacts. The ontological perspectives range from realism and internal realism to relativism and nominalism (Saunders, Thornhill & Lewis, 2019). Realism posits that ‘what you see is what you get’, indicating that our sensory experiences accurately depict the world (Maxwell, 2012). In contrast, subjectivism integrates assumptions from the arts and humanities, asserting that social reality is constructed from the perceptions and actions of social actors, primarily individuals. Subjectivism, in its ontological stance, aligns with nominalism. On the other hand, relativism suggests the existence of multiple truths shaped by the observer's perspectives (Saunders, Thornhill & Lewis, 2019).

Based on the above explanations, the study adopted the relativist ontological viewpoint as the research examines the reality of project management’s role in the service delivery of eThekweni Municipality, which is based on the understanding that there are multiple truths shaped by the selected participants’ and the researcher's perspectives.

3.5 Research paradigms

Guba and Lincoln (1994) view a paradigm as the collection of fundamental beliefs that address fundamental or initial principles. It forms a worldview that outlines the nature of the world, an individual’s position, and the potential relationships to various aspects of the world and its components, such as cosmologies and theologies. The significance of the research paradigm lies in its role in the research process. It is a system of interconnected views and beliefs linked to ontology, epistemology, and methodology, which, when put together, form the research process (Munar & Jamal, 2016). Similarly, Kumatango and Muzata (2021) view research paradigms as encompassing a shared set of beliefs, principles, and agreements among scientists on understanding and addressing problems. For Lyons et al. (2022), a research paradigm is how the researcher views the world and the researcher’s interpretations and perceptions towards the

world, which establishes the beliefs and principles influencing the researcher's actions toward the world.

A research paradigm represents overarching perspectives or ideologies. According to Saunders, Lewis and Thornhill (2016), the difference between the positivist and interpretivist paradigms is that the positivist paradigm uses the scientific method and generates numerical data to generalise an outcome after the data analysis. On the other hand, the interpretive paradigm is somewhat subjective, where the researchers put together the truth of the world by considering various contexts in which events and interactions occur. The interpretivist and positivist paradigms and the selection of a suitable paradigm between the two will be considered in the sections to follow. The relationship between paradigms and research designs is illustrated in Figure 3.2 below.

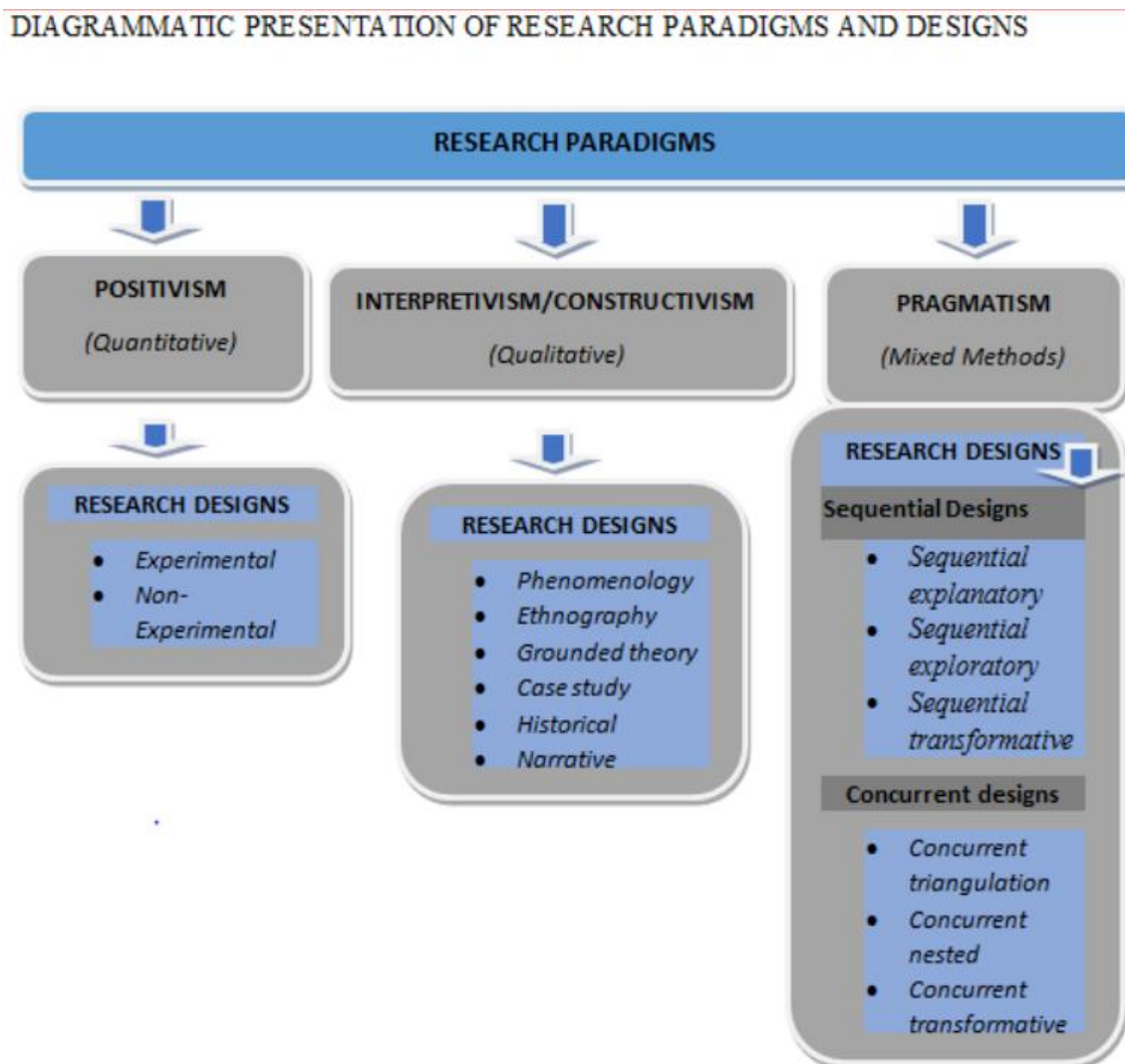


Figure 3.2: Diagrammatic presentation of research paradigms and design (Source: Kumatango & Muzata, 2021)

3.5.1 Interpretivism

The interpretive paradigm, sometimes called a constructivist approach, strives to get into the core of the research study and further understand and explain the subject and the rationale behind its context. The focus is on the subject matter being observed instead of the observer's point of view (Kivunja & Kuyini, 2017). According to Rehman and Alharthi (2016), interpretivism contradicts positivism because it disagrees with the assumption that a single provable reality exists independent of human senses. Similarly, Lyons et al. (2022) mention that qualitative research is supported by interpretivism because qualitative researchers believe that there is no single reality. Instead, qualitative researchers believe that there are multiple realities depending on human senses, perspectives, interpretations, knowledge and experience. Saunders, Lewis, and Thornhill (2019) contend that interpretivism argues that the research studies for human beings and their social world call for different research philosophies and paradigms; the same applies to the social sciences and natural sciences.

The interpretivist paradigm was deemed suitable for this study as it considers the unique perspectives and experiences of participants. In this study, the primary objectives include: evaluating the role of project management in service delivery; identifying the challenges faced by project managers; and identifying strategies that can be developed to improve project management in eThekweni Municipality. In order to address these objectives, the worldviews of the participants regarding these matters needed to be explored, thus the interpretivist paradigm was considered apt to underpin the research to elicit these views from the participants.

3.5.2 Positivism

Positivism suggests that reality exists independently of humans and is not subjected to any context. Positivists attempt to understand and comprehend the social world, such as the nature of all living and non-living things. Positivists' ontological position is thus realism (Rehman & Alharthi, 2016). According to Saunders, Lewis and Thornhill (2019), positivism relates to the theorisation of physical and tangible social reality. Saunders, Lewis and Thornhill (2019) further clarify that positivism aims to produce regulated laws and social reality regulations through natural scientists' observations. A worldview for a research study that is established through the positivist paradigm is based on scientific research. Scientific research involves experimentation to examine and scrutinise observations to produce facts (Kivunja &

Kuyini, 2017). Lyons et al. (2022) refer to quantitative research as corresponding to a positivist paradigm and qualitative research to an interpretive paradigm.

After considering the definitions and explanations of positivism above and based on the ontological position of positivism, which is realism, it can be argued that project management's role in the service delivery of eThekweni Municipality is neither a reality nor a social construct. Therefore, the assumptions of positivists, that is, critical examination to scrutinise and determine 'facts', were not best suited for this research study because the positivist approach places significant emphasis on experimentation instead of in-depth investigation to access people's perspectives and experiences.

3.6 Data collection

To collect data in qualitative research, researchers can utilise several designs such as "phenomenology, hermeneutics, ethnography, grounded theory, case study, historical or narrative design" (Kumatongo & Muzata, 2021). Data collection consists of setting study boundaries through considered sampling and recruitment techniques, obtaining data through unstructured or semi-structured interviews, documenting visual materials, and outlining the protocol for information recording (Creswell & Creswell, 2018). In any research study, researchers must ensure the accuracy and relevance of collected data. Building relationships and showing sensitivity to participants is vital to accessing valuable insights in qualitative research. In the following subsections, the sampling technique utilised to select participants for the present research study, which was informed by a qualitative, interpretivist research approach, will be explained concisely before the semi-structured interviews and the data collection instrument are outlined.

3.7 Sampling

A purposive sampling method was used to select participants for this research. Saunders, Lewis and Thornhill (2019) define the purposive sampling method as judgemental sampling, where the researcher's judgment is used to select participants and cases that will enable the researcher to answer study questions and meet its objectives. A total of fifteen (15) participants were purposively chosen in this study due to their extensive knowledge, experience, and familiarity with the subject under investigation. The participants comprised Heads, Deputy Heads, Senior Managers, Strategic Executives, Project Executives, Project Managers, and Senior

Technologists of eThekweni Municipality. The participants were selected because they are involved in all project lifecycle phases: initiation, planning, execution, monitoring and controlling, and closure. These participants have comprehensive knowledge of the importance of project management, and would be able to provide insight into how Project Managers are currently undertaking project management, and the challenges facing Project Managers in eThekweni Municipality.

3.8 Methods of collecting qualitative data

Qualitative studies employ various data collection methods and draw upon data sources such as interviews, journals, observations, open-ended questionnaires, content analysis of visual and textual materials, and oral history for data collection, analysis, and interpretation (Mohajan, 2018). These can be grouped into two types of data that may be drawn from in any form of research, namely primary and secondary data, which will be explained in the following sections.

Secondary data

Any data analysis collected for specific research studies or different purposes, including the registry data, is classified as a secondary analysis of existing data, regardless of whether the individuals conducting the analysis were involved in the data collection (Cheng & Phillips, 2014). The researcher identified books, academic reports, journals, articles, and public reports as secondary data considered in this study. This data was sourced from the University of KwaZulu-Natal Library, Google Scholar, government websites, reputable online sites and articles, and the eThekweni Municipality database. The researcher identified secondary data that offered valuable insights and context for the present study.

Primary data

Primary data is constrained to examining information by the research team that has actually gathered it, aiming to address the initial hypotheses proposed in the study (Cheng & Phillips, 2014). Effective qualitative data collection methods include open-ended interviews of different structures, examinations, notes from fieldwork, and document analysis. Open-ended interviews are either structured as standardised, semi-standardised, or informal conversational interviews (Rehman & Alharthi, 2016; Shah & Al-Bargi, 2013).

In this study, the researcher aimed to prompt detailed responses from the selected participants to achieve a profound understanding of their views and perceptions of the role of project management in the service delivery of eThekweni Municipality. In-depth semi-structured interviews were preferred as the most suitable data collection method to facilitate this deep understanding. The advantages of interviews as data collection methods in qualitative studies will be outlined in the following subsection before a fuller discussion of in-depth semi-structured interviews is considered.

3.8.1 Interviews in qualitative research

Interviews are one of the most commonly used techniques for collecting qualitative data (DiCicco-Bloom & Crabtree, 2006). Saunders, Lewis and Thornhill (2019) state that there are three types of research interviews: structured, semi-structured and unstructured. DiCicco-Bloom and Crabtree (2006) mention that while interviews are commonly used to know and understand the interviewee better, the specific intent varies based on the research question and the researcher's disciplinary perspective. Consequently, research may be structured to test prior hypotheses, employing a highly structured interview format with standardised questions, and to ensure unbiasedness, the researcher reads the questions as they are written in the questionnaire loudly with no change in the tone (Rea & Parker, 2014).

Other types of research may aim to enhance comprehension or generate new hypotheses. Comprehension is therefore enhanced in a research study through qualitative interviewing using semi-structured interviews that are flexible for the researcher and the interviewee. The following section will discuss semi-structured interviews thoroughly, as this is the data collection instrument that was selected for this research study.

3.8.2 Semi-structured interviews

The data collection instrument used in this study took the form of semi-structured interviews as this is the most commonly used interview method in qualitative research due to the advantages of using these types of interviews. In semi-structured interviews, the predetermination of themes depends entirely on the researcher's philosophical assumptions. Semi-structured interviews are non-standardised; instead, the researcher will have a list of themes and questions to be covered, although these may vary from interview to interview (Saunders, Lewis & Thornhill, 2019). They revolve around pre-set open-ended questions, with additional questions arising from the interviewer and interviewee interaction (DiCicco-Bloom

& Crabtree, 2006). Semi-structured interviews allow the researcher to explore extensively all aspects relevant to addressing and meeting the study objectives and are the primary data source for qualitative research studies, typically arranged in advance at a specific time and location. This data collection instrument was suitable for the study as it allowed the researcher to gain excellent in-depth knowledge of the perceptions and views of project management officials in the HSETA cluster regarding project management's role in the service delivery of eThekweni Municipality.

3.9 Method of data analysis

The method of data analysis for the data collected in this research is based on the inductive thematic analysis framework. Boyatzis (1998) describes thematic analysis as a method of analysis applicable to qualitative data. He also states that it is a method for encoding qualitative data. Similarly, Guest, MacQueen and Namey (2012) define thematic analysis as a qualitative data analysis technique that requires involvement from the researcher by reading through the data and identifying patterns to generate implicit and explicit ideas, which are themes. Inductive thematic analysis, as described by Boyatzis (1998), is a systematic qualitative method for identifying, analysing and reporting themes (patterns) within data. Nvivo Version 20, a software program developed by QSR International, was used in this study, which allowed for the thematic data analysis method to be applied to analyse responses from the semi-structured interviews.

Interview audio files were transcribed into text, and annotations were written concurrently with the transcription process. The transcribed data was reviewed alongside the original audio recordings to verify that the transcriptions accurately represented the opinions, perspectives and ideas expressed by the interview participants. The researcher analysed the qualitative data by coding each thought to encapsulate its essence, resulting in several codes. Alhojailan (2012) states that the primary objective of coding in thematic analysis is to establish linkages among different components of the data; he further adds that coding is obtained from the participant's responses. Codes pertaining to similar phenomena were consolidated and combined. According to Joffe and Yardley (2003), a theme in a coding category represents the manifest content of the data, which is directly observable. The procedure of code aggregation to search and form themes entails analysing links among codes and combining them into comprehensive themes.

The themes that emerged from the data collected in this study were reviewed together with their underlying codes for coherence and meaning. Lastly, the study's findings were derived from the themes, and these findings are reported on in the compiled write up of the research. Figure 3.3 below shows the steps involved in thematic analysis, as outlined by Braun and Clark (2012).

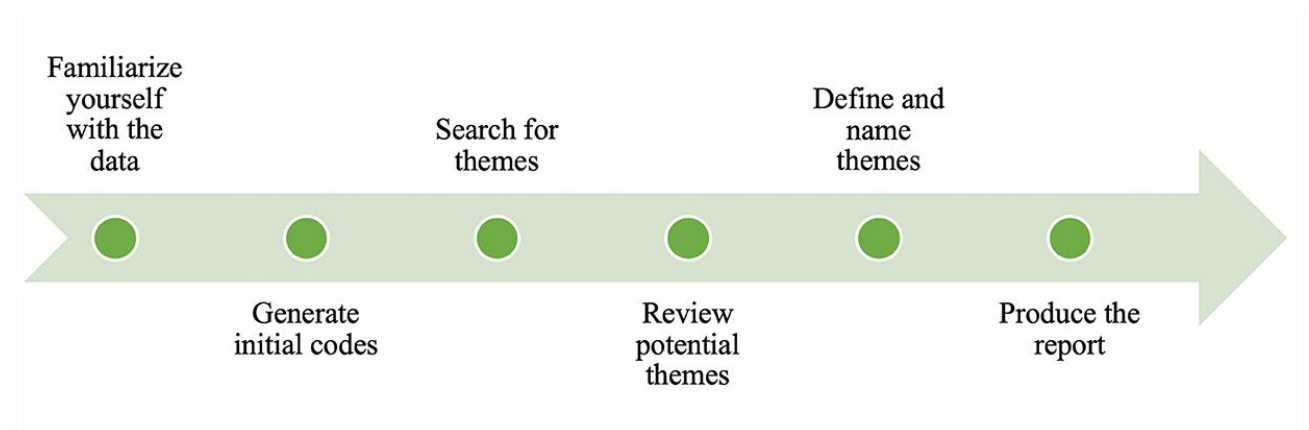


Figure 3.3: The six phases of thematic analysis (Source: Braun & Clarke, 2012)

3.10 Validity and reliability

Qualitative validity refers to verifying the accuracy of findings through specific procedures, while qualitative reliability ensures consistency in approach across various researchers and projects (Gibbs, 2007). Creswell and Creswell (2018) define qualitative validity as a critical strength of qualitative research that assesses the accuracy of findings from the perspectives of the researcher, the participants and readers of the research project. Qualitative literature is rich in terms like trustworthiness, authenticity, and credibility, all of which speak to the concept of validity in research (Creswell & Creswell, 2018). According to Saunders, Lewis and Thornhill (2019), the reliability attributed to the secondary data depends on the method of data collection and the data source.

To guarantee that a distinct division between the researcher's and participants' opinions was consistently upheld, the researcher considered and explained any potential bias that might have been introduced into the study. The researcher ensured that their personal opinions and experiences did not influence those of the participants by maintaining neutrality during the interviews. The validity of the findings was confirmed by presenting the themes to the participants and inquiring whether they concurred that the themes accurately represented the

points they intended to convey. The consulted participants concurred with the themes. Therefore, the reliability of the findings was ensured.

3.11 Ethical issues

Ethics in research pertains to the standards of behaviour that govern the researcher's actions concerning the rights of individuals who are the subjects of the research study or those impacted by it (Saunders, Lewis & Thornhill, 2019). In this study, the researcher obtained ethical clearance from the University of KwaZulu-Natal's Research Ethics Committee before commencing with data collection. A gatekeeper's letter was obtained from the Deputy City Manager of the HSETA cluster, who granted permission for the researcher to conduct research within eThekweni Municipality and with the senior officials of the HSETA cluster. Each selected participant was issued an informed consent letter outlining the study's title, purpose and objectives before the researcher commenced with the semi-structured interviews.

3.12 Conclusion

This chapter provided an overview of the research methodology employed in the study. It outlined the philosophical underpinnings of the study. The research design, research paradigms, and the three research methods, namely quantitative, qualitative and mixed design methods were discussed. A qualitative research method employed in this study allowed the researcher to gain in-depth knowledge and understanding of the role of project management on service delivery in eThekweni Municipality. This chapter discussed the purposive sampling technique used to select participants for the study, and the semi-structured interview data collection instrument as well as the thematic analysis method that was used to analyse the collected data. This chapter also outlined the validity and reliability concepts and offered a brief explanation of how the ethical considerations were addressed in the research.

CHAPTER FOUR: PRESENTATION OF FINDINGS

4.1 Introduction

The previous chapter presented an overview of the research methodology utilised in this study and an explanation of the research techniques employed for data collection and analysis. This chapter presents the findings of the thematic analysis that was undertaken based on the qualitative data collected during the fieldwork through semi-structured interviews, in order to understand and evaluate the role of project management on service delivery in eThekweni Municipality. To evaluate the role of project management on service delivery in eThekweni Municipality, fifteen (15) interview audio files were transcribed into text, and annotations were documented as the data was being transcribed. The transcribed raw data was analysed using NVivo Version 20 thematic analysis. Furthermore, the raw data was re-read while replaying the original audio files to ensure that the transcriptions accurately reflected the participants' thoughts, perspectives and ideas as they had been expressed in the interviews.

The researcher thoroughly reviewed the qualitative data, coding every idea by capturing its essence in its code and creating several codes. Codes that focused on similar phenomena were grouped and aggregated together. The themes were reviewed for coherence and meaning together with their underlying codes. Once established, the themes were defined, named, and applied to discuss the issues that emerged in the data collected in the study pertaining to that theme. These identified themes are the basis of the presentation of findings in this chapter. The first section of this chapter will present the participants' details to establish the study participants' characteristics. Thereafter, the identified themes will be elaborated upon and illustrated in relation to their relevance to the research questions and objectives.

4.2 Data presentation

This chapter primarily presents the findings from the semi-structured interviews, representing the qualitative data analysis conducted in the study. A purposive sampling method was employed to select the research participants involved in the study. A total of fifteen (15) participants were selected for inclusion in the study, and all fifteen (15) participants were interviewed. In this chapter, the analysis of the collected data is conducted concurrently with the presentation of the verbatim responses of all participants that directly relate to the research objectives. The aim of this chapter is to show how the identified themes offer new insights into, and how they relate to, the research questions that guided the study. Table 4.1 on the next page

shows the details of the participants, that is the department in which they work at eThekwini Municipality, and their designation in that department.

Table 4.1: Participant's profile

Participant	Designation	Department
Participant 1	Strategic Executive	Executive Office: Engineering Unit
Participant 2	Project Manager	Roads and Stormwater
Participant 3	Senior Manager	Roads and Stormwater
Participant 4	Senior Manager	Roads and Stormwater
Participant 5	Senior Civil Engineering Technologist	Roads and Stormwater
Participant 6	Chief Civil Engineering Technologist	Roads and Stormwater
Participant 7	Chief Civil Engineering Technologist	Roads and Stormwater
Participant 8	Senior Manager	Roads and Stormwater
Participant 9	Chief Civil Engineer	Coastal Stormwater and Catchment Management
Participant 10	Senior Manager	Roads and Stormwater
Participant 11	Head: Engineering Unit	Engineering Unit
Participant 12	Senior Civil Engineer	Roads Provision
Participant 13	Chief Civil Engineering Technologist	Road Management System (eThekwini Transport Authority)
Participant 14	Senior Manager	Human Settlements
Participant 15	Civil Engineering Technologist	Roads and Stormwater

4.3 Importance of identification of infrastructure needs

This theme provides insights into how infrastructure needs are identified through various processes like long-term planning, community complaints and technical inspections. The main actors include municipal departments, ward councillors, engineers and technologists, and community members. Key issues that emerged from the data during familiarisation included long-term planning, the IDP, reactive maintenance in response to emergencies, for example, floods and storms, public complaints through formal channels, budgetary constraints and backlogs and coordination between departments, councillors, and their local communities and wards. These issues and the findings related to each will be discussed in the following subsections.

4.3.1 Importance of reactive and proactive approaches to service delivery

Across the transcriptions, a recurring theme that emerged was the dual approach to project initiation, proactive long-term planning, and reactive responses to situational demands (Participant 1, Participant 2, Participant 8 and Participant 13). In particular, the IDP and the reactive situational basis are identified as key frameworks guiding strategic planning in public management. Reactive maintenance is particularly prominent during emergencies like floods (Participant 2). Reactive maintenance calls for the departments to shift from routine maintenance and planned projects and instead attend to urgent crisis management, focusing on preventing further damage and ensuring public safety. Regular assessments by technologists and engineers are part of a proactive approach to infrastructure maintenance (Participant 16). The visual and structural condition of roads is evaluated periodically, ensuring that potential problems are identified early and addressed systematically (Participant 7).

“We do a structural assessment and determine the road's structural condition. Moreover, from that structural condition, the exercise is not complete. First, we do a VCI, a visual condition assessment. Visually, as an engineer, you can see if the road is unsafe. It has potholes, is uneven, and will cause potential accidents. So as a department, we are responsible to ensure that the road is in a sound condition”. (Participant 7)

4.3.1.1 *Reactive approach*

Many projects are triggered by immediate needs, for example infrastructure failures due to serious events such as floods, or public complaints. This indicates a reactive approach to problem-solving. Reactive responses, such as those triggered by natural disasters like floods or urgent infrastructure failures, further demonstrate the flexibility of public management systems to adapt to unforeseen events (Participant 1 and Participant 3).

“The second one is more of a reactive situational basis. So, a failure of a type, could be a flood, other need, etc. arising, which then triggers an inspection, which then gives rise to the need for a project”. (Participant 1)

“But often, in terms of planning, project management, I would say it comes more from the IDP, addressing the backlogs. Yes. That tends to inform the project pipeline”. (Participant 3)

4.3.1.2 *Proactive approach*

While reactive approaches are prevalent, there is evidence of proactive planning through the IDP process. This suggests a desire to anticipate future needs and address them systematically, as Participant 9 stated that:

“There are probably two triggers for that. One is in the long-term planning, the IDP, and the reaction situational basis, which may give rise to a project”. (Participant 9)

The municipality employs a hybrid approach to project initiation, combining reactive and proactive elements while also considering budgetary limitations.

“So basically, what happens in the Roads and Maintenance Department is that we, as technologists, drive around the roads and inspect them proactively. So, there is like an every once, minimum once in two years; we evaluate the road. So, we evaluate the structure of the road itself and whether it is performing to the required standards. In that, say, for instance, many potholes are developing”. (Participant 6)

“Due to budget constraints, we cannot attend to the entire road network at the same time or as soon as possible; therefore, we have developed a program of identifying and prioritising the need to upgrade the roads”. (Participant 9)

4.3.2 Bottom-up and top-down influences on service delivery

Another significant theme relates to the identification of public needs and how projects are prioritised. Through various platforms, the public plays an integral role in identifying infrastructure defects and raising concerns. Public complaints, ward councillors and community leaders are key interfaces between the government and citizens, feeding into the project pipeline (Participant 11). This process reflects a bottom-up innovation system, where local inputs shape the allocation of resources and prioritisation of projects, ensuring that the system remains responsive to public demands. Furthermore, the need to prioritise within constrained budgets, e.g. limiting road upgrades to 52 kilometres per annum due to budget limitations, demonstrates how resource constraints influence innovation within public management (Participant 12). Public managers must innovate in their approach to resource allocation, often engaging communities to identify critical projects while ensuring that the highest-need areas are served first (Participant 9). The operational departments often rely heavily on public complaints and the input of ward councillors to identify infrastructure needs. Public engagement through fault systems ensures responsiveness to community needs, making the public an integral part of the project generation process.

“In identifying this problem, we are also engaging with the local councillors and community members to identify the most affected roads to upgrade and the most severe roads to allow communities access”. (Participant 11)

“In identifying these as well, firstly, not only is approval or consideration sought from the local community as well, but it is also passed through council for approval, so it is an entire collective process that goes to the local community for consideration and input as well as approval from the local council”. (Participant 12)

“These come through the community complaints; they come through requests from the councillors; they come through the customers, which are the public or the end users. So, they are all listed in the system, and as the council receives the budget, they then prioritise which ones should be implemented from these

lists. The projects come directly from the community, councillors, and community leaders”. (Participant 9)

“One has to look at the most critical needs. At the ward level, there are ward committees and so forth. Many priorities come through them, meaning that we must interface with the councillors and ward councillors because they are the interface with the community. Through that and public complaints, that is how the project lists are generated”. (Participant 4)

Community members, ward councillors and public complaints play a significant role in identifying project needs. This reflects a bottom-up approach where local knowledge and priorities shape the project pipeline (Participant 4). The IDP and strategic planning processes, led by the mayor, provide a top-down project prioritisation and implementation framework. This demonstrates the influence of institutional and political factors. Community involvement is crucial to the project initiation process (Participant 4).

“Okay, now thank you for the question. I think at an institutional level, there is a process of IDP, which is Integrated Development Planning. This is where, then, the mayor leads a process whereby he engages communities, and the communities are the ones that put forward the requests that are required at a local level. From there, the mayor puts it as part of his five-year strategic planning document, giving it to his administrators to start planning those projects. Of course, there is a prioritisation process because the community has given out many needs, so there must be a process of prioritising within the available budget on what can be achieved through that budget”. (Participant 4)

4.3.3 Impact of resource constraints on project prioritisation

Budgetary limitations emerge as a significant challenge, necessitating innovation in managing and prioritising projects. Despite the growing demands on infrastructure, public management systems must innovate within tight fiscal constraints (Participant 5). Public participation, technical assessments, and institutional prioritisation processes reflect the system’s ability to innovate in governance and financial planning to ensure that critical projects are implemented within the available budget (Participant 4). The findings from the interview transcriptions also suggest that budgets have not kept pace with inflation or infrastructure demands, leading to

persistent backlogs. This limitation necessitates innovative approaches to stretch available resources, such as focusing on high-priority areas and spreading road upgrades over a 15 to 20 year period (Participant 5). Persistent budget constraints significantly limit the capacity to address all infrastructure needs. Departments must prioritise the most critical issues, such as safety hazards or infrastructure deterioration, often leaving less critical projects underfunded or delayed.

“Due to budget constraints, we cannot attend to the entire road network simultaneously, or as soon as possible; therefore, we have developed a program to identify and prioritise the need to upgrade these roads. We have developed a program to upgrade approximately 52 kilometres per annum per financial year to eliminate this problem of having unpaved roads over the next 15 to 20 years”. (Participant 5)

“Over the years, instead of budgets being increased in line with variables such as the CPI and inflation, due to demands and the overall budget available to the municipality, budgets to line departments are not in line with the inflation and the demands of the infrastructure. There will always be a backlog”. (Participant 4)

The municipality faces budgetary constraints, which necessitate careful identification and prioritisation of projects. Factors such as the severity of the problem, the potential impact on the community, and alignment with strategic goals are considered when prioritising projects.

“The budgets will certainly not match the demands. Having said that, within the departmental operational budget, there is a degree of flexibility where budgets can be moved around based on priorities and the highest demands”. (Participant 14)

“With the worst affected roads, we want to allow communities access to their homes and service delivery. You know, in the event of an emergency, we want emergency vehicles to be able to attend to the worst affected areas. So, as I have mentioned, we prioritise projects based on the available budget, we will prioritise, and again the decision-making process for prioritisation is with the

local communities and also final approval from the council as well”.
(Participant 13)

“I think one thing that I can also add is issues of safety. You see, safety becomes a critical matter, while in our situation you also check, because as a local government, we have a responsibility, especially as the roads department, to ensure that people always have access to their yards, ensure that all that is there, and also check your traffic volumes in terms of those majors, small routes and all that”. (Participant 2)

Budget constraints create a significant challenge for project managers. Project managers must balance resource management and project scope, often leading to difficult prioritisation decisions. Projects that address critical needs (e.g. unpaved roads, stormwater maintenance) are given priority, but long-term infrastructure improvement remains underfunded, leading to backlogs. In the P-A theory, budget constraints create potential moral hazard issues and adverse selection. Agents (municipal officials) may prioritise projects based on factors not fully aligned with community needs, such as political considerations or ease of execution. The public, as principals, may not have the full information to understand these decisions, leading to dissatisfaction with the outcomes.

4.3.4 Importance of collaborative decision making

The findings from the transcriptions highlight the importance of institutional collaboration in the project initiation process. Decision-making involves multiple stakeholders, including technologists, councillors, public officials and the mayor, with inputs from public complaints, community leaders, and technical assessments of infrastructure (Participant 8 and Participant 14). The system relies on collective input and technical evaluations to ensure the sustainability and relevance of the projects implemented. The collaboration between departments and various levels of government ensures that the projects align with broader policy objectives, such as those set out in the IDP (Participant 3 and Participant 14).

“Based on the budget that is available, we prioritise, and again, the decision-making process for prioritisation is with the local communities and also final approval from the council as well.” (Participant 8)

“As a department, we are fortunate that we have a financial accountant within the department, and between the financial accountant, the departmental head, and also the management team, through our regular meetings, we can assess and look at what the actual spend is, so that movement of funding on an operational basis can be undertaken from time to time”. (Participant 14)

“Yeah, well, as we have mentioned, actually before the start of the financial year, engagement is done with the local ward councillors and community members, who are advised that, based on the available budget, these are the proposed roads that are to be upgraded as they are the most significantly damaged”. (Participant 3)

Community members, ward councillors and departmental officials collaborate in identifying and prioritising projects. This highlights the importance of multi-stakeholder engagement in public management (Participant 14). Effective collaboration among stakeholders is essential for successful project implementation. By involving community members, ward councillors and departmental officials, the municipality can build trust, increase legitimacy and improve project outcomes (Participant 3). Finally, collaboration among stakeholders is crucial for successful project implementation.

Public management organisations should create opportunities for dialogue, partnership and shared decision-making. In TPM, this aligns with stakeholder management and team integration, where various actors must coordinate efforts to ensure successful project outcomes. This is congruent with Uzulāns’ (2016) finding of stakeholder management as a theme of TPM. Using P-A theory, councillors act as intermediaries between the public (principals) and municipal officials (agents). They help reduce information asymmetry by conveying community concerns to the technical teams. However, there is always the potential for agency problems if councillors or municipal officials prioritise personal or political interests over community needs.

The collaborative decision-making process between councillors, engineers and the public is key to ensuring projects align with technical assessments and community priorities. Participant 10 highlighted that to bridge the gap in collaborative decision-making, there is a need to develop a fully-fledged Project Management Unit (PMU) that deals purely with planning and budgeting to link service delivery and project management effectively with all

relevant stakeholders. The PMU can be a cornerstone for all its respective units and departments. The benefits of the PMU will be improved efficiency, enhanced planning, and development of risk management strategies where project lifecycle phases and processes can be streamlined to ensure that projects are effectively planned. Through this unit, budgeting and financial monitoring can be centralised. The unit must employ Community Liaison Officers (CLOs) and Institutional Social Developments (ISDs) to deal with the social component of the planning phase of projects.

4.3.5 Importance of technological and operational innovation in infrastructure maintenance

The use of inspection systems, fault-reporting apps and systematic road evaluations every two years reflects the public management system's adoption of technological innovations to improve efficiency in infrastructure maintenance (Participant 4). By conducting visual condition assessments and leveraging community inputs via digital systems, the system ensures that infrastructure remains in optimal condition despite budgetary constraints (Participant 11). In addition, the structured prioritisation of stormwater management, given the risks posed by water damage, demonstrates risk-based innovation, where technical assessments drive proactive maintenance to prevent larger-scale failures (Participant 3). This focus on preventing flood-related infrastructure damage reflects a system's adaptive innovation approach, addressing environmental challenges while leveraging technical expertise.

"So, we do the assessments, we come up with the VCIs, we say this is our list of roads that need to be rehabilitated. But that list does not consider specific social needs". (Participant 11)

"We sort that out, a technical analysis is done, and then we look at, if it requires, if it is through the depot, they will look at it again in terms of prioritisation. We would look at the size of the fault; we have a Works Management System for every work type. It determines how long the project will take to complete based on the measurements provided by Road Inspectors". (Participant 3)

"In those cases, we will go out, and then we will look at the extent of the damage out there. We will then work with our systems department, CSCM, and Road Provision Department. We go out, and then we start looking at the faults,

so that stage again, we go back to safety, pull the faults in, and we then look at what needs to be done, and then we start prioritising based on technical analysis of what needs to be done". (Participant 4)

The focus on stormwater management, particularly in flood-prone areas, highlights the system's commitment to addressing environmental risks through innovation. By prioritising 'hot spot' areas and implementing structural assessments, public managers ensure that resources are allocated to prevent infrastructure failures caused by environmental factors.

The proactive road inspections described by the participants in the interview findings represent an essential part of project management's monitoring and controlling phase. Engineers use qualitative (visual condition assessments) and quantitative (structural evaluations) methods to assess road conditions. From the P-A theoretical lens, engineers and technologists, as agents, possess specialised knowledge that the community lacks, giving rise to information asymmetry. The public must rely on these agents to ensure that infrastructure is safe and functional. However, this gap could lead to trust issues in the absence of proper communication and transparency, especially if maintenance issues remain unresolved.

Concerning innovation in resource management, the budgetary challenges and prioritisation theme illustrates how limited resources spur innovative approaches to project selection and execution. Municipalities are compelled to find cost-effective solutions and prioritise high-impact projects, often relying on proactive assessments and reactive mechanisms like public fault reporting systems to allocate resources efficiently. Finally, concerning sustainability and long-term impact, the proactive approach to infrastructure maintenance, where roads and stormwater systems are regularly inspected and assessed, reflects an innovative commitment to sustainability. By maintaining infrastructure systematically, municipalities can extend the lifespan of assets and reduce long-term costs, which is a core component of innovation in public sector management.

4.4 Importance of infrastructure project selection considerations

4.4.1 The need to balance the budget with infrastructure needs

The findings from the thematic analysis highlight the intricate challenges that public systems face in balancing limited resources with the pressing needs of infrastructure development. The recurring theme of the need to balance the budget with infrastructure reveals a systemic

challenge where infrastructure backlogs, such as unpaved roads and deteriorating road networks, cannot be addressed immediately due to insufficient funding. A significant challenge highlighted in the interviews is the mismatch between available fiscal resources and the numerous needs or requests that municipalities face. The participants acknowledged that "the budgets will certainly not match the demands," which is a common issue in many municipalities, especially in developing regions more broadly.

"Given our backlogs, I do not foresee us being able to achieve the backlogs in the foreseeable future. We are facing a budget constraint, particularly given the challenges between water, electricity, and overall engineering infrastructure". (Participant 1)

"That forms a separate process, meaning we have to go out and conduct assessments and inspections. If there is a fault that we have picked up and we cannot do it due to the budget constraints, then the work will not be done". (Participant 3)

"Due to budget constraints, we cannot attend to the entire road network at the same time or as soon as possible; therefore, we have developed a program to identify that there is a need to upgrade these roads." (Participant 8)

"We have developed a programme to upgrade approximately 52 kilometres per annum per financial year to eliminate this problem of having unpaved roads over the next 15-20 years". (Participant 12)

"The late budget is not sufficient. I would say it was not sufficient in the past, but at least it was there. If you look at this current financial year, our prioritisation is not going to be undertaken because of the cuts in the budget of which most of these cuts were made due to the city's challenges with revenue generation". (Participant 10)

4.4.2 The need for technical and social prioritisation of service delivery projects

The theme further underscores the complexity of decision-making in public systems, where purely technical assessments are often moderated by social and political considerations. The participants believed that from a management perspective, the primary considerations should

be based on technical considerations, which consider future risk and economic feasibility. However, social considerations are paramount and often influence decisions that undermine technical or engineering-based considerations. Infrastructure was viewed as a vehicle for socioeconomic improvement (Participant 8), socio-political (Participant 6), social and physical wellbeing (Participant 13), and is a positive benefit when aligned with community needs (Participant 14). Public safety considerations were also critical in social marginal analysis and influenced the weight of project prioritisation (Participant 15).

“So, in terms of prioritisation, there is a trade-off between the technical and the social. So as much as technically we will say we want one, two, and three as the high priority, and this is all it should be, there are also the social elements that come into play”. (Participant 6)

“The impact on the communities in the outer areas is significant. You are creating local economic developments in those areas by improving that infrastructure. How do you measure that? There is no easy matrix that we have in place to measure that and fit it into our decision-making”. (Participant 8)

“With the worst affected roads, we want to allow communities access to their homes and service delivery. You know, in the event of an emergency, we want emergency vehicles to be able to attend to the worst affected areas. So, as I have mentioned, prioritisations are based on the available budget. We will prioritise, and again, the decision-making process for prioritisation is with the local communities and final approval from the council”. (Participant 13)

“The social aspects, which are the benefits of the community, some of the roads in the roads and stormwater department, we select them based on the benefits that the community will receive having done that road.” (Participant 14)

“And also, we prioritise projects serving as an economic stimulus to the city. Then, those that are less significant come at the end. But we try to categorise them in terms of emergency priority, maybe those that can be rated in the last option; then they come at the last. But there is indeed the prioritisation process, considering our limited financial resources”. (Participant 5)

4.4.3 Importance of prioritising risks: long-term and short-term

The theme of risk priority, both long-term and short-term, focused on the aspect of risk management in infrastructure planning, which emerged from consultations within municipal departments (Participant 3, Participant 8 and Participant 11), assessment of risk profile based on spatial planning (Participant 6), and critical infrastructure needs (Participant 10). Risk considerations also highlight collaborative decision-making and problem-solving in infrastructure selection and prioritisation. In roads and stormwater management, there is a structured discussion between various stakeholders, including superintendents, area technologists, and technical teams (Participant 8 and Participant 11). The participants mentioned that these discussions occur regularly, ensuring that everyone is aligned in terms of the year's priorities and strategy. This participatory approach allows for a more comprehensive understanding of the municipality's needs and fosters accountability. It is especially important for projects like stormwater management, where the involvement of technical expertise is crucial to assess infrastructure needs and to mitigate risks, such as water damage, that could have long-term negative impacts on the municipality's budget and resources.

“Okay, as I've said, the needs and requests come thick and fast, and they are just a lot. So, within the available fiscals, within the municipality, it's impossible for all those things to be accommodated. Then, there is a prioritisation process. Usually, we look at projects that are critical, and we check even the risk. If there is a risk that comes with that project, indeed it is being put as a priority”. (Participant 10)

“In addition to that, we have flooding, so our first focus is to make sure that those hot spot areas are always taken care of. So that's the first highest priority; we know that we have done our exercise, so we know all our important areas, so that is how we prioritise”. (Participant 6)

“As a department, we are fortunate that we have a financial accountant within the department, and between the financial accountant, the departmental head, and also the management team, through our regular meetings, we can assess and look at what the actual spend is, so that movement of funding on an operational basis can be undertaken from time to time”. (Participant 11)

“What we do is on an annual basis before that, we sit down as the technical team with the superintendents and the techs, and we look at a strategy for what we want for the year and then discuss it with them to say this is what we have and then from there we look at stormwater hot spot areas, why we say look at stormwater first is because water is the enemy of the province and there will be floods if you do not manage and maintain your stormwater infrastructure”. (Participant 8)

4.5 Importance of budgetary considerations

The transcripts highlight key challenges in project implementation, such as budget constraints, community engagement, financial flexibility, and engineer and project manager expertise. The recurrence of these themes in various aspects of the interviews demonstrates the multifaceted nature of budgetary consideration in infrastructure and service delivery at the municipal level.

4.5.1 Impact of delays in funding allocation

Delayed funding allocation and implementation were reported as foremost among the pressing challenges that severely impact the municipality’s ability to respond quickly to urgent needs. According to the interview data, the allocation of grant funding for storm damage repairs only materialised quite late, despite the project being critical for restoring infrastructure (Participant 4 and Participant 5). This delay shortened the time available for project implementation, imposing additional pressure on the municipality to complete the work within a very tight deadline. The time-sensitive nature of such projects requires immediate financial backing, but budgetary constraints often mean that funds are unavailable when most needed.

“... the funding allocation came late, and the time allocated to implement was very short. So, in this case, there was an understanding between the relevant role players of the council; if that hadn't happened, then these projects would not have been completed within the short time specified. As I said, money is the driving factor in undertaking projects”. (Participant 4)

“So, one has to align the most urgent needs to the budget, and basically, the projects are created along those lines, be it day-to-day functioning or work or the projects that we undertake through our annual contract mechanisms.” (Participant 5)

Misalignment between needs and available budgets is another challenge prevalent in addressing community needs within budgetary provisions. As referenced in the data, municipalities must align the most urgent needs with the available budget (Participant 5).

4.5.2 Importance of aligning stakeholder engagement with financial planning

Aligning stakeholder engagement with financial planning and the involvement of local communities in project planning and implementation through subcontracting and skills transfer is another proposed solution to budgetary challenges. By engaging the community and creating jobs through subcontracting, municipalities can ensure that local stakeholders are vested in the project's success (Participant 6). This helps build local capacity, reduces potential resistance to projects and enhances community support, making project planning and implementation smoother. In the context of budget constraints, community involvement can be a low-cost, high-impact way to ensure that projects are completed efficiently.

“And in advising the local community as well, it is an advantage because the way we have structured our contracts, we allow them to subcontract. So, there are jobs created for them. Some skills are transferred to them to increase opportunities if there is a need for work to be undertaken in their ward again”. (Participant 9)

4.6 Importance of linking project management and service delivery

The data from the interview transcripts showed a recognition of the importance of formalised project management tools and techniques such as PMBOK, Gantt charts, and WBS. The data indicated that there is a lack of alignment between departments and the influence of political factors is also an issue, often resulting in suboptimal service delivery.

4.6.1 Impact of budget constraints and financial mismanagement

Financial constraints and cash flow issues were repeatedly cited as significant factors delaying projects, causing disruptions in service delivery, and negatively impacting overall project performance (Participant 5 and Participant 12). The emphasis on the prioritisation of spending and the impact of political decisions on financial management further underscores the need for strong financial planning mechanisms in project management frameworks (Participant 14).

“And once the cash flow constraints creep in, it means delays and disruptions on projects. It means that the contractors, because they are not paid and labour is not paid, then that halts the project until the cash flow situation is sorted out”. (Participant 5)

“And more and more of this seems to be creeping in, and unfortunately, the environment is such that if labour does not get paid, an entire project can be disrupted. And the stop-start of projects have a huge impact on the smooth flow of the various stages of the work”. (Participant 12)

“For me, this is financial mismanagement; currently, as the region, we have got budgets, and the accountant sends us budgets to tell us how much we have as a region, but you find that most of the time, as Senior Managers who are responsible for regions we do not see the same way as our project managers”. (Participant 14)

There is a lack of commitment and financial mismanagement from project managers, where they constantly exceed contract authority of their projects, and that becomes an audit query that must be reported to other structures such as MPAC”. (Participant 11)

In one transcript, the interviewee highlights how critical road structures that are at risk of washing away are sometimes deprioritised for less essential tasks like road sweeping and grass removal (Participant 16). Failure to properly allocate funds or to prioritise essential infrastructure over less critical tasks leads to inefficiencies and burdens on municipal resources.

“Most of them do not know what is critical; you cannot be doing sand cleaning when we have got roads that are washing away that need more attention. I can’t be expected to sweep roads, clean, and remove grass when critical structures are failing. Then, if we cannot properly plan with our budget, we will have a challenge with service delivery”. (Participant 10)

4.6.2 Importance of project management formalisation and tailoring

Participants highlighted the inconsistent application of PMBOK principles, particularly in projects of varying scales. They stated that larger, high-risk projects necessitate formalised

PMBOK-assisted project plans, while smaller projects often used basic, ad hoc approaches (Participant 8, Participant 4 and Participant 14).

“There's two parts to this. You would have noticed on the R&R, with internal audit, when they were conducting real-time auditing. They repeatedly took us to task because we failed to apply PMBOK principles. We could not answer questions such as, Where is your risk assessment, business plan, and feasibility study? And the reality is, if you are allocated funding of R2 billion and expected to complete all projects in 5 months, it is ridiculous. There is no time to implement PMBOK principles due to pressure”. (Participant 8)

“What I have seen happen in private consulting environments is that even for smaller projects, they have what we call a basic PMBOK project plan and project management policy that guides them. PMBOK project plan is literally a two-page document which just allows the project manager to formalise his thoughts”. (Participant 1)

“If we can start formalising those processes, it will improve overall service delivery. Much of our service delivery at the moment, as I said, is intangible. It is experience from our peers”. (Participant 14)

The absence of formalised project management frameworks, such as the PMBOK, and the absence of project management policy emerges as a critical challenge. Municipalities struggle with applying project management principles in several cases, as noted in the transcripts. Real-time auditing, for example, has led to projects being criticised for lacking formal feasibility studies and business plans (Participant 8 and Participant 15), resulting in poorly structured projects and delayed service delivery. This is consistent with the P-A theory, where the principal (the municipality) may face challenges in monitoring and controlling the agent's (project manager or contractor) actions, leading to inefficiencies.

“Again, if you want quality management on service delivery, you need to formalise your project planning processes. But again, it must be tailored to the type of project, the value of the project, and the risk”. (Participant 8)

“I mean, how we respond to those disasters is defined by project management. And we are having these engagements to say, how will our disaster response

plan be crafted? However, that needs to be embedded in project management principles. So perhaps we are doing it implicitly again, but we have not formalised it under the guide of project management principles”.

(Participant 5)

Several municipalities, like the City of Cape Town, have adopted a pragmatic approach by categorising projects based on risk and value. Low-risk projects (below R50 million) do not undergo the rigorous PMBOK process, while higher-value projects are managed with formalised project management frameworks. However, even low-risk projects would benefit from streamlined project plans, as suggested by using ‘mini PMBOK reports’, allowing project managers to formalise their thoughts without adding significant administrative burdens; such an approach ensures that even small projects are efficiently managed, reducing the risk of delays (Participant 1).

“What City of Cape Town has done is they have looked at the project profiles, and they've identified projects up to a certain value, I think it's up to R50 million, and up to a certain CIDB category. These are deemed low-risk projects. So they don't need to follow the whole PMBOK process, etc. For projects above this value, yes, we need to implement the process. What I've seen happen in private consulting environments is that even for smaller projects, they have what we call a basic PMBOK project plan and project management policy that guides them. PMBOK project plan is literally a two-page document which just allows the project manager to formalise his thoughts. And you've got a guiding document, I've given some consideration, what are my risks, who am I communicating with, what are my objectives, etc. But it's a starting point; it puts a peg in the ground. You've got a reference point. If you can start formalising those processes, it will start improving service delivery overall. A lot of our service delivery at the moment, as I said, is intangible. It's experience from our peers”. (Participant 1)

4.6.3 Impact of inadequate planning on service delivery

There is a clear concern about how the lack of formal project planning and continuous optimisation negatively impacts service delivery, particularly in sectors like water, electricity and road infrastructure (Participant 2 and Participant 9). Findings from the data indicate

frequent stop-start cycles in projects and a lack of integrated planning between departments, such as road construction and utility services. Project management principles emphasise the need for holistic planning that integrates all project elements, including risk management, to avoid disruptions in service delivery. Delays in project completion and service delivery form a recurring theme. Budget constraints and cash flow issues often lead to disruptions, with minor contractors and labourers not being paid on time. Such disruptions create a stop-start dynamic in project progress, which not only causes delays but also impacts the overall flow of the project (Participant 2).

“We are working in silos as departments and playing hide and seek.”
(Participant 9)

“There should be service level agreements between departments because, in the department I represent, 99% of our problems are out of our control.”
(Participant 12)

“If I mention that my project is upgrading this particular gravel road, other service delivery items need to come through, including the water department. So, as you can see, the project is linked to other service delivery mechanisms. If the road is constructed, but the water department has not come to the party during the construction phase, we have our planned construction phase, which indicates to us that from month one to month five it would be our construction phase. In month six, the water department and electricity would need to lay the infrastructure. If they do not come to the party within that timeframe, it causes a significant delay in the upgrading of the road, and hence the delay in terms of service delivery, because the road asset has not been constructed yet. So basically, I am saying, in terms of the project, it is not only one department”. (Participant 2)

“In most instances, there are other stakeholders, and everybody needs to unite and work together. Not in silos. You might have a built road, but you might not have water and electricity. That's not meeting service delivery. So, therefore, the project has not been planned and managed effectively”. (Participant 9)

Moreover, interdepartmental collaboration becomes crucial in ensuring timely service delivery. For instance, road construction projects may be delayed because the water and electricity

departments fail to complete their infrastructure work on time (Participant 5). Such department misalignments can significantly impact service delivery, delaying essential services like water and electricity.

The P-A theory is relevant here because the misalignment between the municipality (principal) and various departments or contractors (agents) leads to inefficiencies in project execution. The municipality relies on these agents to deliver essential services, but when agents fail to deliver due to budgetary constraints or poor communication, the principal is ultimately held accountable.

4.6.4 Importance of stakeholder engagement and the impact of political influences

As outlined in the transcripts, political pressures complicate municipal budgeting and project implementation. Municipal projects, especially those aimed at service delivery, are often subject to the influence of political actors. As noted in the transcripts, political environments may lead to shifting priorities, where those with the loudest voices are allocated resources, regardless of the community's strategic needs (Participant 13).

“This one is very tricky because we are in a politically driven environment. You can go and do the planning, meet up with local people, and start trying to understand their service delivery challenges with the view of starting with the projects and following with the other ones. But because it is a political environment, I can come and say something else, and whoever shouts the loudest gets the backing so yes, service management and service delivery is going to take a long time because we are, I do not want to say, developing country but we are a small country and we have got a lot of unemployment”. (Participant 13)

There were multiple mentions of the challenges posed by political influences and stakeholder misalignment in project prioritisation and execution. This led to delays and mismanagement in service delivery. The data illustrates how political pressures and competing interests often divert attention from critical service delivery needs (Participant 15 and P13).

“If people, right now, want houses, but they are not working, who is going to maintain those houses? People are building houses without access to basic services, and when we get there, they start blocking roads because they want water and services. That thing, it's going to take time to be corrected if it will

ever be corrected because as urbanization continues, we are having many challenges because people go and build, and then after, we need to service them". (Participant 15)

4.6.5 Lack of interdepartmental coordination and collaboration

Many participants highlighted the interdependencies between various departments, such as road construction, water and electricity, and the need for better coordination to avoid service delivery delays (Participant 13).

"Okay, from my point of view, I think I am talking in terms of roads and stormwater department, within the engineering unit, right to the road provision department. Obviously, as I have mentioned, we have got our upgrade and rehabilitation programs so that they will become an asset upon completion. That road, once it is upgraded, becomes a formal asset. So, to ensure service delivery with that, it is not just us upgrading that road. There are other items attached to that. We have the water department that needs to come through as well, and as well as the electricity department. And today, there are a lot of, what I can say, telecommunications cables and stuff. So those are all the infrastructure that talks to service delivery that needs to accompany the project". (Participant 13)

The TPM underscores the necessity for integrated project planning, where all stakeholders and departments work collaboratively from the outset (Uzulāns, 2016). The recurring delays caused by poor coordination between departments identified in the data highlights the need for integrated project management frameworks, such as the Integrated Project Delivery (IPD) approach, which promotes collaboration and shared responsibilities among all stakeholders (Participant 13). This theme suggests that more structured, interdepartmental collaboration could help streamline project timelines and enhance service delivery.

The thematic analysis of the project management data reveals several critical issues - such as inconsistent application of PMBOK principles, inadequate planning, political influences, interdepartmental misalignment and financial constraints - that impede service delivery. These findings are consistent with previous literature on the TPM, which advocates for flexible, integrated and stakeholder-sensitive approaches (Uzulāns, 2016). A shift toward more adaptive, iterative and collaborative project management practices is essential to improve project

outcomes in public sector contexts like those described in the data. This would involve formalising processes like PMBOK and incorporating elements of Lean, Agile, and Integrated Project Delivery methodologies to enhance service delivery and overall project performance.

4.6.6 Lack of support from senior management and executive

The majority of senior managers and project managers reported a lack of support from immediate supervisors.

“The support structure is non-existent”. (Participant 8)

“Project Managers are protected by Executive when they are found to have inflated measurements and compromising quality of projects.” (Participant 8)

“There is no consequence management”. (Participant 8)

“Training of Project Managers is not the same; there is favouritism and race attached to it.” (Participant 9)

“Executive and Senior Management don’t offer support; their support is of political nature because they are politically affiliated”. (Participant 14)

“Project Managers are not fully capacitated, and they run 10 projects simultaneously”. (Participant 14)

“Senior management most of the time is not found, as project managers we take authority without being granted the permission to do so, we make critical decisions because management is not found, support is 20% and not 100%”.
(Participant 13)

When participants were asked if there are any platforms where project management challenges are addressed, participants said the following:

“A big No”. (Participant 8)

“It is a very sad No”. (Participant 9)

“No, we don’t”. (Participant 1)

4.7 Importance of consistent implementation of project management systems and project quality assurance tools

4.7.1 Lack of consistent implementation of project management systems and the non-existence of project quality assurance tools

Several themes and codes emerged from the analysis of the data relating to explaining project management systems, which include regional assignment of responsibilities, reliance on implicit processes, absence of formal tools, the role of tradition in knowledge transfer, and a dependence on individual expertise. These themes shape the project management landscape in eThekweni Municipality and present strengths and challenges.

“For roads and stormwater, it's largely arear-based, regional-based. We know that if something is in the Umlazi area, we have got an area tech that looks after Umlazi or anywhere in the like, so if a project is in that area, then that area tech will look after it”. (Participant 4)

“Firstly, we need to look at what the contract calls for in terms of minimum requirements. We are guided by general conditions of contract, whereby when civil engineering contracts are put out, which is largely the domain that our work falls under, the conditions of contract are very clear in appointing as to who the employer is going to be, and who the employer's agent is going to be, and the employer's agent's representative”. (Participant 6)

“Okay so project management tools, the team does use again, this is maybe a constraint, MS projects will typically be used, but in terms of licensing requirements, not everybody has it, so what the techs then do is that they are using a basic excel spreadsheet to create a program so the program is then created out of that actually to manage the project”. (Participant 11)

“In terms of a system or tool, there is no such. Generally, it is a decision made by management that this individual has the experience and the capability, and they are assigned. So, there is no mechanism as such where we can input data and determine that”. (Participant 14)

“I will not say we have a tool but I will say we use experience as a guide for us to select project managers because we need people who have seen along the

years who can take decisions, who can make sound decisions, if I can put it like that". (Participant 8)

Data from the interviews revealed that project management largely follows traditional, unwritten processes without a defined structure. Additionally, data revealed that project managers are assigned based on regional affiliation rather than technical skills or project-specific expertise. Moreover, due to a lack of formal tools or project-specific key performance indicators for project managers, there are challenges faced in measuring project success, optimising resources, and maintaining quality standards.

"So, many employees can be deemed as resources. I mean, you have a clerk of work that forms part of the project management team. But there is no tool for a particular project where we check the project's scope and project manager capabilities or experience". (Participant 8)

"But it is basically left to the experience and knowledge of management to assign those individuals. All right. Then, for the second question, how do project managers ensure that projects are delivered within the specified time frames, budget, and quality? There is no tool currently in place for that". (Participant 9)

4.7.2 Impact of project lifecycle risks

4.7.2.1 External influences and community impact

Community-related factors, such as the demands of local business forums and other public interest groups, represent another major source of risk, particularly in the implementation phase. Participant 4 and Participant 12 point to instances where community pressures delay project timelines, leading to cost overruns and strained community relations. As noted by Participant 4 and Participant 12, the involvement of business forums has been observed to impede construction efforts, prolong timelines and elevate project costs as contractors attempt to manage unexpected demands and external disruptions.

"Into construction, you have got the typical risk. We have got the business forums. We do have some challenges with the execution of projects". (Participant 4)

“Another thing that goes along with the construction phase, the issues of business forums, delaying the construction works would significantly affect the budget”. (Participant 12)

These external pressures not only delay projects but also increase costs, intensifying community dissatisfaction and potentially leading to protests or other disruptions, as described by Participant 12 and Participant 14. This underscores the necessity of effective stakeholder engagement and strategic communication to align project activities with community expectations, thereby minimising resistance and fostering community support.

4.7.2.2 Procurement and contract management challenges

The procurement process presents notable risks, particularly in the stages of awarding a contract, project execution and resource allocation. Participant 1, Participant 12 and Participant 13 indicate that contractors may initially bid low, only to struggle financially or operationally once the project is underway. This ‘lean bidding’ approach leads to compromised quality and delays, thus increasing the risk of project failure. Further compounding procurement-related risks is the lack of control over the procurement process timeline, as noted by Participant 3. Municipalities are bound to adhere to stringent public procurement regulations, which may delay project initiation due to extended approval and bidding processes. Furthermore, Participant 9 underscores the challenges posed by inexperienced or underqualified contractors, resulting in protracted project timelines and potentially substandard quality of work.

“Into construction, you have got the typical risk. We have got the business forums”. (Participant 1)

“And it is two parts. One is you have got contractors that are coming in very lean on their pricing. We were fortunate in the olden days that contractors had ample projects. So, they were picking and choosing. But now, again, you can see the work tapering down. So they are now sharpening their pencils but to a point where they are battling now to on the ground to actually implement. So they're coming in too lean and that is the next risk”. (Participant 12)

“With approved feasibility studies, If you need to make any change, or need additional funding, et cetera, the funding process to get the revised feasibility

through the system requires review. Once you finally get all that done and you're finally heading towards construction, simple things like your tender coming in above your budget amount, you're blocked immediately. We have got cases where I think Road Provision Department have got projects on hold for two, three months because they are waiting for reprioritisation to go through". (Participant 13)

"In cases where the scoping has either been under-scoped or over-scoped or the budget estimates are not market-related and so forth, therein lies the problem where you are going to have all sorts of risks that you need to deal with and manage during the implementation stage of the project." (Participant 9)

The participants repeatedly cited inefficiencies in the procurement processes, highlighting a need for the municipality to employ streamlined procurement processes.

"There have been cases where a bid adjudication decision to award a project was received. However, it took 12 months for the letter of award to be issued." (Participant 5)

"The departments implementing infrastructure projects and supply chain management report to different Deputy City Managers, which leads to no accountability." (Participant 6)

"The municipality is implementing innovative procurement systems that are tailored for goods and services and do not consider construction, for example, SSS system." (Participant 10)

"Critical supply contracts have not been in place for the past 5 years". (Participant 12)

"Procurement is a serious risk for the municipality; you must wait". (Participant 10)

"Asphalt contract expired in October 2023, currently in August 2024, there is no new contract". (Participant 12)

The participants overwhelmingly agree that the delays in the procurement process significantly affect service delivery.

4.8 Conclusion

This main aim of this chapter was to present the qualitative analysis of the data that was collected from the semi-structured interviews conducted with fifteen (15) HSETA cluster officials. Relevant participant responses that address the objectives of the study were highlighted. The findings that were presented in the chapter provided valuable insight into the participants' perceptions, knowledge and experience on the role of project management in service delivery in eThekweni Municipality. The following chapter will discuss the findings in some detail by contextualising them in light of the literature that was reviewed in Chapter Two. The purpose is to identify similarities or to determine where the findings of the current study may diverge with those of previous studies.

CHAPTER FIVE: DISCUSSION OF THE FINDINGS

5.1 Introduction

In eThekweni Municipality, various issues impact the quality and efficiency of service delivery. The focus of this study was to evaluate the role of project management in service delivery in eThekweni Municipality. The qualitative study was conducted within the HSETA cluster within eThekweni Municipality and a total of fifteen (15) participants were selected and interviewed. The data collected during the interviews was coded and analysed using Nvivo Version 20 software thematic analysis. The findings of the study reveal several internal and external project management challenges affecting the delivery of quality projects. This chapter presents a comprehensive discussion of the findings that were presented in Chapter Four in light of the literature that was reviewed in Chapter Two. The themes and sub-themes identified from the collected data are shown in Table 5.1 below.

Table 5.1: Research themes and sub-themes

Importance of identification of infrastructure needs	• <i>Importance of reactive and proactive approaches to service delivery</i> • <i>Bottom-up and top-down influences on service delivery</i> • <i>Impact of resource constraints on project prioritisation</i> • <i>Importance of collaborative decision making</i> • <i>Importance of technological and operational innovation in infrastructure maintenance</i>
Importance of infrastructure project selection considerations	• <i>The need to balance the budget with infrastructure needs</i> • <i>The need for technical and social prioritisation of service delivery projects</i>

	• <i>Importance of prioritising risk: long-term and short-term</i>
Importance of budgetary considerations	• <i>Impact of delays in funding allocation</i> • <i>Importance of aligning stakeholder engagement with financial planning</i>
Importance of linking project management and service delivery	• <i>Impact of budget constraints and financial mismanagement</i> • <i>Importance of project management formalisation and tailoring</i> • <i>Impact of inadequate planning on service delivery</i> • <i>Importance of stakeholder engagement and the impact of political influences</i> • <i>Lack of interdepartmental coordination and collaboration</i> • <i>Lack of support from Senior Management and Executive</i>
Importance of consistent implementation of project management systems and project quality assurance tools	• <i>Lack of consistent implementation of Project management systems and the non-existence of project quality assurance tools</i> • <i>Impact of project lifecycle risks</i> • <i>Procurement and contract management challenges</i>

This chapter synthesises the findings of the research by contextualising the findings in terms of existing literature, in order to demonstrate how formalised project management addresses issues related to service delivery. Additionally, the chapter illustrates the challenges that arise in public sector project management and offers insight into how the findings pertaining to eThekweni Municipality relate to previous research into this area of investigation.

5.2 Importance of identification of infrastructure needs

HSETA officials highlighted that stakeholders, such as the community, private sector entities, municipal officials and ward councillors, collaborate to identify the essential infrastructure required for efficient and effective service delivery. This form of collaboration is supported by Eigeman (2007), who defines service delivery as a fundamental role and a crucial element of the relationship and collaboration between governmental bodies and the public.

The officials explained that these stakeholders plan for the long term through workshops and consultations and that the IDP is the municipality's overarching comprehensive plan and strategy document. The participants elaborated that municipal stakeholder inputs in project prioritisation form part of the IDP. This finding aligns with De Visser's (2005) definition of the IDP as a plan that serves as the primary strategic tool that directs and influences all planning, decisions and management within a municipality. Participants stated that stakeholders frequently engage in both activities simultaneously, particularly during emergency situations such as storms or adverse weather conditions. Municipalities typically address infrastructure needs through two primary approaches: a proactive approach through the IDP and a reactive approach through emergency responses.

The data however indicated a discrepancy between long-term planning and existing infrastructure issues. Identifying infrastructure becomes increasingly challenging due to backlogs and constrained financial resources. The IDP is intended to provide a comprehensive strategy for addressing community needs, yet departments frequently resort to temporary solutions due to insufficient funding. Fourie and Malan (2020) state that the inability of South African municipalities to deliver quality services is primarily due to various factors that may be associated with the planning and execution of projects. This situation identified by eThekweni officials in this study aligns with their findings.

5.2.1 Importance of reactive and proactive approaches to service delivery

The findings of this study indicate dual governance of municipal infrastructure. The IDP-driven proactive strategy tackles long-term infrastructure requirements. This approach necessitates that engineers and technicians conduct comprehensive technical, structural and visual inspections of roads and other infrastructure. The findings of the study revealed that this proactive strategy prevents infrastructure deterioration and guarantees prompt maintenance to uphold service delivery. The findings further showed that numerous initiatives are established in reaction to emergencies, necessitating prompt action to mitigate damage and ensure public safety. This reactive element opposes long-term planning, as immediate requirements necessitate resources to be allocated for planned initiatives.

Infrastructure management is challenging due to the necessity of balancing planned and emergency actions to fulfil community requirements. Whilst reactive measures are essential, proactive planning may reduce the frequency and severity of emergency responses. Musau and Kirui (2018) advocate for proactive planning in public project management to enhance service delivery. Annually, eThekweni Municipality evaluates roads for preventative maintenance; nevertheless, financial limitations and resource distribution issues hinder its efficacy. The IDP framework reflects strategic project planning, aligning with scope management, while reactive projects address emergent challenges. Regarding P-A theory, there is often information asymmetry between agents (municipal officials) and principals (community members). Public officials, as agents, may have more technical knowledge, while principals rely on them to manage resources and make decisions. If not managed well, this gap can lead to differing expectations and potential misalignment in project prioritisation. For instance, the community may expect immediate responses to road maintenance, while municipal officials prioritise projects based on broader strategic needs.

5.2.2 Bottom-up and top-down influences on service delivery

Söderlund (2004) states that project management is a compilation of methodologies and strategies for coordinating and supervising intricate work. Kaufmann and Kock (2022) established in their research that the effective application of project management operational tools and techniques tailored for each phase of the project lifecycle, when meticulously adhered to, will result in favourable project outcomes. The findings of this study showed that the bottom-up and top-down approaches form part of the project management lifecycle's project initiation phase. However, the findings indicate that identifying and evaluating service delivery

projects through a combination of top-down and bottom-up characteristics is more complex than initially perceived. The complexity can be mitigated through the implementation of project management techniques.

The study showed that input from the general public, ward councillors and community leaders constitutes the foundation of the bottom-up approach. These individuals are essential intermediaries between the public and the government. The perspectives of its members shape the community's current infrastructure demands. This indicates that the municipality is responsive to the desires of its citizens. Kalonda and Govender (2021) claim that service delivery is complex, requiring the fulfilment of customer quality expectations while complying with national legislation and integrating project management methodologies.

HSETA officials highlighted that the primary methods of power utilisation from the top down included the mayor and other senior municipality officials overseeing the IDP and formulating the municipal strategy. The IDP can be utilised to prioritise project selection. This assessment ensures that the municipality's long-term growth plans align with its political and financial requirements. The IDP method ensures that infrastructure projects align with community needs and the overarching objectives of the municipality. This addresses the requirements of both local communities and institutions. Both bottom-up and top-down approaches are beneficial; however, the findings of the study indicate the presence of certain issues. The municipality's budget remains constrained, necessitating limitations on road modifications and other facilities due to insufficient funding.

Fourie and Malan (2020) observed a phenomenon similar to this. Participants revealed that municipalities cannot deliver adequate services due to insufficient resources. Prioritisation is crucial; however, it frequently extends the time required to address significant infrastructure demands. The substantial number of projects requiring funding and approval is evident. The findings indicate that the municipality's decisions regarding the provision of necessary infrastructure is influenced by resident input and future planning strategies. This method comprises two components that collaboratively address both short-term and long-term objectives. The process frequently proves less effective due to budgetary constraints and the necessity to prioritise various objectives.

P-A theory suggests that principals (the community) delegate authority to agents (municipal officials) to manage public resources. However, issues such as infrastructure complaints

highlight potential gaps in oversight, where agents may not always address community needs in a timely manner. The use of fault-reporting systems, councillor involvement and public feedback mechanisms, can be considered an attempt to reduce this gap by creating channels for principals to hold agents accountable. From a project management viewpoint, these public complaints represent a form of stakeholder engagement and risk identification. Public input helps identify project requirements, but there is also the need to manage stakeholder expectations, particularly when resources are constrained. Councillors act as intermediaries between the community and municipal departments, ensuring community concerns are reflected in project scopes. Projects possess distinct characteristics that must be acknowledged, including project objectives, stakeholder interests, environmental impacts and potential risks, all of which determine various criteria for success and essential variables (Cserháti & Szabó, 2014).

5.2.3 Impact of resource constraints on project prioritisation

The findings of the study showed that budgetary constraints impede the initiation and implementation of projects in eThekweni Municipality. Budgetary constraints compel communities to prioritise infrastructure projects based on urgency and budgetary considerations, as the findings from the transcriptions clearly show. This necessitates innovative governance and financial management as the municipality formulates strategic decisions to optimise constrained resources (Maharaj & Reddy, 2021). Despite financial constraints, public management systems prioritise significant infrastructure projects through institutional prioritisation, public engagement and technical evaluations. Most officials state that inflation and infrastructure demands increase and project delivery backlogs arise. This confirms the findings of research by Durdyev and Hosseini (2020), who claim that inadequate financing impedes public sector infrastructure initiatives. Distributing road improvements over a span of 15 to 20 years has enabled the municipality to tackle these difficulties. This realistic approach demonstrates the municipality's dedication to service delivery despite fiscal constraints. Ajayi and De Vries (2019) have demonstrated that insufficient financing compels South African municipalities to implement long-term strategies to address service delivery deficiencies. The municipality prioritises safety hazards and access to houses and services in the most severely impacted regions during infrastructure repairs. Notwithstanding these endeavours, infrastructure projects will perpetually experience backlogs if financial resources are insufficient to meet inflationary pressures and infrastructure demands.

5.2.4 Importance of collaborative decision making

The findings conclusively illustrate the significance of collaborative efforts in the execution of construction projects. Relevant stakeholders such as engineers, legislators, public officials and community leaders must collaborate to make service delivery decisions. A crucial aspect of implementing service delivery projects is ensuring alignment with community requirements. This is the rationale for the necessity of including all relevant stakeholders in decision-making. Collaborative efforts among stakeholders can ensure the fulfilment of local requirements while simultaneously advancing broader governmental objectives. This equally applies to the IDP, which serves as the primary framework for municipal projects. This aligns with the findings of Wasserman, Chuma and Bosch (2018) regarding collaborative behaviour among project stakeholders. Participants highlighted that engaging the community at the inception of a project enhances governmental accountability and responsiveness. The participants emphasised that community members, ward councillors and departmental officials should participate in the decision-making process to ensure that critical infrastructure needs are addressed in a manner that fosters trust and legitimacy. Community organisations should participate in public infrastructure initiatives, particularly in prioritising project selection. Thus, initiatives will consider academic and technical guidelines and the lived experiences of local residents. The concept of bottom-up decision-making aligns with principles of equitable governance in governmental administration (Majekodunmi, 2012).

However, the findings indicate that collaboration is not always feasible. Numerous individuals possess diverse perspectives that the government must consider. This can complicate decision-making, particularly when finances are constrained. The findings show that despite collaborative efforts, the council and institutional leaders frequently determine the priority of projects. This indicates that high-level impacts remain highly significant. This aligns with Maharaj and Reddy's (2021) assertion regarding the significance of collaboration in governance while noting that political and financial considerations frequently dictate the ultimate decision on a project.

The findings of the study suggest that financial accountants, departmental leaders and management teams must collaborate more frequently to maintain budgetary control and ensure optimal resource utilisation. Public sector project managers must consistently monitor finances and collaborate with officials from various departments to execute their duties effectively. In

other words, project management tools and techniques alone do not independently ensure a successful project (Cserhádi & Szabó, 2014).

5.2.5 Importance of technological and operational innovation in infrastructure maintenance

The findings of the study reveal that the municipality prioritises technology in infrastructure repair. The municipality has enhanced the efficiency and accuracy of infrastructure management through fault-reporting applications and comprehensive road assessments. These innovations seem to have improved the municipality's proactive infrastructure maintenance by identifying and rectifying concerns before they escalate. Floods consistently threaten the municipality's infrastructure; thus, preventive maintenance is required. The municipality's data-driven infrastructure upkeep is evidenced via road assessment technology such as the Visual Condition Index (VCI). The municipality detects and addresses deficiencies promptly through regular inspections of roadways and stormwater systems. According to Comi and Whyte (2018), project management should utilise technology to enhance efficiency and service delivery. The municipality has used risk-based innovation for stormwater management in conjunction with digital technologies thus prioritising the preservation of environmentally vulnerable 'hot spots' due to flood hazards. Risk-based planning enables the municipality to prioritise infrastructure and allocate resources effectively. The findings demonstrate that operational innovation mitigates resource limitations. Technology has enabled the municipality to expedite infrastructure maintenance, eliminating delays in high-priority projects.

5.3 Importance of infrastructure project selection considerations

5.3.1 The need to balance the budget with infrastructure needs

A significant theme in the findings is the inability to consistently address budget reductions and infrastructure requirements. The eThekweni Municipality has experienced this challenge for an extended period. The analysis indicates that current financial resources are insufficient to meet the increasing demands for infrastructure backlogs. This applies to unconstructed roads and deteriorating road networks. The budgetary constraints are exacerbated by the municipality's simultaneous pursuit of multiple objectives, including the development of water and electrical infrastructure. The research participants consistently maintained that budgets will not adequately address the needs. This aligns with Adewumi's (2022) study, who found that municipalities frequently encounter significant

financial challenges that hinder their ability to achieve service objectives. Participants frequently touched on the accumulation of backlogs, particularly concerning paved and unpaved road networks. The municipality is committed to fixing around 52 kilometres of unpaved roads annually as part of a long-term strategy. This prudent decision will benefit the organisation within 15 to 20 years (Participant 12). This extended period, conversely, illustrates the limited budgeting options now available to the municipality. This aligns with Durdyev and Hosseini's (2020) research on public project delays, which identified South Africa's infrastructure backlog primarily attributable to limited budgets and insufficient funding. This indicates that recent budget reductions have impeded the municipality's ability to prioritise essential construction projects.

The findings of the study indicate that the budget is more constrained than has previously been the case, as the municipality faces the difficulties of addressing the effects of recent flood disasters, COVID-19, and a decrease in revenue generation, resulting in an exacerbation of the disparity between the need for infrastructure and the available funds. Fourie and Malan (2020) also concluded that municipalities will continue to encounter challenges with inadequately funded construction projects unless they receive larger budgets or discover alternative revenue sources. The eThekweni Municipality's strategy is astute; nonetheless, it exemplifies the broader financial challenges faced by South African governments and municipalities in their attempts to develop infrastructure with limited resources.

5.3.2 The need for technical and social prioritisation of service delivery projects

The research findings indicated that eThekweni Municipality diligently reconciles technical and social objectives in infrastructure initiatives. Technical assessments, such as risk evaluations and economic feasibility analyses, are essential for project selection, yet social factors can affect decisions that may contradict technical priorities. Infrastructure facilitates socio-economic advancement, public safety and social welfare, extending beyond mere engineering. The various infrastructure functions illustrate the municipality's challenge in reconciling technical and social requirements. Systematic evaluations analyse infrastructure projects hazards and economic feasibility for the municipality. Participants asserted that technical considerations should inform decision-making, particularly in selecting initiatives with enduring advantages. Social factors, such as enhancing access for marginalised individuals and ensuring public safety amidst deteriorating infrastructure, may influence prioritisation. Musau

and Kirui (2018) discovered that social and political factors frequently eclipse technical feasibility in selecting public project management initiatives.

Community access initiatives, such as road construction in under-served regions, which facilitate emergency services and daily connectivity, typically emphasise social concerns. Social considerations usually complement technical analyses, guaranteeing that infrastructure initiatives align with community requirements and bolster local economies. Social prioritisation may lead to stakeholder conflicts, particularly when technical teams advocate for risk-based projects subsequently altered by socio-political influences. This is similar to the views of Musau and Kirui (2018), who argue that public sector initiatives, especially those at the local government level, have distinct socio-political challenges compared to private sector projects. Enhancing public safety was an additional objective of the access initiatives, particularly in regions with deteriorating infrastructure or environmental conditions. Participants indicated that the municipality prioritises emergency routes to access impacted areas, demonstrating its responsiveness to community needs.

5.3.3 Importance of prioritising risks: long-term and short-term

Risk analysis forms part of PMBOK themes (Packendorff, 1995). The eThekweni Municipality utilises the subject of risk prioritisation in its infrastructure planning to systematically address both long-term and short-term risks. Participants emphasised the necessity of prioritising projects according to the municipality's risk rating and issues related to spatial planning. Participants believe that risk management in construction projects is crucial to decision-making. This approach emphasises a systematic, collective decision-making process. Area technologists and municipal superintendents consistently assess the infrastructure required to mitigate hazards associated with public safety and natural phenomena such as flooding. The findings of the study demonstrate that risk management encompasses more than just problem-solving.

It also encompasses scheduled discussions and evaluations, particularly for high-risk assets such as stormwater systems. Stakeholders engage periodically to ensure agreement on long-term objectives. This assists in formulating plans that consider risks. All stakeholders are integral to this plan, enhancing accountability and enabling the municipality to concentrate its resources on initiatives that are most likely to jeopardise public safety and the long-term integrity of its infrastructure. Consistent with the findings of Musau and Kirui (2018), collaborative decision-making in risk management enhances the precision and utility of

infrastructure prioritisation for public projects. This is due to the collaborative efforts of technical experts, project managers and local government officials in a systematic manner. The findings of this research indicated that the municipality is diligently addressing critical infrastructure requirements, including stormwater management in flood-prone regions.

Participants emphasised that these ‘hot spot areas’ should be prioritised for remediation to prevent significant damage, as KZN is prone to extensive floods. Recognising these high-risk regions enables the municipality to allocate funds effectively towards initiatives that enhance neighbourhood safety and the enduring integrity of public infrastructure. According to Durdyev and Hosseini (2020), the optimal approach to managing public infrastructure is to allocate funding to high-risk infrastructure. This method of establishing objectives aligns with this imperative.

The eThekweni Municipality's risk priority approach effectively balances the necessity for strategic planning with the constraints of feasible actions. Participants stated that the municipality has significant infrastructure backlogs. However, it can only finance projects that align with and are within the available budget. Consequently, a structured approach is required to prioritise high-risk initiatives. This strategy resonates with the research conducted by Mabunda, Mvunabandi and Chonco (2023) regarding planning facilities in local government. They discovered that risk management and budget adherence frequently conflict. Consequently, planners must select the initiatives that mitigate risk most effectively. In assessing risk, factors beyond the potential failure of infrastructure must also be included.

The allocation of resources and financial management are equally significant. Participants reported that the municipality frequently audits its finances to ensure that funds are allocated to the most critical risk areas. This financial management approach and the requisite technical expertise for risk assessment demonstrate a comprehensive system that seeks to integrate short-term operational requirements with long-term sustainability objectives. Khaile, Davids and Khaile (2021) also concluded that integrating risk management with financial management is crucial for enhancing the efficiency of services in South African municipalities. eThekweni Municipality prioritises risks when planning long-term and short-term infrastructure projects. This indicates that the municipality is collaboratively addressing its complex construction requirements in a proactive manner. Prioritising risk to inform decisions ensures that critical projects in high-risk regions are given priority. Additional research has demonstrated that risk

management is essential for ensuring public infrastructure projects' long-term viability and reliability (Fourie & Malan, 2020). These findings corroborate this assertion.

5.4 Importance of budgetary considerations

5.4.1 Impact of delays in funding allocation

Municipalities play a vital role in delivering essential infrastructure and services to communities, and their effectiveness hinges on planning and implementing projects efficiently. However, one of the most significant challenges municipalities face is budgetary constraints. Financial delays constitute a significant obstacle to the completion of municipal projects. Delays in funding for infrastructure repairs, such as those caused by storm damage, can result in delayed project commencement, thereby increasing operational pressure and compromising the quality of projects. Municipal funding strategies hinder essential service delivery due to inconsistent financial resources. This finding is in line with a study conducted by Adewumi (2022), who revealed that local government encounters significant financial resource issues, including inadequate fiscal and financial allocations from the National Treasury.

eThekweni has faced challenges due to inadequate funding for infrastructure requirements, such as storm damage repairs. The findings of this study indicate that this imbalance hinders the municipality's infrastructure response, thereby reducing project management effectiveness. This highlights deficiencies in local financial planning resulting from the inflexibility of public financing. The findings of the study show that this misalignment hinders the municipality's ability to respond promptly to urgent requests, resulting in dissatisfaction among residents who require swift service.

5.4.2 Importance of aligning stakeholder engagement with financial planning

Engaging local communities in project conception and implementation emphasises stakeholder participation and financial planning, as indicated by the findings of this study. To enhance project efficiency and promote social and economic development, the municipality may engage local labourers through subcontracting and may provide training for community members. Inclusive project management engages stakeholders to enhance project ownership and reduce resistance development, as Mvuyana and Nzimakwe (2022) noted. Engagement of local communities in project implementation enhances stakeholder support and reduces costs. Participants indicated that subcontracting to local firms generates employment and facilitates

skills transfer, thereby enhancing local capacity. Engaging in project management with local communities theoretically resolves the principal-agent problem. P-A theory posits that the principal (community) and agent (project manager or contractor) may possess divergent interests, leading to inefficiencies (Coletta, 2013). Local stakeholders engage in project participation through subcontracting and the transfer of expertise, thereby diminishing knowledge asymmetry. This collaborative method enhances transparency and the municipality's capacity to meet community needs.

5.5 Importance of linking project management and service delivery

The findings of the study highlight the importance of structured project management in enhancing service delivery within eThekweni Municipality. The municipality faces challenges in service provision stemming from financial limitations, departmental misalignment, and political interference. Effective project management enhances service outcomes, supporting the existing literature (e.g. Adewumi, 2022; Ajayi & De Vries, 2019) on strong project governance within public sector organisations.

A vast majority of participants understand and acknowledge the importance of engaging with the community in the project lifecycle phases such as the following:

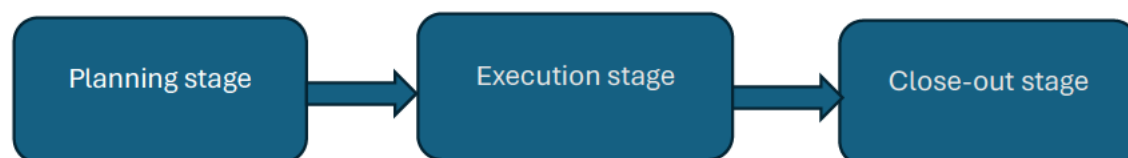


Figure 5.1: Identified critical stages in the project management lifecycle *(Source: Developed by the researcher)*

Planning Stage: HSETA cluster officials highlighted the importance of engaging the community in the planning stage. If councillors are engaged in the planning stage, the municipality can inform the community of the implementation and prioritisation plans and how the budget will be prioritised, especially with all participants indicating that there are budget constraints within the municipality, which is a significant challenge in addressing infrastructure backlogs. Therefore, the participants believe that the available budget must be utilised for the people's needs to gain the community's support and trust. The participants indicated that

protests that lead to delays in project implementation can be avoided if all relevant stakeholders are informed of the municipality's short and long-term plans regarding service delivery.

Execution stage: HSETA officials perceived that for effective delivery of infrastructure projects within budget, timeframe and quality, engagement with all relevant stakeholders is critical during the execution phase of projects. Participants indicated that business forums' demands that lead to work stoppages could be avoided if all stakeholders are properly engaged and managed because local labour and local businesses can be employed by the contractor through transparent channels and engagements.

Close-out stage: HSETA officials indicated that the proper handover of projects is critical to ensure that the asset management plans are updated. Participants indicated that an operation and maintenance manual must be properly handed over to the relevant maintenance department. This ensures that the design life of the asset is maintained. Additionally, participants suggested that because of vandalism, engagements with stakeholders are critical so that the community can look after the asset and be aware of the reporting channels should there be challenges with the asset.

5.5.1 Impact of budget constraints and financial mismanagement

eThekweni Municipality faces numerous challenges in project completion and service delivery. These issues involve budget limitations and inadequate financial management skills. Delays arise from cash flow issues and inadequate planning, hindering project progression and obstructing the delivery of essential services. Studies by Agba, Akwara and Idu (2024) and Mabunda, Mvunabandi and Chonco (2023) indicate that insufficient funding is the primary barrier preventing local governments from delivering quality services. Agba, Akwara and Idu's (2024) study on local government service performance in Nigeria indicates that project delays and poor service quality result from inadequate financial management and insufficient budget planning. This is similar to the views of Makhathini, Mlambo and Mpanza (2020) who argue that despite South Africa's efforts to deliver infrastructure services to its population, demand continues to surpass the available resources.

Senior managers and project managers in the municipality do not consistently reach consensus. Disagreements regarding fund prioritisation result in waste and raise audit queries. The prioritisation of less critical tasks, such as grass cutting, over essential infrastructure maintenance, such as road repairs, indicates a misalignment between project needs and budget

allocations. Significant challenges exist in municipal governance, particularly regarding the political interference in effective financial management (Makahaube, 2020). This demonstrates a poor allocation of financial resources. The findings of this research support this perspective. Adewumi (2022) mentions that project management systems coordinate resources, track progress and satisfy service delivery goals. Additionally, budget constraints, financial mismanagement, political interference and poor interdepartmental coordination have impeded municipal services.

Financial mismanagement leads to irregular payment cycles that contribute to project delays within the construction sector. Durdyev and Hosseini (2020) identified financial mismanagement as one factor affecting service delivery. Participants revealed that projects are frequently halted due to cash flow constraints. Timely payments are essential for service providers to execute projects effectively. This issue highlights the need to implement project management tools and techniques to enhance cash flow forecasting and financial management to ensure the timely completion of municipal projects.

5.5.2 Importance of project management formalisation and tailoring

Research suggests that rigid adherence to formal frameworks like PMBOK may not always be feasible or necessary, especially for smaller, low-risk projects where a more flexible approach can reduce bureaucracy and improve efficiency. In this context, the need for a scalable PMBOK approach, such as mini PMBOK reports or simplified plans and project management policy, supports recent calls for flexible project management approaches. This tailoring allows organisations to manage resources efficiently and focus on critical tasks in complex environments, such as those in the public sector. The tailoring is essential for smaller projects because PMBOK is a detailed and comprehensive guide. PMBOK posits that all project management knowledge centres on themes including scope management, quality of deliverables, adherence to timelines, cost estimation, risk assessment, human resource management, service procurement, contract administration, communication and stakeholder engagement (Packendorff, 1995).

In this study, the inconsistency in the application of PMBOK across various departments was analysed. Minor, low-risk projects utilised ad hoc methodologies, whereas large, high-risk projects implemented PMBOK-guided planning. Inefficiencies and suboptimal service delivery arise from the municipality's lack of a standardised project governance framework, adversely impacting project management. The findings of this study align with Careri's (2022)

definition of project management, which states that project management entails applying skills, knowledge, resources and processes to provide value to individuals.

One participant in the study indicated that Cape Town City classifies projects based on risk and value to oversee low-risk projects while minimising PMBOK administrative burdens effectively. The findings of the research emphasise project management tailored to specific projects. Participants highlighted the necessity of the development of project management policy and formalised techniques for high-value, high-risk projects, whereas smaller projects may adopt a more flexible approach.

5.5.3 Impact of inadequate planning on service delivery

The planning phase of the project management lifecycle entails strategy development, which includes a definition of the project scope of works, specification about expected quality standards, creation of project schedules, creation of bills of quantities, budgets, development of work breakdown structures, and allocating roles and responsibilities to the selected project teams. It answers the ‘What’, ‘how’ and ‘when’ of the project plan (Good, 2024).

The lack of integrated planning among various municipal departments exacerbates issues related to service delivery to the public. Projects frequently experience interruptions due to a lack of collaboration between various departments, such as road construction teams and water and electricity departments (Participant 9 and Participant 2). Separate management of projects frequently results in extended timelines, as essential infrastructure such as water and electricity may not be completed in adherence to road construction schedules.

The data from the interviews with Participant 5 and Participant 9 indicates that inadequate planning can negatively impact service performance. Municipalities fail to promptly deliver essential services such as water and electricity due to inadequate planning and project management. The absence of formalised service level agreements (SLAs) exacerbates the lack of department collaboration. SLAs delineate the roles and responsibilities of each department involved in the project completion process. The findings of the research indicates the necessity of documenting SLAs. Nicholas and Steyn (2020) emphasise that projects have clear goals, and the goals are achievable with defined roles and responsibilities and expected deliverables. The findings in this study indicate that the municipality's failure to integrate project management planning methods constitutes a significant issue that hinders the provision of effective services.

5.6 Importance of consistent implementation of project management systems and project quality assurance tools

The participants from the HSETA cluster revealed that the project management systems currently being used at eThekweni are decentralised. Participants revealed that the systems involve an experience-based approach that values regional autonomy and tradition but lacks formalised processes, tools and accountability structures. The systems function within a reactive, rather than proactive, framework, where tradition and regional familiarity dictate practices more than project management methodologies. The system's reliance on experience and informal processes sustains continuity but risks stagnation, inefficiency and inconsistency. Integrating formal project management methodologies, standard operating procedures, and technological tools could help bridge gaps between regions and standardise processes.

Such an approach could create a more adaptive, efficient project management system that better supports resource optimisation, knowledge retention and long-term organisational resilience. In doing so, project management would become more objective, scalable and adaptable, accommodating both simple and complex project demands more effectively. While familiarity and experience provide a foundation for project continuity, the absence of structured procedures can hinder consistency, efficiency and accountability. Implicit processes, while comfortable for those with extensive experience, can create issues when knowledge transfer is necessary, particularly as senior personnel leave the organisation. Without documented procedures, newer project managers may struggle to adapt, and there is a risk that institutional knowledge could be lost.

Project managers are selected based on their historical experience, and participants pointed out that project leaders rely on subjective judgment from experienced seniors who are expected to make sound decisions. This expertise-driven selection is useful for leveraging institutional memory, but it can also be limiting, as it does not systematically leverage a broader range of skillsets that may be needed for specific project complexities. Furthermore, this reliance on individual judgment rather than formal assessments means that project assignments may lack objectivity. A lack of systematic evaluation tools may also lead to inconsistent project outcomes, as the success of projects largely depends on the competence and knowledge of individual project managers rather than organisational systems or processes. Gido, Clements and Baker (2018) define project management as not being reactive but rather proactive by organising, co-ordinating, leading and directing experienced resources to achieve project

objectives. Moreover, Durdyev and Hosseini's (2020) findings reveal that the factors that contribute to poor service are inexperienced staff and financial mismanagement, which contributes to poor service delivery.

5.7 Conclusion

The findings of the study revealed that effective project management in service delivery is crucial, as it drives the processes involved in executing projects designed to improve the well-being of the citizens of eThekweni Municipality. The discussion in the chapter focused on the project management internal and external challenges that impede the achievement of objectives related to the effective use of project management tools and techniques during project planning and execution. Furthermore, the discussion highlighted the challenges encountered by municipal project managers during the execution of various phases in the project management lifecycle. According to the findings of the current study, a limited budget is one of the biggest obstacles faced in eThekweni Municipality, which impedes service delivery. Issues with budgetary constraints frequently result in service delivery disruptions and project delays. The findings also indicate that there is a need to improve the dissemination of project management tools and techniques throughout all municipality infrastructure departments. Because PMBOK ideas are not usually applied consistently across projects of varying sizes, this compromises the quality of projects. For example, smaller projects are often executed without a project management plan, which increases the likelihood of experiencing delays or exceeding anticipated costs. In view of the overall analysis of the findings, there exists a significant level of service delivery delays which arise as a consequence of several units not collaborating with one another. The following chapter presents the main conclusions that can be drawn from the study and suggests recommendations that can be implemented to improve service delivery in eThekweni Municipality, based on the findings that have been highlighted in Chapter Five.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter highlights the key findings of the research study by presenting the conclusions and recommendations that can be drawn from the analysis and discussion presented in the previous chapters. The study's focus was to evaluate project management's role in service delivery in eThekweni Municipality. To clearly ground the conclusions and recommendations, the first section of the chapter summarises all previous chapters. The second section outlines an overview of the key findings followed by a presentation of the overall conclusions that can be drawn in relation to each of the objectives. Finally, the chapter will highlight strategies that eThekweni Municipality can formulate into policies to enhance project management and project management systems holistically, thereby ensuring the successful implementation of quality projects in its service delivery functions. This chapter also highlights suggested areas for future research that may be undertaken to broaden the understanding of the role of project management in municipal service provision.

The research objectives that guided the study are as follows:

- To examine how project management and service delivery are linked in eThekweni Municipality's infrastructure units, especially within the units responsible for implementing infrastructure projects;
- To determine how project managers are currently undertaking project management and evaluate the control and monitoring tools that are in place to measure project managers' performance;
- To identify the challenges that exist with project management that project managers of eThekweni Municipality are currently experiencing; and
- To identify strategies to improve project management in eThekweni Municipality to ensure successful planning and execution of projects.

6.2 Summary of chapters

Chapter 1 – This chapter presented the introduction to the topic under investigation and the background to the study, including the significance of the research, the problem statement, the

focus of the study, the study objectives and corresponding research questions, and the limitations of the study.

Chapter 2 – In this chapter empirical and theoretical literature was reviewed to evaluate the role of project management in service delivery in eThekweni Municipality. The content covered in the empirical literature review included the conceptualisation of project management and service delivery and service delivery around the world, before narrowing to a focus on service delivery in the African continent and in South Africa, then to service delivery in eThekweni Municipality, and the role of South African national government in service delivery. The theoretical frameworks drawn upon to underpin the study, namely P-A theory and the TPM in the context of local government, project management and service delivery, were also outlined.

Chapter 3 – This chapter examined the quantitative, qualitative and mixed methods research approaches before justifying why the qualitative approach was chosen for this study. Research philosophies, paradigms and their corresponding data collection methods were then presented. This research adopted the relativist ontological viewpoint as it examined the reality of project management's role in the service delivery of eThekweni Municipality based on multiple truths shaped by the selected participants' and the researcher's perspectives. The interpretivist paradigm was chosen for this study as it considers the perspectives and experiences of the participants gathered from the semi-structured interviews, which constitutes the main area of focus of the study. Lastly, data analysis, validity, reliability and ethical issues pertinent to the study were outlined.

Chapter 4 – This chapter presented the findings of the thematic analysis undertaken on the qualitative data collected from the participants. The findings from the transcripts were presented according to the main themes identified, namely: identification of infrastructure needs; infrastructure project selection considerations; budgetary considerations; the importance of linking project management and service delivery; lack of support from senior management and executive; and lack of consistent implementation of project management systems and the non-existence of project quality assurance tools and project lifecycle risks.

Chapter 5 – This chapter presented the discussion of the findings in light of the literature that was reviewed in conducting the study. The discussion was structured according to the main themes identified in Chapter Four, and the alignment of the findings with previous research.

Chapter 6 – The conclusions that can be drawn from the analysis and discussion of the findings are outlined, and recommendations for improved strategies to be employed by eThekwin Municipality, as well as for further research, are presented.

6.3 Key findings

6.3.1 Objective 1

- To examine how project management and service delivery are linked in eThekwin Municipality's infrastructure units, especially within the units responsible for implementing infrastructure projects.

The findings of the research indicated that not all the officials within the HSETA cluster link project management and service delivery as they ideally should. The findings of the research revealed that the processes of engaging the community as customers in the project selection process are through ward committee meetings, consultation with the community through IDP roadshows for long-term plans, and budget roadshows led by the mayor of eThekwin Municipality. Additionally, the research findings indicate that some projects are implemented on an ad hoc basis due to emergencies such as severe damage to infrastructure due to flood disasters that eThekwin Municipality has experienced in April 2022 and January 2024. The findings further reveal that no clear matrix exists to measure and incorporate the social component into the project selection, prioritisation and decision-making processes.

Some departments within the cluster utilise technical systems to identify, assess and select projects to be implemented, which causes conflict between the community and municipal officials because what gets delivered on the ground does not meet the community's needs. The officials from eThekwin Municipality expressed that it is challenging to communicate to the ward councillors the technicalities that lead to the decision-making in terms of prioritisation, as numerous technical inputs lead to the decision-making process. The findings under this objective indicate that the processes linking project management and service delivery are unclear. Additionally, there is no consistency within the cluster regarding the linkage.

6.3.2 Objective 2

- To determine how project managers are currently undertaking project management and evaluate the control and monitoring tools that are in place to measure project managers' performance.

The research findings highlighted that HSETA officials are knowledgeable about project management tools and techniques such as the WBS, Gantt charts, critical path methods, communication plans, and the identification and management of project stakeholders. Moreover, the research revealed that officials recognise that employing project management tools and techniques can result in effective and efficient project management of service delivery projects. The study's findings revealed that the allocation of project managers to projects is conducted at the discretion of the relevant senior manager or supervisor. Furthermore, the allocation of project managers is location-dependent because technical teams from infrastructure departments are stationed in specific regions. The study revealed no significant matching of expertise nor alignment to specific skills and requirements in terms of selecting project managers for special projects. The study further showed that to fully and truly optimise resources to deliver projects, there is a need to develop a defined process to identify and select project managers for projects.

It was also found that there is no specific project performance matrix to manage and measure the performance of project managers. The performance of project managers is based on project delivery. Is the project complete? Is the community happy? Furthermore, no formal project management tools are currently in use to ensure that projects are delivered within specified timeframes, budgets and quality standards. The officials are not applying project management-specific processes. Instead, project management is carried out implicitly, relying on peer learning, experience and traditional methods. The study found that the traditional methods, in some instances, are working. However, there is still no formalisation and tailoring for both the traditional methods and project management tools and techniques. Additionally, the study showed that the municipality uses financial management tools instead of project management tools to manage projects.

The study revealed that there are significant challenges in the planning and execution stages of the project lifecycle. The inadequate budget and supply chain management procurement processes that take extended periods to complete are the most significant challenges in the planning stages. Additionally, the study revealed that Project Managers do not allow themselves enough time to plan projects. Poor planning and financial mismanagement thus lead to variation of orders during the execution stage, and environmental impact assessments and geotechnical investigations that are only undertaken in the execution stage instead of in the planning stage. In the execution stage, underperforming and inexperienced contractors with

high Construction Industry Development Board gradings submit and present false information regarding company experience and personnel to be dedicated to the project, which causes delays in the execution of the project and compromises the quality of the projects.

The study indicated no that there is no accountability for the long procurement processes because the procurement and infrastructure units are parallel structures that report to different Deputy City Managers. The study revealed a need to restructure units, with each unit comprising a supply chain management department.

6.3.3 Objective 3

- To identify the challenges that exist with project management that project managers of eThekweni Municipality are currently experiencing.

The study revealed that Project Managers of the HSETA cluster are facing numerous challenges throughout the project lifecycle phases. The study showed that project managers lack sufficient capacity to oversee project management effectively. While project managers have the qualifications, experience, and professional registration with the Engineering Council of South Africa, the study revealed that the senior management of the municipality fails to provide adequate support to project managers as required. The study demonstrated that the senior management of the municipality is of a political nature due to their affiliations with specific political entities. The study revealed that the municipality is running on a low number of project management staff due to unfilled posts, and this compromises service delivery because project management is a team effort and relies on diverse skills and expertise, effective collaboration, equitable distribution of tasks, and a diversity of perspectives. The management of various phases of the project lifecycle cannot be effectively handled by just one or two individuals.

The study revealed that during the execution phase of the project lifecycle, business forums demands to be paid by the contractors, without actually working, lead to cashflow challenges for the contractor and work stoppages that delay the implementation of projects. The study revealed political interference in the prioritisation of projects.

The study showed that the key performance areas of service delivery are associated with the infrastructure departments. However, these departments have no authority over the processes that lead to budget cuts of already planned projects and the overall procurement process. The research indicated no formal platforms where project management challenges are

communicated and addressed. The study thus revealed a need to develop project management platforms for peer-to-peer learning, transparency, efficiency, data-driven analysis, risk management, stakeholder engagement and continuous improvement.

6.3.4 Objective 4

- To identify strategies to improve project management in eThekweni Municipality to ensure successful planning and execution of projects.

The study revealed that the municipality follows effective and efficient traditional project management processes. However, the processes are not formalised under the guides and principles of project management. The study revealed a need to develop a mini-PMBOK document that will be a formal guide for project managers.

The study indicated a pressing need for developing a PMU to ensure that public service delivery efficiency is not undermined and that technical priorities reflect community needs. A PMU would need to adopt integrated planning that combines technical assessments with community feedback from the outset. Implementing tools like joint planning workshops or community-driven assessments could reduce the likelihood of budgetary reallocations and project cancellations, which currently lead to delays and inefficiencies. This Unit would ensure that a dedicated community liaison office is responsible for maintaining regular updates and gathering community feedback.

6.4 Recommendations

6.4.1 Development of project management policy

The research acknowledges that project management plays a pivotal role in providing services to the community; however, it requires an integrated and coordinated approach to ensure that its implementation is carried out effectively. Based on the findings of the study, it is recommended that eThekweni Municipality develop a project management policy. Furthermore, it is recommended that the formulation of the project management policy be based on vigorous engagement and consultation with all stakeholders. The stakeholders should include the community, political leadership, national and provincial government, and municipal officials. Performing a needs analysis and identifying challenges confronting the municipality is essential in these engagements. The policy would facilitate standardising project management practices across the municipality, promoting consistency, transparency and

ongoing development. The policy should align with eThekweni Municipality's vision, core values and strategic objectives. Additionally, this framework must be aligned with national and provincial government guidelines.

Lastly, the policy must be clear in terms of roles and responsibilities. It must adopt and adhere to the PMBOK for consistency and improved project quality. The development of the policy would also ensure that there is no resource misallocation, and a reduction in lengthy approvals of procurement documents and processes, or lack of coordination and collaboration among various departments. The project management policy would ensure a cohesive collaboration that leads to enhanced service delivery.

6.4.2 Development of a structured strategy response plan

The study acknowledges that there are known risks and challenges in the project lifecycle phases. These challenges are a significant hurdle to the provision of service delivery. Hence, the development of a structured strategy response plan is recommended to address these challenges. The structured strategy response plan would deal with the challenges known over and above the risk register. The study revealed that eThekweni Municipality is prone to flood disasters, leading to damaged infrastructure that derails short and long-term planning, administrative bottlenecks, delays to project implementation due to work stoppages by business forums, unemployment and poverty, lack of effective community engagement and insufficient budget. Therefore, the structured strategy response plan can be a roadmap for the municipality to overcome the known challenges faced throughout the project management project lifecycle phases.

The structured strategy response plan must include platforms that allow: enhanced community engagement that informs and educates the community about project selection service delivery processes; communicating project management challenges and addressing these to where employees are supported and motivated; implementing key performance indicators that are project management specific; promoting and adopting a more integrated approach to enhance coordination among departments; development of training programs for skills development and capacity building; development of initiatives to enhance local economic growth; development of climate resilience strategies that include the improvement of stormwater drainage infrastructure; and the implementation of programs aimed at implementing waste reduction and recycling programs.

6.5 Recommendations for future studies

The emphasis of this study was to evaluate the role of project management in service delivery in eThekweni Municipality. Based on the findings of the study and the conclusions outlined above, it is recommended that future studies within eThekweni Municipality should be conducted that will include the departments that support infrastructure clusters, namely finance and supply chain management. Engaging with finance and supply chain management at a deeper level can yield several advantages for the municipality, such as enhanced budgeting, strategic planning and risk mitigation. Qualitative semi-structured interviews with officials within these departments could offer meaningful insights and a comprehensive understanding of the challenges that they encounter, as well as providing input into the support they require to effectively assist infrastructure departments in achieving the municipality's objective of efficient service delivery.

6.6 Conclusion

The purpose of the study was to assess how project management and service delivery are linked in eThekweni Municipality, to determine how project management is currently being undertaken, to identify the challenges that project managers are facing, and lastly, to identify strategies to improve project management to ensure successful planning and execution of projects. Project management is a broad concept encompassing tools and techniques to plan and execute projects effectively. However, project managers in local government do not fully utilise these project management tools and techniques, as the research findings indicated that departments are operating in isolation from one another. This has a negative effect on the service delivery of projects in municipalities. The residents of eThekweni Municipality are thus not satisfied with the service delivery by the municipality. This dissatisfaction with service delivery was found to be more widespread throughout the African continent as well as globally.

The study recommended that the development of platforms where the technical and social aspects of project selection are discussed extensively by eThekweni Municipality with all key stakeholders will lead to informed decision-making regarding prioritisation and improved service delivery. The research findings indicated that equipping municipal project managers with appropriate tools is essential for enhancing the efficiency of service delivery. The study concluded that a consistent approach to project management throughout eThekweni

Municipality is required through the recommended project management policy and the development of the mini-PMBOK to guide existing and new project managers.

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APPENDIX A: ETHICAL CLEARANCE APPROVAL LETTER



22 February 2025

Xola Mjaja (221121567)
Grad School of Bus & Leadership
Westville Campus

Dear X Mjaja,

Protocol reference number: HSSREC/00007369/2024

Project title: Evaluating the role of project management on service delivery in eThekweni Municipality, KwaZulu-Natal

Amended title: Evaluating the role of project management in service delivery: the case of eThekweni Municipality, KwaZulu-Natal

Degree: Masters

Approval Notification – Amendment Application

This letter serves to notify you that your application and request for an amendment received on 12 February 2025 has now been approved as follows:

- Change in title

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form; Title of the Project, Location of the Study must be reviewed and approved through an amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

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

Best wishes for the successful completion of your research protocol.

Yours faithfully



Professor Dipane Hlalele (Chair)

/dd

Humanities & Social Sciences Research Ethics Committee
UKZN Research Ethics Office Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Tel: +27 31 260 8350 / 4557 / 3587
Website: <http://research.ukzn.ac.za/Research-Ethics/>

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

INSPIRING GREATNESS

APPENDIX B: GATEKEEPER'S LETTER



HUMAN SETTLEMENTS, ENGINEERING AND TRANSPORT AUTHORITY

166 K E Masinga Road, Durban, 4001
PO Box 680 Durban, 4000
Tel: 031 311 7188

Dr Mlondi Vilakazi
Graduate School of Business and Leadership
University Of KwaZulu-Natal
Westville Campus
Durban
3630

29 April 2024

Dear Dr Mlondi Vilakazi

RE: PERMISSION TO CONDUCT RESEARCH

This letter serves to confirm that I, Lawrence Pato, acting Deputy City Manager of the Human Settlement, Engineering and Transport Authority Cluster at eThekweni Municipality, hereby acknowledge and approve the research under the topic "Evaluating the role of project management on service delivery in eThekweni Municipality, KwaZulu Natal" to be conducted by Xola Mjaja, student number: 221121567 within eThekweni Municipality for the completion of her Masters in Business Administration.

Sincerely,



MR. LAWRENCE PATO
ACTING DEPUTY CITY MANAGER: HUMAN SETTLEMENT, ENGINEERING AND
TRANSPORT AUTHORITY
ETHEKWINI MUNICIPALITY
E-MAIL: Lawrence.Pato@durban.gov.za
TEL: 031 311 3486

APPENDIX C: INFORMED CONSENT LETTER

UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP
MBA RESEARCH PROJECT
Researcher: Xola Mjaja (221121567)
Supervisor: Dr Mloni Vilakazi (Vilakazim@ukzn.ac.za)
Research Office: Tel: 27 31 2604557 - Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

CONSENT

I..... (full name of the participant) have been informed about the study entitled: "Evaluating the Role of Project Management on service delivery in eThekweni Municipality, KwaZulu-Natal" by Xola Mjaja. I hereby confirm that I understand the contents of this documents and the nature of the research project, and I consent to participating in the research project.

I understand the purpose and procedures of the study.

I have been given an opportunity to answer questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

If I have any further questions/concerns or queries related to the study, I understand that I may contact the researcher at the contact details outlined above.

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers, then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION
Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557 - Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

Additional consent

I hereby provide consent to the following:

Audio-record my interview YES / NO

Signature of Participant

Date

Signature of Witness
(Where applicable)

Date

Signature of Translator
(Where applicable)

Date

**UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE
(HSSREC)**

**APPLICATION FOR ETHICS APPROVAL
For research with human participants**

INFORMED CONSENT RESOURCE

MBA Research project
Researcher: Ms Xola Mjaja ([REDACTED])
Supervisor: Dr Mlondi Vilakazi (031 260 7021)
HSSREC Research office: Tel: 031 260 8350/4557/3587 E-mail: hssrec@ukzn.ac.za

Information Sheet and Consent to Participate in Research

Date: August 2024

Dear Respondent,

My name is Xola Mjaja, I am a Master's in Business Administration student at the Graduate School of Business and Leadership of the University of KwaZulu-Natal. My cellphone number is [REDACTED] and my e-mail address is 221121567@stu.ukzn.ac.za

You are being invited to consider participating in a research project entitled: Evaluating the Role of Project Management on Service Delivery in eThekweni Municipality, KwaZulu-Natal. The aim and purpose of this research are to examine how project management and service delivery are linked in eThekweni Municipality's infrastructure units, especially within the units responsible for implementing infrastructure projects, to determine how project managers are currently undertaking project management and evaluate the control and monitoring tools that are in place to measure project managers' performance, to identify the challenges that exist with project management that Project Managers of eThekweni Municipality are currently experiencing and to identify strategies to improve project management in eThekweni Municipality to ensure successful planning and execution of projects. The study is expected to enroll 15 Human Settlement, Engineering & Transport Authority (HSETA) Cluster participants in eThekweni Municipality. It will involve face-to-face semi-structured interviews. The duration of your participation if you choose to enroll and remain in the study is expected to be 45 minutes. The study is not funded.

The study will provide no direct benefits to participants. Through your participation, I hope to understand the role of internal project management in the service delivery of eThekweni Municipality and the challenges thereof. The study will contribute to the body of knowledge that may assist eThekweni Municipality's senior officials and project managers in developing strategies and policies that will assist in successfully planning and delivering projects.

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (approval number _____).

If you have any questions or concerns about participating in this interview or about participating in this study, you may contact me or my supervisor at the numbers listed above or the UKZN Humanities & Social Sciences Research Ethics Committee; contact details are as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557- Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence such as penalty, loss of treatment, or other benefit to which you are normally entitled. There will be no monetary gain from participating in this interview. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

CONSENT (Edit as required)

I have been informed about the study entitled Evaluating the Role of Project Management on Service Delivery in eThekweni Municipality, KwaZulu-Natal by Xola Mjaja.

I understand the purpose and procedures of the study.

I have been given an opportunity to answer questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I am usually entitled to.

I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at cell number [REDACTED] 221121567@stu.ukzn.ac.za.

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers, then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557 - Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

Additional consent, where applicable

I hereby provide consent to:

Audio-record my interview YES / NO

Signature of Participant

Date

**Signature of Witness
(Where applicable)**

Date

**Signature of Translator
(Where applicable)**

Date

APPENDIX D: INTERVIEW SCHEDULE

**UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP
MBA RESEARCH PROJECT**

Researcher: Xola Mjaja (221121567)

Supervisor: Dr Mlondi Vilakazi (Vilakazim@ukzn.ac.za)

Research Office: Tel: 27 31 2604557 - Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

**Evaluating the role of Project Management on service delivery in eThekweni
Municipality, KwaZulu-Natal**

Interview Schedule

- A. To assess how project management and service delivery are linked in eThekweni Municipality infrastructure clusters, especially within the Units responsible for implementing infrastructure projects.
 - 1. What is the process of identifying a need or a problem on the ground that results in a project aimed at addressing the identified need or solving the problem?
 - 2. Is there a sufficient budget for all identified service delivery needs? If not, how is the prioritization undertaken? Who is involved in the decision-making process of prioritization?
 - 3. How are the quantitative and qualitative advantages and disadvantages evaluated regarding prioritization to ensure that the project list is within the available budget?
 - 4. How does the municipality ensure that the community as customers is engaged in the project selection process?
- B. To determine how Project Managers are currently undertaking project management.
 - 1. How are the resources/teams, especially project managers, identified and selected for a project? Elaborate on the tools in place for the selection process.
 - 2. How do project managers ensure that projects are delivered within the specified timeframes, budget, and quality? Moreover, how is the performance of project managers monitored?

3. Is the department experiencing any challenges regarding good quality management of projects? How do these challenges affect service delivery? Elaborate on measures in place to curtail the challenges.
 4. What risks are identified by the department in all project lifecycle phases? Elaborate on how these risks affect service delivery and the mechanism in place to mitigate identified risks.
 5. What are the criteria or processes for selecting the most appropriate service providers (Consulting Engineers and Contractors) for the planning, design, and execution of projects? Are there any challenges associated with procuring service providers that hinder service delivery?
- C. To identify the challenges that project managers of eThekweni Municipality are currently experiencing with project management.
1. What are the common challenges project managers face in eThekweni Municipality?
 2. Can you explain how these challenges affect service delivery?
 3. Where the department controls the challenges being experienced, what mechanisms are in place to mitigate the challenges?
 4. Are there any platforms within the Municipality where project management challenges are communicated and addressed?
 5. In your view, what procedures can be implemented to address such challenges?
- D. To identify strategies to improve project management in eThekweni Municipality to ensure successful planning and execution of projects.
1. How can project management and service delivery be interlinked for the successful execution of projects?
 2. What mechanisms can eThekweni Municipality consider to improve quality management for project delivery?
 3. What are the department's plans regarding project management?
 4. What strategies can eThekweni Municipality employ to improve project management systems?
 5. What strategies can be employed to support project managers of eThekweni Municipality?

APPENDIX E: EDITOR'S LETTER



Write Start Editing

27 November 2024

To Whom It May Concern:

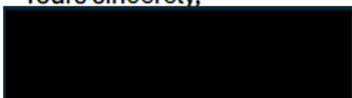
Re: Editing of Masters dissertation – Mrs Xola Mjaja

This letter serves to confirm that I have indeed edited Mrs Xola Mjaja's Master of Business Administration dissertation titled 'Evaluating the role of Project Management on service delivery in eThekweni Municipality, KwaZulu-Natal'. Mrs Mjaja's supervisor is Dr. Mlondi Vilakazi. The specific areas that I paid attention to in the dissertation were:

- **Language:**
 - Sentence structure, correction of grammar, coherence, clarification of expression, syntax, spelling and punctuation;
 - Logical flow of ideas within and between paragraphs and sections;
- **Referencing:**
 - Cross-checking in-text with Reference List entries;
 - Looking up of missing references;
 - Correction of format of in-text and Reference List entries;
- **Formatting:**
 - Spacing between headings and paragraphs, consistency of size and style of fonts used throughout the thesis;
 - Correction of numbering of sections and subsections;
 - Correction of format of table and figure headings;
 - Formatting of Table of Contents, List of Figures, List of Tables & List of Acronyms;
 - Correction of page layouts and overall appearance of thesis;

Please do contact me if you require clarification regarding any of the above matters pertaining to Mrs Mjaja's dissertation.

Yours sincerely,



Ms Serrenta Naidoo

Tel: 031 260 2121/ Email: naidoos2@ukzn.ac.za