

The Effectiveness of Project Portfolio Management as a Decision-making Tool: A
case of a Project Based State Owned Company in South Africa

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THE EFFECTIVENESS OF PROJECT PORTFOLIO MANAGEMENT AS A
DECISION-MAKING TOOL: A CASE OF A PROJECT BASED STATE OWNED COMPANY
IN SOUTH AFRICA

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ABSTRACT

Proponents of the concept of project portfolio management (PPM) suggest that, the best way to achieve long-term goals is to group and manage projects as a portfolio, as opposed to managing them as individual entities. In this way, projects facilitate the achievement of the organisation's intended strategy and business objectives. They continue to argue that this is also true for state-owned companies (SOC). SOCs are in most cases intended to drive both a political and social-economic development agenda. However, despite the growing body of knowledge on PPM, there is still a lack of guidance on how best to use the PPM concept, especially in SOCs, where projects are implemented in a dynamic environment with limited resources and yet there are a multitude of stakeholders with competing and conflicting interests.

Against this background, the study investigated the effectiveness of PPM as a decision-making tool in a selected state owned organisation in South Africa, code named ABC SOC. A multiple data collection method was used consisting of first, reviewing key documents relating to the PPM process and associated practices. Second, key informants working in ABC SOC, in upper and middle management positions were interviewed to comprehend the PPM process and practices and hence assess its effectiveness. The multi-method was necessary in facilitating an in-depth inquiry through triangulation of data sources.

The major finding was that, PPM was inadequate to implement projects in a successful manner in an environment characterised by variabilities and political interference. Three major factors were identified as the major causes of the deficiency. First, the current approaches were ineffective in selecting projects that are aligned to the strategy to provide intended benefits; second, the PPM was not appropriately configured to adapt to an environment dominated by excessive variability and third, there was insufficient application of PPM methods and practices.

Resulting from these gaps and as part of the contribution to knowledge, the study developed a PPM framework to guide decision-making in ABC SOC to ensure that optimal and balanced portfolios are implemented. The framework is intended to provide a balanced, structured, and holistic view of the PPM process to enable the

decision-makers to consider key factors, especially those hinging on political and social-economic agendas of the state.

Keywords: State-owned companies, project portfolio management, conceptual framework, effectiveness in PPM, dynamic environment, decision-making, selection of projects

TABLE OF CONTENTS

ACKNOWLEDGEMENT AND DEDICATIONS	III
ABSTRACT	IV
CHAPTER 1 : INTRODUCTION	1
1.1 INTRODUCTION	1
1.2 BACKGROUND	2
1.3 KNOWLEDGE GAP	7
1.4 RESEARCH PROBLEM STATEMENT	11
1.5 RESEARCH AIM AND OBJECTIVES	14
1.6 EXPECTED CONTRIBUTION TO KNOWLEDGE	15
1.7 RESEARCH SCOPE	17
1.8 CHAPTER SUMMARY	21
CHAPTER 2 : PPM PRACTICES	24
2.1 INTRODUCTION	24
2.2 THE PROJECT PORTFOLIO MANAGEMENT CONTEXT	24
2.3 THE PROJECT PORTFOLIO MANAGEMENT PROCESS	42
2.4 INTEGRATED DEVELOPMENT MANAGEMENT SYSTEM	61
2.5 CHAPTER SUMMARY	64
CHAPTER 3 : PPM IN PUBLIC SECTOR ENVIRONMENT	66
3.1 INTRODUCTION	66
3.2 PPM IN THE PUBLIC AND PRIVATE SECTOR	66
3.3 UNDERSTANDING COMPLEXITY AND UNCERTAINTY IN PPM	69
3.4 UNDERSTANDING STRATEGIC ALIGNMENT	76
3.5 THE EXTERNAL ENVIRONMENT INFLUENCE	89
3.6 THE AFRICAN PERSPECTIVE	97
3.7 CHAPTER SUMMARY	98
CHAPTER 4 : RESEARCH METHODOLOGY	100
4.1 INTRODUCTION	100
4.2 RESEARCH PROCESS	101
4.3 JUSTIFICATION OF THE RESEARCH APPROACH ADOPTED	102
4.4 JUSTIFICATION OF RESEARCH STRATEGY	105
4.5 POPULATION AND SAMPLING STRATEGY	108
4.6 DATA COLLECTION	112
4.7 DATA ANALYSIS	117
4.8 LIMITATIONS AND REDUCTION STRATEGIES	121
4.9 ETHICAL ISSUES	126
4.10 CHAPTER SUMMARY	128

CHAPTER 5 : RESULTS AND DISCUSSION OF FINDINGS	129
5.1 INTRODUCTION	129
5.2 PROFILE OF INTERVIEWEES	129
5.3 STRATEGIC ALIGNMENT	131
5.4 ADAPTABILITY TO THE EXTERNAL ENVIRONMENT	148
5.5 PROJECT PORTFOLIO MANAGEMENT METHODOLOGY AND PRACTICES	157
5.6 THE EFFECTIVENESS OF PPM	182
5.7 PPM LITERATURE VERSUS PPM PRACTICE	185
5.8 CHAPTER SUMMARY	187
CHAPTER 6 : CONCEPTUAL FRAMEWORK UNDERLYING EFFECTIVENESS	189
6.1 INTRODUCTION	189
6.2 JUSTIFICATION FOR A CONCEPTUAL FRAMEWORK	189
6.3 OVERVIEW OF CONCEPTUAL FRAMEWORK	191
6.4 STRATEGIC ALIGNMENT	193
6.5 PPM ADAPTABILITY TO THE EXTERNAL ENVIRONMENT	198
6.6 PROJECT PORTFOLIO MANAGEMENT PRACTICES	201
6.7 SUMMARY	206
CHAPTER 7 : CONCLUSIONS AND RECOMMENDATIONS	207
7.1 INTRODUCTION	207
7.2 CONCLUSIONS	207
7.3 IMPLICATIONS FOR THE RESEARCH	210
7.4 RECOMMENDATIONS	211
7.5 PERSONAL REFLECTIONS OF THE RESEARCHER	214
7.6 IMPACT OF STUDY ON AFRICA AND THE WORLD	222
REFERENCES	224
APPENDIX A: INTRODUCTORY LETTER	243
APPENDIX B: REQUEST TO CONDUCT RESEARCH STUDY AT SITE A	244
APPENDIX C: REQUEST TO CONDUCT RESEARCH STUDY AT SITE B, C AND D	245
APPENDIX D: INFORMED CONSENT FOR PARTICIPATION IN AN ACADEMIC RESEARCH PROJECT	247
APPENDIX E: ETHICAL CLEARANCE APPROVAL	248
APPENDIX F: ABC APPROVAL TO CONDUCT RESEARCH	249
APPENDIX G: CONFIDENTIALITY AGREEMENT: CODER	250
APPENDIX H: DATA COLLECTION INSTRUMENT	251
APPENDIX I: EDITOR'S CERTIFICATE	254

LIST OF TABLES

TABLE 1-1 LIST OF STATE-OWNED COMPANIES AND THEIR MANDATE	4
TABLE 1-2 OVERVIEW OF ABC SOC SITES	18
TABLE 2-1 COMPARISON BETWEEN PORTFOLIO MANAGEMENT AND MANAGEMENT OF MULTIPLE PROJECTS	30
TABLE 2-2 THE DIFFERENCE BETWEEN PROJECT, PROGRAM AND PORTFOLIO MANAGEMENT	31
TABLE 2-3 ATTRIBUTES OF PPM EFFECTIVENESS	33
TABLE 2-4 BENEFITS AND PROBLEMS ASSOCIATED WITH FORMAL AND INFORMAL CONTROLS	36
TABLE 2-5 EVOLUTION OF PROJECT SUCCESS DIMENSIONS	58
TABLE 3-1 SUMMARY OF PPM CHARACTERISTICS BETWEEN PUBLIC AND PRIVATE SECTOR ORGANISATIONS	67
TABLE 3-2 PROJECT COMPLEXITY AND ITS MANAGEMENT.	71
TABLE 3-3 RELATIONSHIP BETWEEN SOURCES OF UNCERTAINTY AND IMPACTS	73
TABLE 3-4 DIMENSIONS OF PLANNING SYSTEMS	81
TABLE 3-5 SUMMARY OF INTERNAL STAKEHOLDERS ROLES	91
TABLE 4-1 DEDUCTION AND INDUCTION COMPARISON	103
TABLE 4-2 THE CHARACTERISTICS BETWEEN QUALITATIVE AND QUANTITATIVE RESEARCH	104
TABLE 4-3 SIZE AND TYPE OF PARTICIPANTS SELECTED FOR INTERVIEWS	111
TABLE 4-4 SUMMARY OF DATA COLLECTION METHODS	113
TABLE 4-5 SUMMARY OF DATA COLLECTION AND ANALYSIS APPROACH USED IN STUDY	116
TABLE 4-6 SUMMARY OF ETHICAL ISSUES AND HOW THEY ARE ADDRESSED	126
TABLE 5-1 PARTICIPANT GENDER	130
TABLE 5-2 PARTICIPANTS ROLES IN PPM	130
TABLE 5-3 PARTICIPANTS' INVOLVEMENT IN PROJECT PORTFOLIO MANAGEMENT	130
TABLE 5-4 PARTICIPANTS INVOLVEMENT IN STRATEGIC PLANNING	131
TABLE 6-1 PROPOSED SOLUTIONS TO FILL IDENTIFIED GAPS IN TERMS OF STRATEGIC ALIGNMENT	194
TABLE 6-2 PROPOSED SOLUTIONS TO FILL IDENTIFIED GAPS IN TERMS OF ADAPTABILITY TO EXTERNAL ENVIRONMENT	199
TABLE 6-3 PROPOSED SOLUTIONS TO FIL IDENTIFIED GAPS IN TERMS OF PPM PRACTICES	202

LIST OF FIGURES

FIGURE 1-1 ABC SOC GROUP STRUCTURE	17
FIGURE 1-2 SITE A OPERATIONAL STRUCTURE	19
FIGURE 1-3 SITE B OPERATIONAL STRUCTURE	20
FIGURE 1-4 SITE C OPERATIONAL STRUCTURE	20
FIGURE 1-5 SITE D OPERATIONAL STRUCTURE	21
FIGURE 1-6 THESIS LAYOUT	23
FIGURE 2-1: PROJECTS AND PROGRAMS AS PART OF PORTFOLIO	27
FIGURE 2-2 STRATEGY MANAGEMENT THROUGH PORTFOLIO MANAGEMENT AND PROJECT MANAGEMENT	29
FIGURE 2-3 AREAS OF PMO SERVICES	38
FIGURE 2-4 PPM BEST PRACTICE PROCESS MODEL	43
FIGURE 3-1 PORTFOLIO MANAGEMENT CONNECTS STRATEGY WITH EXECUTION	84
FIGURE 3-2 GENERAL FRAMEWORK	85
FIGURE 4-1 RESEARCH ONION	101
FIGURE 6-1 PROPOSED CONCEPTUAL FRAMEWORK	192

LIST OF ABBREVIATIONS

3Ps	: Project, Program and Portfolio
CAPIC	: Capital Investment Committee
CAQDAS	: Computer Assisted Qualitative Data Analysis Software
CBA	: Cost Benefit Analysis
CEF	: Central Energy Fund
CEO	: Chief Executive Officer
CFO	: Chief Financial Officers
CPO	: Chief Procurement Officer
CSF	: Critical Success Factor
DENEL	: Detonics, Numerous, Electronics
ECM	: Enterprise Content Management
EU	: European Union
ESKOM	: Electricity Supply Commission
EV	: Earned Value
GM	: General Managers
IDMS	: Infrastructure Development Management System
ICT	: Information Communication Technology
KPIs	: Key Performance Indicators
MDS	: Maximum Demand Strategy
NDP	: National Developmental Plan
NPM	: New Public Management
OEM	: Original Equipment Manufacturers
PMI	: Project Management Institute
PMP	: Project Management Professional
PMO	: Project Management Office
PPM	: Project Portfolio Management
PwC	: Price Waterhouse Coopers
ROI	: Return On Investment
SADC	: Southern African Development Community
SDG	: Sustainable Development Goals
SLA	: Service Level Agreement
SOC	: State-Owned Companies

CHAPTER 1 : INTRODUCTION

1.1 Introduction

A state-owned company (SOC), also sometimes referred to as a parastatal, state-owned entity, institution, or enterprise, is an organisation that possesses political power and influence and is separate from the government, but whose activities serve the state, either directly or indirectly. Another definition, perhaps more legally oriented, describes an SOC as any corporate body funded by at least 51 percent, in part or in whole, from government or external public financial sources. This is the case where the corporate body is required to meet its expenditure from income derived from its activities, or where it is subsidised in whole or in part by public funds. Regardless of the name, SOCs have been created as independent companies by the government, for example, the South African Government, with the view of providing a service at full or partial cost (subsidised) or for free (Roper & Schoenberger-Orgad, 2011).

SOCs face several challenges ranging from politicization, multiple and conflicting objectives, inadequate financing, lack of oversight due to ineffective governance, and a lack of transparency and accountability (Kikeri, 2018). Consequently, the ability to deliver key strategic programs to improve service delivery to the people of South Africa has been negatively affected. Infrastructure developmental projects which are at the centre of economic turnaround are constantly being delayed or slowed down due to various reasons, including a change of priorities, inadequate funding, lack of resources, reputational risks, and public outcry. This perceived insufficient performance has threatened SOCs' continued existence, and as a result, influential industry stakeholders have called for 'privatisation' of key state-owned companies.

The basis of this study is that there seems to be lack of effective guidelines or framework that informs the project portfolio selection and implementation process, especially when applied in the environment, which is unstable and non-linear. This has a potential to allow projects that would not ordinarily pass through the screening and evaluation phase, resulting in inappropriate projects being chosen for implementation, delayed strategic projects, inadequate funding of projects, lack of stakeholder buy-ins, and costs overrun.

The purpose of this study is therefore to investigate the effectiveness of project portfolio management (PPM) practices in guiding the parastatals to make sound decisions about the choice of projects to implement. It has been argued that organisations that implement PPM have a better chance of achieving success (Gutierrez & Magnusson, 2014; Dutra, Ribeiro & de Carvalho, 2014). The focus of this study is on state-owned companies and in particular those in South Africa, in the context of the nature of the environment they operate in, that is, an environment that is dominated by instabilities and uncertainties.

Chapter one is divided into seven major sections. The next section of this chapter provides a background, including the motivation for the research.

1.2 Background

The economic downturn of the past decades, together with an uncertain business environment, requires state-owned companies to fulfil crucial role in the economy. More than ever, SOEs are under immense pressure to increase efficiency, while delivering improved and integrated services. In developing countries, these entities have become an integral part of the state developmental project (Pitcher, 2012). The sourcing of goods and services is regarded as an important indicator of the effectiveness of government because it is at the centre of government service delivery (Fourie & Malan, 2020; Crawford, Costello, Pollack & Bentley, 2003). Over and above globalisation, technology and business practise have become increasingly complex. This has meant, first, that public sector entities have had to compete with private sector organisations for limited resources; and second, that various public and private firms have competed to procure the rights to deliver a public service. The introduction of New Public Management (NPM) further meant that public sector organisations in South Africa are subjected to increased rigorous measures of performance (Kalimullah, Alam & Nour, 2012). In response, these organisations have had to revise their procedures and structures to ensure compliance with the principles of economy, efficiency, and effectiveness (Arnaboldi, Azzone & Salvoldelli, 2004). In South Africa, these institutions were expected to reduce budgets, embark on cost saving strategies,

and also apply the principles of economies of scale without compromising the quality of services rendered.

In the context of this study, a state-owned company shall refer only to state owned project based organisations tasked with the efficient delivery of infrastructure projects and programs aimed at assisting government in delivering effective public services. There is no legislative definition of national or provincial state-owned companies in the statute book; however, state-owned companies refer to those state-owned organisations listed in Schedule 2 and 3 of the Public Finance Management Act (Bronstein & Olivier, 2015).

Thus, this study is limited to state-owned companies (SOC) that are project based and operate slightly differently to traditional government departments and agencies, such as law enforcement. These are the parastatals that are tasked with the implementation of large infrastructure projects and programs (also known as international development projects) with the aim of improving the country's infrastructure and subsequently growing the economy, for example, transport systems, power and energy and water and sanitation. The intention is to deliver projects that will deliver services or goods that are intended for public use in every community across the country (Diallo & Thuillier, 2004). Table 1.1 provides a list of SOCs tasked to implement large infrastructure projects in the country.

In South Africa, these organisations have been established to own some of the country's biggest assets on behalf of the government. Infrastructure development impacts positively on the economic growth and global competitiveness of a country (Ittmann, Viljoen, Cooper & van Dyk, 2013). For example, infrastructure provides the means through which the citizens can improve their livelihoods and further boost their incomes besides creating employment opportunities (National Planning Commission, 2011b). Despite the important role parastatals play in shaping the economy, there is an emerging consensus that state-owned companies in the African continent are weak, inefficient, and consume more resources from the state than those in other parts of the world (Herbst, 2019).

Table 1-1 List of State-Owned Companies and their mandate

Names	Mandate
Air Traffic and Navigation Services Company,	Responsible for safe, expeditious and efficient air traffic management solutions
Development Bank of Southern Africa,	Development finance institution that finances development projects
Airports Company South Africa,	Aviation state owned entity responsible for all airports in SA
Alexkor Limited,	Diamond company responsible for prospecting and seabed mining
Armaments Corporation of South Africa,	Responsible for arms acquisition on behalf of Defence Department
Broadband Infracore Limited,	Provide communication services to underserved and underdeveloped areas
Central Energy Fund (Pty) Ltd,	Tasked with ensuring security of the energy supply of South Africa
DENEL,	Aerospace and military technology provider
SA Nuclear Energy Corporation,	Research and development entity responsible for nuclear related needs for SA
Telkom SA Limited,	Telephone and wireless telecommunication provider
Trans-Caledon Tunnel Authority,	Provides funding and implementation of all bulk raw water infrastructure projects
ESKOM,	Responsible for generating, transmission and distribution of electricity
Independent Development Trust,	Responsible for the implementation of social projects on behalf of government
Industrial Development Corporation of South Africa Limited,	Spearheading the development of domestic industries through funding and supporting SMEs
Land and Agricultural Bank of South Africa,	Bank that provides finances to commercial farmers
SA Broadcasting Corporation Limited,	National broadcaster for televisions and radio stations
South African Express (Proprietary) Limited,	Airline providing flights domestically
SA Forestry Company Limited,	Forestry entity responsible for timber harvesting and processing both domestically and internationally
South African Airways Limited,	National airline that provide domestic and international flights
SA Post Office Limited,	National postal service entity providing postal services across the country

Source: National Treasury (2013)

High levels of socio-political complexity, bad governance, lack of technical skills, low capacity, political interferences in decision-making, and poor funding mechanism are

some of the challenges that dominate SOCs (Ika, Söderlund, Munro & Landoni, 2020; Ika & Hodgson, 2014; National Planning Commission, 2011b). Additional challenges include differences in political position or opinions, which result in projects without necessary support and legitimacy from stakeholders (Arnaboldi, Azzone & Salvoldelli, 2004). Furthermore, and to make this matter complex, in South Africa, there are various racial groups (e.g. African, Indians and Whites) with cultural diversity and different priorities which originated due to for example, apartheid era (Seriki, Hoegl & Parboteeah, 2010). The differing needs and priorities for these cultural groups therefore have the potential to render the whole PPM process more complex.

In developed economies (e.g. United States and Europe) or those with upper incomes, the environment is considered stable, and is characterised by good governance, and the availability of resources including adequate funding and project management skills. Additionally, their homogenous cultures make it easy to implement PPM unlike in many African states.

There appears to be lack of a formal framework or model and technique to guide the selection and executions of projects. This was also noted by a PwC (2014: 7) report that stated, *“we often see organisations using subjective information or making decisions based on political will and commencing programs that should have never started in the first place – guessing is not a strategy for change”*. The current models lack the dynamism to investigate environmental factors and uncertainty that influence vital aspects of project management (Jensen, Johansson & Lofstrom, 2006). This method must demonstrate the ability to link organisation strategy and non-financial project outcomes. The key to success is closely linked to making the right decisions within existing public decision-making frameworks in public investment projects (Klakegg, Samset & Magnussen, 2005).

In responding to external pressures, various state-owned companies have had to adopt project-based management approaches and the use of formal project management methodologies to achieve their strategic goals. There has been ample evidence that suggests a need for a new comprehensive set of tools that will ensure that portfolios are well structured and balanced, including allocation of resources on deserving projects (Young & Conboy, 2013; Young, Owen & Connor, 2011). For

instance, there is an increased recognition of the role of PPM in guiding organisations' decision-making process about which investments to pursue or not. Thus, the project portfolio management process facilitates the selection of one or several projects out of a set of possible projects under some constraints, which limits the possibility to select projects where the outcomes are determined by some aggregation of properties of the selected projects (Vetschera & de Almeida, 2012).

Effective selection and subsequent implementation of project portfolios ultimately determine whether the organisation achieves success or failure. Organisations that have implemented PPM successfully have a better chance of achieving strategic success (PwC, 2012; Gutierrez & Magnusson, 2014; Dutra, Ribeiro & de Carvalho, 2014). Thus, PPM serves as a continual process that integrates or interfaces between organisational strategies with achieving operational efficiency. Effective implementation of a PPM approach ensures that only 'right' projects are prioritised for implementation, time reactions on external changes are timeous, and the chance of delivering projects successfully is increased.

However, given the complexity of government institutions, the PPM process becomes complex and characterised by the exploitation of emergent opportunities, politics, and the use of intuition, with little regard for technical rationality (Nielsen & Pederson, 2014). The process of portfolio structuring and balancing becomes more political and far more complex than what the traditional PPM approach describes as a simplistic and rational process (Engwall & Jerbrant, 2003). Addressing such problems requires clear institutional arrangements, transparent shareholder compacts, clean lines of accountability, prioritisation, timeous decision-making, and sound financial models to ensure sustainability (National Planning Commission, 2011b). Therefore, the dynamic approach to PPM should be a combination of PPM and program management in order to deal with a more turbulent environment and emergent strategies in the public sector (Maceta, & Berssaneti, 2019; Thiry & Deguire, 2007). Traditional PPM is insufficient as it is meant to deal with fairly stable environments. Young, Owen and Connor (2011) concur and suggest that for the PPM framework to assist organisations in complex matters there is a need for a mental shift away from technical and mechanical rational techniques, which are currently being applied in the execution of portfolios. The

outcome of an ineffective PPM has been found to be too detrimental to comprehend going forward under the current conditions.

1.3 Knowledge Gap

As highlighted in the preceding section, proponents of the concept of PPM (e.g. Gutierrez & Magnusson, 2014; Young & Conboy, 2013) suggested that the best way to achieve an organisation's long-term goals is to group and manage projects as a portfolio, as opposed to managing them as individual entities. In this way, projects facilitate the achievement of the organisation's intended strategy and business objectives. They argue that an effective PPM framework guides an organisation's decision-making processes, especially when conceptualising, initiating, and implementing portfolios. This includes ensuring that portfolios are well balanced, adaptable, adequately resourced, and strategically aligned to support business objectives. This framework, according to Hope and Moehler's (2014) findings can also be applied to SOCs, or organisations owned by the state or where the state is the majority shareholder and which exist to implement the political and economic agenda of the government of the day, albeit with some form of autonomy.

However, the understanding of PPM effectiveness in state-owned companies remains limited and evidence of its value has been rather anecdotal (Patanakul, 2015; Reyck, Grushka-Cockayne, Lockett, Calderini, Moura & Sloper, 2005). This is due to less attention or interest in the area of PPM in developing countries compared to developed countries. In addition, defining the effectiveness of PPM based on literature often leads to incomplete comprehension (Patanakul, 2015; Martinsuo, 2013). However, understanding PPM effectiveness in different settings provides the opportunity to enhance current existing approaches, tools, and techniques. Moreover, understanding the effectiveness helps to ensure that the right decisions are made concerning portfolio selection and management to ensure portfolio success and subsequently the success of the organisation.

Foremost, and critical to this study, is the traditional approach of using PPM in SOCs, where it is assumed that these organisations are run like the private sector, and hence follow a rational approach in their PPM decisions. In view of this, the literature was

less instructive in guiding SOCs as to how to adapt their PPMs in order to navigate the constraints and challenges encountered in their operational environment when initiating and implementing projects. This environment, on one hand, imposes the requirements of being self-sustaining entities, while pursuing their business objectives, and on the other hand requires them to pursue a political and economic agenda of the state (the majority shareholder). Therefore, the traditional way of PPM has several challenges in that, operating in an environment characterised by a multitude of stakeholders with conflicting interests and most often susceptible to political interference does not always produce successful project performance. Moreover, these challenges are further exacerbated by the political and economic regime often found in the developing world, including South Africa. Patanakul (2015) suggested that the framework for effective PPM should include the two attributes, namely strategic and operational attributes. Ika and Donnelly (2017) expanded the project success framework conditions (e.g. structural, institutional and managerial conditions) to build a more comprehensive framework which included additional meta-conditions such as stakeholders, collaboration, alignment, and adaption. Ika and Pinto (2022) argued that project success should meet four multidimensionality sources, namely benefits realisation, stakeholder perceptions, issues of timing, and sustainability.

However, when it comes to PPM in Africa, there is little research work done on project and portfolio management especially compared to the vast amount of literature written about business and management which are areas of interest for many scholars (Kiggundu & Lamont, 2015; Kolk & Rivera-Santos, 2018). In the African context, PPM applicability and suitability has not been implemented successfully and has been affected by several external environmental factors such as (1) insufficient capacity and lack of project management skills, (2) political interferences, (3) continuous changes in government policies and administrative officers, (4) poor delivery of projects, (5) lack of performance monitoring, (6) lack of political support, (7) corruption and (8) weak governance (Ika, 2012; Damoah & Kumi, 2018; Muriithi & Crawford, 2003). Thus the effectiveness of portfolio is largely influenced by macro-economic environmental factors which the project actors have no control over (Nkatha & Gitonga, 2018). For example, the decision making regarding which projects receive support and consequently funding is political in nature and influenced by political dynamics.

However, further review of literature revealed several gaps in the thinking around this concept. As an overarching gap, the review of literature indicated that there is a lack of sufficient PPM guidelines to manage socio-economic challenges (e.g. poverty, unemployment and inequality) and that the unsustainable use of resources has contributed to inefficiencies in the public sector (Muriithi & Crawford, 2003; Ngqulunga & Walwyn, 2018). Thus, the current framework is insufficient to guide the decision-making when implementing portfolios in state-owned companies. This includes ensuring that portfolios are well-structured, balanced, adequately resourced, strategically aligned, adaptable, and aligned with government macro goals. This is because in state-owned companies, decision-making regarding which portfolios to choose and implement is never a straightforward or rational process. Decision-making is a complex and political process, which involves various stakeholders that may have conflicting interests, and who are influenced by external environmental factors that affect the inner governance and management of portfolios. Understanding these factors should assist practitioners to effectively structure and manage portfolios to ensure balance. The literature review identified four deficiencies namely, planning, inappropriate tools used, impact of political decisions and lack of monitoring and bad governance, which are discussed next.

First, the current PPM processes are unsuitable to deal with short-term planning and business changes. They are rigid and too formal and therefore unable to cope with modern times where organisational strategy changes all the times and dictates that portfolio adjustments must occur regularly. The absence of incorporating public policies that capture the needs of society and the involvement of society or community during portfolio planning is due to traditional strategic approaches that advocate for 'top-bottom' approach over an inclusive approach. Public policies are crucial in addressing the pressing needs of the society or citizens are addressed (Andrews, 2018). If not incorporated, there is the likelihood of portfolios that are non-supportive of community and in extreme cases result in project implementations that produce for example, white-elephant infrastructures. The introduction of Infrastructure Development Management Systems (IDMS) as a guideline for implementing infrastructure projects follows a yearly or multi-year calendar planning (MTEF) which also creates bureaucracy in the approval process.

Second, the current literature sources (e.g. Engwall & Jerbrant, 2003) have deemed current PPM tools and techniques for the prioritisation and selection of projects irrational, mechanistic, and linear and hence inappropriate to assess the value of projects in the public sector. Literature sources revealed that the process of identification, prioritisation, and selection of projects is flawed due to a focus on the short-term goals of business operations instead of the strategic needs of the organisation, and in particular of the government (Lee, Moon, Yoo & Lee, 2010). For example, projects that display high financial benefits are often prioritised for implementation ahead of projects that display non-quantifiable benefits (e.g. social projects). Due to the lack of a comprehensive approach towards the selection of projects, the alignment of projects with strategy is accidental.

Despite the enhancement of current PPM techniques to include criteria such as strategy alignment, risks, safety, sustainability and others, the PPM processes still lack a systematic approach on how it will compare and rank (prioritise) two dissimilar projects, namely financial (infrastructure) versus non-financial (e.g. a social cohesion) projects. The absence of such a systematic approach will result in outcomes that are biased and favour individual preferences rather than organisational outcomes. The introduction of IDMS attempted to address part of this problem, but fails to deal with social cohesion projects due to its focus on infrastructure or asset management projects.

Third, literature sources revealed that the current PPM methodologies and techniques are inappropriate to evaluate and measure the political decisions and behaviours that often dominate the decision-making in state-owned companies (Hope & Moehler, 2014; Weissenberger-Eibl & Teufel, 2011). They lack the vigour to deal with the African environment, which is described as dynamic and chaotic. They also view political decisions and involvement as something irrational that has no space (disregard) in the decision making process, and hence is not incorporated (Muriithi & Crawford, 2003). This is despite the fact that SOCs get their funding and mandate from government and that politicians are the accountable officers and represent the views of government as the main shareholders of SOCs. Thus, the decision-making in SOCs in Africa is a product of political lobbying and manipulations (Muriithi & Crawford, 2003). The success of any project in SOCs relies not only on the traditional

project success criteria but must meet other attributes, namely, political alignment, culture and society acceptance and approval.

Lastly, current PPM methods lack a systematic and inclusive approach towards performance monitoring and benefit tracking. The current PPM methods are inclined towards measuring only quantifiable benefits using e.g. net present value (NPV), pay-back period (PBP), and earned value (EV) methods. Little has been discussed or developed to measure benefits associated with non-quantifiable benefits such as measuring the impact of social cohesion initiatives. This can also be attributed to inadequate or bad governance in SOCs internal structures. There is an urgent need to capacitate the PPM governance structures to ensure that only portfolios that are implemented are aligned with macro government targets. Independent bodies such as the National Treasury or planning and evaluation units have been utilized to ensure there are no deviations.

1.4 Research Problem Statement

PPM is about ensuring that only 'right' projects that support organisational strategies are pursued and capacitated for implementation. Its focus is on how projects are conceived, managed, and controlled in competitive and dynamic environment that exists in today's organisations (Selepe, 2019, Young & Conboy, 2013). Projects have to comply with the triple constraints of project management (also known as the 'iron triangle') and other distinct factors such as government regulations in order to pursue organisational objectives (Elbok & Berrado, 2017; Rutsch, Viljoen & Steyn, 2006).

An organisation that achieves a high level of performance requires a framework for the identification, selection, prioritisation, authorisation, management, and the control of a project portfolio (PwC, 2012). Effective utilisation of PPM prevents an organisation from wasting its scarce resources on projects that are not aligned to organisational strategy, or are unlikely to succeed. Moreover, the successful realisation of individual project benefits will improve organisational performance and subsequently contribute towards the achievement of the higher macro-level or national objectives of improving public service and the quality of education, and reducing unemployment (Chih & Zwikael, 2015; Toor & Ogunlana, 2010).

PPM, however, has proven to be an elusive goal to many organisations (Cooper, Edgett & Kleinschmidt, 2000). This problem is exacerbated by the lack of relevant literature that deals with effective implementation of PPM methodologies in the public sector. In fact, traditional PPM appraisal techniques, which emphasise selecting projects that show quantifiable (financial) benefits are continuously being preferred over methods that show qualitative (non-financial) benefits. Nassif, Filho and Nogueira (2013) argued that project selection for portfolio management in a government organisation should not only concern itself with delivering projects that bring financial return, but also those that deliver public benefits. Seriki, Hoegl and Parboteeah (2010), posit that there is still an urgent requirement for a comprehensive analysis of how organisational internal processes and macro characteristics that include societal characteristics influence decisions and outcomes of the portfolios.

While there are many possible reasons or causes for project failures, a few are worth mentioning. These include (i) lack of method or portfolio that links all organisational projects to the goals and the strategic plan (Kendal & Rollins, 2003); (ii) lack of formal process to structure the portfolio; (iii) projects that are started without adequate resources; (iv) the PPM process is too rigid to respond appropriately to changes in the environment (Hope & Moehler, 2014); (v) the PPM process does not take into account 'project interdependencies' (Ghapanchi, Tavana, Khakbaz & Low, 2012; Rungi, 2007) from other decision-making bodies; (vi) PPM cannot be practically applied in the public sector (Hope & Moehler, 2014); and (vii) decision-making processes are centered around personalities. Evidence of perceived failures in the industry suggests a need to investigate the subject further to inform practice (Davids, 2014).

In addition to these traditional project challenges, state-owned companies often have conflated decision-making processes in which political decisions often override utilitarian rational decisions (Van der Westhuisen, 2007). Technical rationality is not sufficient for an environment dominated by variability (Nielsen & Pedersen, 2014). For instance, some of the projects goals in this context may appear to be vague and politically correct to give legitimacy (Jensen, Johansson & Lofstrom, 2006). Thus, the first order project management, which is founded on linearity, monocausality, and mechanical structures, is inadequate to address these challenges (Saynisch, 2010).

In South Africa, for example, state-owned companies have consistently failed to deliver successfully on various strategic projects (Steyn & Stoker, 2014). The majority of these projects have had to be delivered under a regime of lengthy delays and excessive cost overruns. Various studies and reports (e.g. Naidoo, 2013; Ittman *et al.*, 2013; Makhura, 2014) have been commissioned to investigate the timing and rationale behind the selection and subsequent implementation of various large infrastructure and social projects and programs amounting to billions of Rands.

The implementation of large governmental infrastructure projects such as the Gauteng Freeway Improvement project, the construction of Eskom Power Stations, and the 2010 Soccer World Cup project have attracted much media attention and debates over their legitimacy in terms of relevancy, affordability, and sustainability in the current economic conditions. A notable case is the construction of World Cup stadiums project which was delivered at more than eight times the budgeted value (i.e. R8.4 billion instead of a R818 million budget (Maennig & du Plessis, 2007). The current electricity crisis, which started in 2008, also exposes serious institutional weaknesses of state-owned companies (Ika, 2012). In instances where there have been minor successes, such as the timeous delivery of the 2010 World Cup project, there has been public outcry on the sustainability of such outcomes. For example, many stadiums have now been deemed 'white elephants' because of the huge costs associated with maintaining them (Maennig & du Plessis, 2007).

In the case of the Gautrain project, political symbolism appears to have overridden utilitarian or rational considerations (van der Westhuisen, 2007). In the Gauteng Freeway Improvement project, there is a general consensus that such a project was ill conceptualised and will result in more harm than good (Naidoo, 2013). It was found there was a lack of transparency and a systematic approach in engaging and selecting such a project. Moreover, it was found that the implementation of this system by Gauteng province undermined the aspirations of the country's National Development Plan 2030, which was to reduce unemployment, poverty, and inequality (Ramoroka, 2014). There has been little research that deals with the process of how decision-makers in the public domain go about selecting and justifying certain projects. Politics

in state-owned companies dominates, from project conceptualisation, selection to execution and evaluation (Ika *et al.*, 2020).

With regards to policy or societal transformation related projects, which are implemented to address important societal issues, half of them fail to reach their intended benefits (Andrews, 2018). This further calls for a dynamic approach to PPM to deal with more uncertainties in the environment and respond appropriately to emergent strategies in the public sector environment. The new paradigm should be able to deal with a world and society of unpredictability which is discontinuous and nonlinear (Saynisch, 2010). The world is construed as a multifaceted, complicated, and unstable whole, requiring complex and dynamic solutions. These phenomena, according to Saynisch (2010), require a new and promising management approach with based on a robust or dynamic paradigm.

Moreover, unlike in the private sector, where maximisation of financial benefits to shareholders is generally the sole criteria, the new approach must consider social equity, economic, and political criteria. Without this, projects that do not yield best results, poor value projects, and too many projects for the resources available, will continue to be implemented (Cooper, Edgett & Kleinschmidt, 2000; Elbok & Berrado, 2017). Resource allocation to projects will be misdirected. This could result in a decline in the performance of ABC SOC, which will have devastating implications for the country's economy and its ability to address its triple constraints challenges.

1.5 Research Aim and Objectives

The aim of the study was to investigate the effectiveness of the project portfolio management (PPM) as a decision-making tool that guides the implementation of portfolios of projects at ABC SOC.

To achieve the aim, the study was guided by the following research objectives:

- i) To assess the extent to which the PPM aligns with ABC SOC strategy.
- ii) To investigate the effectiveness of PPM in adapting to a dynamic operational environment.
- iii) To assess the effectiveness of PPM practices and methodology at ABC SOC.

- iv) To develop a conceptual framework that facilitates effective management of the PPM at ABC SOC.

1.6 Expected Contribution to Knowledge

As already noted, in the absence of a definite guiding framework, this study sought to investigate the effectiveness of PPM in a selected organisation, code named, ABC SOC. This was motivated by some anecdotal reports (e.g. Petrinska-Labudovikj, 2014; Muriithi & Crawford, 2003, Hansen & Kræmmegaard, 2013; Rajaram, Le, Biletska & Brumby, 2010) which indicated that the project management regime in the SOC might be deficient. This study therefore makes the following contributions to the body of knowledge. At a high level, the study contributes to the literature by investigating and assessing the effectiveness of PPM practices and processes used in a rather complex and unstable environment. Resulting from the assessment, and in anticipation of possible gaps in the PPM, used by ABC SOC, the study sought to develop a framework that could bridge the gaps that may be identified. In particular, the framework would focus on providing guidance on identifying the most appropriate methods and practices for use in PPM and which will be resilient to the ABC SOC environment dominated by excessive variability and political interference.

First, the proposed framework was intended to be inclusive in its planning to ensure that the needs of major stakeholders and users are incorporated. In essence, the framework must be pro-society (Dyer, Stringer, Dougill, Leventon, Nshimbi, Chama, Kafwifwi, Muledi, Kaumbu, Falcao & Muhorro, 2014). In doing so, the proposed PPM framework was to ensure that projects chosen are aligned with strategy and will deliver intended benefits. The use of independent bodies such as National Treasury may provide an oversight role and guidance although this can be seen as adding to an already laborious process. This outcome would contribute to the theory and practice of implementing PPM specifically to ABC SOC and perhaps provide insights to other similar SOC in South Africa.

Second, the proposed framework was to attempt to provide factors to consider when structuring a portfolio to ensure that non-quantifiable projects such as social projects are not overlooked over projects that show financial benefits. This will contribute

towards a balanced portfolio. The absence of such an approach will result in SOCs delivering outcomes that are not in line with government's macro objectives.

Third, the proposed framework if followed is intended to be flexible to consider political decisions that cannot be measured by current methods. Thus, the framework must incorporate in its decision-making process, the views of politicians who are the representatives of the government as the shareholder. Thus, the framework must be politically aligned. This is crucial to garner the support and commitment necessary to implement portfolios effectively. For example, the framework will highlight the importance of a political understanding and the awareness of the political environment by actors within portfolio towards achieving the effectiveness of PPM. This is in line with Seriki, Hoegl and Parboteeah's (2010) findings on African projects who suggested that the focus should be on projects outcomes that create added benefits for the citizens.

Fourth, the suggested framework will cater for environmental factors such as African cultural values, and social-economic phenomena such as triple-challenges and political dynamics when deciding on which projects to select and implement.

Lastly, the framework must be flexible and robust enough to adapt to instabilities that may force regular changes in strategy, and which may require continuous adjustments in portfolios in terms of terminating irrelevant projects or accelerating certain key projects. The performance monitoring and tracking of benefits to justify investments and ensure satisfaction of key stakeholders are some of the considerations for the proposed framework.

Therefore, there must be governance structures in place to enable such adjustments. This study also demonstrates originality, in the sense that to the knowledge of the researcher, no study has ever been carried out to investigate the effectiveness of PPM in South African state-owned companies.

1.7 Research Scope

The case study focused on a large sized state-owned company code named ABC SOC. ABC SOC is the largest freight logistics organisation that delivers goods to many parts of South Africa. It moves cargo onto ships for export and unloads goods from overseas for delivering into inland depots. The ABC SOC is made up of five (5) operating divisions. For the purpose of this study, only 4 out of 5 divisions were chosen as sites, as depicted in Figure 1.1 and these will be referred to as Site A, B, C and D. The particulars of the sites are summarised in Table 1.2.

Figure 1-1 ABC SOC Group Structure

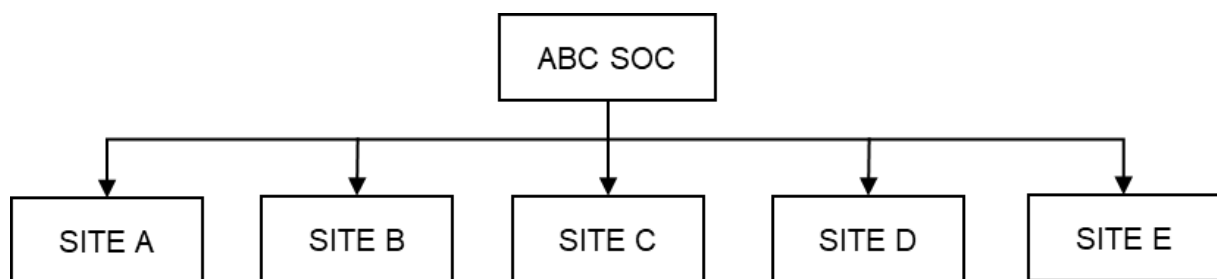


Table 1-2 Overview of ABC SOC Sites

Divisions	Headquarters	Main Business	Divisions	Headcount (FY2017)	Gross Turnover (R) (FY2017)
SITE A	Gauteng, Johannesburg	Freight transportation	6	27,679	R39 billion
SITE B	Gauteng, City of Tshwane	Engineering: OEM; Repair and Maintenance of Rolling Stock	7	11,000	R9.3 billion
SITE C	Gauteng, Johannesburg	Port infrastructure and marine services	9	4,100	R10 billion
SITE D	Kwazulu Natal, Durban	Sea-route Freight (import and export) Services	5	8,891	R11 billion
• SITE E	Kwazulu Natal, Durban	Transporting fuel and gas	4	642	R4.3 billion

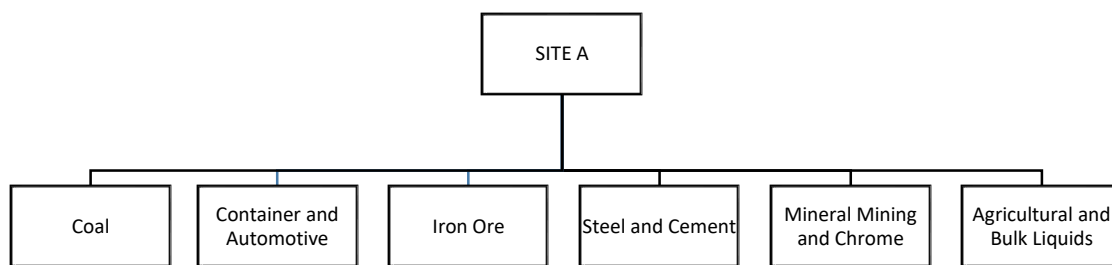
Source: Adapted from ABC SOC (2017)

- Site E was not included in the study

Site A

Site A is the largest division of ABC SOC and has six operational business units, as illustrated in Figure 1.2. These include Coal; Container and Automotive; Iron Ore and Manganese; Steel and Cement; Mineral Mining and Chrome; and Agriculture and Bulk liquids. The site is a heavy haul freight rail that specialises in the transportation of freight. It is responsible primarily for preserving the rolling stock network across South Africa, which links with the rest of SADC region, for example Namibia, Botswana, Zimbabwe and Mozambique. Its rail infrastructure represents about 80% of the continent's total. The division turnover for the financial year 2017 was R39 billion and it has a staff complement of 27,679, spread across the country (ABC SOC, 2017).

Figure 1-2 Site A Operational Structure

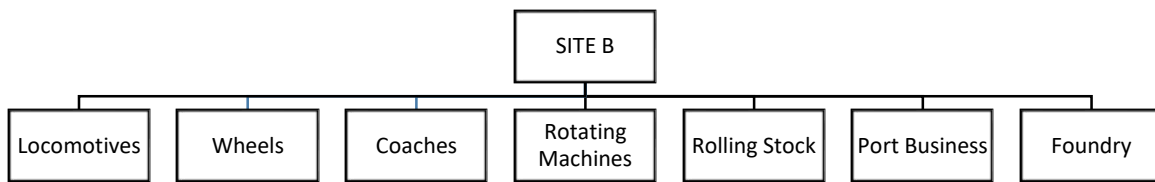


These entities invest their budget largely in infrastructure development projects aimed at boosting the economy and thereby creating much-needed jobs and addressing the issues of poverty and inequalities in South Africa. For example, in 2012, Site A invested R300 billions of rands for a period of seven years on the expansion program aimed at modernizing its aging rail infrastructures, to create additional capacity and increase cargo volumes (ABC SOC, 2016).

Site B

Site B is an engineering division of ABC SOC, with its headquarters in Gauteng, South Africa. It is the second largest division of ABC SOC in terms of staff complement with its railway customer portfolio beyond the borders of South Africa. The division comprises a group of product-focused businesses as shown in Figure 1.3.

Figure 1-3 Site B Operational structure

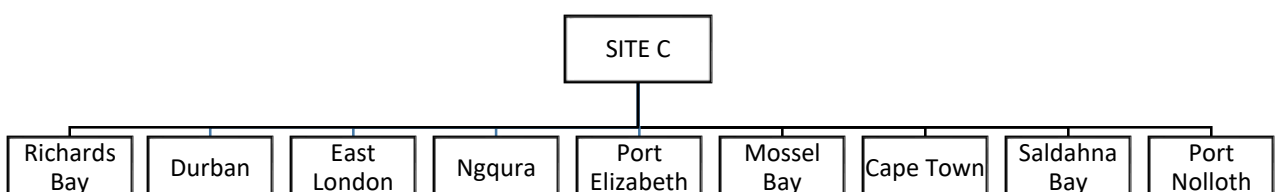


In 2017, the workforce was sitting at 11,000 qualified personnel (ABC SOC, 2017) and the turnover revenue recorded for the 2017 financial year amounted to R9.3 billion, as reported in the Annual Financial Statement (ABC SOC, 2016). Site B core functions within the ABC SOC Group consists of designing, developing, manufacturing and providing maintenance for trains and wagons that transport approximately 100 million tons of coal and iron ore every year. ABC SOC continues to apply a structured capital optimisation approach in continuously rephrasing and evaluating engineering key investment projects and programs, such as, locomotives, rail infrastructure, maintenance (ABC SOC, 2016).

Site C

Site C is one of the five operating divisions within ABC SOC responsible for the safe, effective, and efficient economic functioning of the national port system. Site C is divided into various ports across South Africa as illustrated in Figure 1.4. The division is responsible for the development of port infrastructure and provides marine related services at all commercial seaports in South Africa. This includes the coordination and planning and maintenance related to port infrastructure.

Figure 1-4 Site C Operational Structure

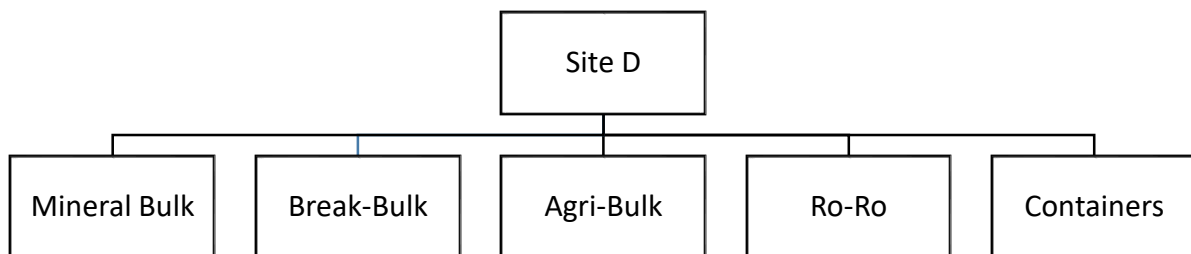


The National Ports Act, which is aligned to government macro goals, establishes the Ports Regulator of South Africa, who is charged with the responsibility of exercising the economic regulation of the ports system. This process ensures that the development plans are current, aligned with government policies, and incorporate changes in the ports' environment. The implementation of the Port Development Framework Plans (PDFT) is through PPM where a list of projects is initiated and implemented to support the PDFP.

Site D

Site D is considered a key component of the country's economic development as is responsible for commercial handling services of sea-route freight across imports, exports, and transshipments in containers, bulk, break-bulk, and automotive. This division operates terminals across all commercial ports in South Africa. The focus is on the following cargo sectors: Containers, Mineral Bulk, Agricultural Bulk, and Ro-Ro (roll on/roll off), as illustrated in Figure 1.5.

Figure 1-5 Site D Operational Structure



The division has 7000 employees employed across all commercial ports in South Africa. It plays an important role in ensuring that ABC SOC delivers on its strategy of creating new capacity for terminals to meet increased demand. The division spent just over R30 billions of ABC SOC's R300 billion investment to enable it to expand its cargo handling base, increase terminal capacity, develop infrastructure, and reduce costs of doing business in South Africa.

1.8 Chapter Summary

This chapter presented the background to the problem under investigation. It started by indicating instances of poor performance of state-owned companies in pursuing

their mandate of supporting the government in growing the economy through implementing developmental projects and programs. Although PPM is still considered a new philosophy on the African continent, various organisations have begun to take its role seriously, and have attempted to formalise and implement it. Private sector firms in the developed world have been at the forefront of testing this concept and successes have been noted. Very little success has been empirically observed in the public sector. However, traditional approaches have been considered linear, rational, and mechanistic and have been found to be insufficient to adapt to an environment characterised by instability, political pressures, and other social issues affecting their operations.

This chapter also highlighted the problems associated with these traditional methods and highlighted the need to further address these gaps. Unless these gaps are addressed, the realisation of strategic outcomes of the parastatals and subsequently government will continue suffer. Inappropriate and unsustainable portfolios will continue to take priorities over projects that are strategic in nature. In practice, resource allocation and funding of projects will remain a concern if these gaps are left unattended. This is a concern for many practitioners, managers, and members of society who are implementers and users of the services offered by SOCs.

The rest of the report is divided into six chapters. Figure 1.6 graphically illustrates the layout of the thesis, which is arranged into seven chapters.

Chapter 2 presents and discusses a review of the literature relating to PPM practices including the theory behind portfolio components and their impact on the organisational performance and how it can be used as a decision-making tool.

Chapter 3 presents the macro-environment in which public sector companies operate, and discusses how changes in the environment impact portfolio implementation.

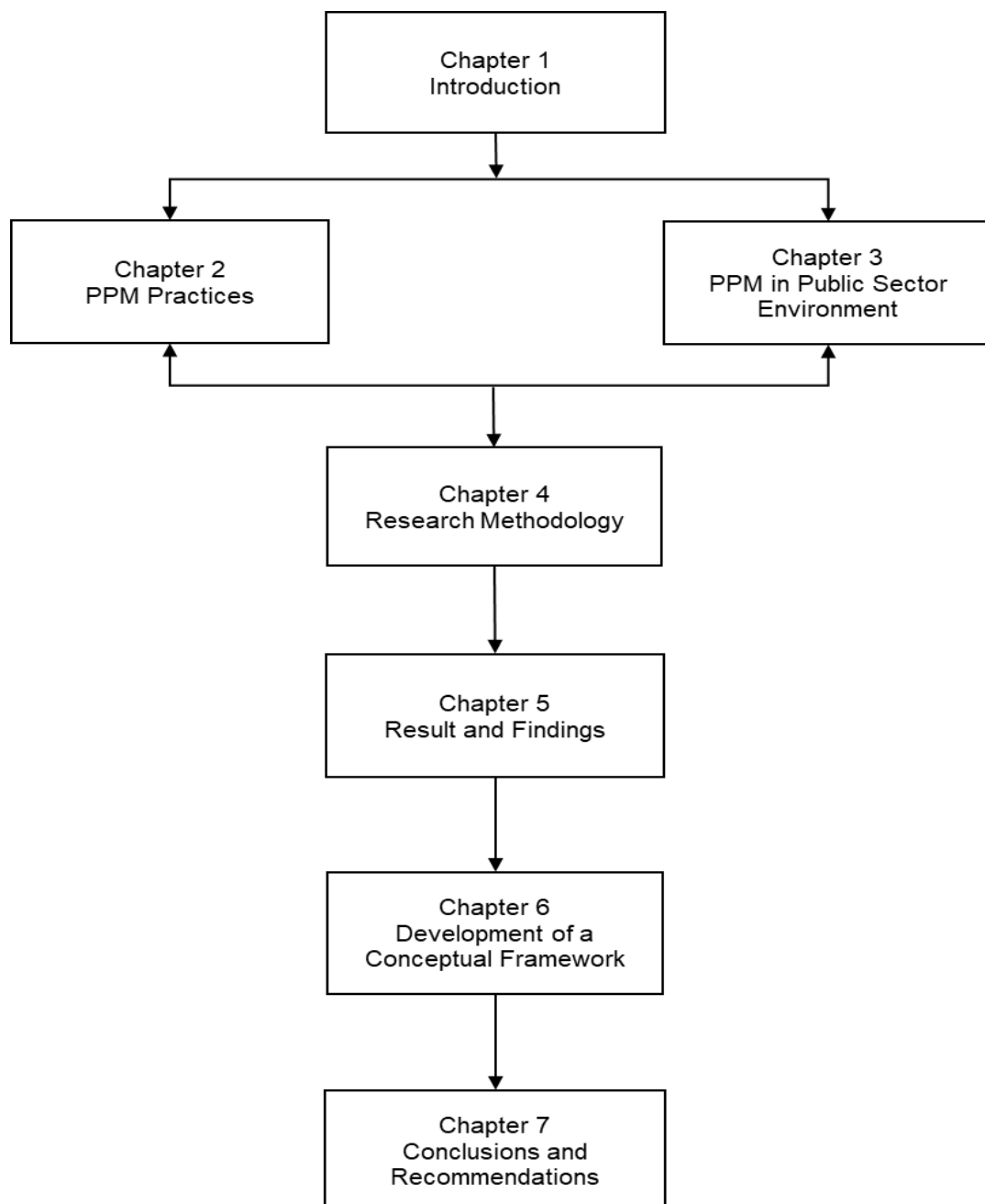
Chapter 4 describes the research design used to achieve the stated objectives including sampling approach, data collection instrument, and data analysis approach, including how reliability, validity, and ethical issues were handled.

Chapter 5 presents the results and findings and a discussion thereof of the study.

In Chapter 6, a proposed conceptual framework is presented, based on the gaps identified in Chapter 5 and best practices synthesized in Chapter 2.

Chapter 7 presents conclusions and recommendations arising from the study.

Figure 1-6 Thesis Layout



CHAPTER 2 : PPM PRACTICES

2.1 Introduction

While the previous chapter introduced portfolio project management (PPM) in general, this chapter provides an in-depth analysis of the concept by analysing findings and discussions from previous studies. It is divided into five major sections, including the introduction. The first part discusses the context of portfolio project management (PPM) among others, the African perspective, the relationship between PPM and programme/projects and PPM as a decision tool. The second part deals with the PPM process namely identification, selection, implementation and success. It also discusses the issues of resource allocation and risk identification and planning. The fourth part of the chapter provides a detailed discussion of PPM's best practice methodology and the steps that are critical when structuring a portfolio to ensure balance. In addition, the section discusses the PPM tools and techniques commonly used in literature, and further highlight gaps and limitations when applied to an environment dominated by variabilities. The fourth part discusses the evaluation of the framework introduced by government to solve PPM problems known as the Infrastructure Delivery Management System (IDMS) and its relevance to this study. While IDMS has been touted as a potential solution to infrastructure implementation projects, this approach falls short in addressing the full scope of portfolio management in state owned companies. The chapter ends with a summary.

2.2 The Project Portfolio Management context

This section presents literature related to PPM, and discusses how organisational effectiveness can be achieved at public-state organisations. First, a definition of PPM is provided. Second, the relationship between project, program, and portfolio concepts is described. Third, a discussion of two important management concepts, namely, project management and portfolio management is presented. The fourth section explores the literature underpinning the effectiveness of PPM. The fifth section discussed the formalisation of decision making and the role of PMO in assisting project and portfolio implementation. Sixth, challenges and benefits associated with implementing PPM are discussed and lastly, a summary of the chapter is presented.

2.2.1 Definition of Project Portfolio Management (PPM)

Owing to its origins in a seminar paper written by Harry Markowitz in 1952, about Modern Portfolio Theory (MPT) to the project selection problem, the field of PPM only received increasing attention in the mid-1990's (Markowitz, 1999). The failure to implement strategic plans gave rise to the birth of PPM as a possible solution to this problem. Despite earlier literature which focused primarily on achieving financial returns, current PPM literature has been improved to cover different aspects of risk, strategic alignment, and interdependencies between projects (Kaiser, El Arbi, & Ahlemann, 2015; Vähäniitty, 2004; Reyck, Grushka-Cockayne, Lockett, Calderini, Moura & Sloper, 2005).

PPM has been defined by various authors in various ways. Arto, Martinsuo and Aalto (2001) described it as a collection of projects which are managed concurrently under a single management umbrella. In this dynamic decision-making process, initiatives or project proposals are compared against each other, prioritised, and selected based on their relevance (Cubeles-Márquez, 2008). Each project may be related or unrelated to the other. Käsnänen (2019) added that, PPM is more concerned with the role of top management and key decision makers in creating purposeful project investments through formulating and implementing strategic objectives. Similarly, Archer and Ghasemzadeh (1999) defined it as a collection of related and unrelated projects that are implemented under the backing of a particular organisation, while Cooper, Edgett, and Kleinschmidt (1999: 335) defined it as follows:

“...a dynamic decision process wherein a list of active development projects is constantly revised. In this process, new projects are evaluated, selected, and prioritized; existing projects may be accelerated, terminated, or reprioritized, and resources are allocated and reallocated amongst the projects in the portfolio”.

PPM promotes integration between other organisational processes and that of the portfolio management to achieve portfolio success (PMI, 2003). Under this concept, projects of all sizes that are not necessarily similar, are grouped together to facilitate effective management to meet strategic business objectives (Patanakul & Milosevic, 2008). It is about 'doing the right projects' efficiently and adequately allocating

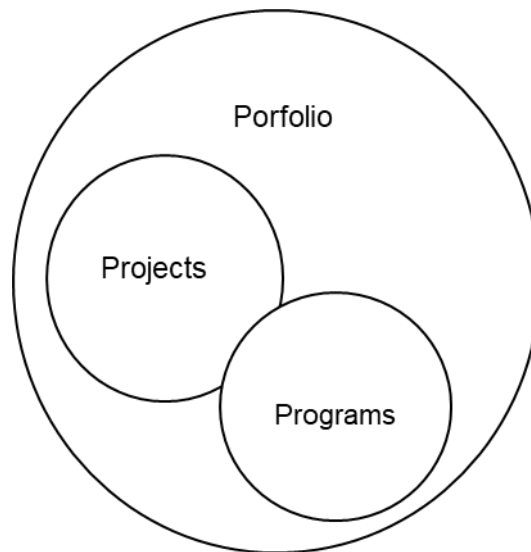
resources (Enoch & Labuschagne, 2012). PPM represents the organisation's capability to manage its portfolio effectively in order to enhance organisational performance (Clegg, Killen, Biesenthal & Sankaran, 2018). It has been used as a managerial technique to assist organisations to improve their performance (Maceta & Berssaneti, 2019). Meeting and exceeding the needs and expectations of organisational investments depends on how effective and efficiently the organisation uses its resources, knowledge and processes to manage projects (Madic, Trujic & Mihajlovic, 2011). Its intended purpose is to align projects with the overall strategy and provide the correct balance in terms of investment and risk (Clegg *et. al.*, 2018). This is accomplished by ensuring that only strategies and projects aligned with the organisation's strategic goals and objectives are prioritised and allocated organisational limited resources (Hyvari, 2014).

Although Cooper, Edgett and Kleinschmidt's (1999) definition of PPM has been used extensively, Hyvari (2014) extended this definition by suggesting that PPM must not be static. According to Hyvari (2014), for PPM to deliver organisational strategies and objectives, there is a need for integration with other organisational processes and external environmental conditions. This is well captured by Elonen and Artto (2003) who suggested that portfolio management must incorporate both portfolio, project and program management aspects. This may include managing dependencies and interdependencies between projects and the coordination thereof given resource constraints. That is, the aim should be to integrate portfolio management processes activities with those of other organisational processes like annual strategic planning with updates or balanced scorecards.

2.2.2 Project, Program and Portfolio (3Ps) relationships

To broadly comprehend the current discussion, it is essential to briefly revisit the concepts of PPM and project management (PM) as they relate to this study, and their roles in the operationalisation of organisational strategy. In doing so, it is important to start by distinguishing the concepts of a project, a program, and a portfolio and also indicating how they are related. Figure 2.1 below illustrates the relationships between the three concepts.

Figure 2-1: Projects and Programs as part of Portfolio



Source: Adapted from PMI (2003)

Literature has ample definitions of a 'project'. A project is described as a temporary endeavour aimed at producing a unique output in a form of either a service or result (e.g. PMI, 2008; Larson & Gray, 2015). Various scholars have expanded the definition of a project as the means through which organisations implement their strategies. Hans *et al.* (2007) described it as a unique undertaking, which entails the execution and implementation of various activities that are dependent on one another with limited resources available. Thus, each project offers uniqueness in creating value to enable the success and survival of the organisation. Projects are used by organisations as a major means to achieve their goals in gaining a competitive advantage (Shenhar, 2004).

A 'program', has been categorised as a group of related projects that are mutually dependent and share a common goal. Programs are managed in a coordinated way in order to realise added benefits, which would not be possible to achieve should the projects be handled as individual entities (Patanakul & Milosevic, 2008; Ferns, 1991). It can thus be viewed as a composition of related projects from the same family (Hans *et al.*, 2007).

A 'portfolio', however, has been described by PMI (2008) as a family of projects or programs that include business operational activities, which are grouped and

managed together to achieve business strategic objectives. Turner and Muller (2003: 7) defined portfolio as “an organisation, (temporary or permanent) in which a group of projects are managed together to coordinate interfaces and prioritize resources between them and thereby reduce uncertainty”. According to Archer and Ghasemzadeh (1999), these activities must be under the sponsorship of that organisation. Others (e.g. Unger, Kock, Gemünden & Jonas, 2012; Kaiser, El Arbi & Ahlemann, 2015; Hope & Moehler, 2014) have described it as vehicle for strategy implementation. Winter, Smith, Morris and Cicmil (2006) argued that a portfolio is suitable when transforming business to achieve continuous improvement or developing a new product.

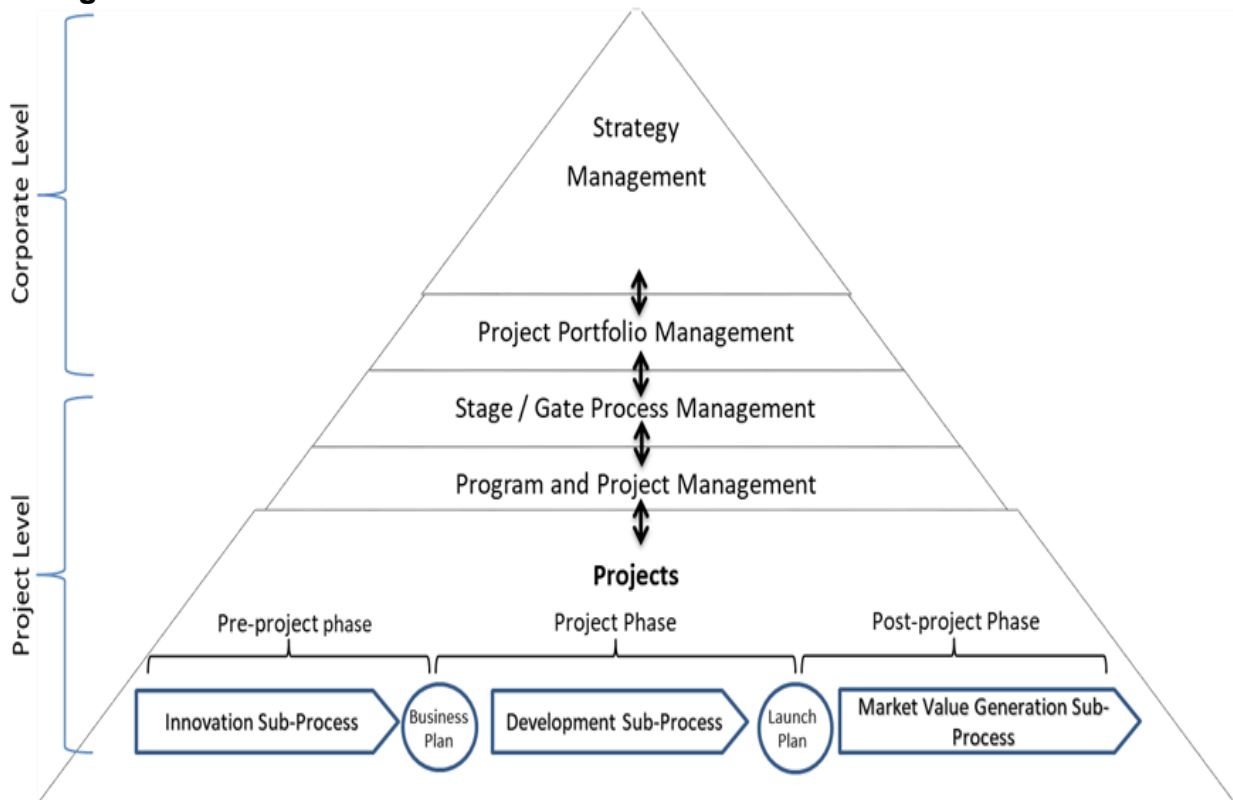
From the above definitions, it is evident that a portfolio is more concerned with long-term organisational performance than a program or a project that is more concerned with short-term goals. A portfolio is different from a program in the sense that the goals for each project in a portfolio are not the same (Kaiser, El Arbi & Ahlemann, 2015). Young and Conboy (2013) moreover pointed out that unlike projects and programs; a portfolio has no predetermined life; that is, there is no fixed starting date or fixed ending date. It is an ongoing endeavour that must be adjusted regularly to ensure that there are no deviations from the organisation’s strategy. That is, the goal is to ensure that balance and alignment throughout the life of a portfolio. Under this process, projects, both internally and externally, are managed in an effective way to avoid over and under capacitating, including missing economy of scale (Maceta & Berssaneti, 2019).

Organisations that successfully manage portfolios achieve higher returns on their investments (Arsanjani & Ershadi, 2021). The group of projects must fight for limited resources available to deliver organisation strategic objectives (Archer & Ghasemzadeh, 1999). The implementation of these portfolios usually cuts across all functions and divisions of the organisation. In other words, they are enterprise wide (Young, Owen & Connor, 2011). For large organisations, the governance of portfolios is usually the responsibility of a particular division or responsible area (Artto & Dietrich, 2007).

2.2.3 Portfolio management and Project management

Now that the clarifications regarding the three terminologies have been provided, it is essential to differentiate between the project and portfolio management. Figure 2.2 helps to illustrate the fit between the organisational strategy, portfolio management, and organisational project management.

Figure 2-2 Strategy Management through Portfolio Management and Project Management



Source: Adapted PMI (2003)

It is important to make a distinction between managing a portfolio and managing a set of related projects. The previous section described program management as a family of projects having similar goals that vie for limited resources, and are managed and controlled from within the same sponsor (Hans *et al.*, 2007; Ferns, 1991). However, having a group of independent projects is not sufficient to constitute a portfolio. Similarly, managing a single project effectively no longer guarantees higher returns or competitive advantages in today's volatile environment (Heising, 2012). Without a strategic contribution, these projects will remain just a group of projects consuming the organisation's time and resources (Cubeles-Márquez, 2008). Achieving sustainable long-term benefits requires a new order management, in the form of pro-activeness in

the management of the portfolio. Table 2.1 highlights salient features between portfolio and project management. PPM belongs to the wide perspective of managing a project-oriented organisation, which includes decision-making, prioritisation, review, realignment, and reprioritisation (Arto, Martinsuo & Aalto, 2001).

Table 2-1 Comparison between portfolio management and management of multiple projects

	Portfolio management	Management of multiple projects
Purpose	Evaluation, prioritisation of initiatives	Resource assignment
Focus	Enterprise-wide	Tactical
Planning	Takes a longer-term view	Shorter-term and quick wins
Responsibility	Top-management	Functional managers

Source: Adapted from Cubeles-Márquez (2008).

Table 2-1 indicates that the focus of portfolio management is strategic in nature (Kaiser, El Arbi & Ahlemann, 2015; Pajares & Lopez, 2014; Aubry, Sicotte, Drouin, Vidot-Delerue & Besner, 2012; Young, Young, Jordan & O'Connor, 2012). Thus, portfolio management focuses on effectiveness (Teller, Unger, Kock & Gemunden, 2012), which means executing only the “right” projects correctly. PPM is about making choices about investments. It is the vehicle that helps the organisation to translate its own strategy into actionable projects. These decisions include which projects to pursue; accelerate, or stop; and to which to commit limited resources. This simply means PPM is considered a decision-making process. Its scope goes beyond management of multiple projects and includes the entire organisation’s project portfolio in a way that maximises the impact of projects to the overall success of the organisation (PwC, 2012). It provides a bigger picture view, the link between strategy and execution with clarity of the risks involved (Rocha, 2014). It is an important step in aligning projects with business strategy (Turner & Simister, 2000). In effect, PPM is the coordination of all organisational activities, including operational activities, formal projects, and programs and the strategy. The PPM differentiates itself from traditional project management in the sense that its processes have a continuous character, and decisions made take into account the business goals (Alexandrova, 2017).

Project management, in contrast, focuses on efficiency; ensuring that projects have been executed the right way. Thus, its focus is reduced to management success of delivering on time, within budget and desired quality. Project management assumes that once the project has been completed, benefits will flow automatically (Young *et al.*, 2012). Traditional project management assumes that projects are managed by rational beings, and boundaries are defined to make it easier to plan and execute the plan with little or no changes at all (Spundak, 2014). Its focus is on operational issues such as resources allocation, scheduling, and risk management. It fails to address the issues of concern by top management, which is how the selected projects contribute to the organisational strategy (Pajares & Lopez, 2014). Project management is a specialised area in which goals, tasks, and strategies are accomplished within some defined criteria, namely the traditional project management triangle made out of three variables e.g. time, cost and scope (Srivannaboon, 2006). PPM complements project and program management as it ensures that only right projects are selected for the organisation. The selected projects are then grouped together and implemented successfully as a program. Thus, to achieve organisational aims, the organisation must excel on portfolio, program and project management (PMI, 2008). Table 2.2 summarises the goal of portfolio, program, and project management.

Table 2-2 The difference between project, program and portfolio management

Project Management	Execute projects correctly
Program Management	Execute a group of projects together
Portfolio Management	Execute only the right projects

Source: Adapted from PMI (2003)

2.2.4 Effectiveness and success of PPM

Effectiveness has been defined as achieving goals or satisfying important stakeholders (Cameron, 2015). Several studies have been commissioned to investigate effectiveness at organisational and team level (Patanakul, Curtis & Koppel, 2013). However, the development and understanding of effectiveness in PPM is still new and limited (Petro and Gardiner, 2015; & Patanakul, 2015). Patanakul (2015) considers project portfolio management effectiveness as a multifaceted concept that

involves the perceptions of various stakeholders. Ensuring that project portfolios are managed effectively is essential as they reflect the investment that the organisation has made (Petro & Gardiner, 2015; Okechukwu & Egbo, 2017). Thus, portfolio effectiveness is the assessment of the effectiveness in managing the projects in a portfolio. There is a direct link between effective management of portfolios and projects, and the success of the organisation (Grundy, 2000). This study embraced the definition of PPM effectiveness by Patanakul (2015) which states:

“...the organizational capability to 1) form a project portfolio such that the portfolio aligns with the organization's strategic direction, is adaptive to the internal and external changes, and contains projects with high perceived value or benefit, and 2) manage the portfolio to promote project visibility, transparency in decision-making, and predictability of project delivery, in order to achieve project success, short and long term value or benefits, and integrity, cohesion, and morale of the project community”.

According to the above, the actors within PPM must concern themselves with the alignment of individual projects within a portfolio. The objective of the strategy is to achieve portfolio balance in terms of resources allocations and management of risks. Individual projects must be well managed, such that information is freely available to the decision makers to enable them to assess their value or contribution to the project community at large (Enoch & Labuschagne, 2012).

In judging project portfolio success, various authors (e.g. Jonas, 2010; Heising, 2012, Cooper *et al.*, 2001; Teller *et al.*, 2012) have summarised three essential dimensions of success: strategic alignment, balance of portfolio, and maximisation of portfolio value. For achieving PPM effectiveness, Patanakul (2015) summarised the attributes of effective PPM as indicated in Table 2.3. Thus, the goals of PPM effectiveness must be assessed strategically and operationally (Patanakul, 2020). First, and strategically, the effectiveness must be viewed in terms of the organisation's ability to align its projects strategically, and to adapt to its micro and macro-environment. Second, and operationally, the effectiveness is assessed in terms of the organisation's ability to manage its portfolios, such that there is visibility on project progress; transparency; and accountability in decision-making and that the delivery of projects can be predicted

(Patanakul, 2015). Thus, portfolio success and effectiveness is a combination of how flexible the organisation and PPM processes are in responding and adjusting to the external environment, which is characterised by instability (Thorgren, Wincent & Anokhin, 2010). In other words, the context in which projects are conceptualised has a bearing on the benefits and results.

Table 2-3 Attributes of PPM effectiveness

Category of attributes	Attributes of PPM Effectiveness
Strategic attributes	<p>Strategic alignment: the fit between outcomes of the portfolios and the objectives of organisation’s strategy.</p> <p>Adaptability environmental changes: The ability to respond to the dynamics of the environmental</p> <p>Expected value: The consideration of expected value of projects in order to form a portfolio with an acceptably high expected value</p>
Operational attributes	<p>Project visibility: how projects will be monitored, reported and progress communicated to its stakeholders</p> <p>Transparency in decision-making: The proper justifications regarding decisions taken</p> <p>Predictability of project delivery: The ability to apply PPM processes and methods effectively</p>

Source: Adapted from Patanakul (2015)

Effective PPM allows more flexibility and responsiveness to challenges from the environment by being creative, innovative and focus on strategic matters (Madic, Trujic & Mihajlovic, 2011). In addition, their workforce becomes motivated and efficient. Even during a period of turbulence and instability, when it is difficult to formulate a strategy, these organisations will continue to function (Mintzberg, 1990). Thus, current approaches must be tailored to suit the environment that the organisation serves (Ika, 2012). Thus, achieving sustainable results requires organisations to meet all three pillars of sustainability; namely, social, environment and economic (Silvius & Schipper, 2014; Schipper & Silvius, 2018; Ma, Harstvedt, Jaradat & Smith, 2020). Integrating these aspects into project portfolio will influence project requirements and deliverables, thus enhancing project success. This study adopts the definition of

Patanakul (2015) and the six pillars that combine strategic and operational issues to measure effectiveness.

In his case study, Ika and Donnelly (2017) found that the framework to measure key project success conditions (such as structural, institutional and project managerial conditions) in international development (ID) projects or projects that are implemented by governments in the developing world can no longer be sufficient. Consequently, they expanded the framework to include meta-conditions such as stakeholders, collaboration, alignment, and adaption. Muriithi and Crawford (2003) believe that incorporating cultural and contextual differences will go a long way in delivering projects in Africa successfully.

Despite the availability of well-documented literature on effective portfolio management, organisations continue to experience difficulties implementing PPM. The current literature still lacks a framework to guide the achievement of effective PPM (Arsanjani & Ershadi, 2021). Portfolio failure is often caused by a lack of alignment, lack of coordination between various projects, and conflicting project objectives. This is frequently due to a lack of integration and management of interdependencies within the organisation. The consequences may include poor control, unmet deadlines, resistance to change, and benefits realisation not being met (Petro & Gardiner, 2015).

2.2.5 Formalisation for decision-making purpose

In the public sector, decision-making is usually informal and not transparent, due to the influence from government officials (e.g. politicians) and poor corporations amongst various functions of the organisations (Nielsen and Pedersen, 2014). The prioritisation of projects is sometimes chaotic and follows an unsystematic approach in the sense that it is not done in an objective and transparent manner. This calls for a need to have a dynamic and flexible PPM process to deal with the turbulent environment factors. Various studies (e.g. Martinsuo & Lehtonen, 2007; Hope & Moehler, 2014; Cooper, Edgett & Kleinschmidt, 1999) have alluded to the importance of formalising project portfolio management processes, and suggested a comprehensive formal approach. Success in a complex environment calls for a more formalised process (Hope & Moehler, 2014). Teller *et al.* (2012) revealed that in more complex portfolios, the formalisation of PPM becomes more important to achieve

success. Dutra, Ribeiro, and de Carvalho (2014) echoed the above sentiment by suggesting that organisations that use formal methods for project selection increase the chances of success. In developed countries e.g., in the US and in EU countries, organisations that have adopted formal portfolio methods seem to do better (Cooper, Edgett & Kleinschmidt, 1999).

Evidence from the literature suggests that organisations that are inclined to use formal portfolio management tools stand a better chance of achieving higher project return on investment (ROI) than those that do not (PMI, 2012). By standardizing portfolio management, organisations improve effectiveness (PMI, 2012). Aubry, *et al.* (2012) echoed this sentiment when they argued that the recent economic crisis has increased the adoption of PPM in managing multiple projects in order to derive more value from investments. A formal and effective project portfolio management process delivers many benefits to the organisation in that only the right projects are selected for implementation, and those that are selected are fully resourced and capacitated. Teller *et al.* (2012) believes that formalisation will improve transparency and accountability in the decision-making and is essential for success in more complex portfolios. For example, organisations, especially those in developed countries that have adopted formal portfolio methods seem to do better (Cooper, Edgett & Kleinschmidt, 1999).

However, not all scholars agree with these expressed views. These seem to contrast with some of the previous studies that suggested that formalisation creates barriers for innovation and may reduce creativity. For instance, Heising (2012) argued that formalisation hinder the creative process during the idea generating stage or opportunity identification stage, whereas in the latter stages, such as during project proposal writing, formalisation may become more important. The formal process is too long and time consuming and if it was followed, nothing would ever be done operationally (Heising, 2012). Young *et al.* (2012) argue that PPM is less effective when applied to the implementation of strategies unrelated to delivering new products, and questions are raised regarding whether its implementation adds value at all. PPM alone is far less effective in dealing with unstable environment and suggested that it be combined with program management in order to be effective (Young *et al.*, 2012). Heising (2012) submits that a one-size-fits-all approach does not work and suggested the need for organisations to vary their procedures during various stages of the

process. Table 2.4 outlines the benefits and problems in using formal and informal mechanisms.

Table 2-4 Benefits and problems associated with formal and informal controls

Modes of control	Potential benefits	Potential problems
Formal control (behaviour and outcome control)	Can be communicated, reused, and compared across time and space	In some cases it is demanding or impossible to formalize measures and rules
Informal control (clan and self-control)	Can reduce bureaucratic overhead in complex and frequently changing tasks	Places heavy demands on social and individual efforts of employers and employees

Source: Adopted from Hansen and Kraemmergaard (2013) and Ouchi (1979)

While there are many benefits to formal control, there are problems too. For instance, defining formal rules and measurements is difficult and therefore makes it impossible to apply a formal mechanism (Hansen & Kraemmergaard, 2013). The one size fits all approach is not adequate in all situations. For example, it will be difficult to evaluate using formal processes, such as a politician’s engagements with community (e.g. public consultations) because the discussion is usually informal and each community has different needs. Informal control mechanisms are therefore necessary to enable politicians to mobilise and educate the community. They reduce the bureaucracy necessary for formal control mechanisms and encourage collaboration amongst stakeholders. This can also delay decision-making.

2.2.6 Project Management Office (PMO)

The most common project governance structure is the program or project management office (PMO). Implementing PMOs effectively can reduce losses and uncertainty from projects (Santos & Varajão, 2015). In SOCs, where projects have multilayers and consist of various stakeholders both internally and externally, and politically driven and insufficient resources, there is a need for a robust system that can systematically integrate practices for coordinating project management efforts

(Ershadi, Jefferies, Davis & Mojtahedi, 2021). The increasing complexity in projects and the need to deliver efficient results require management practices and tools to ensure the efficient use of resources (Ershadi, Jefferies, Davis & Mojtahedi, 2021; Liberato, Varajão & Martins, 2016).

PMOs have been widely used by organisations for different reasons. On the one hand, they have been used to ensure there is effective and efficient project or program implementation. It is established in many organisations as a formal structure with centralised control and links top management and project management functions (Alexandrova, Stankova & Gelemenov, 2015). This includes ensuring that projects are well managed, well-staffed and adequately resourced, and progress is tracked and monitored. These organisations (unit) are set for large projects with the aim of assisting project managers through coordinating project activities, tracking progress, identifying dependencies and interdependencies between projects, the management of risk and issues and budget monitoring (Selepe, 2019). In this context, their roles are more tactical and operational. On the other hand, portfolio project management offices (PMO) focus on aligning projects with organisational objectives. Their function is to facilitate the effective prioritisation and selection of the portfolio of projects that will deliver benefits to the organisation. Thus, it is strategic in nature and aims to select only projects that are aligned with organisational direction. Despite the typologies, many organisations have one office, be it PPMO or PMO, which encompasses both project, program and portfolio management functions. Investing in PMOs often results in higher levels of project success (Ershadi *et al.*, 2021; Arbabi, Salehi-Taleshi & Ghods, 2020).

The function and role of PMOs should be defined according to what is considered most suitable for the organisation. As the organisation's maturity and expertise in the PMO grow, so does the role from a mere administrative function to a more value added function. A typical PMO function will include among others, project scope definition and planning; cost/benefit analysis of projects; risk and issue management; monitoring and control; progress tracking and allocating resources and expertise (Santos & Varajão, 2015). According to Ntshwene, Ssegawa and Rwelamila (2022), its purpose is to provide managerial and administrative support, resource training, and technical competencies to projects. According to Bredillet, Tywoniak and Tootoonchy (2018),

PPMO or PMO are instrumental in delivering organisational strategy through effective implementation of portfolios. To achieve effectiveness of PMO, certain conditions must be met, namely, structure, flexible framework, adequate resources, supportive and innovative culture, dynamic environment, less resistance to change, and pro-activeness by the team (Pansini & Terzieva, 2013).

Pansini and Terzieva (2013) categorised PMOs as, basic PMO, intermediate PMO, and advanced PMO. They argued that, all levels of PMO can co-exist in one organisation and further stated that maturity is not the only factor that differentiates PMO levels. In addition, they proposed seven areas of services in which PMO should function in order to ensure project success and value add to organisational processes. Figure 2.3 shows area of services.

Figure 2-3 Areas of PMO Services



Source: Adopted from Pansini, Terzieva and Morabito (2014)

If implemented properly, PMO ensures knowledge transfer between projects (Tshuma, Steyn, & Van Waveren, 2022) and fosters organisational learning. This means that knowledge is centralised, shared amongst project communities and can be converted into new procedures and processes (Arbabi, Salehi-Taleshi & Ghods, 2020). Additionally, proper implementation will ensure effective implementation of strategy, which is done through portfolio of projects (Bredillet, Tywoniak & Tootoonchy, 2018). According to Pansini, Terzieva and Morabito (2014), portfolio management usually takes a huge chunk of time and resources away from PMO. Under this area, the role of PMO includes identification of best practices and procedures and also performs the planning, coordination (resources and stakeholders), risk management and change management. This unit assists organisations to achieve strategic objectives and at the same time ensure that portfolios deliver high quality and recognize synergies. Turner (2014) posited that a PMO has a positive influence on PPM. Both are regarded as change agents and co-evolve (Bredillet, Tywoniak & Tootoonchy, 2018). Ershadi *et al.* (2021) stressed that the PMO in the public sector should focus on the PPM functions and utilisation of resources adequately over and above the compliance and oversight roles.

Despite the literature, there has been a lack of benefits realisation associated with their implementation in practice (Bredillet, Tywoniak & Tootoonchy, 2018; Aubry & Hobbs, 2011; Aubry *et al.*, 2010). The current literature has focused on the value of PMO in the private sector more specifically Europe and the USA (Santos & Varajão, 2015). In the public sector, its role and importance has not yet been fully understood. This is because unlike in the private sector, the public sector environment is more complex and consists of continuously changing dynamics, multiple project stakeholders and political dynamics that characterise the project implementation.

Aubry, Hobbs, Müller and Blomquist (2010) suggest that their adaptation to the ever rapidly changing environment has not been researched. When faced with a dynamic environment, they fail to offer alignment, fail to adapt to socio-political dynamics, are resistant to change by stakeholders, and offer low accountability (Alblooshi, Subramonian & Hussein, 2022). They continue to argue that the drivers for change such as conditions in the external and internal environment, necessitate the need for

transformation or adjustments to the existing PMOs structures. However, these transformations rarely focus on the impact on people and other internal processes. Their focus is limited to PMO characteristics or functions. For instance, many organisations still implement PMO based on the traditional project management approaches. Further, the study by Aubry and Hobbs (2011) suggests that the lifespan of PMOs is less than three years and often closes down due to unsatisfactory performances, which presents a problem.

In summary, literature suggests that the formalisation of PMOs can go a long way to improve its effectiveness. For example, implementing PMOs ensure an alignment between project portfolios and the government's existing macro targets. There is an increasing need for PMOs to transform and change in order to adapt to ever changing requirements of the macro-environment (van der Linde & Steyn, 2016). Effective PMOs will ensure a wealth of experience and lessons learned from the management of a large amount of projects and the complexity around them (Khalema, van Waveren & Chan, 2015).

2.2.7 Benefits and Challenges

The introduction of PPM has complemented the management of individual projects aimed at achieving short-term goals with that of achieving overall business strategy through portfolio management (Petro & Gardiner, 2015). Critically, PPM should answer questions about whether the organisations have invested in the right projects, whether they have implemented right projects, have adequately resourced projects, and whether they have cancelled or reprioritised those projects that are irrelevant or misaligned with the strategy. Implementing PPM comes with ample benefits, namely:

- i. Doing the right projects (Reyck *et al.*, 2005).
- ii. Making strategic choices, one route by which senior management operationalises their business strategy (Cooper, Edgett & Kleinschmidt, 1999; Hans, Herroelen Leus & Wullink, 2007).
- iii. Optimizing the organisational benefits from projects (Pedersen & Hensen, 2010).
- iv. Maximising and balancing the portfolio (Artto, Martinsuo & Aalto, 2001; Kohlborn, Korthaus & Rosemann, 2009).
- v. Aligning and linking projects to strategy (Englund & Graham, 1999).

- vi. Creating and maximising value (i.e. return on investment) (Cubeles-Márquez, 2008; Gutierrez & Magnusson, 2014).

Other benefits include 'lessons learned'; standardisation of processes; tools and practices across projects; and common criteria in scoring projects. For example, PPM offers managers a better view of the impact of project spending than a traditional distribution (Light, Rosser & Hayward, 2005). In state owned companies, where majority of projects are often challenged, implementing PPM processes may provide much needed guidance to enable the decision-makers to identify which projects to accelerate, decelerate, or terminate.

The implementation of PPM, however, has its own challenges. Part of the problem stems from the conflict between portfolio management systems conflicting with other managerial control systems (Artto & Martinsuo, 2001). McFarlan and Nolan (2003) echo similar sentiments, and argue that portfolios in various organisations are moving away from overall company objectives, resulting in ineffective utilisation of resources and with a few benefits achieved. They argue that instead of grouping and managing projects as an integrated portfolio, many organisations tend to view and manage them as a collection of individual projects. In addition, Cooper, Edgett and Kleinschmidt (1998) identified portfolio challenges, which include, mismatch between the output of projects and strategy objectives; poor mix of projects in a portfolio; insufficient and misallocations of resources; insufficient information; and political based decision-making. They also argued that portfolio management decision-making is dominated and clouded by political processes. Other scholars (e.g. Elonen & Artto, 2003), however, argued that associated problems stem mainly from poor management of portfolios. They listed six associated challenges, namely:

- i. Poor management of dependencies and interdependencies amongst projects.
- ii. Lack of competencies and methods for managing projects.
- iii. Lack of commitment and unclear roles amongst portfolio actors.
- iv. Poor execution and management of projects.
- v. Inadequate information management due to lack of transparency.
- vi. Inadequate monitoring of project related activities.

However, Weissenberger-Eibl and Teufel (2011) believed that the problems of PPM are structural, methodological, and political in nature. They argue that the current approaches have two major weaknesses: First, assume a linear approach to project planning, which disregards the underscore power-based influences towards project selection. Second, many of these approaches are rigid, and are based purely on theory, which differs from what actually happens in reality. They further suggest that the question needs to be asked to what extent the selection of projects can be regarded as purely a fight for economic resources or political relevance for survival.

In line with the thinking of various scholars (e.g. Vähäniitty, 2004; Archer & Ghasemzadeh, 1999; Janse van Rensburg & Pretorius, 2014), organisations must therefore strive for a balance between various potentially conflicting goals to achieve successful portfolio management. This could be achieved by:

- i) implementing management and governance structures to support PPM;
- ii) maximising the financial value of the portfolio;
- iii) aligning project outputs with strategy objectives;
- iv) ensuring optimal portfolio balance in terms of resource allocations as well as ensuring appropriate mix of all types of projects;
- v) ensuring sufficient risk management across portfolio; and
- vi) consistent portfolio monitoring and review and initiating corrective actions to maintain the most appropriate portfolio balance.

These goals must be achieved, even under the conditions of continuous change, as a result of volatility (Janse van Rensburg & Pretorius, 2014). Thus, there is a need to balance, not only the management of all other internal organisational functions, but the needs of the organisations with that of the external environment.

The next section discusses the PPM best practice model and stages for portfolio structuring and balancing.

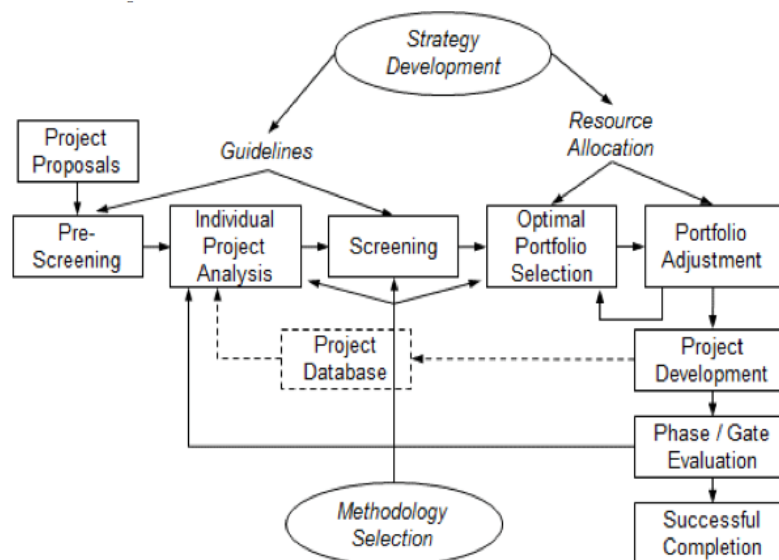
2.3 The project portfolio management process

The recent developments, high level of complexity, and failure in practice have demonstrated the need to investigate the subject of PPM. Moreover, the increased

number of projects which are questioned by society is concerning. The reasons for concern include: (i) lack of effectiveness of project portfolio governance, which includes how projects are appraised and evaluated (Serra & Kunc, 2015); (ii) the use of single methods (e.g. traditional) in assessing project success (Toor & Ogunlana, 2010); (iii) inadequacy in formulating the project's target benefit (Chih & Zwikael, 2015); (iv) excessive political interference; and (v) lengthy internal process (Medaglia *et al.*, 2008).

In an attempt to address this, the Project Management Institute (PMI) provided a comprehensive process model that links organisational strategy with project selection and implementation, as illustrated in Figure 2.4. An important consideration to make is that despite various methods proposed in the literature, none of the methods has been regarded as the most effective when selecting projects. Thus, portfolio management approaches must be tailored to suit the environment it serves (Ika, 2012). Organisations often choose methods suitable for their environment and which encompass what they consider as important attributes (Archer & Ghasemzadeh, 1999).

Figure 2-4 PPM best practice process model



Source: Adapted from Archer and Ghasemzadeh (1999); PMI (2003)

The model suggests that PPM is used by organisations to screen, evaluate and appraise proposals, prioritise and select those that support the organisation's strategy,

and simultaneously re-adjustment the portfolio and the allocation and re-allocation of resources in accordance to their importance and priority (PMI, 2003). The steps and key activities involved are summarised by PMI, and include, (i) translating organisational strategic objectives into specific initiatives; (ii) identification and initiating of projects and programs; (iii) allocation and reallocation of resources; (iv) maintaining portfolio balance; and (v) offer support to the execution of projects. The key activities were further crystallised by various authors (e.g. Nielsen & Pedersen, 2014; Beringer, Jonas & Kock, 2013; Archer & Ghasemzadeh, 1999) and grouped along the following stages:

- i) Project identification and proposal
- ii) Individual Project Analysis
- iii) Projects / Portfolio selection
- iv) Resource Allocation and relocation
- v) Performance Realisation (Evaluation of post project benefit)

Effective application of these set of steps improves chances of achieving portfolio success, which in turn results in the objectives of the organisation being realised. Reyck *et al.* (2005) concurred and stated that the effectiveness of various constraints and conflicting interests often lead to fewer problems within a portfolio. Organisations that effectively apply PPM will ensure better control and management of projects by reducing delays, over expenditure on projects, and conflict over access to limited resources.

Implementing PPM has many benefits for the organisations. For instance, PPM offers managers a better view of the impact of project spending than a traditional distribution (Light, Rosser & Hayward, 2005). It facilitates the sharing of 'lessons learned', the standardisation of processes, tools and practices across projects, common criteria in scoring projects amongst many benefits of PPM (Kock & Gemunden, 2019). Moreover, effective implementation of PPM allows timeous reactions to external environment changes; restructuring of portfolio when project status changes or there is a need to allocate and re-allocate project resources; and replication of success in projects (Young, Owen & Connor, 2011). In state owned companies, where there is an increased failure of projects, a PPM approach will aid decision-making in terms of which projects to stop, deprioritise, or slow down. It will allow the organisation to focus

on projects that are aligned to strategy, and ensure the correct allocation of scarce resources. Despite the positives, Muriithi and Crawford (2003) found that none of the current PPM methods addresses how socio-economic and socio-political factors influence the choice of methodologies used. This is dominant in developing countries. The next sections discuss what is considered to be the PPM best practice model in detail.

2.3.1 Project Identification

The ability to choose 'right' projects is an integral part of PPM. According to Patanakul (2020), this process of generating new ideas and the transparency of the process has an impact on the success of the portfolio. Similarly, this process is complex and involves an assessment and considerations of factors, both external and internal to the organisation, including the marketplace and the company's strengths and weaknesses (Archer & Ghasemzadeh, 1999). The aim is to attract and collect best possible project proposals (Corvellec & Macheridis, 2010).

Project identification in state-owned companies is characterised by taking advantage of emerging opportunities created by external environmental changes (e.g. political dynamics), and by the adoption of proactive decision-making over technical rationality (Nielsen & Pederson, 2014). Moreover, this process relies heavily on past experiences and intuitions, since there are no formalised processes. For it to succeed there must be some level of understanding of the strategy across the organisation, something that organisations fail to achieve. The process happens, first, at the micro level and second, at the macro-level. Where funding is required from government, SOCs are required to submit project proposals through a public sector annual performance plan (APP) process for tabling and evaluation to see if they qualify for funding from the state budget (Bohanec, Rajkovic, Semolic & Pogacnik, 1995). At a macro-level, government priorities also serve as an identifier of key strategic infrastructure investments that should be prioritised. Essentially, these must contribute towards solving socio-economic issues currently faced by the government. The identification and selection of key priorities is sometimes left in the hands of political heads, with limited consultation with senior executives of the state-owned companies. This is echoed by Nielsen and Pedersen's (2014), who revealed that certain projects are done primarily to comply with the request from government, which usually comes in a form of an

instruction. Developmental projects that are identified for implementation must ensure that communities directly benefit from these projects.

The first step is to evaluate proposed projects in terms of their contribution to stated business objectives (Daniel, Ward & Franken, 2011). Brook and Pagnanelli (2014) concur, going further to suggest that this process is aimed at developing a business case and deriving a meaningful judgement on the value of each project proposal submitted that will lead to effective selection decisions within resource constraints. In this process, business units are required to submit, together with their proposals, a business case describing the proposal in detail and highlighting operational benefits expected to flow from the project. This process often follows a top-down approach where senior management assumes the role of identifying initiatives. More often than not, this process is limited to organisational internal staff. In other words, the integration of external stakeholders during this process is limited to internal personnel. Very little is done to incorporate external stakeholders and their needs into the process. An enterprise-wide wish list of initiatives is then compiled and generated by the organisation's central Project Management Office (PMO) for discussion by a Central Committee. This committee consists of executives from each business unit, whose role is to endorse and approve the final portfolio to be implemented. It has been observed that committee members often disagree on the interpretation of the strategy and its objectives.

The business cases are then evaluated for risks and financial viability using criteria such as the ROI, NPV and others (Cubeles-Márquez, 2008). Projects that meet the criteria are included in the funnelling process and subsequently compared in terms of scoring criteria and funding capacity availability before being included in the final portfolio for implementation. According to Cubeles-Márquez (2008), these criteria measure risk, benefits, and strategic alignment.

2.3.2 Individual Project Evaluation and Appraisal Analysis

The next stage of the PPM process is the individual analysis project, which involves the screening and evaluation of the proposal(s) by comparing them with one another in the presence of the decision-makers (Corvellec & Macheridis, 2010). In this stage, the project's benefits are measured in terms of its individual contribution towards one

or more of the organisation's strategic objectives (Archer & Ghasemzadeh, 1999). The intention is to limit the number of proposals to be considered during the selection stage (Archer & Ghasemzadeh, 1999). Management must exercise care to avoid eliminating projects which may contribute significantly to the achievement of organisation benefits.

There are various methods and techniques commonly used, depending on the industry types, such as economic returns, also known as financial methods; cost benefits techniques; risks techniques; and business strategy. In literature, there has been no single method that has been considered better than another method and each organisation tends to use method(s) that they deem appropriate to address their most important requirements or needs (Archer & Ghasemzadeh, 1999).

However, financial methods such as Return on Original Investment (ROI), Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period (PBP) are the dominant and commonly used methods (Cooper, Edgett & Kleinschmidt, 1999; Archer & Ghasemzadeh, 1999). For instance, common sets of parameters, such as NPV and IRR, are calculated for each project. Projects are then screened with the aim of eliminating those that are not aligned with the strategic focus of the organisation and do not yield the required minimum internal rate of return.

While these techniques are useful when making decisions during the PPM process, they have been found to have common limitations (Lee *et al.*, 2008). According to Medaglia *et al.* (2008), traditional approaches present obvious problems: First, the process has no mechanism of incorporating any social aspects. Second, the dominant use of subjectivity during the scheduling process opens up an opportunity for a powerful administrator to politically influence the outcomes of the process. Third, the process's inability to present a comprehensive systematic enables decision makers to efficiently rank all projects under considerations.

However, as pointed by Archer and Ghasemzadeh (1999), the use of these techniques should be situational dependent. In other words, the methods should not be generic, but should depend on the type of the organisation or industry. For instance, an SOC may choose to use economic and cost matrix because their objectives are social in nature, while private entities may choose to focus on achieving higher financial returns.

Despite the methods used, similar types of instruments must be applied to appraise projects fairly and equally during the portfolio selection stage.

Other challenges in terms of the use of financial methods is the complex nature of mathematical calculations involved, where few people seem to have an understanding of how these final figures are arrived at. This concern is further expanded by Copper *et al.* (1999) who revealed that traditional portfolio appraisal models are highly mathematical. Very little has been discussed about selecting projects from the social perspectives. Financial techniques and decision analysis techniques, which originated from an idea of developing a financial inclined portfolio that aims to maximise profits within a set of resource constraints, continue to be prevalent (Banerjee & Hopp, 2001). Nassif *et al.* (2013) concur with this, and pointed out the vast literature available for portfolio selection when the priority is financial benefits. According to Muriithi and Crawford (2003), current methods and practices, which inherited traditional approaches, are primarily based on practitioners' experiences and perceptions of organisations in developed economies, and were developed using technical and economic rationality.

The environmental landscape in which parastatals function makes it seem impossible to attempt to apply these financial techniques alone. According to Lee *et al.* (2010), these traditional approaches are deemed inappropriate to assess the value of projects in the public sector due to its highly uncertain and dynamic environment. They have historically failed to provide adequate risk management and risk mitigation factors (Cooper, Edgett & Kleinschmidt, 1999). Moreover, they have failed to deal with multiple and related criteria, and have failed to recognise interrelationships regarding return on investment on the use of resources (Vahaniitty, 2004). They lack the dynamism to deal with real world challenges in which the objectives are not clearly defined and where it may be difficult to come up with alternative solutions (Crawford *et al.*, 2003).

2.3.3 Portfolio prioritisation and selection

The goal of each organisation is to maximise value while maintaining the alignment to strategic objectives through the effective management of project portfolios. However, there are still no universal methods or approaches into how projects should be

selected into the portfolios. Thus, project portfolio selection remains a serious problem for many organisations (Elbok & Berrado, 2017). For the purpose of this study, the terms 'selection' and 'prioritisation' are used interchangeably for decision-making purposes (Tikkanen, Kujala & Artto, 2007).

Project portfolio selection has been described as a unique process involving the selection of one or more projects from a wish-list of potential proposals under some limitations, where the final outcomes are determined by the combined value of the selected projects (Vetschera & de Almeida, 2012). Archer and Ghasemzadeh (1999) describe it as the periodic activity involved in selecting a portfolio from available project proposals and projects, to meet the organisation's stated objectives in a desirable manner without exceeding available resources or violating other constraints. Elbok and Berrado (2017: 2160) defined it "as a process that involves the assessment of a set of available project proposals in order to implement those that make it possible to achieve some strategic goals". Accordingly, organisational top-management, as the owners of the project portfolios, make fundamental decisions, such as selecting and terminating single projects in the portfolio, in order to keep the portfolio strategically focussed (Unger *et al.*, 2012).

According to Archer and Ghasemzadeh (1999), it is described as a committee process involving top management, where both the objective criteria (e.g. NPV, IRR) and subjective criteria representing the needs of various divisions on the project selection committee are combined. Projects are simultaneously compared against each other in order to arrive at the optimal ranking of the project. Projects with the highest scores in the ranking under the evaluation criteria are then included in the portfolio (Archer & Ghasemzadeh, 1999). This complex decision-making behaviour depends on various factors (Puthamont & Charoengam, 2007), such as market conditions, availability of resources, government regulations, and budget availability. According to Elbok and Berrado (2017: 2160), portfolio selection process "...looks for the best balance in terms of return, investment, risk, timing, sustainability, and other factors, depending on each organisation sector and business environment". The project portfolio selection should be a dynamic process, which combines multi-criteria decision-making methods to analyse and compare the potential successes of various projects. Sustainability,

which has three-pillars; namely, economic, environmental, and social sustainability should be central in the selection decision-making (Ma *et al.*, 2020).

However, few empirical, qualitative studies have found a positive correlation between the selection of projects and portfolio management performance (Muller, Martinsuo & Blomquist, 2008). The effective and efficient selection of projects is vital for maintaining organisational sustainability (Puthamont & Charoenngam, 2007). Selectors are expected to be honest, systematic, and competent in the whole process of appraisal and should take into account the diversity of interest and values related to the general and public welfare. That is, they have a moral obligation to design and manage a selection process that combines, in its various stages, openness with correctness and integrity. In conditions of uncertainty, this process becomes extremely complicated by insufficient information, which may lead to unreliable decision-making (Oh, Yang & Lee, 2012).

In public sector, decision-making is complex and involves multiple stages. For instance, the prioritisation effort often takes political posture. In fact, Nielsen and Pedersen (2014) revealed that prioritization is often based on political or individual interest, the ability of one to influence other actors, and negotiation skills. Resource allocation between simultaneous and successive projects has become more difficult and involves a process of bargaining, where powerful individuals influence decisions regarding which project within the portfolio gets resources (Engwall & Jebrant, 2003). The turn of events seems to suggest that the structured nature of these institutions (e.g. they are state-owned and politically influenced) may be the reason why politicking becomes a dominant feature in portfolio and project selection.

Furthermore, where it has been found that political dynamics are not warranted, it has been established that organisational skills level and maturity in terms of the capacity to effectively apply PPM practices falls short. There is a lack of consistent or standardised process that guides decision-making. This has also been echoed by Nielsen and Pedersen (2014) who revealed that in public sectors, there has been very little knowledge and understanding about PPM practices, or the decision-making practises that characterise PPM decision-making. In most cases, decision-making is reduced to manager's intuition, common sense, emotions, political patronage

(Madonsela, 2019). Yanwen (2012) argues that the introduction of formalised processes and structured management technique in the working habits of developing countries has not yet been accepted.

The problems associated with project selection are multi-folds. Tavana, Keramatpour, Santos-Arteaga and Ghorbaniane (2015) and Santos (1999) argued that project selection problems hinge on estimations of project value. However, in the public sector these benefits are often overlooked when considering project value because they highlight non-financial benefits. Tavana *et al.* (2015) added that ignoring project interdependence often results in poor project selection. Amaral and Araujo (2009) identified several common problems associated with portfolio selections:

- i) Lack of a strategic link between project and strategy.
- ii) Poor project mix in a portfolio.
- iii) Reluctance to terminate projects due to patronage.
- iv) Lack of resources and commitment from key stakeholders.
- v) Selection of quick wins over complex long-term projects associated with benefits to the organisations.
- vi) Lack of information available for decision-making.
- vii) Decision-making based on power and influence.

Another problem associated with portfolio selection is that this process is seldom seen as a dynamic process that should be revisited and reviewed by management take into considerations continuous changes effected by the environment (Cadorin & Darwish, 2015). Senior management of many organisations treat this process as static, and continue to implement projects and portfolio, regardless of changes to the strategic direction or of unfavourable conditions (Cooper, Edgett & Kleinschmidt, 2000).

There are various criteria for selecting projects. Some models distinguish between financial and non-financial models, whereas others prefer to use numeric and non-numeric methods (Corvellec & Macheridis, 2010). Some of the following popular portfolio selection techniques include ad-hoc comparative approaches; scoring models using a relatively small number of decision criteria, such as cost, work force availability, and probability of technical success to reflect project desirability; and

portfolio matrices, which can be, used as strategic decision-making tools (Archer & Ghasemzadeh, 1999).

Moreover, current literature has been expanded to cover various aspects of risk, strategic alignment, and interdependencies between projects. Despite these enhancements, there is little evidence to suggest that these approaches have yielded positive results, and no single method appears to provide the universal answer (Vahaniitty, 2004; Reyck *et al.*, 2005). Thus, none of the mentioned techniques are adequate, or comprehensive enough, to address the problems of project portfolio selection (Elbok & Berrado, 2017). For example, despite supporting the optimisation process and incorporating project interactions (dependencies and constraints) in their processes, they are also based on mathematical programming and their emphasis is likely to be on the projects that deliver more financial returns (e.g. NPV). Martinsons, Davison and Tse (1999) believe that they are best suited to measure the value of simple information technology applications, such as transaction processing and office automation systems. They are likely to produce a financial efficient portfolio. There has been limited anecdotal evidence on their success within the public sector (Petrinska-Labudovikj, 2014; Buys & Stander, 2010). The one-size fits-all perspective in PPM remains a challenge, especially in public entities, due to their different strategic focus versus that of the private sector. Traditional project management seems to lack sufficient guidelines to deal with socio-economic factors (e.g. poverty, inequality, and unemployment) and the unsustainable use of resources (Hope & Moehler, 2014). Moreover, they neglect underlying political dynamics of project selection (Weissenberger-Eibl & Teufel, 2011). These models, according to Gutierrez and Magnusson (2013), are context specific and cannot be applied in every environment. They are most likely to work in an environment that is stable, where technical rationality decision-making is possible.

To address this, several methods have been introduced to attempt to solve the issue of evaluating and selecting projects under the conditions in which parastatals operate. Successful organisations have had to employ an average of three or more methods, or a combination of different methods (e.g. financial methods, strategic approaches, and scoring models) per business (Cooper, Edgett & Kleinschmidt, 1999). Medaglia *et al.* (2008) suggested that an effective approach should consider three sets of indices

– economic, financial, and social. In fact, they should address the triple constraints of government (National Planning Commission, 2011b). Those that have adopted and installed a systematic, explicit PPM system with clear rules and procedures that are consistent and applied across the entire organisational portfolio are clear winners (Cooper, Edgett & Kleinschmidt, 2001). Young, Owen and Connor (2011) maintain that a new, comprehensive set of tools is needed to dynamically structure and balance portfolios being undertaken in the organisation, whilst also providing a clear priority for the allocation of the limited pool of available resources. The absence of a rigorous approach is devastating. Thus, projects that are attractive in the eyes of the few, but add no significant value towards the organisation's strategic goals and the government's macro-economic goals will continue to be implemented. In fact, Cooper, Edgett and Kleinschmidt (2000) revealed that in the absence of objective criteria for selection, decisions become irrational and political instead of being objective and factual. Projects chosen under these conditions often experience significant budget overruns, late deliveries, and overwhelming rejection from the society.

2.3.4 Resource allocation

Various studies have been commissioned to investigate the impact of human resources on organisational performance. Zhu, Sarkis and Lai (2013) argued that organisational effectiveness is linked to how well the organisation uses its resources. Failure to understand and integrate human resource management into organisational functions such as PPM could hinder the financial performance of the organisation. Human resource practitioners must embrace the importance of PPM in how it relates and interconnects to other organisational functions and to organisational performance. This will enable them to develop effective on-board human resources that match the requirements of portfolios. However, unlike with individual project, the allocation of resources within PPM is not simply staffing of human resources to projects. It involves the management of project interdependencies between multiple projects (Nielsen & Pedersen, 2014; Beringer, Jonas & Kock, 2013). PPM is more concerned with managing the resources, constraints, and dependencies related to completing projects and achieving the expected benefits (Engwall & Jerbrant, 2003). Under this process, projects compete with one another for limited resources available (Dutra, Ribeiro & de Carvalho, 2014). For instance, to avoid delays and incomplete projects, resources should be allocated to projects according to their importance to the organisation. This

notion was reinforced by Young, Owen, and Connor (2011), who argued that small or low profile projects should not be dismissed based on ranking because they might be found to be impacting (dependencies) on high profile and priority projects.

Typically, projects that have shown higher scoring financial ratings are allocated scarce resources, which include project budget and human resources, followed by those that are strategically aligned. However, in a public sector setting, which experiences continuous changes, human resource management policies and practices and decision-making are not linear and rational. There are little, if any, criteria or systematic approaches to follow regarding how resources are assigned. This is partly because the allocation of resources in this environment is often influenced by factors such as political, legal, technological, and social aspects (Zhu, Sarkis, & Lai, 2013). The challenge is even more complex in state-owned companies on the African continent because state-owned companies are characterised by poor governance, shortage of skills, and a pressing needs for scarce skills. There is a shortage of project management institutional capacity and experience in developing countries (Ika, 2012). This observation is in line with studies by Kissi and Ansah (2014) and Rwelamila and Purushottam (2012), which found that project and portfolio management competencies in the African continent are still inadequate. Despite the shortage of skills, Madonsela (2019) suggested that there must be appeal mechanisms in place to guard against nepotisms and cronyism when appointing portfolio actors. Appointments must be based on merit. Muriithi and Crawford (2003) suggested that competition for resources in projects should consider the needs of government, regulations, and the needs of the society at large. Thus, projects that highlight benefits and which address socio-economic challenges must be prioritised (National Planning Commission, 2011b). This is in line with the views of Ika and Saint-Macary (2014) who argued for an African project management approach that is aligned with African values and culture.

2.3.5 Portfolio Performance Measurement and Monitoring

The pressure to meet societal needs within more restricted budgets, and the need for transparency and justifications regarding the decisions taken to fund projects have resulted in performance measurement becoming a critical component of project management in state-owned companies (Chih & Zwikael, 2015; Toor & Ongunlana,

2010). The demands and pressures placed on SOCs to assist government in providing services to its citizens are increasing with large projects being monitored closely. Moreover, the increased failure in key strategic projects in the public sector, have necessitated the additional challenge of ensuring transparency, due to the public funds that are used. Performance measurement is slowly moving away from traditional measures (Locatelli, Mancini & Romano, 2014) towards a mix of quantitative and qualitative measures (Toor & Ongunlana, 2010).

In implementing policy change programs for ensuring sustainable development, SOCs must remain accountable and transparent to broader stakeholders (Crawford & Helm, 2009; Aarseth, Ahola, Aaltonen, Okland, Andersen, 2017). Elonen and Artto (2003) revealed that progress in public institutions is infrequent and that the methods available for portfolio evaluation are inadequate. Corporate governance provides the structures within which the organisations objectives are set, measured and monitored (Rocha, 2014). Although there is a need for standards, applying these across a wide range of legal, economic, and social systems has proven to be a difficult task (Rocha, 2014). Rocha (2014) went on to argue that capacity is often unavailable and that there are not enough incentives available for motivation. Despite this, SOCs must still deliver these stretched goals even under the difficult conditions of a lack of resources.

Improving the quality of life in communities through projects and actions are the primary concerns of state-owned companies (Medaglia *et al.*, 2008). The performance of these organisations is associated strongly with the successful realisation of projects benefits and customer satisfaction (Berssaneti & Carvalho, 2015; Pinto & Slevin, 1998).

Beyond project investment, appraisal, selection, and allocation of resources, portfolios need to be appropriately guided if they are to achieve the expected goals and outcomes of senior management and stakeholders. Performance is enhanced by effective performance monitoring and accountability because state-owned companies are publicly funded and calls are made for transparency and accountability (Kikeri, 2018). However, there are serious problems with current monitoring systems in the public sector, including poorly defined key performance indicators; greater focus and emphasis on compliance than strategic focus and performance; lack of technical

competencies; lack of a reporting template; non-existence performance management; and the absence of governance structures to set performance targets and to monitor and evaluate. This step involves ongoing monitoring and tracking of portfolio performance, including measuring benefits to ensure there is an alignment between what has been planned with what is being delivered. Portfolio governance meetings provide structures that facilitate effective monitoring of portfolios to ensure that they remain aligned with organisational strategy (Artto & Dietrich, 2007). Steering committee also deals with continuous analysis of project portfolio and assessment of risks (Patel, 2009). Fundamental to this step is that new proposals continually become project candidates that must be included in a portfolio whilst others are removed due to under-delivery, and in some cases due to a different strategy direction being undertaken by the organisation (Pajares & Lopez, 2014). Projects that are underperforming are analysed, including the causes, corrective actions are taken, and decisions are taken for on-going investments (Sanchez & Robert, 2010).

The portfolio progress is continuously monitored in order to make corrective actions timeously if needed. According to Artto and Dietrich (2007), portfolio reviews should be organised a couple of times a year, and their focus should be on dealing with strategic matters, which involves planning for the future and assessing the performance of the portfolio. Pajares and Lopez (2014: 647) described the purpose of portfolio monitoring as to establish whether project outputs are still aligned with the objectives of the organisation to facilitate corrective action, which may include resource allocations, re-scheduling of activities, stopping of projects or fast racking of project activities. Rocha (2014) agrees, but cautions against evaluating and monitoring performance during portfolio executions only. He argues that performance evaluation and monitoring is usually an ongoing process to ensure effective portfolio success. Moreover, the importance of monitoring is to further ensure that the portfolio is in harmony with the strategy. In agreement with this view, de Oliveira Lacerda, Ensslin, and Ensslin (2011) confirm that projects must be continuously measured by its strategic contribution and not only in its approval. Put slightly differently, but in agreement, project portfolio monitoring and optimisation is about tracking, monitoring, and analysing how the portfolio develops, and about optimizing the portfolio through corrective actions that reprioritise changes or stop ongoing projects and start new projects (Pedersen & Hansen, 2010). Muller, Martinsuo and Blomquist (2008) cited

portfolio steering, which entails structuring of portfolio, resource optimisation, portfolio tracking, and organisation learning as another important objective of project portfolio management. Lessons learned are captured for the improvements of the PPM process prior to the next budget cycle.

2.3.6 Project Success and Benefits Realisation Management

2.3.6.1 Project Success

Despite extensive literature and research work done on the topic of project management, there is still no consensus on the definition of what 'project success' is (Ika & Pinto, 2022; Zwikael & Meredith, 2021). The concept of project success is still vague and difficult to define and measure as a result of its multifaceted dimension (Pinto, Davis, Ika, Jugdev & Zwikael, 2021). The understanding of what constitutes the success of a project remains subject to interpretations and the expectations of different stakeholders. Thus, it is relative (Bhuinyan, Gadekar, Agrawal, Basak & Raut, 2019). In the public sector, the defining is left to individual interpretations. Described by Pinto *et al.* (2022: 831) as success that "...captures a variety of perspectives and contingency variables, including who is making the assessment, when they are making the assessment, on what criteria they are basing their appraisal, and what type of project is being evaluated, not to mention where or in which context the project is being delivered". In line with such understanding, there is a constant need to re-examine the definition of project success since project requirements and societal needs change all the time (Lundin, Arvidsson, Brady, Ekstedt & Midler, 2015).

Traditionally, methods and techniques adopted to measure success often prioritise efficiency rather than effectiveness aspects and are measured according to project management 'iron triangle' variables. Consequently, a project is deemed successful when specific objectives that have a start and end date have been realised (Munns & Bjeirmi, 1996) and in accordance with specification (Ogunlana, 2009). Albeit often criticised, these dimensions remain central to the measurement of project success and have a level of support from authors (Munns & Bjeirmi, 1996).

However, the measurement of project success has evolved over time from unidimensional and simplistic accounts to more multifaceted, holistic and dynamic models (Pinto *et al.*, 2021; 2022). Defining project success should not be simplified to

mean just the balance of golden project management triangle variables or constraints (e.g. time, cost, and scope). Table 2.5 summarises the evolution of definition of the project success.

Table 2-5 Evolution of project success dimensions

Scholars	Success Dimensions
Munns and Bjeirmi (1996)	Start and end date achieved
Pinto and Slevin (1998)	Customer and stakeholders satisfaction
Ogunlana (2009).	Adherence to specification; time and cost
Shenhar, Dvir, Levy and Maltz (2001)	Project management triangle; customer satisfaction; strategy and preparing for the future
Milosevic and Patanakul (2005)	Stakeholders needs met
Frinsdorf, Zuo and Xia (2014)	Culture, integration, skills and competencies, portfolio balance, project dependencies and interdependencies management
Steyn and Stoker (2014)	Safe working processes, and environment and legislation compliance
Ika and Donnelly (2017)	Stakeholders involvement, collaboration, alignment, and adaption
Carvalho and Rabechini (2017)	Environment, community or society, sustainability and triple bottom line success
Ika and Pinto (2022)	Benefits realisation, stakeholder perceptions, timing, and sustainability
Zwikael and Meredith (2021)	Achieving diverse stakeholders, environmental and societal impact requirements

Source: Compiled by researcher

Ika and Pinto (2022) argued that project success should meet four multidimensionality sources, namely, benefits realisation, stakeholder perceptions, issues of timing, and sustainability. According to Ika and Donnelly (2017), project success framework

conditions (e.g. structural, institutional, and managerial conditions) should be expanded to build a more comprehensive framework, which included additional meta-conditions, such as stakeholders, collaboration, alignment, and adaptation. Frinsdorf, Zuo and Xia's (2014) framework included adaptability to external factors such as culture, integration, skills and competencies within the organisation, portfolio balance, and project dependencies and interdependencies management. Milosevic and Patanakul (2005) suggested the inclusion of the interest of diversity of stakeholders as a measure of project success. They argued that customer satisfaction and overall satisfaction of stakeholders is key, and should be considered in performance evaluation criteria (Pinto & Slevin, 1998). Managing the expectations of stakeholders is critical in measuring success (Ika & Pinto, 2022). The expectations and requirements of stakeholders include adherence to safe working processes, and compliance with the environment and legislation over and above time and costs (Steyn & Stoker, 2014). Recently, Zwikael and Meredith (2021) highlighted that success should be focused on achieving the requirements of diverse stakeholders, and the environmental and societal impact while Carvalho and Rabechini (2017) noted the impact on environment, community, or society, sustainability and triple bottom line success. The latter suggested that project success contributes positively to social and environmental performance.

Despite these improvements, there has never been a measuring instrument that holistically incorporates all these factors. In support, Ika and Pinto (2022) argued that single success models have not been devised that have unanimously been accepted by all key stakeholders, both internally and externally. Addressing this challenge, Serra and Kunc (2015) provided steps on how to measure and evaluate project success. They argued that this can be done in two steps, usually called appraisal (which is usually at the beginning of each project), and evaluation (which occurs at the end of the project to identify project success or failure). Shenhar, Dvir, Levy and Maltz (2001) suggested that project success assessment should consider at least four major attributes, including how well the project has been delivered; how well the project deliverables meet and exceed customer requirements; how impactful the deliverables are to the organisation's strategy and preparing for the future. Zwikael and Meredith (2021) developed a generic model to measure success which is universal and applicable to all project types. They posit that the success of any project can be

measured through three distinct dimensions, namely, (i) performance evaluation of the project manager in meeting the requirements of the project charter; (ii) performance evaluation of the project owner in realising benefits as stipulated in the charter; and (iii) evaluation of the project return on investment for its funder.

In light of the above, and the fact that there is still no agreement of common criteria regarding project success, projects in African countries, where they are often used by politicians as an instrument to deliver promises to their constituencies will continue to suffer. Projects would continue to be implemented (included in portfolio) for delivery despite not meeting the requirements of broad definition. This gap in literature and in practice may breed corruption as politicians and political parties use projects as a vehicle to advance corruption or selfish interests (Smith, 2010).

2.3.6.2 Benefits Realisation Management

Benefits realisation management has been identified as a key element of the portfolio performance management process (Brook & Pagnanelli, 2014). The focus is on selecting data from different functional units to assess the value created by implementing the portfolio. Data collected can be used to provide insight, for example, into the utilisation of resources, and achievements with respect to environmental, social, and economic sustainability (Brook & Pagnanelli, 2014). The creation of value for business depends strongly on programs and projects delivering the expected benefits to the organisation (Serra & Kunc, 2015). In the case of the public sector, value is derived from providing services that are beneficial to society in an efficient and effective manner.

Despite the importance of this, very little is known about how projects benefits should be formulated and even less about how they should be appraised (Chih & Zwikael, 2015). The traditional output that focused on project management measures of the golden triangle are no longer adequate for measuring project value (Maier & Branzei, 2014) on mega developmental projects (Toor & Ongunlana, 2010) because they neglect the importance of project benefit realisation (Chih & Zwikael, 2015). Vos and Kock (2013: 857) point out that "...with rising portfolio complexity in a more technologically turbulent environment, the positive effect of the creation of relationship value for the customer becomes even stronger". They argued that the creation of

relationship value enhances portfolio success. In the context of this study, and owing to their mandate, public institutions' primary objectives should be to deliver value to its citizens. Selecting and aligning project objectives with that of society could go a long way in ensuring that there is an alignment of expectation between the outcomes of the portfolio and the expectations of citizens.

What is concerning is that although this process has been tested successfully in the private sector, no evidence of application can be found in public sector institutions. Researchers (e.g. Artto & Martinsuo, 2001) have pointed out the gaps in the current literature. According to these authors, the literature fails to provide insight into whether portfolio management should be considered in organisations where strategy is not at all clear or where the environment is in constant turbulence, and where resources are inadequate.

2.4 Integrated Development Management System

In South Africa, the National Treasury (NT) together with the Construction Industry Development Board (CIDB) introduced the Integrated Development Management System (IDMS) system to assist government departments and other public sector organisations in implementing infrastructure delivery. The IDMS was conceptualised to help government departments in the procurement and delivery of infrastructure projects. It encompasses processes related to the delivery of construction related activities, from procurement planning to the disposal of such assets (CIDB, 2010). Like many systems and framework, the IDMS has evolved from just being an asset acquisition system, to include systems such as an infrastructure planning system; an infrastructure gateway system (IGS); a construction procurement system (CPS); a programme and project management system, to an operations and maintenance system. To effectively comply with National Treasury regulations, the IDMS has embedded the government Medium Term Expenditure Framework (MTEF) in its systems (Watermeyer *et al.*, 2012).

Although National Treasury and CIDB have proposed IDMS as a possible solution to government departments and to public sector organisations, this guideline has not yet fully been institutionalized in most departments and has not yet been extended to

state-owned companies such as parastatals which operate as going concerns (business entities) (Sirbadhoo, 2021). Thus, IDMS has made good progress when implemented through provincial departments and national treasuries (Sirbadhoo, 2021). The guidelines, although they include aspects of portfolio management, appear to have been built with infrastructure projects (e.g. construction-related projects or procurement of assets) in mind. Moreover, when it comes to portfolio management, the guidelines lack specifics or details of what transpires during the portfolio structuring and balancing. Thus, IDMS is silent on the external dynamics surrounding the decision-making about portfolio selection. Its main focus is on the management and operationalisation of the infrastructure procured. This was explained by Haupt and Awuzie (2021), who concurred and suggested that more fine-tuning is required for IDMS before it guarantees effective implementation. For example, Rajaram, Le, Biletska and Brumby (2010) discovered that an independent review for appraisal of projects will go a long way to reduce bias in the development of project proposals due to overestimating of benefits or under estimating of costs. They also suggested that for IDMS to achieve some sort of successes, government departments adopting the system ought to be at level 5 of project maturity. However, the majority of government departments are currently at level 3 or 4 maturity, with a lack of skills and capacity (Watermeyer *et al.*, 2012).

Just like many traditional approaches, one of the most fundamental weaknesses of IDMS is that it makes the assumption that there will be insignificant changes to the environment until the next MTEF annual review and that individual projects are capable of addressing all uncertainties during execution (Petit, 2012). This means that project prioritisation can happen annually and not as and when required or dictated by a change in the environment. Moreover, the process of MTEF also means that projects that are implemented are dependent on the availability of funds. This means that an emergent and important project will have to be held over for implementation until the new MTEF budget for the subsequent financial year has been completed (Rajaram, Le, Biletska & Brumby, 2010). This is because the project resources and budget have already been allocated or exhausted. This process dictates that projects that have not been completed within the financial fiscal year must follow a lengthy MTEF process, by which time the strategy may have changed. Rajaram *et al.* (2010) argue that there should be some flexibility on the project budget adjustment that will allow changes to

take effect should strategy or circumstances changes. For instance, they argued that there should be mechanisms through an approval process to recast the project, or even stop the budget disbursement should the project no longer be beneficial.

The funding review process should include some flexibility to allow changes in the disbursement profile to take account of changes in project circumstances. For instance, if events transpire that make a project no longer incrementally beneficial, there should be a mechanism via the funding approval process or the monitoring process to request project sponsors to recast the project, or even to halt disbursements. Thus, the decision making in the IDMS follows a formal control mechanism. This can be a cause of concern for the public sector because of changes that occur all the time. A potential problem in applying formal mechanisms is that they can be impossible to establish because formalized rules and measurements cannot be defined (Hansen & Kræmmergaard, 2013). The one size fits all approach can only work for environment that are stable. The use of informal mechanisms has advantages in the public sector. Hansen and Kræmmergaard (2013) argue that the use of informal mechanisms reduces bureaucracy and ensures that there is trust and collaborations amongst various stakeholders (including community) and shared values amongst them. Despite these benefits, too many people involved in the decision making process may create bottlenecks in the process because the decision must satisfy larger groups (Ouchi, 1979).

Like many other National Treasury procurement guidelines, the IDMS assumes cost minimisation as the basis for ranking and awarding tenders or contracts. This type of criteria does not necessary result in selecting the most efficient solution in the African environment where there are many other important indicators besides cost (Muriithi & Crawford, 2003). Thus, these systems or framework place emphasis on price rather than the total cost of ownership (TCO) and do not encourage partnerships and relationship building with key industry suppliers. It is seen as a stand-alone concept governed by countries' laws and regulations governing procurement, and as a result is deemed rigid and inflexible (Manyathi, Burger & Moritmer, 2021)

2.5 Chapter Summary

This chapter provided a literature review related to PPM concepts and processes. The aim was a thorough exploration of the literature in the field of PPM, with the emphasis on highlighting the gaps in literature and in practice. The chapter also discussed common project governance structures, such as PMO, and how they can reduce the complexity and uncertainties that surround project implementation. The literature review suggests that there must be a dynamic and robust structure that can systematically integrate all practices and functions for managing projects within the organisation to ensure efficient use of limited resources (Davis & Mojtahedi, 2021). If well supported and adequately resourced, PMO can achieve that.

The literature discussions revealed that organisations are facing difficulties when structuring and balancing portfolios. Current evaluation tools and techniques are inadequate or insufficient when applied to the public sector environment. First, literature sources indicated that appraisal techniques seem to be insufficient to evaluate and to quantify social and development related projects. Hence, there is a need to expand current techniques to include sustainability pillars such as economic, environmental, political and social issues. Second, the current methods fail to systematically on-board resources, and decision-making regarding the allocation of resources is political and based on non-scientifically proven methods. Crucially, the review of literature found that developing countries experience a shortage of project management human resources. Third, the governance around projects are weak, as is characterized by poor portfolios tracking and monitoring for performance.

The chapter ends with the discussion and evaluation of the IDMS framework introduced by National Treasury to facilitate the structuring and implementation of portfolios in the public organisation. The review of the existing literature on IDMS framework revealed that despite good intentions by government, the IDMS still fall short as an effective tool that can be used for portfolio implementation. There are similarities between the framework and the traditional approaches which have been criticized for being rigid and for lacking the dynamism required in the SOC environment.

The next chapter explores the external environment in which SOCs operates. The focus is on identifying and classifying factors that impact the effectiveness of PPM.

CHAPTER 3 : PPM IN PUBLIC SECTOR ENVIRONMENT

3.1 Introduction

This chapter discusses key environmental aspects or factors that characterise PPM in the public sector. First, the chapter begins with discussion about the portfolio management within the SOC. A differentiation between SOC and Non-SOCs was provided in order to dissect key attributes or factors that distinguish these sectors.

Second, it then explores the macro-environment in which the SOC operates which is characterised by volatility and instabilities. The discussion centred around two important constructs, namely, the complexity and uncertainty in projects and how these two constructs affected project and portfolio effectiveness.

The third part of the chapter discusses the concept of 'strategy' and its significance to PPM. The discussion focuses on the importance of portfolio alignment, and further highlights impediments that could potentially hamper its achievement. It has been widely accepted that organisations that achieve strategic alignment stand a better chance of achieving success.

Fourth section discusses macro-environment factors that influence decision-making in the organisation. This includes a discussion about the role of various stakeholders (such as government officials and politicians) during decision-making and how these impact the effectiveness of PPM. Importantly, how the uncertainty and volatility in the external environment makes it difficult to keep portfolios aligned is discussed. Understanding these aspects is critical for achieving performance effectiveness. The chapter ends with a discussion about the extent of PPM literature in Africa.

3.2 PPM in the Public and Private Sector

The SOC environment is different when compared to non-SOC though there are few similarities. The similarities relate to how the management functions, while the distinct difference relates to conditions or constraints through which managers operates (Santos & Varajão, 2015). As the term 'public' suggests, the public sector is owned by

members of communities, who usually belong to political parties; unlike the private sector, where entities are owned by shareholders. Jalocho, Krane, Ekambaram and Prawelska-Skrzypek (2014) identified four key features that differentiate the public sector from the private sector. First, the public sector differs from the private sector due to complexity. That is, it consists of various stakeholders, each of whom comes with different expectations and demands. Second, permeability – the extent to which these organisations are influenced by the events that happen in the macro environment. Third, instability - SOCs operate in an unstable environment characterised by political dynamics, which usually results in frequent policy changes making it difficult for managers to deliver strategy. Lastly, absence of competition - SOCs often have little competition or rivals for the services they offer. Table 3.1 shows the salient features that differentiate public companies from the private sector.

Table 3-1 Summary of PPM characteristics between Public and Private Sector organisations

	Public Entity	Private Entity
Funding	Public funded (government or donors)	Private funders (Directors, Bank etc.)
Goal	Political, Social	Profit driven
Shareholders	Funders, implementers, public	Owners
Decision-making	Political, irrational, subjective, long	Technical rationality, objective, strict processes
Delivery period	Long	Short
Processes	rigid, bureaucratic	Lean, agile

Source: Compiled by researcher

The goals of public sector enterprises are often vague due to political interference in the setting of strategy. In other words, managers or portfolio actor's opinions are often overlooked due to political process when key projects and programs are chosen (Jalocho *et al.*, 2014). The pursuit of effectiveness or superior performance is often hindered by red tape and the excessive need to comply to regulations and laws that slow-down decision-making (Jalocho *et al.*, 2014).

Projects in this sector often produce intangible outcomes and consist of a multitude of stakeholders often with conflicting interests. For example, project stakeholders in the public sector can be categorised as, first; the sponsor who provides funding (e.g. government); second, the executor who executes the project; and third, the beneficiaries who benefits from the project deliverables (Ika and Hodgson, 2014; Ika, 2012). Moreover, project goals in the public sector are non-profit by nature, aimed at achieving socio-political mileage, as opposed to the private sector, where projects are focused on profit (Diallo & Thuillier, 2004). The decision-making process is also characterized by political interference, manipulations and often misrepresentation of project facts (e.g. lowering costs or overstating benefits). These projects are often public knowledge and are subjected to media scrutiny because they are funded by the public purse. In contrast, private projects consist of only the investor who funds and benefits from the project and the implementers who execute the project.

According to studies by Wal, Graaf and Lasthuizen (2008, 2011), there are competing values in public and private sectors. The value of pursuing an important value in governance for example, often results in the neglect of other pursuits (Wal, Graaf & Lasthuizen, 2008). Public sector actors are faced with conflicting choices on a daily basis of what is important. *“Questions on the conflict between efficient, effective and responsive public management on the one hand, and lawful, ethical and impartial on the other, often surface in contemporary academic discussions on governance, in debates on New Public Management (NPM) or more recently, good governance and public values, but are rarely answered empirically”* (Wal, Graaf & Lasthuizen, 2011: 4). More than ever, there are added responsibilities in the hands of public sector actors. For instance, in public policy implementation, achieving equality and efficiency often conflict with each other. Public actors cannot use efficiency as the basis to deliver performance due to the targets and goals that SOCs are expected to deliver (Jalocha *et al.*, 2014). They are expected to be moral, impartial, transparent, incorruptible and ethical, while still expected to deliver efficiency. The priorities in private sector values are profitability, accountability, reliability, effectiveness, expertise, efficiency, honesty and innovativeness (Jalocha *et al.*, 2014). Any violations often result in serious repercussions. In reality, this tension of competing value over time results in managers cutting corners to achieve success while sacrificing integrity and transparency.

3.3 Understanding Complexity and Uncertainty in PPM

This chapter will discuss complexities and uncertainties literature and further highlights the impact these two constructs have in projects.

3.3.1 Complexity

Complexity forced management to constantly develop new unconventional solutions to respond effectively to these changes. Complexity influences the structure of the organisation and the decision-making approaches. This is despite the fact that there is no consensus amongst scholars on the definition of what complexity in project is. For example, many scholars have viewed complexity as varied items that are interrelated (Baccarini, 1996). Other scholars such as, Sommer and Loch (2004) regard complexity as unforeseeable uncertainty. This classification of complexity equate complexity with uncertainty in projects, while others, e.g., Pich *et al* (2002) regard it as information inadequacy. This uncertainty varies from foreseeable and unforeseeable uncertainty to chaos (De Meyer, Loch & Pich, 2002). However, other scholars associate uncertainty with unknown variables, as part of complexity. Thus, the definition of complexity as argued in literature can be categorised into three constructs: (i) complexity as a component of uncertainty, (ii) uncertainty as a component of complexity, and (iii) independent of the two constructs (Padalkar & Gopinath, 2016).

Various scholars (e.g. Brady & Davies, 2014) have blamed complexity and attributed failure by many organisations to manage it as a real cause for large project failures. Scholars (e.g. Brady & Davies, 2014; Bosch-Rekveltdt, Jongkind, Mooi, Bakker & Verbraeck, 2011) have characterised the complexity of large infrastructure projects into three main pillars, namely, (i) technical, (ii) organisational, and (iii) environmental. For instance, technical complexity refers to project objectives, scope and activities that must be performed in a project. Organisational complexity includes the composition of the projects, which includes the size, resources available, team, and trust. Environmental complexity includes stakeholder's perceptions, socio-economic, and political conditions (Brady & Davies, 2014). All these types of complexities pose risks and uncertainty in a project. Knowing the footprint of complexity can assist the

organisations to make correct choices. For example, a technical or engineering project might need skills sets that are different to a project that has environmental complexities (Brady & Davies, 2014). In trying to assist organisation to make informed choices when faced with complexity, Maylor and Williams (2011) have suggested a contingency framework that consists of five dimensions, namely, structural, uncertainty, dynamics, pace, and socio-political complexity. Table 3.2 shows the impact complexity has on projects.

The framework is built from previous contingency theories and offers a comprehensive analysis of complexity in projects. In their analysis of this framework, Bradley and Davies (2014) grouped the five dimensions into two main categories, namely, structural and dynamic complexity. These approaches are useful in managing projects where uncertainties are very high. Structural complexity is the “arrangement of components and subsystems into one system architecture” (Bradley & Davies, 2014: 24). This includes the size of the system or project; system interfaces, stakeholders, and how they relate; and project governance. Under this complexity; the source of uncertainty comes from either internal or external, and ranges from known and unknown events with unpredictable consequences. Dynamic complexity “...are associated with interactions among components of a system and between the system and its environment” (Bradley & Davies, 2014: 25). The source of complexity is usually from the external environment, and is due to the unpredictable actions of external stakeholders. For example, project complexity can be created by social misalignment, and cultural differences or political dynamics, often called socio-political complexity (Maylor & Turner, 2017). This type of complexity is associated with projects in the public sector, and are characterised by diverse stakeholders with conflicting priorities and hidden agendas.

To address socio-political complexities in projects, various scholars have moved against linear “engineering” approaches to projects and advocates for non-linear and soft system methodology (SSM) approaches. Others scholars (Park & Lee, 2014; Beringer, Jonas & Gemünden, 2012; Maylor & Turner, 2017) emphasised the need for knowledge sharing, trust, collaborations, and stakeholder’s communications, which can improve project performance.

Table 3-2 Project complexity and its management.

Type of Complexity	Conceptual Contributions	Implications for management
Structural complexity <i>(arrangement of components and subsystems into an overall system architecture)</i>	Systems hierarchy and interdependence among components (Simon, 1962; Hobday, 1998; Shenhar & Dvir, 2007)	Decompose the project or program into more manageable sub-components
	Systems integration (Sapolsky, 1972; Sayles & Chandler, 1971; Prencipe et al., 2003; Davies & Mackenzie, 2014)	Systems integrator manages technical and organizational interfaces
	Stakeholder relationships (Loch et al., 2006, p. 52; Dvir & Shenhar, 2011; Hertogh & Westerveld, 2010), socio-political complexity (Geraldi et al., 2011), and cultural differences (Scott et al., 2011)	Collaborative arrangements - integrated project teams, co-location; proactive stakeholder communications, transparency, and engagement strategies
Dynamic complexity <i>(changing relationships among components within a system and between the system and its environment over time)</i>	Foreseen and unforeseen uncertainty (Klein & Meckling, 1958; Loch et al., 2006; Hertogh & Westerveld, 2010; Edmonson, 2012)	Experiments, prototyping, trial and error learning
	Complex coordination requirements and interdependencies arising from the integration of multiple components (Sapolsky, 1972; Sayles & Chandler, 1971) and technological uncertainty (Shenhar, 1993); teaming (Edmonson, 2012)	Flexibility, late design freeze, keeping options open; concurrent engineering
	Market uncertainty and novelty (Wheelwright & Clark, 1992; Loch et al., 2006; Shenhar & Dvir, 2007; Edmondson, 2012) Pacing and urgency (Gersick, 1994; Eisenhardt & Tabrizi, 1995; Grabher, 2002; Shenhar & Dvir, 2007)	Learning and feedback from user needs and customer requirements; learning, experimentation and collaboration multi-functional teams Scheduling and planned action to deal with temporal milestones and rapid, mutual adaptation in response to unplanned events

Source: Adopted Bradley and Davies (2014)

In addition, Maylor and Turner (2017) suggested that using his complexity framework will assist in establishing a fit between the people chosen and the project tasks or activities they lead.

3.3.2 Uncertainty

There is consensus among various scholars (e.g. Kisten, 2020; Bloom, 2014; De Meyer, Loch & Pich, 2002) on the definition of uncertainty. Uncertainty has been explained as people's inability to forecast the likelihood of future eventualities that may occur. Steyn (2006) described uncertainty as an absence of certainty. It can influence growth either positively or negatively. For instance, Bloom (2014) argued that uncertainty can influence government to invest, thus creating positive growth in the economy. In contrast, uncertainty can increase *risk premium* and ultimately raises the costs of borrowing which increase the likelihood of defaulting on payments. This is likely to reduce both micro and macro-economic growth

In the era of rapid change, such as, in the African continent, uncertainty has become a rule and not an exception (Muriithi & Crawford, 2003; De Meyer, Loch, & Pich, 2002). This is because uncertainty in countries affected by uncontrolled inflations and recessions increases sharply (Bloom, 2014). Thus, uncertainty is unavoidable, and almost all SOCs funded projects are likely to experience uncertainties during their conceptualisation and implementation. In African countries, the poor investment record of the last two decades has been attributed to factors brought about by instability and uncertainty (Serven, 1996). In South Africa, state-owned companies have been affected by uncertainty in the political arena which is the major factor affecting macroeconomic dynamics.

Despite the existence of approaches to project management and comprehensive planning, projects continue to fail. One of the key flaws in conventional approaches is that they have failed to incorporate uncertainties in projects (Ghapanchi, Tavana, Khakbaz & Low, 2012; Rungi, 2007). For instance, traditional project techniques assume and have tried to deal with uncertainty as a risk by assuming that all future eventualities can be scientifically identified (Steyn, 2006). This is not the case, since uncertainty can be used in circumstances where all future contingencies cannot be identified or are known (Steyn, 2006). For example, conventional approaches, such

as the NPV, implicitly assume that the most important decisions are taken at the initial stages of the project and that managers have no capability to respond to future contingencies, thus overlooking the value of flexibility (Steyn, 2006). According to Bredillet, Yatim and Ruiz (2010), these techniques are more likely to be effective in countries where there is little uncertainty, than in those where there is more uncertainty.

De Meyer, Loch, and Pich (2002) posited that project planning and implementations are affected by four types of uncertainty, namely, variation, foreseen uncertainty, unforeseen uncertainty, and chaos. Petit (2012) posited that uncertainties emanate from four broad categories, namely, technical, market, organisational, and financial uncertainties. Table 3.3 shows the link between the sources of uncertainties and the impacts on the portfolios.

Table 3-3 Relationship between sources of uncertainty and impacts

Sources of uncertainty	Types of uncertainty	Impacts	Sensing
Technical Market Norms and Regulations	Foreseen uncertainty	Project portfolio scope & structure	Many mechanisms put in place toward external environment
Organizational Financial	Unforeseen uncertainty	Project ability to deliver	No specific sensing

Source: Adopted from Petit (2012)

These uncertainties may either bring about a minor or a significant change in business strategy. In the case of dramatic changes that may result in organisation moving into a new strategy direction, portfolio rebalancing or terminating of a portfolio is most likely to occur (Petit, 2012). Literature lacks portfolio methodologies that incorporate project uncertainty and interdependencies in their methods for selecting projects (Ghapanchi *et al*, 2012).

In states of uncertainties, organisations ability to make reliable decisions are compromised due to insufficient information (Oh, Yang & Lee, 2012). Projects fail because of uncertainty that may be either foreseen or unforeseen. Several projects experience some of the four broad categories on uncertainties, namely, foreseen, unforeseen, chaos and variation. Three of the four uncertainties, namely foreseen, unforeseen, and chaos, is applicable for this study and are discussed next.

3.3.2.1 Foreseen

Foreseen uncertainties can be identified, although there is no certainty that they will occur. Project and portfolio managers manage these uncertainties through risk based management approaches and must constantly communicate the outcomes with stakeholders. Current project management techniques are capable of monitoring and tracking such eventualities.

3.3.2.2 Unforeseen

However, the unforeseen cannot easily be identified, and comes in the form of, for example, political instabilities and pandemics (such as Covid-19) floods and earthquakes. These uncertainties are likely to affect portfolio planning and implementations because existing tools are unlikely to deal with them. These dynamics are not easily managed as they require the actors of the PPM to constantly scan the environment for any emergent strategies or influences which may come in a form of potential threats or opportunities. The new information that emerges must be utilised to formulate new solutions or make portfolio adjustments (De Meyer, Loch & Pich, 2002). This requires efforts from the portfolio actors to manage the expectations of various stakeholders to accept the changes that arise. Thus, focus should be shifted from traditional project management of scope, time, and costs to opportunistic orchestrating and building networks (De Meyer, Loch & Pich, 2002). Any unplanned changes must be socialised with key stakeholders that include society and politicians for acceptance. Thus, there is a need for portfolio managers to have more than just technical skills. For example, soft skills, such as negotiation techniques, charisma, leadership support, political understanding, and support are necessary to manage resistance and conflicting interests.

3.3.2.3 *Chaos*

Regarding the management of chaos in projects, the PPM methods must be dynamic and flexible enough to respond to instabilities (De Meyer, Loch & Pich, 2002). Thus, contingency plans are rendered insufficient as a result of potential total change in the organisational strategy which in turn requires a new portfolio structuring. In an uncertain environment, the management of project portfolios go beyond the selection of a project. It requires portfolio actors to constantly introduce new models, innovation, or provide continuous monitoring and controlling (Petit, 2012). Constant change requires portfolio actors to continually validate the project idea if it is still valid, and where necessary, make adjustments based on the new information collected (De Meyer, Loch & Pich, 2002).

3.3.2.4 *Impact of Uncertainty in projects*

According to De Meyer, Loch and Pich (2002) almost all projects will experience all types of uncertainties, although there will be one that dominates. If not managed properly, uncertainty internal to the organisation, or externally in the macro-environment has a potential to hamper portfolio performance (Martinsuo, Korhonen & Laine, 2014). This also includes any uncertainty that can be created by individual projects. Projects implemented by SOCs in South Africa experience unforeseen and chaos of uncertainties throughout their life-cycles, depending on the nature and complexity of the project. What is necessary for portfolio actors and project managers is to be aware of these types of uncertainties so that they are able to deploy the correct approach at the right time. For instance, projects that experience unforeseen and chaos will most likely require a greater emphasis on learning, while those that experience the foreseen will require a planning approach. Learning allows projects to adapt to instabilities and chaotic events and has been a new phenomenon in many organisations (De Meyer, Loch & Pich, 2002).

Key to the management of uncertainty is implementing a strong governance structure, which facilitates sound decision-making (Ellis, Perrier, Bayer, Waters-Bayer, Holtzman, Kulibaba, Toulmin, Lane, Moorehead, Sylla & Swift, 2008). One of the key roles of governance structure is to allow projects to be managed as an enterprise, rather than a collection of independent projects. This is because some projects, when

assessed alone, might appear to cost more, while their impact on the total portfolio is of significant value.

3.4 Understanding Strategic Alignment

3.4.1 *Strategic planning in unstable environment*

While there has been little consideration given to the topic of strategic management in PPM literature, the concept of, and the significance of strategy, and in particular strategic management, cannot be overlooked (Kaiser, El Arbi & Ahlemann, 2015). This is more so in the context of this study. Strategy is the oldest and most investigated area of organisational theory, and its definitions are numerous. Its processes comprise both strategy formulation and implementation, with more emphasis on the former than on the latter (Ikavalko & Aaltonen 2001). Literature has ample definitions of strategy; however, for the context of this study, Grant's (2002) definition has been adopted. He defined strategy as a match that an organisation makes between its internal resources and skills, and the opportunities and risks created by its external environment. The aim is to create value for the organisation through effective coordination of its actions in local and international markets (Velikorossov, Maksimov, Orekhov, Huseynov, Khachatryan & Kolesnikov, 2020). Thus, to test the effectiveness and success of strategy, Velikorossov *et al.* (2020) indicated that modern organisations ought to operate in various markets. He also highlighted that the aim of strategy must be to create value. Strategic implementation has been described as the degree to which the strategy of the organisation is represented and executed through project portfolios (Kock & Gemunden, 2019).

The larger part of the literature focused on a deliberate strategy, which is typically divided into two parts, namely strategy formulation (concerned with goal setting), and strategy implementation (concerned with the realisation of the strategy) (Kopmann, Kock, Killen & Gemünden, 2017). Deliberate strategy is synonymous with the original intended strategy, while emerging strategy constitutes the unintended strategy (Kaufmann, Kock & Gemünden, 2020). However, the organisation's final strategy is the product of both deliberate and emerging strategies. During this process, also described as chaos, some elements of deliberate strategy are lost and some elements

of emerging strategy are incorporated in the final strategy (Kaufmann, Kock & Gemünden, 2020).

However, Mintzberg (1978) explained that the deliberate (also known as formal strategy) is less effective in an environment characterised by turbulences and volatility. According to Klopmann *et al.* (2017), the degree of external turbulence is an important contextual factor to consider when deciding what to explore. They argued that deliberate strategy is better suited to a highly stable and perfectly predictable environment, with the organisation having full control of the changes in the market. This was also noted by Brews and Purohit (2007), who observed that flexible planning is necessary in an unstable environment. Mintzberg (1978) advocated for emergent strategies in an environment where there are constant changes. Accordingly, emergent strategy is best suited to an environment dominated by unplanned and unforeseen events, usually occurring in turbulent environments (Klopmann *et al.*, 2017). They argued that formal and rigid strategy processes are inadequate in shaping strategy when responding to a magnitude of changes in a political environment. Kaufmann, Kock and Gemünden (2020) suggested agile practices to deal with dynamic environments. Thus, in today's volatile and unforgiving competitive environment, they might be appropriate for organisational adaptability and survival (Kopmann *et al.*, 2017). Both these strategies are often implemented through a portfolio of projects, and PPM is used as a strategic management tool that translates strategy formulation into implementation.

For an organisation to create much-needed value, there must be a fit between project outputs and the organisational strategic objectives (Too & Weaver, 2013). This renders strategic alignment a key strategic component in project portfolio management. Various studies (e.g. Porter, 1991; Heising, 2012) have pointed out that organisations that emphasise and carry out strategic management usually outperform those that do not. They noted that it is more difficult to implement strategy than to formulate it. By aligning projects with business and organisational strategy, and also by applying effective project management, organisational PPM performance is enhanced. Thus, portfolio management is an instrument used by organisations to ensure portfolio-strategy (Too & Weaver, 2013).

Without effective implementation, even the best-formulated strategies are of no value (Grant & Baden-Fuller, 2018). Put differently, the reason why firms succeed or fail is a central question in strategy (Porter, 1991). Success can only be facilitated by ensuring that there is balance in a portfolio and that the portfolio is effectively implemented (Meskendahl, 2010). Buys and Stander (2010) describe strategy success as strategies that have been implemented, such that the strategic goals have been achieved. Bredillet, Thiry and Deguire (2005) described strategic success as a function of organisational internal capabilities for thriving in dynamic nonlinear environments and for its ability to rely on network feedback and emergent relationships throughout projects. In their quest for performance and success, organisations must ensure that their internal processes develop appropriate business concepts or initiatives (Heising, 2012). They argued that generating large amounts of ideas will not guarantee success.

Chih and Zwikael (2015) found that strategy and project formulation in the public sector were found to be triggered from both top-down and bottom-up directions. The former is meant to comply with government regulations, while the latter meets the requirements of the organisation's operational needs. The purpose of strategy formulation is then to facilitate organisational attempts to achieve environmental co-alignment (Hitt & Ireland, 1985b). Simply put, it is a means to link the organisation and its environment. Strategic choices must be made based on considerations of the context in which the organisation operates. Operationally, this requires a strategy that optimises the organisation's performance when penetrating its environment in order to optimise its own internal performance (Ansof, 1975).

The external environment includes all external influences, including social, political, economic, legal, and technical systems. Any change in the environment often triggers the need for adjustments in strategies (Kaiser, El Arbi, & Ahlemann, 2015) and further necessitates changes in the systems and other structures of the organisation (Artto & Dietrich, 2007). Constant pressures and continuous change in the environment call for public organisations to reorganise themselves to comply with the requirements of the environment. In his book about strategic planning for the public sector, Bryson (1988) suggested the following three things:

- i. Organisations must exercise a cautionary discretion in the areas under their control to ensure responsiveness to their stakeholders.
- ii. Organisations must develop good strategies that are flexible and robust to cope with the dynamics of the environment.
- iii. Organisations must develop a comprehensive and systematic decision-making approach

As already indicated, despite its importance in determining the success or failure of organisations, various organisations continue to experience more difficulties implementing strategies than formulating them (Schipper & Silvius, 2018). According to Buys and Stander (2010), the common reasons for strategic plan failures are:

- i) Unclear mission and vision statements,
- ii) Lack of quality information to facilitate effective data analysis during strategic planning,
- iii) Inconsistent performance review and tracking,
- iv) Misalignment of projects with strategy,
- v) Inadequate resources.

Strategic planning continues to remain an elusive goal in state-owned companies because of the external environment, which is not getting more stable. This is also noted by Brews and Purohit (2007), who found that formal planning is not appropriate in an unstable environment, and advocates for incrementalism. Organisations are now faced with questions of how planning should be adjusted in the face of these more challenging dynamics. Despite the period of unpredictability where strategic planning seems impossible, organisations must continue to function (Mintzberg, 1990). In the context of this study, the National Planning Commission (2011b) of South Africa also noted that the National Development Plan 2030 itself has never been a linear process, nor can a development plan proceed in a straight line. As environmental instability increases, so do the iterations to planning.

Organisations that engage in master planning increase their chances of achieving superior performance. This was noted by Brews and Purohit (2007), who argued that there is a positive correlation between organisations that achieve superior performance with high levels of planning. They found that multi-dimensional planning

does have the potential to produce positive results. Various studies recommended incremental planning in an environment characterised by instability, although others have not ruled out formal and incremental planning. Bryson (1988) defined strategic planning as a tool used to assist the public and non-profit organisations, including communities, to respond effectively to their new situations.

Ramanujam, Venkatraman and Camillus, (1986) pointed out two major limitations that hamper the effectiveness of strategic planning. First, many organisations have adopted a simplistic and narrow view when it comes to strategic planning (Camillus, 1975; Steiner, 1979). Second, these organisations have opted to continue linking planning with the financial aspects of corporate performance without much due consideration to the non-financial, intangible benefits. Ramanujam, Venkatraman, and Camillus (1986) caution against the exclusion of non-financial performance and warned that this tendency is conceptually flawed. They therefore stressed that strategic planning should be multidimensional. Thus, planning systems must be multifaceted management systems that are contextually embedded and must not be inadequately described in terms of one or two characteristics such as "formality."

Steiner (1979) identified two sets of influences that affect the effectiveness of planning. These are the organisational context and the design of the organisation. Five design elements, of which all resonate with the context of this study are: (1) system capability; (2) use of techniques; (3) degree of attention to internal facets; (4) degree of attention to external facets; and (5) two dimensions for the organisational context of planning as (i) resources availability for strategic planning; and (ii) resistance to change. Table 3.4 summarises dimensions for a planning system.

In summary, strategic planning requires that organisations embark on a process which will identify the capability required to implement strategy; the analysis of organisational capability; weakness and strengths; resources available, including support from top management; and visibility according to which other operational business units are viewed and integrated into the process. Many organisations, especially in a multi-project context, have established project management offices as a vehicle to proactively coordinate and manage projects effectively.

Other studies have linked the performance of the organisation to organisational structure. For example, according to Litschert and Bonham (1978), there is a direct relationship between the structure of the organisation and the performance. Rumelt (1964) states that a multidivisional structural organisation seems to perform better. They argue that multidivisional organisations involve a high degree of planning, control, and better reward systems. Hitt and Ireland (1985); however, dispute this notion and found no link between multidivisional structures and performance.

Table 3-4 Dimensions of Planning Systems

Dimensions	Description
Design elements	
System capability	The availability of planning systems that are responsive to support the conceptualisation and implementation of strategy in the dynamic environment
Planning techniques and methods	The availability and capability of planning techniques to adapt and navigate strategic problems created by an unstable macro-environment
Internal factors	The ability to perform internal analysis using present and past data. This include assessment of weaknesses and strengths
Macro environment factors	The ability to adapt to environmental pressures
Functional visibility	The ability to make visible progress from different functional areas
Organisational context of planning	
Adequacy of resources available	The availability of technical resources and leadership to support strategic planning
Resistance to planning	The ability to identify risks which include resistance to change and then formulate response strategy (e.g. implementing change management)

Source: Adapted from Ramanujam, Venkatraman and Camillus (1986)

According to Benko and McFarlan (2003), strategic alignment delivers strategic success through aligning projects in a portfolio with strategy (discussed in the next section). It has been revealed that a functional strategic management process is a prerequisite for ensuring the alignment (Kaiser, El Arbi, & Ahlemann, 2015;

Meskendahl, 2010). Moreover, Andrews' environmental analysis model emphasised the importance of analysing the external environment for opportunities and major threats during strategic planning (Andrews, 1971). This is to enable the organisation to adapt to pressures and demands as presented by the external environment (Ramanujam, Venkatraman & Camillus, 1986).

First, public sector organizations need to build the necessary capacity to do strategic planning. The skills and resources to do strategic planning in the public sector should match the complexity of the processes and practices involved (Poister & Streib, 2005). Necessary resources include, for example, financial capacity (Boyne *et al.*, 2004; Wheeland, 2004), knowledge about strategic planning (Hendrick, 2003), and the capability to gather and analyse data and to judge between potential solutions (Streib & Poister, 1990). Additionally, leadership of different kinds is needed in order to engage in effective strategic planning. Process sponsors have the authority, power, and resources to initiate and sustain the process. Process champions are needed to help manage the day-to-day process (Bryson, 2011). Transformational practices by sponsors and champions, as well as the groups they engage, appear to help energize participants, enhance public service motivation, increase mission valence, and encourage performance information use (e.g., Moynihan, Pandey & Wright, 2013), all of which are important for strategic planning.

3.4.2 Linking projects with strategy

Linking projects with strategy remains one of the difficult tasks in portfolio management, especially in a turbulent environment characterised by instability and continuous changes (Cooper, Edgett & Kleinschmidt, 2000; Oosthuizen, Grobbelaar & Bam, 2016). Organisations are regularly overtaken by developments, confronted with unexpected events, respond in an uncoordinated way, and are reactive rather than proactive. Vision becomes imaginary (Idenburg, 1993). The opportunities created by an unpredictable macro environment change, and the need to respond to these changes places PPM in a demanding set-up (Turner & Muller, 2003). Compounding the existing problems is the fact that most organisations still struggle with achieving alignment (Gutierrez & Lycett, 2011). Gutierrez and Lycett (2011) state that most studies link business strategy with project management through project selection

without explaining the interactions that exist between business strategy and project management.

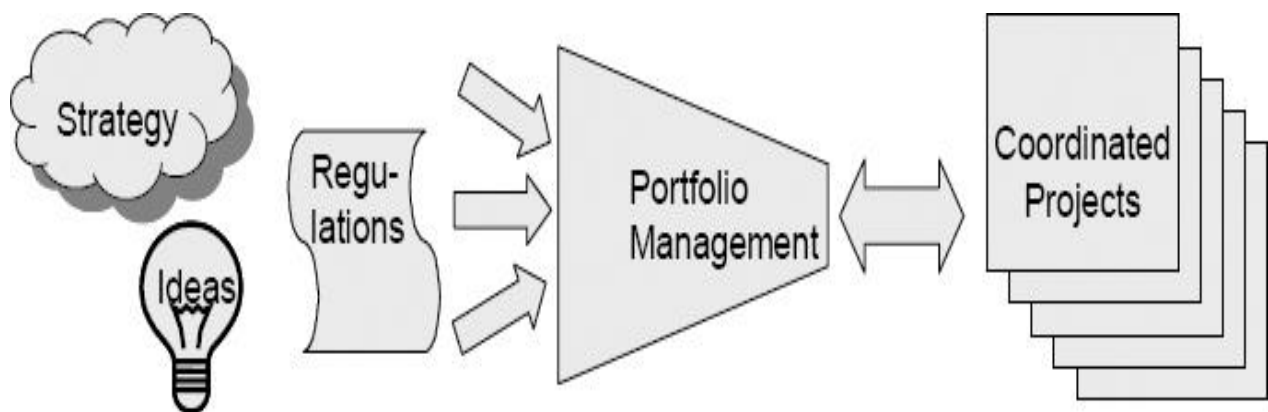
Recent developments revealed that many projects are being attempted with no apparent link to strategy (Englund & Graham, 1999). This is despite the fact that PPM literature has advocated the selection and prioritisation of projects based on the strategy requirements. The difficulty has been that projects are often intangible, with conflicting objectives; unstable, and with unclear scope; have multiple stakeholders with conflicting, if not contradictory expectations; require transparency and accountability; face interferences and manipulations by powerful stakeholders, including strategic misrepresentation of misinformation about cost, benefits, and risks (Ika & Hodgson, 2014). For example, customer tastes change all the time, the identity of customers is changing, and the technologies for serving customer requirements are continually evolving. In view of this, an externally focused orientation makes it difficult to provide a secure foundation for formulating a long-term strategy (Grant, 2002).

The concept of strategic fit originated the principle or proposition that performance of any organisation is as a consequence of a fit between various factors (e.g. strategy, structure, technology, or environment). According to Shenhar, Milosevic, and Thamhain (2007), strategic alignment is the integration of three dimensions, which entail: (1) strategic focus, (2) operational efficiency, and (3) team leadership. It is referred to as the alignment of project objectives and outcomes to an intended strategy of an organisation. This has been expanded by Meskendahl (2010) and Patanakul (2015), who describe the strategic fit of the project portfolio as the degree to which the sum of all projects reflects the business strategy. Effectiveness can be achieved by ensuring that there is an alignment to the strategic objectives (Patanakul, 2005). Thus, PPM connects strategic planning to the execution of projects. The alignment with business strategy is critical for the success of the organisation (Orlandi, Dantas & Souza Neto, 2020). Figure 3.1 illustrates how portfolio management aligns strategy with projects.

According to Oltmann (2008), ideas and initiatives that originate from organisation strategy and that are external to the organisation (e.g. customers, government policies, regulatory and society) are screened through a funnel to produce only

projects that fit the criteria. The aim is to produce a focused and balanced portfolio that supports the achievement of organisational goals. Hyvari (2014) and Oltmann (2003) concur that the goal of aligning portfolio management with organisational strategy is to establish a balanced, executable plan that will help the organisation to achieve its strategic goals. Achieving this alignment is important if the organisations are to create value from investment in projects (Too & Weaver, 2014). Such organisational alignment can be improved with portfolio management and performance measurement (de Oliveira Lacerda, Ensslin & Ensslin, 2011). Rocha (2014) concurs and highlights that organisations that implement their portfolios effectively increase performances.

Figure 3-1 Portfolio Management Connects Strategy with Execution

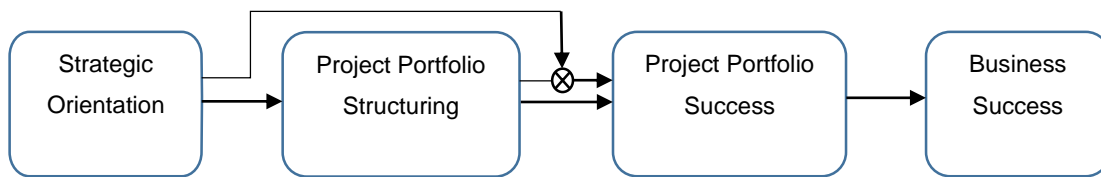


Source: Adapted from Oltmann (2008)

In a state-owned company such as ABC SOC, goals must be aligned with that of the National Developmental Plan (NDP), which offers a long-term perspective and defines a desired development state. NDP also identifies the role different sectors of society need to play in reaching that goal (National Planning Commission, 2011b). The closer the alignment between the strategic objectives and the project portfolio, the more likely it becomes that the organisation will achieve its strategic success. Buys and Stander (2010) revealed that achieving the intended organisational 'blueprint' (referred to as intended strategies) requires an assessment of the current state, establishing a gap that exists between the current and the future state, and taking corrective actions to address the gap. This requires decisions taken by management to be consistent with

the objectives of the organisation, and most importantly of the government (Andrew, 1995). Meskendahl (2010) provides a generic framework that demonstrates the influence of strategy on the overall success of the organisation, as shown in Figure 3.2. The framework highlights the effect of a balanced and well-managed portfolio on the success of the organisation. That is, PPM is the means through which organisations achieve their strategic goals.

Figure 3-2 General Framework



Source: Adapted from Meskendahl (2010)

When PPM is effectively implemented, the organisation's performance improves. Achieving superior performance requires that projects be consistently selected, grouped together, and managed as a portfolio (Archer & Ghasemzadeh, 1999). The portfolio analysis should uncover critical issues so that they can be understood and analysed according to organisational resources and strategies (McFarlan & Nolan, 2003). In various organisations, it is the responsibility of top management to ensure that portfolios are properly structured, resourced, and monitored during implementation. Thus, through PPM, top management evaluates, prioritises, selects, and aligns projects in line with business strategy (Meskendahl, 2010; Buys & Stander, 2010). Without this alignment, it might prove difficult to realise strategic objectives.

Despite much-publicised literature, state-owned companies continue to experience misalignment problems. Chih and Zwikael (2015) pointed out that misalignment in the public sector is often caused by bias when selecting between projects that are seen to be operational (internal) and those that are seen to be of 'national' importance or government. The problem is often caused by a lack of consistency in either the internal or the external environment (Grant & Baden-Fuller, 2018). Similarly, Ittman *et al.* (2013) added that the problems are created by a lack of participation and collaboration between the organisation and government stakeholders. They argued that most

organisations tend to be biased, and favour their operational projects over the 'national' projects.

In addressing some of the challenges, Slater, Olson and Hult (2010), showed that in determining which strategy is suitable for the organisation, top-management ought to address three aspects. First, identify customers and their immediate needs; second, provide service offerings that will create superior values for the targeted customers; and third, leverage organisational capability to implement the strategy. Similarly, Speer (2012) suggested the inclusion of public participation in the planning and implementation of key projects. This increases local government responsiveness and accountability and improves public service delivery.

The above views are in contrast to Grant (2002), who pointed out that in order to address strategic fit challenges; organisations must be inward looking instead of outward looking when defining strategy. He argued that a more durable basis for strategy is to define it based on the organisation's internal strength and capability instead of defining business strategy based on the needs it seeks to satisfy. While this may have some truth in the private sector, where the shareholders interest is to maximise profit, the same cannot be said about the public sector, where the mandate is to provide service delivery to society.

3.4.3 Integration

Regardless of the corporate strategy chosen, business units are at the centre of implementation through their ability to produce and supply goods and services to end customers (Velikorossov *et al.*, 2020). Like many firms, state-owned companies are also confronted with the challenge of having to deliver quality products and services in the midst of an environment that is continuously changing and full of complex and uncertain customer' demands. As these uncertainties and demands increase, organisations must refine their processes to increase integration and knowledge sharing to cope (Kock & Gemunden, 2019; Rosenzweig, Roth & Dean Jr, 2003). Effective implementation of organisational strategy depends on the organisational structural alignment with the needs of the project portfolio management (Kaiser, El Arbi & Ahlemann, 2015). Thus, integration, which is the basis of corporate strategy, and has been understood as the union of economic entities, their integration, and the

expansion of the relationship between them, becomes important (Velikorossov *et al.*, 2020).

The aim of integration, in the context of this study, is to strengthen corporate communications among different business units, and to balance competition and contradictions between business units. Effective integration is crucial for the success of portfolios. This is because PPM has been described as a multifaceted process which has many overlaps, and can be used to connect various functions of the organisation, such as operations, information technology (IT), marketing, and research and development (R&D) (Meskendahl, 2010; Cooper, Edgett & Kleinschmidt, 2001). For large organisations, this includes integrating various divisions and functions that may also be involved in the portfolio structuring process. Through the PPM process, organisations are able to integrate the portfolio of projects with other functions within the organisation. This includes ensuring that the management of dependencies and interdependencies are considered (Voss, 2012; Levine, 2005). Through effective integration, strategic planners are able to correctly establish which functions of the organisation are represented or less represented, and what role they play in the decision-making process (Meskendahl, 2010).

Organisations that are able to achieve quality and success require firms to unify internal and external participants. Heising (2012) identified two groups of stakeholders, both internal and external. The first group are described as ideators and the other group described as promoters or opponents. The former are those associated with generating ideas or initiatives and the latter being those who possess the power and position to either support or oppose the idea. Thus, to achieve alignment, organisations need a systematic portfolio management approach that supports the conceptualisation of new proposals and concepts (Heising, 2012). This relationship is a source of knowledge that would ensure that organisations understand customer value creation to enable them to develop offerings that will address those needs (Heising, 2012). For instance, and in the context of this study, integrating customers in the PPM process and developing a portfolio of relationships with affected stakeholders (e.g. customers, suppliers, financiers), can be useful for strategy alignment (Voss, 2012).

For example, customers such as product developers can provide valuable information regarding, for example, their design, and therefore integrating them is beneficial to both parties and leads to mutual understanding (Voss, 2012). Proactive management of these diverse stakeholders (i.e. stakeholder's management) with dynamically changing interests and roles increases the chances of achieving sustainable competitive advantage (Heising, 2012; Shah & Naqvi, 2014; Beringer, Jonas & Kock, 2013). Additionally, integrating society assists state-owned companies when they have to respond to unfamiliar situations, and helps to enforce transparency in whatever they do (Cordoba-Pachon, Garde-Sanchez & Rodriguez-Bolivar, 2014). Moreover, this will increase acceptance when introducing new products or services in the marketplace (Rosenzweig, Roth & Dean Jr, 2003). Inadequate involvement of stakeholders in the strategic planning can hinder progress and render the process counterproductive (Cordoba-Pachon, Garde-Sanchez & Rodriguez-Bolivar, 2014).

Furthermore, Levine (2005) emphasised the importance of integrating projects with other business operations for alignment success. Voss (2012) suggested that customer portfolios should be considered in decision-making regarding portfolio selection. Projects stand a better chance of being successful if they have strong support from top management, have reliance on existing solutions and external knowledge, and have a motivated, strong work-force. This requires enablers that facilitate the integration of various departments and functions. In conclusion, for strategies to work, PPM must be linked and integrated across various organisational functions (Kaplan & Norton, 2001) as poor integration lowers business performance.

However, there are serious problems associated with integration. For instance, formulating a strategy alone may not necessarily translate into business success (Ahlfors, 2005). Hyvari (2012) pointed out that integration problems are a result of the organisation's failure to integrate the organisation's four perspectives (e.g. financial, customer, internal business processes, and learning and growth). According to Velikorossov *et al.* (2020), the main problem is the competition for corporate resources between business units. For the public sector, these perspectives, according to Nielsen and Pedersen (2014), include improving the level of services for the citizens.

3.5 The External Environment Influence

There are few organisational theories that dispute the idea that the external environment influences the internal practices of an organisation (Engwall, 2003). It has been acknowledged that the environment is a key determinant of successful strategies, although some scholars have disagreed on the extent and causes of this influence (Porter, 1991). The critical impact of the external environment on a firm's strategic decisions, and subsequently on its performance, has been widely acknowledged and cannot be ignored. In a dynamic environment, which is characterised by high uncertainties, changing portfolios, changing conditions and new threats and opportunities, planning becomes difficult. Resources and capabilities are constantly reallocated, and new projects deployed, terminated, or delayed (Petit & Hobbs, 2010). These uncertainties, if not managed, could lead to poor project portfolio performance (Martinsuo, Korhonen & Laine, 2014). Changes in the market environment often trigger adjustments in strategies. For instance, contingency and contemporary organisational theory stresses the impact of the environment on the workings of the organisations and on how they interact with one another.

Understanding this fit will enhance our comprehension of the boundary conditions. This further extends the theoretical insights of the portfolio framework, which is fundamental in utilising external opportunities (Yamakawa, Yang & Lin, 2011). This is because projects do not exist, and neither are they implemented in a vacuum or in isolation; they are 'open-systems' as well as 'historically dependent', and project management success is to a large extent 'situational dependent' (Engwall, 2003). Essentially, projects are part of the broader economic environment and are affected by decisions, activities, and changes that are made in the environment. What is important is to strike "*...a balance between what measures would instrumentally be the most rational for the individual project and what measures would be legitimate to undertake, given the interests of the key players of the environment and the project's historical and organizational context*" (Engwall, 2003: 805).

Jensen, Johansson, and Lofstrom (2006) concur that projects should be initiated in relationship environmental factors, and can only be understood if these factors are factored in. De Haan, Voordijk, and Joosten (2002) argued that strategic value is

possible when the organisation is able to transform its internal and external resources into value creating strategies, whereas organisational performance is possible when the organisation is able to match these two elements. In agreement, Nielsen and Pedersen (2014) observed that best decisions are made in a context where goals are clearly defined, the environment is stable, information is freely available, and there are adequate resources to perform.

3.5.1 Stakeholders influence

There are various stakeholder theories regarding stakeholders' behaviour, and their impact on organisational successes has been written about extensively, although little research has been done on their behaviour in the project portfolio management area (Heising, 2012). Stakeholder theory assumes that a firm, which is represented by its management, has a relationship with various stakeholder groups, both within and outside the firm, and that their contribution towards ensuring organisational success cannot be ignored (Beringer, Jonas & Kock, 2013). This is supported by Jonas (2010) who explained that their effect on success can be either positive or negative. Leonard and Swanepoel (2010) claimed that understanding stakeholders' rights, roles, and responsibilities, can lead to improved communications and relations.

Kaplan and Norton (2001) suggested that employees ought to be aligned to strategy if organisations are to derive value. In essence, there is an urgent need for employees to learn and understand the strategy in order for them to effectively implement it. Management and the executive must communicate the strategy to employees and coach them to ensure that they understand it. According to Kaplan and Norton (2001), communicating the strategy should achieve the following objectives:

- (i) An appreciation and understanding of the strategy by all layers of the organisation.
- (ii) Educate the organisation about the need to implement the strategy.
- (iii) Develop buy-in to support of the strategy.
- (iv) Provide feedback about the performance of strategy.

Heising (2012) identified two groups of stakeholders as: (1) ideators – the ones who generate ideas; and (2) promoters or opponents – who may use their networks to either support or oppose the ideas. Beringer, Jonas and Kock (2013) categorised

ideators into four groups: (1) top-management; (2) middle management; (3) portfolio managers; and (4) project managers. Table 3.5 summarises the roles and responsibilities of key internal stakeholders. The first level of management comprises senior managers who are responsible for strategic considerations, including selection, prioritisation, resource allocation, and ensuring that the portfolio is balanced and remains aligned throughout the entire implementation. The crucial role of top management is to ensure that there is a fit between the portfolio and the strategy.

Table 3-5 Summary of Internal Stakeholders Roles

	Stakeholders Groups	Roles and responsibilities
1	Top-manager	<ul style="list-style-type: none"> • Key decision makers who determines processes and standards for project evaluation, prioritisation and selection • Approve portfolio or reallocate resources
2	Middle management	<ul style="list-style-type: none"> • Resource owners who provide consistent and reliable resource commitments for project execution • Responsible for resolving conflicting priorities between business strategy and business as usual activities
3	Project portfolio managers	<ul style="list-style-type: none"> • Planning and administering portfolios • Coordinating multiple projects across portfolios and projects
4	Project managers	<ul style="list-style-type: none"> • Responsible for management of individual projects and resolving resource conflict

Source: Adapted from Beringer, Jonas and Kock (2013)

According to Patanakul (2020) and Unger, Gemünden and Aubry (2012), this role enables them to be in charge of making crucial decisions about which initiative to pursue, adjust or terminate. In their submission, they found that stakeholders' engagement enhances performance only in environments where roles and responsibilities have been clearly defined, such as in organisations where PPM maturity is high. They found that stakeholder engagement is misguided in cases where the organisation has a low PPM maturity. Lack of commitment from this group could be a major setback to portfolio success (Shehu & Akintoye, 2010).

The second group, namely middle management, consists of functional or business unit managers that have the responsibility of releasing resources to projects and resolving conflict that exists between project and business as-usual activities. The third group includes portfolio managers or PMO owners who are the portfolio administrators tasked with the responsibilities of ensuring proper planning, controlling, and coordination of multiple projects (Cadorin & Darwish, 2015). These stakeholders are more engaged and involved during the execution phase of the portfolio (Beringer, Jonas & Kock, 2013). The fourth and last group include the project managers, who are crucial to the portfolio's success. They are responsible for ensuring individual project success and resolving resource conflicts between projects and operations in matrix organisations. They are involved and contribute during all three phases of the PPM. Beringer, Jonas and Kock (2013: 5) summarised this role clearly as follows

“...these managers are expected to reach the agreed-upon project objectives to realize the planned project value. Regarding resource management, project managers must comply with given resource commitments through robust project planning and leading to future competence development. With respect to portfolio steering, project managers are responsible for the continuous delivery of timely and reliable project status information to allow for cross-project optimization and mutual collaboration across project borders”.

However, these views are not without antagonists who argue that top management support at the portfolio level does not guarantee portfolio success (Jonas, 2010). Not getting involved might also be problematic, since not participating may be seen as another form of lack of support that has its own implications (Jonas, 2010). Too much involvement from top management often has a negative impact on the portfolio's success. The involvement of senior managers may also lead to a delay, or may prevent aborting a project they have strongly supported even when it is clear that continuation of such a project is not to the benefit of the organisation. Because of the nature of challenges and complexities encountered in implementing developmental projects in state-owned companies, portfolio actors must appreciate and understand the project environment. They need to be conversant to analyse adverse effects on the success of the project brought about by political dynamics (Yanwen, 2012). For instance, involving customers at the ideation stage and at the late stage increases the chances of successful implementation of PPM. Thus, a positive relationship value for

the customers in the project portfolio management success exists (Shah & Naqvi, 2014). Involving customers is an integral element of distinguishing between the best and worst performing organisation (Voss, 2012). Organisations that are consistently engaged with their external customers stand a better chance of achieving portfolio success. In developing countries, where large-scale project and programs are often used to support the government agenda, strong and effective management is required to achieve strategic goals (Yanwen, 2012). For example, in international development projects, greater emphasis was placed on engagement of external stakeholders such as project beneficiaries to ensure smooth project execution and project benefits realisation (Ika *et al.*, 2020).

3.5.2 Organisation as Political System

Organisations are political systems in which decision-makers have competing and conflicting objectives, and strategic decisions are a mixture of both rational and political processes (Eisenhardt & Zbaracki, 1992). Politics and power dynamics in organisations are unavoidable and create complexity in projects (Selepe, 2019). Because public organisations are owned by government, the issues of politics and power base cannot be ignored. This is due to the vast majority of stakeholders who come from different backgrounds and have different needs and expectations (Selepe, 2019). Understanding diverse stakeholders and their power base and interest is important to align needs and expectations. However, there has been little discussion about the role of politics and power in projects. Selepe (2019: 703) viewed politics “as either the activities or affairs engaged in by government or the intrigue and manoeuvring in a group”.

The changes in the political landscape, such as the changes in government policies, coupled with the volatility and uncertainty in the political space affect its operations. In particular, it makes the monitoring of strategic goals and objectives more difficult (Young & Conboy, 2013). Moreover, these continuous changes give powers to those who are in a new government to reverse decisions and gains made by their predecessors (Ramamurti, 2003). Those who are deemed powerful ultimately determine decisions and often get what they want. They often use offline lobbying, coalition formations, withholding information, and patronages networks to influence decisions (Madonsela, 2019; Bourgeois & Eisenhardt, 1988). This however, does not

mean that politics are effective, or that rationality is monolithic or heuristic. In fact, as suggested by Weissenberger-Eibl and Teufel (2011), the question that must be asked is: To what extent can the selection of projects be described as purely the competition for economic resources, or as the struggle for future power? This is crucial for this study to answer the question of whether political interference, or politics, substitutes or complements the rational project portfolio management decision-making process. Put differently by Eisenhardt and Zbaracki (1992), the emerging debate should be whether there are any positives or benefits that flow to the organisation as a result of political dynamics. In other words, is politics a positive conflict driven phenomenon or a power driven process, which represent dysfunctional decision-making (Eisenhardt & Zbaracki, 1992)? The debate of whether the organisation has a single, or more than one conflicting debate is no longer valid.

In developing countries, it is a norm that projects must cope with the demands of the community that are political driven (Muriithi & Crawford, 2003). The patronage system which dominates most unstable environments demand that politicians deliver projects to their constituency, and that projects selected for implementation highlight the benefits to constituency to gain support. This is also because the majority of the projects are funded using public money, and therefore involves government officials (Yanwen, 2012). The involvement of government tends to render projects highly politicised and inefficient because of the entrenched bureaucratic nature of government agencies. Project management in this environment must align with environment, social, cultural, and economic factors that have a bearing on the choices of methods and techniques used (Ika, 2012; Rwelamila, Talukhaba & Ngowi, 1999).

Similarly, shifting geopolitical powers bring about both challenges and opportunities that must be well managed concurrently with the governance of the portfolio of projects. This must continue to attract and retain key resources that are not just skilled and knowledgeable, but also adaptable to turbulence in the operating environment (Pitsis, Sankaran, Gudergan & Clegg, 2014). Supporting this view, Muriithi and Crawford (2003) concluded that in a multi-party democracy, jostling of resources by politicians becomes the norm in order to undermine the opposition. They summarised the criteria in which the projects must meet as follows:

- Projects must highlight benefits to politicians and in turn to the constituency.

- Projects must deliver tangible benefits; such as jobs to the community.
- Projects must empower the population.

In addition, Muriithi and Crawford (2003) argued that project managerial successes in such an environment require individuals with political skills who must tread carefully politically. Project leaders must be cognisant of the fact that project deliverables in public sector have political consequences (Selepe, 2019). This will ensure that projects are aligned with government priorities. For instance, in their New Public Management (NPM) ideology, Kalimullah, Alam and Nour (2012) argued that citizens cannot just be the recipient of public service and calls for their active participations in the process of deciding the nature of the services. They suggested that government must be accountable to the community and as such, it must ensure that the citizens and community are empowered to exercise their oversight responsibility. In the case of South African state-owned companies, where government spends enormous amount of investment, such oversight is crucial (Madonsela, 2019; Nyandongo & Mshweshwe, 2020).

Understanding the political landscape and its dynamics, including obtaining buy-in and support during the early stages, is key to success. Involving them in the decision-making process increases chance of successful implementation of ideas (Beringer, Jonas & Kock, 2013; Heising, 2012). Nielsen and Pedersen (2014) agree that understanding the political landscape in the public sector is necessary for aligning government driven initiatives with political strategies. They further argue that such understanding is important in securing political backing (or buy-in) regarding implementation of proposed projects and much needed funding from government treasury. In simpler terms, project participants ought to understand how politicians behave during the conceptualisation and prioritisation of portfolio, and further establish the ground for such behaviours (Amoako-Gyampah, Acquah, Adaku & Famiyeh, 2021). According to Selepe (2019), project managers, for example, must be able to navigate political dynamics skilfully, since insufficient focus on project politics could create chaos in projects. Put differently by Selepe (2019), effective project management in a politically charged environment requires more than just project management skills. There is a need for portfolio actors to be skilled politically and

equipped with conflict resolution techniques. This will assist them in unlocking political support and further assist them in resolving project issues.

The above views were not without opposition. Nielsen and Pedersen (2014) appear not to support the level of political behaviour in the process. They submit that the degree of influence is likely to have a negative impact on project portfolios. Moreover, such involvement has the potential to take away the rationality in decision-making and therefore render the whole process open to abuse. Bourgeois and Eisenhardt (1988) concurred, stating that politics is likely to cause diminished performance. Nevondwe, Odeku and Raligilia (2014) argue that such unethical behaviour constitutes bad corporate governance practices and should be shunned and not tolerated. In their New Public Management ideology, Kalimullah, Alam and Nour (2012) argued that management should be differentiated from politics. They observe that management professionally deals with problems of the organisation and optimal allocation of resources, whereas politics, and in particular politicians, are inexperienced administrators insofar as administrating and managing organisations. Okereke (2008) suggested that government officials and politicians, as the accounting officers, should take accountability for the overall goals of public organisation, but leave the implementation to the professional managers. The complete recusal of politicians' involvement reduces the precepts of democracy and may further reduce the politicians' accountability.

Nielsen and Pedersen (2014) argue that there is a need to further debate and revisit this discussion about the environmental dimension of projects. They noted that currently, there seems to be a lack of analytical tools for investigating environmental aspects, more specifically in an unstable environment. Mintzberg *et al.* (1990) noted that in complex and rapidly changing environments, which is characterised by the need to respond quickly to unknown situations, it is insufficient for decision-makers to continue using rational techniques. Muriithi and Crawford (2003) agreed and remarked that current methods and techniques were developed based on cultures whose values support economic rationality. This is not the case in the African environment. These environmental settings, they argued, are highly political, and characterised by a high degree of uncertainty. Put clearly by Ika (2012), due to their rigidity in dealing with political dynamics and cultural issues, amongst others, western practices and tools

have failed to address African challenges. Politics, intuition, and coincidence play a crucial role in decision-making in state-owned companies. Thus, a volatile environment and external control decreases rationality (Eisenhardt & Zbaracki, 1992). The role of PPM in this context should be to quickly respond and adapt to continuously changing environmental conditions, by monitoring and altering the project portfolio (Killen, Jugdev, Drouin & Petit, 2012).

3.6 The African Perspective

Despite PPM recognition and its importance in Africa (Oostuizen, Grobbelaar & Bam, 2018), by world standards, or when compared to literature on strategy and management, there has been little research work done on literature concerning PPM. Nyandongo and Mshweshwe (2020) concurred and posited that, in Africa there has been little understanding of its value. The last five to ten years however has seen a growth in PPM research. For example, scholars such as Erasmus and Marnewick (2021); Nyandongo and Mshweshwe (2020); Leonard and Swanepoel (2010) have researched PPM and its impact in IT industry.

Scholars (Oostuizen, Grobbelaar & Bam, 2018; Buys & Stander, 2010; Abubakar, JingChun, Dalibi, Inuwa & Foyssall, 2018, Ginger & Wyzalek, 2014; Okechukwu & Egbo, 2017, Muriithi & Crawford, 2003; Nyandongo & Mshweshwe, 2020) have researched this field and recognised PPM as a powerful tool that can be used by organisations to implement strategy. Despite this recognition, scholars (e.g. Abubakar, Dalibi & Wang, 2017; Leonard & Swanepoel, 2009; Ngqulunga & Walwyn, 2018) have highlighted concerns regarding the use of traditional approaches due to their inadequacy and suitability across all environments. They highlighted common problems associated with PPM in the African environment and further suggested that traditional approaches struggle particularly in a rapidly changing environment. Thus, they are not context specific and are built based on human behaviour that is considered normal (e.g. economic rationality) and which are not necessarily aligned with African culture (Muriithi & Crawford, 2003).

In addition, Schipper and Silvius (2018) argued that current methods fail to integrate sustainability. Ngqulunga and Walwyn (2018) expanded it to incorporate social returns

in research and development (R&D) portfolios. Enoch and Labuschagne (2012) proposed a fuzzy model to determine the degree of contribution each project in the portfolio makes towards achieving sustainable performance. For this study, the sources depended on including, (i) general PPM literature, (ii) assessed available literature on PPM in Africa, (iii) assessed the African macro-environment to test PPM adaptability and suitability; and (iv) relied on PPM literature from similar developing countries that have similar traits to countries in Africa.

3.7 Chapter Summary

First, to better position the discussion about the PPM in the SOCs environment, it was prudent that research is conducted to establish the key features that distinguishes the public (SOC) and private (non-SOC) setting. This chapter found that, despite the difference in ownership structure, actors in the public sector have increased responsibilities of ensuring that while delivering projects, their course of action must meet the test of morality, impartiality, transparency, incorruptibility and ethical practises over and above efficiency and effectiveness.

The chapter also explored the area of strategy, which is critical in this study. Various types of strategies (e.g. deliberate and emergent) were discussed with the emphasis on their relevance to an environment dominated by variability. The chapter further discussed alignment, which is one of the attributes towards effectiveness in PPM. The literature indicated that state-owned companies still have difficulties in aligning projects with strategy. This is because the process of alignment is not as linear and straightforward as in the public sector where there are a multitude of stakeholders with conflicting ideas and interests. The decision-making regarding which project to implement in this setting is characterised by factors such as patronage, politics, and pressures from government.

The chapter discussed the adaptability of PPM to external environment dominated by complexity. Literature review found that effectiveness is hampered by a lack of flexibility in current PPM methods. Therefore, there is a need to develop PPM models that would cope with instability and constant changes presented by the environment.

The chapter ended with a discussion about the PPM in the African environment which found that very little has been written about PPM in Africa and that its value has been less valued. However, over the last 5 years, various scholars have begun to explore this practices in Africa and how it can assist state-owned companies to deliver their strategies.

CHAPTER 4 : RESEARCH METHODOLOGY

4.1 Introduction

The previous chapters introduced the study by providing the background, the objectives, problem statement, and the literature that underpin this study. This chapter describes the research design followed in the study to investigate the effectiveness of project portfolio management (PPM) in ABC SOC.

The chapter is structured in ten sections, including the introduction. The second section discusses the research the process in general. The third section discusses the research approach adopted. A qualitative approach was chosen due to the exploratory nature of the study. The investigation into the effectiveness of PPM requires the participants to share their experience and knowledge about the PPM processes, to enable rich data to be collected.

The fourth section describes the research strategy chosen for this study. A mixed-method strategy, which includes grounded theory and a case study, was chosen.

The fifth section describes the population of this study and the sampling methods applied. Purposive sampling was chosen for investigating the effectiveness of PPM as a decision-making tool in ABC SOC.

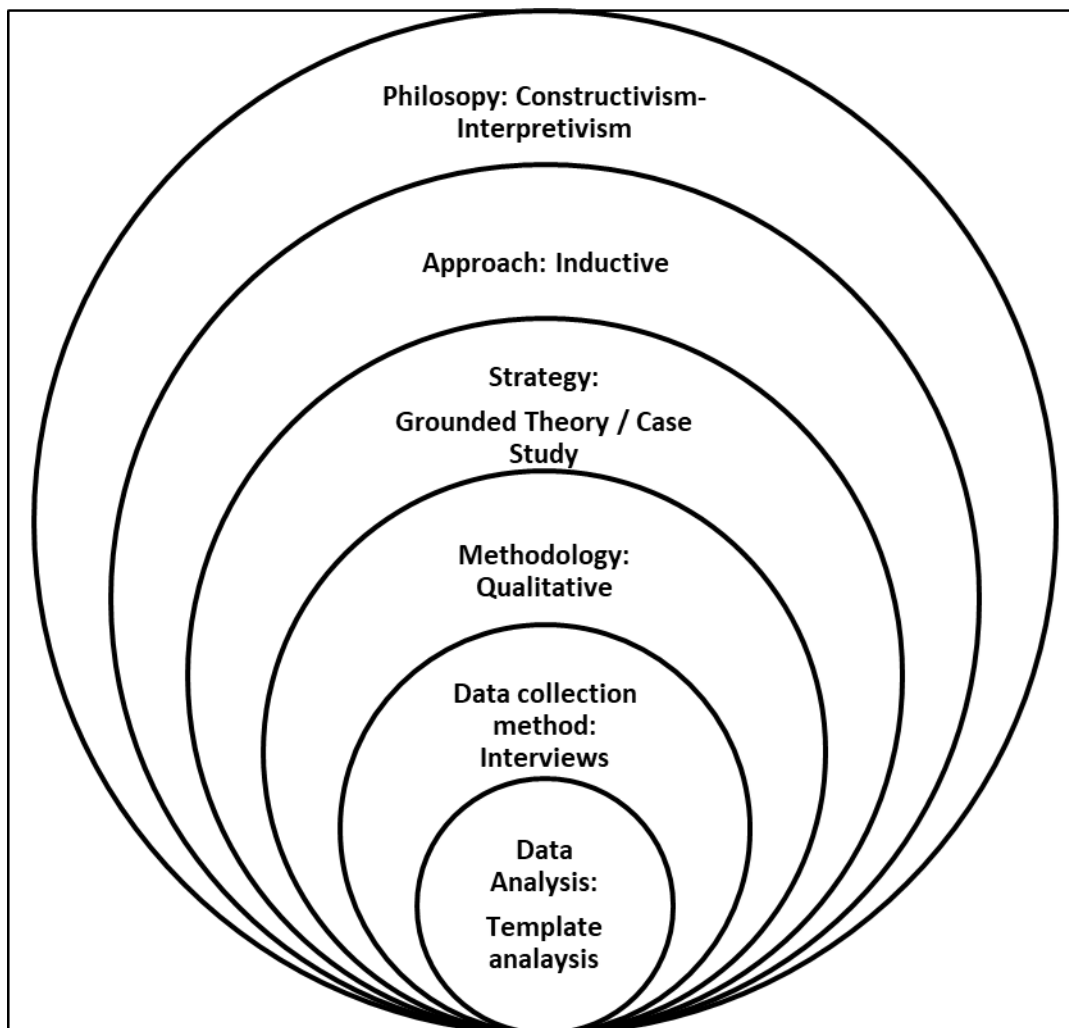
The sixth and seventh sections describe the data collection methods and data analysis techniques respectively. Interviews and document analysis have been used as primary and secondary instruments in this study. Content template method is used to analyse data collected.

The eighth section discusses major limitations, validity, and reliability issues, while section nine addresses ethical issues related to this study. The Chapter concludes with a summary.

4.2 Research Process

Research process has been described as a framework that a study must adopt when collecting and analysing data (Bryman, 2013). Bless, Higson-Smith and Sithole (2013) describe it as a blueprint, or a plan of action. Saunders, Lewis and Thornhill (2009) define it as the concerted effort put together to respond to the research objectives or questions. The plan, which is described as a 'research onion' by Saunders, Lewis and Thornhill (2012), captures critical aspects when attempting to answer the study's objectives. The research onion layers are shown in Figure 4.1 The stages considered for this study are described as follows:

Figure 4-1 Research onion



Source: Adapted from Saunders, Lewis and Thornhill (2012)

The outer-layer of the research onion represents the philosophy adopted for this study. A research philosophy refers to the development of knowledge in a particular field, and the nature of that knowledge (Saunders, Lewis & Thornhill, 2012). Bryman (2012) refers to the practices used for which data about the phenomena being investigated is gathered, processed, analysed and used. Exploring philosophical concepts assist the researchers in specifying the overall research design and the strategy. Two major philosophical approaches dominate the research spectrum, namely positivism (also known as objective or quantitative) and interpretivism (also known as subjective or qualitative) (Goldkuhl, 2012; Saunders, Lewis & Thornhill, 2003). There is no philosophy that is inherently better than the other, and hence the selection of one over another is at the discretion of the researcher, based on the problem in question (Bless, Higson-Smith & Sithole, 2013; Saunders, Lewis & Thornhill, 2012; Bryman, 2012).

This study adopted a constructivism-interpretivism paradigm. The researcher found this approach appropriate since it allows the researcher to learn more about the participants' perceptions and experiences related to the PPM in their environmental setting. The issues affecting the effective implementation of PPM cannot be separated from the actions or views of social actors (individuals). The researcher listened to the views and experiences of participants for a period and asked probing questions to explore ideas in more depth, without imposing meaning on the responses.

4.3 Justification of the Research approach adopted

The two most common methods of reasoning, namely deduction and induction are discussed in this study (Saunders, Lewis & Thornhill, 2012). Table 4-1 shows the salient features of these two approaches. Deduction, which owes much to its origin to scientific research, involves developing a theory, which is then subjected to some rigorous scrutiny through a series of propositions (Saunders, Lewis & Thornhill, 2012). That is, deductive reasoning is narrower in nature and is concerned with hypotheses testing or confirming (Saunders, Lewis & Thornhill, 2012).

Inductive reasoning, by its very nature, is more exploratory, and allows the researcher to collect data, which can be used to build theories or frameworks (Merriam, 2009;

Saunders, Lewis & Thornhill, 2012). It owes its origins to social science research, and that the researcher aims at learning more about a phenomenon to understand the nature of the problem better (Merriam, 2009). The product of this process is usually the development of concepts, or theory, which is often expressed as a conceptual framework (Saunders, Lewis & Thornhill, 2009; Merriam, 2009).

Table 4-1 Deduction and Induction Comparison

	Deduction	Induction
Logic	In deduction inference, when the premises are true, the conclusions are also true (Saunders, Lewis and Thornhill, 2012)	Known premises are used to generate untested conclusions (Saunders, Lewis & Thornhill, 2012)
Generalizability	From general to specific (Saunders, Lewis & Thornhill, 2012)	From specific to general (Saunders, Lewis & Thornhill, 2012)
Use of data	Used to test hypotheses related to an existing theory (Saunders, Lewis & Thornhill, 2012)	Used to build themes, concepts, learn more about the phenomenon, build conceptual framework (Saunders, Lewis & Thornhill, 2012)
Theory	Theory or hypothesis testing (Saunders, Lewis & Thornhill, 2012)	Generating theory or concepts (Saunders, Lewis & Thornhill, 2012)

Source: Adapted from Saunders, Lewis and Thornhill (2012)

Supporters of an inductive method have criticised deduction because of its rigid methodologies that fail to offer alternative explanations for phenomena. As already revealed, the aim and the objective of the study is to gather rich and in-depth explanations from the participants regarding the application of PPM in state-owned companies. The researcher particularly seeks to observe patterns in the data that may lead to the development of new theories or frameworks. According to Saunders, Lewis and Thornhill (2012), the majority of researchers commence their studies with a clearly defined question and objective of the study, although this may be altered during the lifespan of the research.

For the purpose of this study, induction, which is associated with qualitative research, is chosen over a quantitative approach. Some of the key features that differentiate quantitative and qualitative research are summarised in Table 4-2.

Table 4-2 The Characteristics between qualitative and quantitative research

	Qualitative	Quantitative
Type of knowledge	Subjective	Objective
Focus of research	Meaning	Frequency
Aim	Understanding, discovery, description	Generalizable and hypothesis testing
Sampling	Purposeful, theoretical, small	Random, representative, large
Data collection	Interviews, documents,	Questionnaires, surveys, tests
Nature of data	Field notes, quotations, documents,	Numbers, statistics Replication
Analysis	Thematic	Statistical

Source: Adapted from Saunders, Lewis and Thornhill (2012); Merriam (2009)

The table above compares the characteristics of the two kinds of research, namely, qualitative and quantitative. Quantitative studies aim to test predetermined hypotheses that are formed based on the existing theory or literature (a deductive process) (Weathington, Cunningham & Pittenger, 2010). The researchers' main emphases are primarily on the measurement and analysis, and less concerned with the process of getting to final product (Cooper, White & White, 2012). They rely extensively on the numbers and the statistics in the analysis, and in the interpretation of findings that are generalized from the sample to the population (Bless, Higson-Smith & Sithole, 2013). The size of the population is often large in comparison to the small size in a qualitative study.

Qualitative studies on the one hand, concentrate mainly on the participants interpreting their experiences, the meaning they attribute to the experiences (Merriam, 2009), and their aim is to capture rich descriptions of the context and participant's experiences (Saunders, Lewis & Thornhill, 2012; Merriam, 2009). Qualitative tends to focus on a rich description of a phenomenon rather than on its quantification. Bless, Higson-Smith and Sithole (2013) point out that qualitative studies are useful when the problem in

question has never been investigated before. It is widely associated with interpretive philosophy. Quantitative studies, however, are associated with positivism, assumes that reality exists, and can be interpreted (Merriam, 2009). It involves gathering knowledge about the reality in scientific and numerical form, which allows generalisation to a broader population (Bryman, 2012; Bless, Higson-Smith & Sithole, 2013; Merriam, 2009). Researchers using this approach are interested to the participant's interpretation of their experiences and the meaning they attribute to their experiences (Merriam, 2009; Cooper, White & White, 2012). This enables the researcher to generate new, or enhance existing views of events and real conditions in the environment (Cooper, White & White, 2012).

Data related to the participants' experiences about how PPM is viewed as a decision-making process in SOCs was collected. Thus, there is a need to investigate the extent to which PPM is currently viewed, perceived, and used, as a critical decision-making process in ensuring that ABC SOC delivers outcomes expected by its stakeholders. The aim is not to generalise across the wider population, but to investigate the effectiveness of PPM and enhance knowledge in the field of PPM. Data collected aimed at developing a conceptual framework of PPM for SOCs and was collected in textual form through interactions with the participants.

4.4 Justification of Research Strategy

The researcher, when choosing the appropriate strategy, considers that a reasonable level of coherence throughout the lifespan of the research design will assist in answering the research question(s) and meets the set objectives. Saunders, Lewis and Thornhill (2012) describe research strategy as a framework (blueprint) upon which the research is going to be based to answer the research questions. It aligns the study philosophy with the research methods chosen to gather and analyse data. Yin (1984, 1994) suggests that the researcher should allow sufficient time in formulating the research questions, since the study is based on them. This study the case study.

4.4.1 Case Study

A case study is defined as “an in-depth description and analysis of a bounded system” Merriam (2009: 40), particularly “when it is clear that the boundaries between investigation in question and context are not clearly evident” (Yin 2003). Hyvari (2014: 232) describes the case study as a method that is “generally considered to fit the research of complicated phenomena in their practical settings”. It is useful in gaining a deeper insights of the phenomenon being studied and when explaining phenomena (Eisenhardt, 1989). For example, when the study is interested in answering the ‘how’ and ‘why’ questions, a case study is appropriate. It provides rich descriptions about the investigation under the study (Merriam, 2009). Further, it is appropriate in circumstances where there is little previous research about the phenomenon being studied (Yin, 2003; Benbasat, Goldstein & Mead, 1987). Theory development, as opposed to quantification or enumeration is what differentiates case studies from others. However, to achieve this, the researcher should define the research question at the beginning, such that it is clear which type of organisation must be approached and what data and its characteristics must be collected. Like grounded theory, case studies are appropriate at the beginning of the study because of its independence from prior literature (Benbasat, Goldstein & Mead, 1987).

Given that there is a lack of sufficient PPM theoretical guidelines in the public sector, the selection of a case study is justified and appropriate to provide new perspectives (Laws, & McLeod, 2004). It also provides an opportunity for participants to explain why certain events and outcomes happen regularly, rather than to find out what those outcomes are. The investigations into the effectiveness of PPM in state-owned companies are a complex issue, which requires a thorough investigation into the conduct and behaviours of the portfolio decision makers in the organisations.

Selecting a case or a site is an important aspect of developing a theory in case studies, and is not to be taken lightly and should therefore be considered carefully (Yin, 2003). Single cases are useful at the outset of theory generation and late in theory testing. However, researchers are often faced with the decision about choosing either a single case or multiple cases. Various authors (e.g. Yin, 1984; Benbasat, 1984 & Eisenhardt, 1989) have written ample literature on the strength and weaknesses of single and multiple-case designs. A case study (ABC SOC) was selected from a group of large

state-owned companies in South Africa (mentioned in Table 1.1). ABC SOC has divisions and subsidiaries across South Africa. Although the selection was purposively done, it has features or cases to extend theory to a wide range of organisations. The researcher's goal was to select a case that will enable the replication or extend the theory emerging from the data (Eisenhardt, 1989). The aim was to study the experiences of selected cases and gather rich information to enhance the researchers' knowledge about the subject. Moreover, selection was based on firm characteristics such as industry, geographical location, firm size, the organizational structure, mandate, and processes and methodologies (Benbasat, 1987; Yin, 1994). In addition to the criterion above, this study follows previous criteria adopted by Kaiser, El Arbi, and Ahlemann (2015) of selecting companies that are required to make public all their strategic documents and annual financial reports for scrutiny.

Regarding generalisation, a lot has been written about the inability of case study to generalise. Laws and McLeod (2004) argued that it is possible to generalise from cases. They argued that generalisation in case study is analytical as opposed to statistically in quantitative studies. It is an inductive process which is performed through theory generating or conceptualisation based on the data from the case (Laws, & McLeod, 2004; Johansson, 2007). That is, a theory or concept is derived from the *facts* in the case (Johansson, 2007). Explained by Johansson (2007), the aim is to study the case in detail and then compared it to similar organisation studied in great detail.

However, the goal of this study was not motivated by generalisation. It was motivated by the need to "understand the site in depth and not necessary what was generally true of the many" (Laws, & McLeod, 2004: 16). For example, this study focused on the investigation of the effectiveness of PPM in public sector, a concept which has not been adequately researched. The study generated data which can assist the direction of future research and theory building (Johansson, 2007), for example, this study data was used to develop a conceptual framework which can possibly be exportable to other similar sites. In reviewing literature and analysing ABC SOCs, the researcher discovered that SOCs in African continent share universal characteristics such as culture or cultural values, stakeholders, socioeconomic factors, and are subjected to similar macro environmental conditions. Thus, instead of generalising, the findings of

this study (e.g. conceptual framework) may be used to study other attributes that can enhance our understanding of the effectiveness of PPM in other SOCs. What was learnt in a particular organisation can be transferred or generalised to other similar sites. This is how generalisations are made in accordance to grounded theory (Glaser & Strauss, 2017). The concept called transferability (Lincoln & Guba, 1985).

This type of method however, is not without criticism. The antagonists of case studies (e.g. Yin, 2003), argued that case studies lack vigour and have issues of bias as a result of the subjective views of the researcher and participants. For instance, due to the researcher being the primary instrument, this may allow biased views to influence the outcome of the study. Secondly, they argued that this method provides little basis for generalisation (Yin, 2003). Yin (1994) clarified the view about lack of generalisation by indicating that case studies like experiments are generalizable to theoretical propositions and not to populations. Despite the awareness of these limitations and criticisms, the researcher believes that a case study is deemed appropriate for addressing the study aim.

The next section discusses the population and sampling strategy used in the study.

4.5 Population and Sampling Strategy

In this section, the nature of study population and the sampling method used to select the participants is discussed.

4.5.1 Population

The concept of a population relates to the subjects from which data will be collected. This includes, for example, personnel who are familiar with, or who carry out the processes being investigated. A population can take the form of people, organisations, books, or products and services (Coldwell & Herbst, 2004). Incorrectly defining a population can introduce bias to a study. Thus, according to Eisenhardt (1989), the specification of the population assists to reduce extraneous variation and clarifies the domain of the findings. Prior to deciding on the population and the unit of analysis, a researcher closely examines the objectives to be pursued, and the time and budget

availability (Benbasat, 1984). A distinction was made based on the organisational size, its mandate and scope (Saunders, Lewis & Thornhill, 2009).

Since organisations are not human, and unable to represent themselves during the interviews, individuals that represent them, in particular those that are involved in the PPM decision-making process must respond on their behalf. In this case, employees and managers who are assigned with the running of their respective business units and who are central in identifying business needs, compiling business cases, requesting funding, and managing projects formed part of the population. In the case of ABC SOC, the population included the following personnel:

- i) Executive Managers (e.g. general managers)
- ii) Departmental Managers
- iii) Heads of Project Management Offices
- iv) Portfolio Managers
- v) Project Managers
- vi) Programme Managers
- vii) Financial Managers
- viii) Subject Matter Experts (e.g. business analysts, engineers and technicians)

4.5.2 *Sampling method*

Literature identifies two sampling categories, namely, probability and non-probability sampling methods used in research. Probability sampling uses statistical techniques for calculating sample size. In this approach, each element of the targeted population has an equal, probability of being selected in a sample. In this method, the researcher selects a sample randomly, and the probability of each sample being selected is known beforehand (Hair Jr, Black, Babin, Anderson & Tatham, 2011). The method calls for larger populations, and in some cases discourages a population fewer than fifty elements (Saunders, Lewis & Thornhill, 2012). The intention is to generalise the results from the study to the broader population from which it was drawn (Merriam, 2009). Thus, this method is associated with quantitative enquiries and therefore not suitable for this type of study.

This study adopted one of the non-probability sampling methods, namely, purposive sampling. Purposive sampling gives the researchers the freedom to select participants

and sites intentionally (Creswell, 2012). Thus, purposive sampling is designed to increase an understanding of selected participants' experiences, or for developing frameworks (Devers & Frankel, 2000). This is accomplished by selecting only subjects that will provide rich information necessary to answer a research question (Devers & Frankel, 2000). In this study, the researcher sought rich and in-depth data from the selected participants in order to learn important issues of the phenomena under investigation, and to unpack meanings. This was to enable the piercing of ideas, leading towards the development of a framework for the PPM. ABC SOC, one of the large state-owned companies that has more than 1000 executives that practice project management, was deemed suitable for in-depth insights into PPM.

Purposive sampling methods call for small sample sizes of between five and twenty-five for a qualitative study, using in-depth interviews as an instrument (Saunders, 2012). However, researchers must avoid samples that are small, since they may easily exclude key constituencies within the population, or contain too little diversity to explore the varying influences of different factors. That is, smaller samples work well if an appropriate purposive sampling has taken place because this ensures that the sample will be rich in terms of the constituencies and diversity it represents (Saunders, 2012; Ritchie, Spencer & O'Connor, 2003). Larger samples become difficult to manage when it comes to data collection and analysis (Ritchie, Spencer & O'Connor, 2003).

4.5.3 *Sample size and subjects*

Ishak and Bakar (2014) reveal that in a qualitative study, participants are selected because of their relevance to the research topic. As a result, qualitative studies rarely draw large sample from the studied population. Thus, they select their cases progressively, and continue to do so until saturation point has been reached (Ishak & Bakar, 2014). This is the point where repetition of stories occurs and no new information is revealed by participants. According to Saunders (2012), selected participants should demonstrate that: first, they have first-hand experience on the topic of study; second; they must vary in how they respond to issues under study; and lastly, they must demonstrate knowledge or expertise regarding the issue under study.

The size of the sample in the study was twenty-one and included the decision-makers and portfolio coordinators as shown in Table 4-3. The dual-informant arrangement helps to reduce common-method bias; and provides a better picture of the processes, information flows, and responsibilities of the analysed portfolios (Voss & Kock, 2013). For example, decision-makers were selected because they deal with decisions about which portfolios must be prioritized or selected on a case-by-case basis for each project presented, whereas the portfolio coordinators are tasked with the management of portfolios to ensure they deliver benefits as expected by the shareholders.

Table 4-3 Size and type of participants selected for interviews

Level of management	SITE A (No.)	SITE B (No.)	SITE C (No.)	SITE D (No.)	TOTAL (No.)
Decision Makers	3	3	2	4	12
Portfolio Coordinators	3	2	2	2	9
Total	6	5	4	6	21

In ensuring that the research question is adequately addressed, participants were selected in such a way that are likely to provide rich information and have the greatest insight into the study. Similarly, and to enable richness of data collection, more than one respondent (e.g. decision makers and portfolio administrators) was interviewed in each division. These participants were purposively selected and had the following characteristics:

- i) Key role players in the PPM decision-making process (decision maker and portfolio coordinators)
- ii) In-depth knowledge of the company's PPM processes.
- iii) More than five (5) years' experience in project and portfolio management since the majority of projects are multi-year and can take two or more years to complete.
- iv) Extensive experience and knowledge of strategic management planning – formulation and implementation.
- v) Employed full-time by the organisation.

Participants were contacted with the aim of introducing the study and requesting their participation. Interview dates and the venue for the interviews were confirmed with the participants.

4.6 Data Collection

The data collection methods and the instruments used for data collection are discussed in this section

4.6.1 *Justification of data collection method*

The choice of data collection instrument. Its form, and structure used in qualitative studies are influenced by numerous factors (Devers & Frankel, 2000). This includes the research purpose and problem; the degree of existing literature about the study; the resource availability, characteristics of participants, the number and complexity of cases; and finally, the agreements with the gatekeepers and funders.

Literature sources have listed several data collection methods available to choose from when conducting research (Saunders, 2012). Table 4.4 summarises widely and commonly used methods and their features.

Research strategies, such as surveys, experimental, narrative enquiry, and action research was deemed inappropriate for this study. For instance, most surveys are descriptive in nature and are often associated with quantitative findings. The data collection in survey strategy takes some form of structured process with limited choices of responses (Saunders, 2012). An experiment that attempts to study cause-effect relationships was also considered not appropriate for this study either. This is because data collection through this method does not rely on the explicit views of the participants, but on their behaviour (Bless, Higson-Smith & Sithole, 2013). Although this removes bias, this method is deemed weak when dealing with complex issues such PPM. With this approach, there is a lack of in-depth explanation from the participants. The investigation into the effectiveness of PPM in the SOCs, requires participants to provide their views and experiences about the phenomenon and therefore cannot be researched through this method.

This study adopts multiple data collection methods (triangulation), namely, interviews as a primary method for data collection, and document analysis as the supporting method.

Table 4-4 Summary of data collection methods

Strategy	Main attributes
Observation	Data is collected systematically by recording observations of people, or events. The researcher is, to some extent, very much involved in the process.
Interviews	Involves one-to-one encounters in which the researcher elicits information from the participants, who in turn provide answers. Unlike in observation, information is received directly from participants. Information can be gathered using structured, semi-structured an unstructured question.
Questionnaires	Respondents are asked to respond to pre-determined and sequential set of questions as well as more or less precise indication on how to answer each question.
Focus Group Discussions	Usually consists of a group of 6-10 Interviewees who are interviewed together using the list of broad questions, topic, or themes prepared by the researcher or facilitator. It is cheap and quick way of collecting information.
Experimental	In this technique, data collected is independent of what the participant's disposition. Pure experimental research, including those is done in laboratories.
Document Analysis	This involves interpretations of documents and records to gain insights relevant to the research topic

Source: Adapted from Saunders, Lewis, and Thornhill (2003).

Multiple data collection methods (triangulation) are often employed when collecting qualitative data in case studies (Eisenhardt, 1989; Benbasat, 1984; Yin, 1994). A more valid, reliable, and diverse construction of realities is achieved through engaging multiple methods (Golafshani, 2003). Patton (1999) argues that studies that use one method may be more inclined to encounter errors than those that use multiple methods in which different types of data provide cross-data validity checks. Interviews are useful when attempting to understand individuals' beliefs, behaviours, perceptions, attitudes, understanding, experiences, and perspectives of an issue (Merriam, 2009). In addition, interviews present an opportunity to the researcher to probe deeper into complex issues, learning more about the contextual factors that govern individual experiences. Documents provide a valuable source of information, which is ready for analysis without transcribing, compared with interview data (Creswell, 2012). This

includes written, digital, and physical materials such as letters, government documents, official records, and letters that are relevant to the study (Merriam, 2009).

4.6.2 Design of research protocols

As highlighted in the previous section, the study used semi-structured interviews as the primary method, and document analysis as a supporting method. The investigation into the effectiveness of PPM processes calls for participants to share their experience and their perspectives on the challenges facing PPM implementation in parastatals. Semi-structured interviews combine both the structured and unstructured questions. In addition, this type of instrument is highly individualized and contextualised, and is likely to produce data (e.g. feeling, thoughts, behaviours) which could not be observed (Eriksson & Kovalainen, 2008).

For example, an open-ended protocol is appropriate when the study is more exploratory or trying to build theory or understanding the phenomenon under the study (Merriam, 2009). In-depth and semi-structured interviews can be very helpful to uncover issues and to understand the context (Bless, Higson-Smith & Sithole, 2013; Saunders, Lewis & Thornhill, 2009). In instances where knowledge about the subject is not fully developed, and where the resources available, especially the participants time, are concerned, the use of interviews or open-ended protocol is appropriate (Devers & Frankel, 2000).

The semi-structured schedule was used as a guideline of questions for the interviews. Because the methods mix both structured and unstructured questions, probing of participants by researcher was made possible to seek clarity. Table 4.5 is the summary of a plan followed when data collecting and analysing based on each objective. The table highlights data that was collected, the source of data, data collection methods, and the method of data analysis used.

For example, for objective one, the table shows that the data related to the description of PPM was required. The sources of data are portfolio coordinators and documents related to project portfolio management. For objective two, the study required data related to participants' roles and their perceptions of the importance of the conceptualisation and execution of their organisational strategy. The sources of this

data are the decision-makers and documents related to strategy, and ABC SOC documents, such as strategy, financial statements, audit reports, and project portfolio management documents. For objective three, the data required was related to external factors and other key drivers that affect the effectiveness of PPM methods. The data was provided by both the decision-makers and portfolio coordinators, and external documents from key stakeholders and shareholders. For both the objectives, data was collected and analysed through unstructured interviews protocols, and document analysis and content/template analysis respectively.

From the table, the study designed interview protocol is attached as Annexure G. The interview schedule comprises of four sections; namely, A, B, C, and D. Section A deals with the participant's profile. This includes participants' age, gender, working experience, and their role in the field of project portfolio management. Section B addresses questions related to objective one of the study and deals with participants' perception and understanding of PPM methodology and its effectiveness in the company. Section C deals with objective two of the study and deals with participants' understanding and involvement in the conceptualization of ABC SOC strategy. Section D addresses objective three of the study, and relates to participants' knowledge about external factors that have an impact on the effectiveness of PPM.

Table 4-5 Summary of Data collection and analysis approach used in study

Research objectives (OB)	Data collected	Source of data	Data collection method (data instrument)	Data analysis method	Data analysis tools
OB ₁	Participants roles and their perceptions of the importance in the conceptualisation and execution of organisational strategy	Decision makers and project coordinators Documents related to Strategy Project portfolio management, Audit Reports, Financial reports	Semi-structured / unstructured interviews Document Analysis	Template / Content Analysis	ATLAS.ti
OB ₂	External factors and other key drivers in the PPM selection process.	Decision makers and portfolio coordinators. Strategic documents, DPE, Shareholders Compact Decision makers and portfolio coordinators	Semi-structured / unstructured interviews Document Analysis	Template / Content Analysis	ATLAS.ti
OB ₃	Description of the existing PPM decision-making processes	Project coordinators Project coordinators Documents relating to PPM	Semi-structured /unstructured interviews	Template / Content Analysis	ATLAS.ti

Source: Compiled by Researcher

4.6.3 *Period of data collection*

Two types of data were collected using interviews and document analysis. Interviews were conducted between September 2019 and September 2021. The document review took place from 2017 until 2022. All interviews took place in the participants' place of work unless objected to by the participants themselves. Each interview was tape-recorded and the data was transcribed.

The documents reviewed included annual financial statements, strategy documents, audit reports (both external and internal), shareholders compact, Department of Public Enterprise (DPE) strategic documents, National Treasury documents, project portfolio methodologies, and project artefacts (e.g. business cases, project charters and portfolio budgets).

4.7 Data Analysis

This section provides a discussion of the nature, types of data analysis and the procedures followed in the study to analyse data

4.7.1 *Nature and type of data analysis*

Data analysis is the process of understanding data and it involves reducing, condensing, interpreting people's narratives, perceptions, views and what has been collected and read so that impressions that make clear a research question can surface (Merriam, 2009). Analysis transforms data into findings by bringing order, insights, structure, and understanding to the mass of collected data (Patton, 2002). Qualitative data analysis is inductive in form and entails making some type of sense out of each data. This allows the researcher to identify patterns and relationships both within a collection, and across collections, thereby enabling the researcher to make general discoveries about the phenomena being researched (Merriam, 2009). Creswell (2012) recommends a generic approach to analysis that involves several generic steps. Analysis in qualitative study is done simultaneously with data collection (Merriam, 2009; Creswell, 2012). Merriam (2009: 171) explains, "Without ongoing analysis, the data can be unfocused, repetitious, and overwhelming in the sheer volume of material that needs to be processed".

In choosing the right data analysis approach, the researcher must determine whether the research is inductive or deductive (Saunders, Lewis & Thornhill, 2012). The choice of approach should be guided by the methodological position of the study in question (Saunders, Lewis & Thornhill, 2012). Several approaches to analysing qualitative data such as grounded theory, thematic analysis, template analysis, pattern analysis, analytical analysis, discourse analysis, and content analysis have been suggested (Bless et al., 2013). Template analysis, which is another form of content analysis, is adopted for the purpose of this study. Template analysis as described by Saunders, Lewis and Thornhill (2012) is essentially a template that consists of a group of codes or categories listed and grouped together as themes generated from the data collected. The data generated include content that has been generated from interviews, field notes and documents that have been analysed (Merriam, 2009). The process entails simultaneously coding of data and development of themes and categories that captures the important attributes of the study (Merriam, 2009).

4.7.2 Steps followed to analyse data

The process of analysing data began immediately after the first data had been collected. Creswell (2012) pointed out that analysing data in a qualitative study should not wait until full information has been collected. The process begins with data processing and preparation by ensuring that the scripts are reviewed, edited, and enhanced where content is missing.

Step 1: The researcher started the process by re-arranging, summarising, and paraphrasing the data collected. All the raw materials, such as recorded interviews were transcribed by a professional transcriber and written-up. Transcribing is a process of transforming interview recordings into textual data (Creswell, 2012). This includes identifying codes in advance (a process known as priori codes) which are expected to be relevant to the analysis. For example, in this study, in objective one, the researcher looked for themes and codes such as methodologies, selection process, and ranking (prioritisation) techniques. In objective two, the researcher looked for themes or codes such as strategic formulation and implementation, alignment between strategy and PPM, and integration. In objective three, the researcher's interest lay in external themes such as politics or governance.

Accordingly, the researcher sought explanations and understanding from participants about factors that affect the effectiveness of PPM. Upon completion, the researcher began with data processing and preparation by ensuring that the scripts are reviewed, edited, and where content is missing is noted.

Step 2: In this step, researcher read the data carefully, marking any segments that appeared to indicate something of relevance to the research objectives. A thorough editing process makes the job of coding easier (Zikmund, Babin, Carr & Griffin, 2010). The researcher spent a considerable amount of time re-reading the transcribed interview data to gain a deeper understanding of the information collected. Reading material several times gives the researcher a better understanding of the information supplied by participants. While doing this, the researcher simultaneously analysed the information collected, identifying ideas, themes, categories, and coding data. This is to allow the researcher to develop a framework which will serve to highlight the crux of what has been revealed by the data.

Step 3: The third step required carrying out initial coding. The main function of coding is to label the most important things. Zikmund *et al.* (2010) defined codes as rules for interpreting, classifying, and recording data. The assigned codes represent the meaning of data. In this initial stage called first cycle coding, the researcher looked for threads that bind the bits of data together (Saldana, 2013).

The process of coding requires the researcher to identify segments of transcripts that correspond to, or are relevant to the research objectives, and where such segments correspond to themes identified, they were coded as such. Otherwise, new themes were defined to include relevant material and are organised into an initial template, which is normally undertaken after initial coding of a sub-set of the data. The process was done iteratively without having to wait until all the data had been collected. The identification and coding of themes and segments relevant to the study of project portfolio management (PPM) process continued until the researcher was satisfied that the template provided a good representation of the themes identified. The transcripts made the research question, objectives, and underlying theoretical basis for the study clear. As an initial orientation to the data, the researcher first read the transcripts, as soft copies, and noted initial thoughts around the overall messages and meaning of

the data. This process is called open coding. Coding was done with the aid of Computer Assisted Qualitative Data Analysis Software (CAQDAS), ATLAS.ti™ 8 as follows:

The researcher loaded the transcripts into the CAQDAS, ATLAS.ti™ 8, adopted for use in this study, and which has been used widely by many theorists and scholars. In ATLAS.ti™ 8, the transcript was treated analytically through the assigning of initial descriptive codes. Coding remained close to the text as the coding was done inductively, with no code book provided (Hruschka, Schwartz, St. John, Picone-Decaro, Jenkins & Carey, 2004). Four main prefixes of codes were used based on the outline of the study (Friese, 2014). They tie in with the main objective of developing the conceptual framework. This includes:

- a) PPM: Project Portfolio Management
- b) STRAT: Strategy
- c) S-HOLD: Stakeholders
- d) STRAT-PPM: Strategy-Project Portfolio Management

Prefixes are then followed, after the _, by specific analytical phrases that uncover the views of the participants (Friese, 2014; Saldaña, 2013).

Two cycles of coding refined and better grouped the codes. The final codes numbered 80, which is a useful and discerning number of codes (Friese, 2014). The codes were then grouped into categories, based on the four prefixes (three groups). The data provided strong and rich code-to-quotation linkages in support of the objectives:

- i) Objective 1: alignment between strategy and the portfolio.
- ii) Objective 2: environmental factors that influence effectiveness and decision-making.
- iii) Objective 3: PPM practices and processes and techniques that are used within the organisation.

For the first research objective, codes were assigned or defined as statements, sentences, or phrases that illustrate the experiences or perceptions participants have towards how the organization strategy's and portfolio of projects align. The researcher then checked for any clues that support, or may be useful in answering the objective. In addition, the researcher searches for similarities and differences in the data. The

supporting statement or phrases were highlighted and copied to a comment section of the coding template. Similar coding steps were followed for the second and third research objective. A list of codes was generated.

Step 4: The whole process ended with the researcher developing a coding 'template', which summarises important themes identified in a data set and arranged in a meaningful and useful manner. Hair Jr. (2011) explains that drawing conclusions and the verification of findings is the last step in qualitative data analysis. The process of drawing conclusions entails trying to understand the meaning of themes and patterns identified, and how they serve the study. Essentially, these themes were grouped together into smaller chunks of higher order codes, which describe broader themes in the collected data. The final version of the template is used by the researcher to interpret the data and writing up findings.

The researcher, using his own coding reports, invoked the appropriate theories from the study and created the alignment to the objectives. From an integration of these objectives, the original contribution of the PPM conceptual framework, which can be applied across ABC SOC was then theorised.

4.8 Limitations and Reduction Strategies

This section provides the study limitations and further discusses strategies that were used to mitigate their impact on the study.

4.8.1 Study limitations

Limitations are the inherent design or methodology parameters that are outside the control of the researcher and have the potential to restrict the scope of the research findings. Major limitations in qualitative study are its perceived lack of generalisability (Creswell, 2012). For instance, when it comes to issues of validity, qualitative design has been criticised for lack of applicability of findings to broader contexts (that is generalisability) and its inability to remain free from bias in the research process (Whittemore, Chase & Mandle, 2001). This is because, unlike in quantitative studies, qualitative studies are open-ended, and less structured (Johnson, 1997). Another concern in the qualitative approach is that the researcher is the primary instrument for

data collection and data analysis (Merriam, 2009). The possibility of the researcher becoming involved with the participants they are studying could lead to potential bias in the study, especially if the researchers fail to separate their own perceptions and views from those of the participants. This may actually distort findings, thus resulting in a lack of objectivity on the findings.

Another limitation is that the selection process of qualitative studies is usually selective and small due to the in-depth nature of the studies and the analysis of the data required. For this study, only few individuals who are experienced and knowledgeable in the field of project and portfolio management and strategy were chosen for participation thereby limiting significant number of participants. The small sample could be interpreted as the researcher trying to influence a particular predisposition, thus, affecting the generalisability of the small-scale study, thus resulting in low population validity.

The study also coincided with the State-Capture investigations which involves ABC SOC and as a result, it was a challenge to get all key participants that were earmarked for the study hence the time it took to complete the data collection and analysis. Moreover, the amount of time demanded to process and code the data are often cited as reasons for not following a qualitative research design. This is because the amount of data generated can become overwhelming to some researchers, who may find it difficult to scale down the scope of the study, thus concentrating on a few manageable areas. This may in turn render the study ineffective and poorly focused.

Despite these limitations, qualitative studies have many qualities and strengths. For example, the data that is produced in a qualitative study represents participants' true experiences and reality. The focus is on the whole of the human experience and the meaning ascribed to their experiences by the participants. Flick (2014) identified the essential features of qualitative research as: (a) choosing appropriate methods and theories; (b) recognition and analysis of different perspectives; (c) the researcher's reflections on their research as part of the process of knowledge production (reflexivity); and (d) the variety of approaches and methods. In essence, the qualitative study appreciates complexity and multiple realities as opposed to a single truth as in quantitative research. The researcher in this study, through the interviewing process,

was able to study complex issues and experiences and gather deep insights that would not have been possible using quantitative methods. In the context of this study, the researcher considered multiple 'realities' experienced by the users of the PPM process (the 'insider' perspectives) as part of understanding this complex phenomenon. In terms of analysing qualitative data, analysis is more iterative, less technical, less prescribed, and less "linear" than quantitative analysis.

The next section discusses factors that may potentially reduce the quality and validity of the study.

4.8.2 Strategies to improve rigor

While the previous section dealt in detail with the limitations of the study, this section attempts to address some of the limitations and weaknesses in the qualitative methodology. The researcher undertook strategies to enable the reduction of limitations in the study and ensure that the issues of trustworthiness (reliability and validity) are addressed. Although criticised by positivists, the criteria used to judge or evaluate reliability and validity in qualitative studies are quite different to those that have been used by traditional quantitative researchers (Shenton, 2004; Bryman, 2012). To ensure reliability and validity, the examination of trustworthiness is crucial (Golafshani, 2003). Authors such as Lincoln and Guba (1985), Brynman (2012) and Bless, Higson-Smith and Sithole (2013) reveal that the concept of trustworthiness evaluates the quality of the research based on four criteria: transferability, dependability, credibility, and conformability. These are discussed below:

4.8.2.1 Transferability

Transferability is also known as external validity concerned with generalisability of the study. In other words, it concerns the extent to which the results and findings of qualitative study can be applied to other settings (Merriam, 2009). That is, it is impossible to demonstrate that the findings and conclusions of qualitative studies can be applicable to other situations (Shenton, 2004). Although the main aim of this study was not to generalize, the researcher has provided detailed descriptions of the context under which the data was collected, and the assumptions that were central to the research to enhance the transferability. This, according to Bless, Higson-Smith and Sithole (2013), allows other researchers who wish to compare and transfer the results

to a different context to have an informed judgment of how sensible the comparison and transfer is.

4.8.2.2 Dependability

The idea of dependability has similar traits to reliability (Lincoln & Guba, 1985). In essence, it is preoccupied with producing the same set of results if the same study is replicated (Merriam, 2009). Dependability requires that the study results are consistent with data that is presented (Merriam, 2009). An audit trail is one strategy that a researcher can use to ensure dependability (Merriam, 2009). This strategy requires a researcher to describe clearly how data was collected, coded, categories were derived, analysed, and how decisions were taken throughout the study, if the research is to be believed (Bless, Higson-Smith & Sithole, 2013; Merriam, 2009). In other words, the researcher is expected to safeguard all records related to the research process (Bryman, 2012).

In this study, dependability is ensured through the researcher documenting the methodologies, procedures, processes, and techniques used – the method called an audit trail (Merriam, 2009). This will allow other researchers to repeat the study if necessary. The researcher further ensures that all interviews are digitally recorded and transcribed verbatim. In ensuring that there is an auditability of every script against the original recording, a professional transcriber was hired to transcribe the interviews.

4.8.2.3 Credibility

Ensuring credibility is one of most important factors in establishing trustworthiness (Lincoln & Guba, 1985). It seeks to convince that the findings of the qualitative studies are credible and represent the truth, or reality under study. In this criterion, the researcher must demonstrate that the research has been carried out in accordance with the canons of good practice, and must therefore be able to submit the findings of the research to the participants for confirmatory purpose. Essentially, the participants of the study are the only ones who can legitimately judge the credibility of the results. For the purpose of this study, triangulation, which involves the use of multiple methods and multiple sources of data is used to enhance credibility (Merriam, 2009). Triangulation entails comparing various sources of data; checking consistency of participants' responses about the same phenomena over time; or comparing the

perspectives of people from different points of view (Patton, 1999). Credibility in this study was enhanced through the use of the following:

- i) First, the use of multiple sources of data, such as interviews and document analyses. For example, participants' viewpoints and the experiences shared during the interviews were verified against company documents available in the public domain.
- ii) Second, using an experienced, trained researcher with extensive knowledge in the field of PPM.

Furthermore, and in agreement with Shenton (2004), each participant was given opportunities to refuse to participate in the study to ensure that data collection sessions involved only participants who were genuinely willing to take part and prepared to offer data freely. Saunders, Lewis and Thornhill (2012) advised that the researcher should preserve the records in the form of notes relating to the study design, and the motivations for choosing the type of strategy and methods used, including the data collecting instrument used. This will allow other fellow researchers to use the same set of information should they want to understand the processes that were used and further allow them to repeat data analysis using the same set of data. All the records, methods, and tools used for the purpose of this study are preserved for future use.

4.8.2.4 Conformability

Conformability, which is similar to replicability and objectivity, is concerned with the actions of the researcher. In other words, it looks at whether he has exercised his duties in good faith and has not allowed his own belief and views to influence or sway the direction of the study and the outcome of study (e.g. findings) (Bryman, 2012). That is, it refers to the extent to which the results can be collaborated or confirmed by other researchers. That is, different researchers should be able to obtain similar findings, having followed the same approach /process elsewhere in a similar context. Steps were taken in this study to ensure that the study's findings represent the beliefs, experiences, and perceptions of the participants, instead of the characteristics and preferences of the researcher. The researcher documented all processes or methodologies that were used in this study, explaining why certain approaches were chosen over others.

4.9 Ethical Issues

Ethics are key fundamental aspects in conducting research. The primary goal of ethics is to reduce risk to participants. According to Saunders (2012), ethical issues emerge during the design and planning phase of research, when seeking access to organisations and participants including collecting, analysing, and reporting data. This study had to conform to ethical codes for research. There are a number of ethics standards, guidelines, and principles that are designed to support the researchers in their scientific inquiry; and also to ensure the right to privacy of the participants (Saunders, Lewis & Thornhill, 2009). Table 4.6 summarises these principles and how each one was addressed in the study.

Table 4-6 Summary of ethical issues and how they are addressed

Ethical issues	How it was addressed in the research study
Informed consent	Introductory letter (Appendix A) describing purpose and objective of study sent prior to conducting interviews.
Voluntary Participation	Participants informed of their right to participate or not
Any form of harm to participants, confidentiality and anonymity	The identity of participants was not disclosed to anyone. Names were not used.
Falsification of data or prejudicing research method	University of South Africa Ethics committee approval before data collection was obtained following research design approval.
Plagiarism	Proper citation and referencing if sources used
Seeking permission to conduct research	Letter to the chief executive officer requesting permission and approval to conduct research.

Source: Compiled by researcher

Two of the key principles that researchers should adhere to is informed consent and voluntary participation (Saunders, Lewis & Thornhill, 2012; Flick, 2014; Bless, Higson-

Smith & Sithole, 2013). Participants have a right to participate voluntarily or to decline to participate, and this right should not be taken away from them.

Moreover, prospective participants must be fully informed of all the procedures, risks, benefits, expected outcomes, and alternatives before agreeing to participate. In this study, the researcher did not force or coerce any of the participants to participate in the study. Instead, the researcher drafted letters to all prospective study sites (Appendix A, B, C) and participants (Appendix D), describing what the purpose and the aim of the study and further reminding them of their right not to participate, and that they could withdraw at any given time. Participants were recruited without any offers or promises of any incentives.

In terms of the researcher's responsibility for maintaining confidentiality and anonymity (Flick, 2014), the researcher assured the participants that both will be observed. In particular, participants remained anonymous throughout especially in the reporting of results. To achieve this, the researcher assigned a number or an identifier to a participant's data to ensure anonymity of the data throughout the duration of the study. Names were avoided at all costs.

The principle of non-maleficence (avoidance to harm), which seeks to prevent any harm to the participants was assured. Harm may occur intentionally or unintentionally through risks to emotional wellbeing, stress, embarrassment, unauthorised identification, pain, or conflict (Flick, 2014; Saunders, Lewis & Thornhill, 2012). Thus, the researcher must be aware of these events and should ensure there are adequate processes to prevent this from occurring. Plagiarism, which is the act of taking another's person material and insinuating or passing it off as one's own, was avoided through proper citations and referencing.

In keeping with the principle of integrity, the quality of the study hinges on the integrity and objectivity of the researcher. This principle requires the researcher to be transparent, truthful, honest, and to promote accuracy (Flick, 2009; Saunders, Lewis & Thornhill, 2012). This principle was adhered to by the researcher throughout the process. The researcher did not try to influence the process in any way, and allowed the participants to express themselves freely.

To ensure ethical standards are adhered to, ethical committees have been established to examine the research design and methods before they can be applied (Flick, 2009). The University of South Africa established the Ethics Research committee, which evaluates and grants approval to all studies before work is carried out. In doing so, the committee helps to protect both the university and the researcher against potential legal implications of neglecting to address important ethical issues of participants. Ethical clearance approval, attached as Appendix E was granted before any work could be carried out. In addition, ABC SOC gave an approval (Appendix F) to conduct the research in its organisation.

4.10 Chapter Summary

This chapter discussed the research design and methodology that was used in study. It provides a justification for use of the case study approach. It explained that the research objectives required an in-depth investigation in ABC SOC, and hence a qualitative type of study was adopted.

A description of the methods that were used in the collection of data was also provided. The investigation into the effectiveness of the PPM processes called for the sharing of experiences and perspectives regarding the challenges facing PPM implementation in ABC SOC. The use of open-ended interview questions allowed the researcher to gather rich data that capture and describe the emotions and experiences of the participants. The chapter also discussed content analysis as the major technique for analysing data that was collected from documents.

The chapter ends with a presentation of the study's limitations, and mitigation measures to reduce their impact on the study, including steps taken to ensure that credibility of the study was not compromised. This was followed by a discussion about ethical considerations of the study.

CHAPTER 5 : RESULTS AND DISCUSSION OF FINDINGS

5.1 Introduction

This chapter discusses the results and findings from the study, which investigated the factors that influence the effectiveness of the PPM as a decision-making tool at ABC SOC. An evaluation was conducted regarding how strategy and project portfolio management (PPM) practices and methodologies work together to ensure alignment of project outcomes and organisational strategic needs. The study also investigated the coherence between the organisational strategic objectives and its mandate.

The first part of the chapter provides a profile of the participants of the study, followed by a discussion of the results and findings of each objective of study, namely, PPM effectiveness of methodologies and practices; strategic alignment of portfolio of projects; adaptability of ABC SOC to the external environment; and lastly the overall effectiveness of PPM systems. The chapter ends with a summary.

5.2 Profile of Interviewees

Twenty-one (21) interviewees participated in the study and provided in-depth responses to the questions based on the interview protocol (provided as Appendix H). The interviews were conducted in a friendly environment chosen by each participant. Although the participants set a time for the interviews, in some cases interruptions occurred when they had to attend to urgent operational matters. However, all interviews were completed successfully.

The interviewees that took part in the study were chosen based on their contribution to the process of either strategy formulating, strategy execution, or both. The participant's selection criteria centred around the premise that they would provide deeper insight into, strategy formulation and execution based on the experiences. Tables 5.1 to 5.4 provide a summary of the respondents' profiles. Of the twenty-one (21) Interviewees who participated, only four (19%) were females as indicated in Table 5.1.

Table 5-1 Participant gender

Roles of the participants in the organisation	No. of participants	Ratio
Females	4	19%
Males	17	81%
Total	21	100%

Table 5.2 indicates the respective designation of the participants in the organisations. Decision-makers were represented by the participation of the business, financial and procurement owners, whereas the portfolio administrators included portfolio owners, project and program managers. Their level of involvement in the strategic planning process was further illustrated by their experience, indicated in Table 5.3 and Table 5.4.

Table 5-2 Participants roles in PPM

Roles of the participants in the organisation	No.	Ratio
Financial owners / CFOs / Financial Managers	3	9.5%
Procurement Officer / CPO	2	9.5%
Strategy	3	19.0%
Business Owners / GM's	2	9.5%
Business Case Analyst / Business Analysts	2	9.5%
Portfolio Owners (PMO Heads)	3	14.3%
Program/portfolio Managers	2	9.5%
Project Managers	4	19.0%
Total	21	100.0%

Table 5-3 Participants' involvement in Project Portfolio Management

Period involved in PPM	Response	Ratio
More than 10 years	10	48%
More than 5 years up to 10 years	11	52%
0 to 5 years	0	0%
TOTAL	21	100%

Overall, the participant's experience and their level of participation in the PPM process was deemed adequate, as demonstrated in Table 5.3. For instance, all

(100%) had experiences of more than five years in project portfolio management or a similar process.

Table 5-4 Participants involvement in Strategic planning

Period involved in Strategy	Response	Ratio
More than 10 years	12	57%
More than 5 years up to 10 years	8	38%
0 to 5 years	1	5%
TOTAL	21	100%

Furthermore, Table 5.4 indicates that almost all (95%) participants had over five years' experience in strategic planning. It was deemed that their experience was adequate to provide a deeper understanding and knowledge about the workings and the challenges of the current portfolio management process. From the foregoing, the data provided by the interviewees may be deemed credible.

Project portfolio management methodology and practices are discussed in the next section.

5.3 Strategic Alignment

Strategic alignment refers to the alignment between organisational strategy and the portfolio of projects. This is to ensure that there is a balanced and executable portfolio of projects that will assist the organisation to achieve its strategic objectives (Hyvari, 2014; Too & Weaver, 2014). Despite the unclear distinction between strategy and the PPM process, the literature review indicated that they may be linked by the two constructs; namely, (i) strategy planning process; and (ii) integration. Therefore, these were investigated to establish the fit between the strategy of the organisation and the portfolio chosen for implementation as discussed in the next sections.

5.3.1 *The strategy planning process*

As already noted, the main objective of the strategic planning process is to establish a well-balanced, well capacitated, and executable plan that will assist the organisation to achieve its intended strategic objectives. To achieve this, various scholars have

suggested that there should be a strategic fit that exists between the internal and external environment. To assess the effectiveness of this facet and in respect of ABC SOC, four aspects were investigated; namely (i) level of understanding of the national strategic role; (ii) level of understanding ABC SOC strategy; (iii) allocation of resources during budgeting; and (iv) monitoring and review of strategy.

5.3.1.1 The level of understanding of the national strategic role

Interviewees were asked to provide a detailed understanding of the role of ABC SOC as a strategic entity for the South African government. The mandate of ABC SOC is to assist the South African government in the provision of a national water and land based efficient and effective transport system in order to facilitate the lowering of cost of doing business, and stimulate economic growth and job creation. To a larger extent, the respondent's views were unanimous about the organisational role and its responsibilities towards discharging the country's macro responsibilities. The interviewees agreed that ABC SOC is a strategic national asset with a responsibility to ensure that its mission supports the goals of the government. One respondent (Respondent 19) noted:

"ABC SOC has actually a dual mandate. One part of it is obviously self-sustaining and the second part is social a mandate. In other words, the building of infrastructure to facilitate economic growth and creation of jobs."

Respondent 6 added that:

"ABC SOC is a national strategic asset whose strategic objectives must benefit the country. Its strategy is not just about the bottom line but must involve a wider developmental scope"

The above views regarding the role of ABC SOC towards building the government's developmental goals were reiterated by other respondents who noted that its mandate was never to maximize profit alone, but to do so in a manner that contributes to socio-economic advancement. They further demonstrated the link that exists between the goals of government and the objectives of their organisation. This was clearly articulated by two respondents (Respondent 16 and Respondent 8) who noted that:

"We take our cue from government policy, like the national infrastructure plan, Department of Public Enterprise (DPE), the State of Nation Address and others"

(Respondent 16) and *“...its strategy must be informed by the government strategic initiatives both from a socio-economic point of view as well as ensuring that ABC SOC plays its role in the society that it is meant to serve”* (Respondent 8)

On a smaller scale, respondents indicated that ABC SOC’s role includes a developmental role that supports small enterprises through business incubation programs and financial assistance. From the above insights of respondents, the PPM process should run seamlessly and produce portfolios that are aligned not only with the organisation’s objectives but also aligned with the government’s macro-economic goals. That is, the decision-makers ought to strike a balance between organisational financial sustainability and social economic activities when decisions are made to what should constitute ABC SOC’s portfolios. Similarly, the same must happen when dealing with operational activities. Respondents concurred that there must be a balance between organisational sustainability projects and social and developmental projects when choosing organisational portfolios.

From the above, the conclusion can be made, that to a larger extent, there is an understanding of the strategic role that ABC SOC should play towards contributing to the achievement of the macro and socio-economic goals of the government.

5.3.1.2 Level of Understanding ABC SOC Strategy

Participants were asked to provide their understanding about the nature of the strategy formulation process. There was a unanimous acknowledgement of its formal existence. They noted that it is conducted annually and often kicks-off a few months before the financial year-end. ABC Group SOC is the custodian of the strategy and it has a five-year span. The strategy, among others, prescribes the growth targets for its divisions in order to support the country’s socio-economic policies described in the National Developmental Plan (NDP) 2030 document (National Planning Commission, 2011b). One of respondents (Respondent 15) emphasised this point by noting:

“The whole process is governed by National Treasury guidelines (Schedule 2), that the entity must have a 3 to 5 year’s corporate plan. The Group identifies strategic objectives that need to be achieved in consultation with the government. This is included in the so called the Statement of Strategic Intent

(SSI) issued by Department of Public Enterprise, which lists ten (10) strategy focus areas for our organisation.

This was further highlighted by another respondent (Respondent 18) who noted that:

“...using the shareholders compact, ABC SOC will conclude its own strategy taking into consideration where the markets are expanding or emerging as well as considering the country greater good and also focusing on public-private partnership”

From the above, two documents were of interest; namely, the Statement of Strategic Intent (SSI) and the Shareholders Compact. The SSI emanates from the National Development Plan (NDP) and Department of Public Enterprises (DPE) documents and has ten focus areas, which may be viewed as government targets for the transport sector whereas Shareholder Compact contains shareholder expectations in the form of predetermined objectives and key performance indicators. It ensures the alignment between the Board and the Shareholder Representative (e.g. Minister of Public Enterprises). Progress in respect of the performance indicators is continuously reviewed by the Board and is reported quarterly to the Shareholder Representative (ABC, 2010).

When asked to describe the strategy process, the majority of respondents (e.g. 17 out of 21) highlighted that ABC SOC follows a top-down approach to strategy development in the sense that the top-executives are the ones who formulate and identify strategic objectives together with DPE, and one respondent sums it succinctly as follows:

“Executive managers and senior managers will embark on a strategic breakaway planning sessions whose output is a strategy document and the area of focus for each business unit. This is then communicated to staff for input or comments”

From the view expressed above, little is mentioned about the involvement of broader stakeholders which include external stakeholders such as society, politicians and funders such as the Banks. However, not everyone (e.g. Respondent 6,10,13,15) was in agreement with the majority views expressed. They highlighted the fact that

although the strategy can be seen as the responsibility of the top-executives, the ABC SOC attempted to mix both the approaches. For example, Respondent 6 stated:

“In terms of the approach from the Group, they tried to mix the top and bottom up approaches and involve employees, but the bottom line is that it's not working”.

In support, Respondent 10 explained:

“We go to all the regions or terminals and engage them, particularly looking at the priorities for each terminal and their customers. So, we try to make sure that the top-down approach is informed by the bottom-up and the reality on the ground. So, we then have close sessions and craft each specific region's strategy”.

What these responses demonstrate is that ABC SOC strategic planning process is in place but may not be comprehensive and flexible enough to deal with the changes and dynamics in the macro-environment.

In addition to the alignment between the government and the ABC SOC, the respondents demonstrated a good understanding of the strategic alignment between the ABC SOC and its divisions. ABC SOC circulate shareholders compact, described above, and the divisions embark on a strategic process of crafting their own divisional objectives and targets as described by one respondent (Respondent 4) who noted:

“...at the formal annual strategy planning workshop, divisions review previous targets and then set new targets. Essentially, we attempt to answer three questions: what's our plans for the next year? How do we achieve it; and what support is required?”

Highlighting the subsequent steps in the process, the majority of interviewees (e.g. 14/21) emphasised the need for the internal and external analysis of the environment. For example, one respondent (Respondent 2) highlighted the importance of divisions engaging with various stakeholders, customers, and suppliers before crafting strategic objectives; He noted:

“...we look at the stakeholder's feedback from the engagements and interactions. For example, we look at key issues that our customers and our

stakeholders, in particular, would like us to address. So, we identify their concerns and their expectations. Some of the issues and concerns identified become risks while some become strategic opportunities. Based on these, we then start to craft strategic objectives for our division”

In support of the existing process, several respondents (e.g. Respondent 6, 8 and 10) further described how the various business units go about operationalising the strategy. They revealed that each business unit does their own in-house SWOT analysis, evaluation of business units in terms of operational performance, financial performance, and compliance from a legal and environmental perspective to determine the capacity and the capabilities they need to support organisational strategic and operational objectives. The outcome of that process would then translate into a list of initiatives and operational activities.

In conclusion, the results have indicated that ABC SOC strategic planning process is not yet mature and there are still barriers that can hamper any potential benefits arising from the process. The company still prefers the formal top-down approach in conceptualising its strategy despite it being widely criticised. The environment in which SOC operates is characterised by variabilities and instabilities and as a result, strategic planning should be more dynamic. Moreover, there is little evidence that suggested that, adequate scanning of the macro-environment which may include incorporating societal social needs, economic factors, customer’s needs and factoring of other political considerations. Bryson, Edwards and Van Slyke (2018), found that for public sector, having political support is essential in formulating and implementing strategy especially during resource allocations. They revealed that increased stakeholder’s participations (both internally and externally) has a positive effect on the objectively measured overall performance of the organisation. This will ensure that there is an alignment between the ABC SOC goals and that of the government.

5.3.1.3 Allocation of resources during budgeting

Without the effective allocation of resources, strategy can never be translated into meaningful outcomes, as implementation is impeded. The allocation of resources consists of the estimation of resources required for the project and the subsequent approval process. During this stage, business units finalise their ‘wish-list’ of initiatives

followed by a compilation of a high-level business case to justify the viability of the initiatives, and the resources required, and hence the budget. While this process on paper appeared to be well developed and formalised throughout ABC SOC divisions, concerns regarding the time taken to get budget approvals was raised by the majority of the interviewees (e.g. 17/21) who noted that the process is protracted and time consuming. They expressed their displeasure about the period it takes to get an approval as one respondent (Respondent 16) sums it well:

“Sometimes the process can take more than 12 months just to get a go-ahead for project budget especially if the budget request falls outside the authority of the divisional executive. The timelines become worse if the budget must be approved by the Minister of Public Enterprises...”

Notably, respondents attributed this lengthy process due to government regulations that must be complied with, as noted by Respondent 17 who stated that:

“The SOCs are overburdened by this Public Financial Management Act (PFMA) and National Treasury Regulations which are not flexible for their benefit. For example, the National Treasury supply chain processes and PFMA compliance places burden on us when we had to procure goods and services”

In some cases, this protracted and lengthy process is a result of some initiatives and projects that lost their relevance to the current strategy, and which delivered no value to the portfolio. As a consequence, the respondents attributed this failure to the lack of agility and flexibility of the strategy process. Additionally, respondents (e.g. Respondent 4, 9,11, 15,16, 19, 20) raised concerns regarding what they perceived as skewed prioritisation when resources such as funds are distributed to business units and divisions. They argued that skewed prioritization and allocation of resources is the reason organisations fail to deliver on their strategy targets. One respondent (Respondent 4) commented on the anomaly by noting that:

“The problem is that we (divisions and business units) are asked to submit our strategy, budget and operational targets. We spent time analysing the operational gaps and key business risks and challenges we must address to meet the Group targets. To our surprise, you find that the Group will reduce the budget even though we can fund everything from our balance sheet”.

Two respondents (Respondent 16 and 15) emphasized the skewed budget allocation process in quantitative terms by noting that:

“The allocation is done at a Group level based on different priorities and does not mean that even if operating division seriously needs R1 billion, they will get it. Instead they may be allocated as little as 20% (R200 million) of the required amount...” (Respondent 16);

while another (Respondent 15) noted:

“The misalignment happens between the group and us (divisions). You find that, for example, we require R100 million to achieve our set objectives and targets but only R50 million is given”.

In other words, the respondents began to question the rationale and the objectivity of the investment committee members. This is despite the fact that the committee usually consists of representatives from the various divisions (e.g. CEOs and CFOs). Others questioned continued allocations of budget to projects that are struggling, and which have been extensively delayed (e.g. by over three to five years) as expressed by one respondent (Respondent 6) who noted that:

“...we don't know what the Group uses as a basis for their decisions. For example, our division is able to sustain and fund itself but because the decisions are made at Group level, you find that our budget is used to fund divisions that are not self-sustaining such as the rail divisions. This affects the performance of our operations and subsequently our ability to deliver on the overall objectives.

When prompted about the impact of such cuts on the overall strategy, the respondent added that:

“We just do as we are told. We are not privy to the discussion between the Group and the Department of Enterprise”

The results indicate a huge disconnect that exist in the organisation relating to transparency in the decisions making process, in particular when it relates to the allocation of financial resources. Although it is evident that there are formal and well documented processes internally, many interviewees (e.g. Respondent 1, 2, 3, 10, 14, 16, 17,20) argued that what actually happens in practice is the opposite of what is on

paper. This gap may be caused by the lack of skills and capacity required to formulate strategic planning in public sector which is highly complex environment. There is a need to have resources which have capacity to collect and analyse data in order to provide solutions (Bryson, Edwards & Van Slyke, 2018). The resources should possess the capabilities required by the complexity of the processes and practices that are involved.

Findings also indicated what can be termed a rigid, unstructured yet chaotic process of allocation and distribution of resources during strategic planning. Therefore, a different approach is necessary to facilitate effective strategic planning. Traditional formal approaches which remain rigid do not offer much flexibility and tenacity required in the environment in which ABC SOC operates.

5.3.1.4 Monitoring and review of strategy

Another gap identified by the majority of participants was the lack of monitoring and review of strategy to ensure it remains relevant to market conditions. The lack of institutionalized monitoring and review was noted by the overwhelming majority of the respondents (e.g. 18/21) to the extent that some viewed the organisation's strategic process as a paper exercise. Respondent 6 noted:

"We hardly have monitoring and review meetings to review the strategy and portfolio performance. It's rare."

The respondents highlighted, for example, that significant environmental changes that have negative impact on the strategy are left unnoticed since there are no formal processes that would trigger the review to update the strategy. Similarly, any changes during the implementation of key projects do not filter back to strategy. The respondents from one of the ABC SOC divisions also questioned the effectiveness of the governance surrounding organisational strategic process. However, there were discerning views expressed by few, who suggested that monitoring and review happened on a quarterly basis although the effectiveness of these meetings can be debated. For instance, Respondent 3 stated:

"We are supposed to meet with DPE on quarterly basis but the meetings do not frequently occur. They will come and ask the progress in terms of selected key

performance indicators; localisation and supply development. Nothing much is discussed in terms of alignment, and performance of the entire strategy”.

The study results highlight a gap between practice and literature prescription when it comes to monitoring and reviewing of strategy in ABC SOC. Monitoring and reviewing of strategy is not actually institutionalized in the organisation and is done haphazardly. This is despite the fact that literature advocates for frequent forums for monitoring to ensure that the portfolio sustain its alignment with strategic objectives (Artto & Dietrich, 2007). Moreover, there is no feedback loop between the organisation and the environment. Successful organisations use a double-loop process to create a system that enables progress on the strategy to be monitored and corrective actions to be taken when necessary (Kaplan & Norton, 2001; Porter, 1991).

The overall conclusion regarding strategic planning process is that there are serious gaps in practice especially when translating strategy and ensuring that it is well understood and supported by all employees in the organisation. For instance, there is a limited understanding of strategy developmental process, incoherent allocations of resources, and inadequate monitoring and control of strategy performance. Furthermore, the preferred use of a strictly ‘top-down’ approach over a much more inclusive ‘bottom-up’ approach during strategic planning results in junior management and ordinary employees being excluded from the goal settings. Ineffectiveness in strategic planning was created by lack of personnel who are adequately skilled to be able to competently execute strategic planning process.

5.3.2 Strategic integration

As sufficiently documented in the literature (e.g. Sethi & Iqbal, 2008), the perception about the lack of integration and the continued silo practices in state-owned companies to-date highlights the uniqueness and veracity of the problems they face. Furthermore, literature (e.g. Cordoba-Pachon, Garde-Sanchez & Rodriguez-Bolivar, 2014; Kaiser, El Arbi, & Ahlemann, 2015; Heising, 2012) has stressed the importance of integration and interdependencies management in ensuring congruency between PPM processes and other organisational systems. This issue was investigated at ABC SOC based on two strands; namely, (i) level of Integration; and (ii) extent of stakeholder support and commitment.

5.3.2.1 Level of Integration of Divisional Units

Literature (e.g. Kaiser, El Arbi & Ahlemann, 2015; Velikorossov *et al.*, 2020) indicated that integration is a prerequisite towards ensuring that there is an alignment between organisational objectives and initiatives. However, results indicated that there is very little integration and harmonization amongst various organisational divisions such that organisational divisions operate in isolation and pay little regard to the impact of their decisions on other divisions, as one respondent (Respondent 2) explained:

“There is still some silo mentality that exists and as a result we often miss bigger opportunities. Basically, the Group does its own things, divisions do their own thing. In the end, there is no visibility across the various divisions in terms of what is happening where and the resultant impacts”.

Another respondent (Respondent 8) explained how poor integration and cooperation amongst business units have resulted in conflicting projects by noting:

“The problem is that we are doing things in silos. For instance, I have seen different business units come-up with products such as, the asset tracking but using different technologies resulting with complexities of having to manage multiple technologies”

Lack of integration meant that fewer interactions between various key business units take place and the consequence of that are solutions that are deficient in addressing customer requirements. Other solutions lack scalability and cannot be expanded or replicated elsewhere. Poor integration result in duplication of work which creates wasteful expenditure.

The implication of the silo-effect was further highlighted by one respondent (Respondent 5) who stated that:

“...the business unit end up producing or purchasing something that doesn't accommodate requirements of the other business unit or funds may be wasted on things that don't add value to the business. Hence we end up with products or systems that are not doing what they are expected to accomplish because we didn't involve relevant divisions such as Information Communication and Technology (ICT) to advise and harmonise usage”.

The above observations pointed to the difficulty in achieving strategy alignment. It can also be asserted that poor integration has created a misalignment of organisational portfolios. In turn, this has resulted in poor management of project interdependencies, culminating in excessive wasteful and irregular expenditures as well as ‘white-elephant’ projects. This was also corroborated by Auditor General Reports (AG, 2019; 2020; 2021), which noted that overall audit outcomes of the SOEs are worse than they have ever been, and that irregular and fruitless expenditures have significantly increased over the last five years.

Furthermore, in instances where there is an autonomous and a ‘silo’ culture, it was observed that projects are managed as a collections of individual projects rather than an integrated portfolio. Respondents experiences noted the challenges associated with bureaucratic organisations such as SOEs, where integration is hampered by, amongst others, a lack of participation and inclusiveness in the decision-making (Yanwen, 2012). One participant (Respondent 12) alluded to this by noting that:

“Nobody is looking at the portfolio as a whole and that there are no mechanisms where various projects feed into an overall risk of the portfolio itself. A risk encountered in one division should trigger actions in another division or business unit elsewhere.”

When quizzed about their views regarding the importance and benefits for business units to operate as an integrated whole, interviewees offered two striking responses. Respondent 6 noted that:

“Autonomy needs to give way for integration at certain places. I think where there is autonomy mainly is where the silos are created, and that’s where you don’t see the full benefit of the strategy because you are having autonomous silos or businesses that are not integrated into the common cause or the bigger goal”.

In support, Respondent 9 elaborated further and suggested that:

“The autonomous businesses need to fall into line with ABC SOC’s strategy and I think that’s where we have some difficulties aligning everybody at ABC SOC”.

He further pointed out that the project life cycle must not just become an event such as “*procurement*” of an equipment or services, but must be coupled and integrated with “...*training, maintenance, support and after sales support*”. He went further to submit that these are factors that the organisation ignores.

From the above insights, it can be confirmed that integration and interrelation are essential attributes of ensuring strategic alignment. However, the findings indicate that achieving effective integration remains a huge challenge due to embedded silos and autonomous culture practices at ABC SOC. These findings support previous research (e.g. Kaplan & Norton, 2001; Porter, 1991) about the nature of state-owned companies, and how they are organized. To achieve synergies and strategic success, organisation architecture must allow for the interaction of various organisational functions and the alignment of their strategies (Kaplan & Norton, 2001). Integration with other strategic management practices such as the performance management will enhance the strategic planning usefulness and subsequently improve the performance of the organisation.

5.3.2.2 Stakeholders support and commitment

Literature (e.g. Bryson, Edwards & Van Slyke, 2018; Ika, 2020) prescribes that to achieve portfolio success, stakeholder support and commitment is an important factor. ABC SOC therefore should integrate stakeholders, both internal and external, in formulating and implementing strategies. This was echoed by a substantial number of respondents (e.g. 12/21) who argued that stakeholders support during the conceptualisation stage is necessary to obtain buy-in. Furthermore, they pointed out that stakeholder support is also necessary during the allocation and approval of the budgets and during implementation. Other respondents (e.g. Respondent 1, 4, 8, 9, 12, 15 and 17) reiterated the need to build and manage relationships, both internal as well as external, with the organisation. Internally, they argued that relationships are important when having to negotiate for scarce resources and management of project dependencies and inter-dependencies. In addition, they highlighted the importance of adequate participations and commitment from business units to ensure that stakeholder requirements (e.g. business requirements) are aligned with the goals and objectives of projects being implemented. For involvement of external stakeholders, they argued that participations and expectations management is crucial if the project

outputs are to be perceived as relevant to society. These two requirements will ensure that the portfolio is balanced and aligned.

Though the respondents had a clear understanding of the need for stakeholder management, respondents felt there was inadequate participation from key internal and external stakeholders. This was viewed as a contributing factor towards integration. Respondents raised concerns about the inadequate participations, and at times a lack of accountability from divisions and business units during the development of business cases for projects. As one respondent (Respondent 6) explained:

“...business units are not taking the lead in the compilation of the business case, they tend to relegate this responsibility to the Project Manager or the Business Case Developer. They are only interested in the approval of funds.”

In support, Respondent 7 stressed that:

“...whatever the ideas from businesses may be, my department would basically be the one which collects all those ideas across the country”.

These findings are in line with the literature (e.g. Yanwen, 2012; Beringer, Jonas & Kock, 2013) that highlight a lack of support and participation from key stakeholders as one of the reasons for project failure. The importance of the participation of key stakeholders during strategy formulation is significant, particularly in its stages of conceptualisation, formalisation, and alignment of the portfolio. For example, lack of participation by business units have led to poorly constructed and motivated business cases and this aspect was revealed by one respondent (Respondent 4) who explained that:

“To make sure that business case is complete, the project management office for example, will have to call people from the business to get requirements and clarity. They would ask scope and the objectives of the project, understand technical requirement, and the financial person will probe the financial benefit of the business case.”

This will ensure that the business case, as Respondent 4 put it, *“is a consultative driven document”* that captures and addresses the needs of the customers.

Regarding the involvement of ordinary employees during strategy formulation and implementation, results revealed various conflicting messages. For instance, one respondent maintained that strategy formulation is the sole responsibility of top-management, which implies that ordinary employees are not entirely involved. Elaborating on this, Respondent 12 stated that:

“We run a show just before the corporate plan was approved. We will have planned visits and we will go to our offices across the country to present the strategy. We ask employees questions and they give us feedback”.

In contrast to the above response, the majority of respondents (e.g. 15/21) indicated that ordinary employees are involved during the compilation of the initiative wish list. It is during this stage that employees are requested to submit their proposed initiatives. It is difficult to understand how these employees could come up with a list of initiatives aligned with strategy, when in fact they have not been part of formulating the strategy, or at best been educated about it.

When asked about the participations of broad stakeholders such as society or community during strategy formulation, 20/21 respondents said that there is no involvement of society or community during conceptualisations. However, some respondents (e.g. 13,18,20) highlighted that society is usually involved at project execution level where project managers consult community about the impact the project will have on them. This was clearly summarised by Respondent 11 who noted:

“Society wise, there is no role that the society plays during the identification of projects or formulation of strategy. They may play a role during the execution stage.”

Another respondent provided a different perspective and suggested that although society is not directly involved, their interests and needs are assumed to be captured and included in the Shareholders Compact (a contract between DPE and ABC SOC). The lack of community involvement was also attributed to some failed projects due to lack of support and ownership. These findings resonated well with a number of literature sources (e.g. Schipper & Silvius, 2018), which observed that stakeholder’s participation is a key factor in delivering a successful strategy. For example, Bryson,

Edwards & Van Slyke (2018) argued that broad participations help eliciting support, commitment and ownership from stakeholders such as community.

Contrary to the underpinning theoretical assertions and considerations advocating for the adequate involvement of stakeholders (e.g. Grant, 2002; Jeffery & Leliveld, 2013; Patanakul & Milosevic, 2015); this study has found that there is not sufficient participation from stakeholders. This stems from poor translation of strategy resulting in too many projects being incorporated in the portfolio without linking them to strategy.

A lack of such interest often lead to projects that are not strategically aligned taking priority over those that demonstrate strategic fit (Shehu & Akintoye, 2010). Arguably, the implications of the lack of involvement can further be traced to other findings that revealed that business cases for projects were found to be poorly written and motivated. Similarly, and in cases where the business owners are involved, the results reveal that projects are considered haphazardly with very little consideration to strategy.

Moreover, lack of public participations from external stakeholders such as community, politicians, sponsors (e.g. funders) contributed into ineffectiveness in strategic planning. For example, sources from literature found that political support reduces potential risks to strategic planning and their participations is important especially for public organisations. Moreover, involving more stakeholders such as sponsors help in managing day to day management process; energise participants and encourage public acceptance of the outcomes, all which are essentials for strategic planning (Bryson, Edwards & Van Slyke, 2018).

The inclusion of customers' requirements and needs together with the inclusion of public participation in the planning, implementation, and monitoring of development projects, increases local government responsiveness and accountability (Slater, Olson & Hult, 2010; Speer, 2012). This is further re-emphasised by Voss (2012), who suggested that customer requirements and needs should be at the centre stage when decisions are taken on which projects to prioritise, add, or taken out of the portfolio, including resource allocations amongst projects.

In the light of the above findings, it may be concluded that there is little integration of work by divisions to function as a whole and hence inadequate participation by key stakeholders during the strategic planning process. Despite a documented strategic process in place, the findings revealed that the planning process is more inward looking, and disregard the needs of relevant stakeholders. Thus, the process lacks inclusivity, dynamism, and flexibility to response to the needs and challenges of constantly changing environment, which according to literature and corroborated by the findings, is dominated by instability and chaos.

The findings confirm the importance of customer integration into the PPM process in order to deliver a portfolio that is aligned (Tikkanen, Kujala & Artto, 2007). The management of integration and interdependencies of projects seem to lack in ABC SOC. In other words, the 'hand-shake' process that exists between strategy organisation and the PPM process is deficient. Neglecting these interdependencies, results in poor project selection decisions (Santos, 1999). Although not surprising for state-owned companies, the results were concerning, in that a lack of integration and interrelatedness management are key contributors to the lack of portfolio alignment, and subsequently ineffectiveness of the PPM. This is in line with the views of Mikkola (2001), and Archer and Ghasemzadeh (1999).

The study further noted that the majority of implementation problems stem from conflicts between portfolio management systems and other organisational managerial control systems. This is in line with the views of Artto and Martinsuo (2001) and that of Nielsen and Pedersen (2014) who argue that the decision-making context in the public sector is characterised by, amongst others, problematic collaboration between the functions and the rest of the organisation and transparency. Duplications of work, uncompleted projects and lack of a portfolio dashboard are some of the consequences for not working as an integrated whole. Despite the weaknesses, the study reasserted the importance of integration as a vital component for effective strategy implementation and portfolio success (Kaiser, El Arbi & Ahlemann, 2015).

5.3.3 Concluding remarks on strategy alignment

The findings of this study support the findings of various scholars (e.g., Oosthuizen *et al.*, 2016; Patanakul, 2015; Petrovic, 2003) who suggested that strategic alignment is

one of the key attributes for achieving PPM effectiveness. To achieve alignment, there is a need to create methods, systems, and structure across the various divisions to attempt to streamline the process in line with business needs. Strategic alignment success can only be met through effective portfolio structuring and portfolio success (Ika & Pinto, 2022; Meskendahl, 2010). Thus, portfolio success comprises of individual projects' success, strategic fit, portfolio balance, and future preparedness (Voss, 2012). This is because strategy is implemented through projects, and to ensure success in strategy implementation, alignment of projects to strategy becomes important (Benko & McFarlan, 2003). Additionally, management responsible for strategic alignment ought to be conversant with strategic planning and also have the skills and profound understanding of the role of project portfolio management in ensuring strategy delivery.

Despite the existence of strategic planning process, the results of this study concludes that ABC SOC is yet to fully master strategic alignment. The actual practice of strategic planning in the organisation is still not fully institutionalised. Additionally, strategic alignment was also hampered by lack of sustained integration amongst organisational internal functions as demonstrated by continued 'silo working' amongst ABC SOC divisions and also lack of incorporating important external environment factors.

5.4 Adaptability to the External Environment

Adaptability to internal and external environmental factors and changes is crucial for the effectiveness of the project portfolio management as a systematic tool to implement strategy (Patanakul, 2015). Internal changes stem from risks associated with resource capacity and organisational capabilities, whereas external changes include uncertainty in the market, regulations, and political dynamics (Martinuso *et al.*, 2014). Any static process will fail in an environment characterised by instabilities and political pressures (Hyvari, 2014).

The study investigated the suitability and adaptability of PPM methods and its practices in its internal and external environment, which is characterised by, political dynamics and policies in government. A detailed analysis was conducted as to how external environmental changes, such as geopolitical powers, economic and social

instability, volatility, and legislative changes impact on the effectiveness of portfolio management.

5.4.1 Political dynamics

Literature (e.g. Muriithi & Crawford, 2003) indicated that political interference and manipulation is inevitable for a state-owned company. In fact, projects that are public, social, and developmental in nature were found to attract the attention of politicians. In most cases, such projects receive funding, permission, and require public participation to succeed (Yanwen, 2012). This view places political dynamics as a critical component or factor in influencing the effectiveness of PPM.

Participants were asked about the nature of involvement of government officials and politicians, and the majority (14/21) were categorically clear that there has to be some level of political involvement and guidance. Other participants cautioned excessive meddling into the affairs of ABC SOC and suggest that the fine line is the reason why the majority of state-owned companies were captured in South Africa. Their role must; however, must be defined and limited. For instance, they must provide some political guidance during the strategy formulation. Similarly, their involvement is crucial for key projects that require government funding (for example, financial guarantees for international or national projects). Additionally, government and politicians play a significant role for social projects that require community mobilisation, and during the handing over of such projects to communities (Yanwen, 2012). Without this kind of involvement, many promising projects may end up being declined or where they are implemented, they may remain 'white-elephants'. Participants pointed out that since some level of funding comes from government, there must be some sort of oversight as summarised by Respondent 3 who stated:

"We can't have a shareholder who is not involved. They must set macro-economic goals and targets for us."

Put differently by Respondent 6:

"We need political authority and assistance, first, to assist project actors in socializing projects to the public. Second, to guard against those executives who may want to prioritise or favour projects that will deliver profits over social, safety and not for profit projects".

The above statements re-emphasised the importance of politics in helping portfolio to align with macro-environmental factors. The involvement of political authority such as ministers can also improve the PPM decision making processes by ensuring that decision that are taken, are indeed in the best interest of government and its citizens. However, in doing that there must be a clear line of responsibilities between political authorise and the management of SOCs that must be agreed upon, although in practice this could prove to be difficult to achieve. This narrative was highlighted by eleven respondents who suggested that government and politicians' roles must be limited to establishing a Shareholders Compact (a performance agreement between government and ABC SOC). They argued that the day-to-day management of projects must be left to the board and ABC SOC top management, who are trained and equipped in the areas of strategy. They explained that politicians have little knowledge about strategy, as pointed out by one respondent (Respondent 2) who put this point more succinctly:

"I think there has to be some political guidance because it is the country's strategy that must to be implemented and if it derails, there will be all sorts of political issues around us. So, I think the political influence has to be there to guide the process, but once its provided, the management must be left alone to execute".

When asked to elaborate more on the impact of political involvement in projects, respondents believed that some politician's involvement is due to self-serving interest which has bred corruption. They argued that key projects in ABC SOC fail because of excessive interferences by politicians. Interference in the decision-making, was motivated by the need to amass wealth and power through government tenders; as pointed out by alluded to by another respondent (e.g. Respondent 11) who explained that,

"...we have seen it in various bulletins that the government tends to interfere a lot, for example, government officials would want to know about tenders for the goods and services. They do not allow the CEO's and their management to be independent and focus on operational matters. Instead, they want to influence the process so that they are able to benefit from some of these tenders..."

Regarding the nature and extent of this involvement, the respondents indicated that political involvement was however not necessary direct. Through mobilisation and using their influence to exert undue pressure on tender committee members, they are able to achieve their goals, as demonstrated by Respondent 10 who noted that:

“...it is difficult to give you a straightforward answer about their involvement. The challenge you have with politicians is that they are not seen anywhere in the decision-making chain but the impact they have is extraordinary”.

What makes it difficult to remedy, is that there are no systems in place that can hold people accountable, as highlighted by Respondent 6 who noted that:

“There is no accountability in the public sector with all these regulations. For example, punishment for interfering with the process may not be immediate since politicians can only be voted out through the ballot after 5 years”.

The above observation affirms the influence the government officials and politicians have in the running ABC SOC, especially when it comes to impactful and social projects. Their interest is derived from the fact that certain key projects are crucial to their survival, and promises that they make to society especially during political campaigns.

The study findings further confirm that the decision-making within this environment is far from linear and that technical rationality is impossible to establish and achieve. Evidence presented by respondents, point to a lack of mechanisms, technique, and probably weakness in governance to deal with the political dynamics presented by the environment within which SOEs operate if we take AB SOC as a typical example. This may be attributed to the fact that decision-making processes in this environment are not linear or rational and therefore cannot be measured by traditional approaches. Put differently, a highly contagious and externally controlled environment reduces rationality (Eisenhardt & Zbaracki, 1992). The environment under which ABC SOC operates is far from being considered stable, as it is dominated by instability, continuous changes, politics, and chaos, and therefore calls for instruments and processes that are dynamic, flexible, and robust.

The study also found that there have been too many changes at the executive, board, and political level, which affected the portfolio of projects and subsequently the performance of projects. The majority of these new board members usually are political appointees and their contributions to the conceptualisation and support of the existing strategy are minimal, as pointed out by Respondent 2 who stated that,

“...most of these new board members would come in without even understanding what the initial strategy was about, they then reverse what the previous board of directors decided on”.

Consequently, new projects are added to the portfolios and existing projects that may be seen as not aligning with the new political dispensation are threatened and subsequently terminated immaturely. This effectively renders the strategy unstable and effectively narrows it towards a short-term view. In ABC SOC, these constant changes create difficulty in maintaining the relevance of the portfolio. In addition, this further threatened the predictability and the balance of the portfolio, an area that is critical to the effectiveness of PPM.

The above findings further reveal inherent weakness in the PPM processes when applied to an external environment dominated by political dynamics and instability, particularly the public sector institutions. This is because current processes present two major weaknesses, as observed by Weissenberger-Eibl and Teufel (2011). First, they presume a central planning of projects which neglect underlying political dynamics of project selection. Second, they are prescriptive in nature and are insufficiently based on empirical descriptions of real-world processes.

Achieving effectiveness would require a portfolio framework and approaches that must be tailored or adapt to the challenges brought about by the demands of the community and political dynamics. However, despite this need to cater for broader stakeholders, care must be taken to ensure that the process is not overburdened with too many role players. If that is not achieved, ABC SOC will continue to struggle to achieve effectiveness.

In addition, this study observed that current approaches are limited and present inherent weaknesses when applied in an environment dominated by instability and

irrational decisions. Thus, current traditional processes were found to be inadequate when dealing with a highly contested political environment. It is evident that linear and mechanistic approaches of PPM, based on traditional project management principles and techniques, will not solve profound challenges in an environment dominated by politics and other instabilities (Saynisch, 2010b). Projects are not implemented in isolation to environmental factors and can only be understood if these factors are taken into consideration (Jensen, Johansson & Lofstrom, 2006). Success depends on internal and external stakeholders and includes factors associated with the project team, organisation, and external environment (Engwall, 2003; Davis, 2014).

Moreover, the study has highlighted the importance of politics in ensuring project successes. The success of projects in public sector hinges on some form of political assistance. Although respondents in their minority have suggested limiting political involvement to that of an advisory capacity only, this study argued that at a practical level, and in the context of the South African SOE setting, the probability of government and politicians not getting involved in execution is highly unlikely. This is because, firstly, politicians remain the source of granting permission, funding, and legislation, especially in projects that are local. Secondly, and in line with the views of Kalimullah, Alam and Nour (2012), politicians are accountable for the performance of these institutions, and therefore, reducing their involvement is tantamount to reducing political accountability. The question that remains is that to what extent should politics be incorporated into PPM decision making process?

The observations of the majority of participants further revealed that public or government officials should not become passive, but must participate and become part of the process that decides how services should be provided. The extent of their involvement is situational and depends on the nature of project complexity and the impact it has on the society. Similarly, those who are tasked with the responsibilities of ensuring portfolio structuring and alignment ought to have a meaningful understanding of the political dynamics of the country to enable them to appreciate the involvement of these politicians. This is also noted by other authors, such as Yanwen (2012), who highlighted political understanding as a key requirement to managerial success in this type of environment. This will further enable them to be conscious of certain decisions that are taken to advance individual interest with no value to society.

Therefore, understanding the political landscape and dynamics, including obtaining political buy-in and support at the early stages of PPM, may prove beneficial, as including them lays the groundwork for successful implementation of ideas (Beringer, Jonas & Kock, 2013; Heising, 2012; Bryson, Edwards & Van Slyke, 2018). Likewise, geopolitical powers bring about not only challenges, but also opportunities that must be managed (Pitsis *et al.*, 2014).

In light of the above, the results suggest that the portfolio decision-making processes are weak and should be a mixture of political behaviour, intuition, and exploitation of opportunities; and that technical rationality is not sufficient (Nielsen & Pedersen, 2014). An effective project portfolio management process should cope with various situations, and possesses flexibility and robustness to deal with uncertainties and political dynamics (Gutierrez & Magnusson, 2013).

5.4.2 Government policies and regulations

Participants were unanimous in indicating that stringent government legislation and regulations are additional factors that affect the suitability and adaptability of the PPM process. They argue that governance, and legislative and compliance requirements create bureaucracy and further stifle innovation.

When asked to explain the impact of compliance, all the participants attributed some of the project delays and failures to National Treasury regulations, and its procurement process. For instance, participants pointed to the government procurement process as contributing to the lack of efficiencies, due to a long process, which could take up to twelve months and more before any actual implementation happens. This was explained by a respondent (Respondent 3) who remarked:

“...because of PFMA and the delays in the tendering process, the execution and delivery of key projects is then prolonged, resulting with unrest from the communities.”

Respondents indicated that although the supply chain process should take 21 days according to regulation, the whole process can be delayed if service providers ask for extensions due to a lack of information or any other oversight or error that might be deemed important.

In addition, respondents admitted that delays are also caused by bureaucracy around the approval process, where certain projects require ministerial approval. They argued that they have no control over this process, as highlighted by respondent (Respondent 15) who stated that:

“...sometimes requests for approval can take more than 3 months before a minister makes a decision on it. If there are additional information requested, the period could extend to 9 or more months.”

These inefficiencies further render ABC SOC unresponsiveness when they have to compete with the private sector for economic opportunities. The private sector has the added advantage of not having to go through so many approval forums. Respondent 18 highlighted that ABC SOC is unable to compete equally with the private sector operating in the same market due to stringent governance compliances. She illustrated this point as follows:

“...in private space where I worked, we were able to kick-off project the next day; service providers make a presentations and within a month we have decided which service provider we are going with, the budget is approved, contract signed and resources allocated. Whereas here, we must go through so many forums and layers for approval including complying to all stages of tendering process”.

When asked what remedial actions should be taken, respondents (Respondent 6, 17, 19) acknowledged the importance of these compliances, especially in the midst of huge corruption. However, they stressed that for ABC SOC to remain sustainable, they ought to be exempted. Exemptions will provide the necessary agility and flexibility in their operations. Other respondents suggested that members ought to behave in an ethical manner at all times to ensure that SOC achieve effective and efficient results. This is supported by Nevondwe, Odeku and Raligilia (2014).

In summary, the above discussions demonstrate the nature of the environment in which ABC SOC operate, as opposed to a strictly linear and less dynamic environment for private companies. For instance, evidence from the study suggests that to achieve effectiveness, the PPM process must not only integrate with other internal

organisational processes, but must also take into consideration key legislations or regulations, such as the PFMA and government supply chain processes for it to be effective. This is despite the fact that these policies and regulatory compliances were found to be unstable, laborious, and bureaucratic in nature and negatively impact on the effectiveness of PPM. Essentially, the results dictate that for the PPM process to be effective, it must demonstrate robustness and flexibility to cater for legislative environment special requirements. Failure to adjust will have negative consequences as shown by the findings. Thus, this new increased complexity in government, society, economic, and technology requires an appropriate method of management (Saynisch, 2010).

5.4.3 Concluding remarks on adaptability to the external environment

In view of the above discussions, the overall conclusion regarding the adaptability to the environment indicates that current PPM practices are not adaptable and suitable to external dynamics. The results paint current PPM practices as rigid, inflexible and unable to deal effectively with the dynamics from the external environment. Current practices were found to be linearly inclined and assume a technically-rational approach and as a result have demonstrated weaknesses when faced with profound challenges and other environmental dynamics of this study. In fact, current practices neglect the underlying political dynamics of project selections (Weissenberger-Eibl & Teufel, 2011).

In line with Nielsen and Pedersen's (2012) views, there is a need for drastic changes in the current PPM practices, including the conduct of portfolio actors to ensure adaptability. Thus, implementing textbook PPM practices based on technical rationality alone as an instrument for effective selection is not sufficient for an environment similar to the one in this study. Similarly, utilisation of portfolio actors who lack political acuity, will not achieve the intended purpose. In simple terms, PPM 'actors' or administrators must be equipped, not only with technical skills, but must possess political skills to be able to navigate through these challenges. This will ensure a much-needed political buy-in at the beginning of the project, and support during the executions stage. These conditions are essential, and a prerequisite for managerial success (Pitsis *et al.*, 2014).

These results further reinforced the argument that there must be a fit between the market environment and organisational capabilities for success (De Haan, Voordijk & Joosten, 2002). Organisations ought to establish a direct link between effective project and portfolio execution and successful delivery of strategies (Kaiser, El Arbi, & Ahlemann, 2015). Effective implementation must strike a balance between what measures would be the most rational for individual projects, and what measures would be legitimate to undertake given the interests of the key stakeholders of the environment (Engwall, 2003). Thus, the effectiveness of PPM to respond to the environment is directly related to internal and external factors. Effectiveness will lead to a portfolio that is adaptive to the changes in the internal and external environment (Patanakul, 2015). Any static process will fail for an organisation dominated by complexity and politics (Saynisch, 2010; Hyvari, 2014).

5.5 Project Portfolio Management Methodology and Practices

The first part of the study investigated effectiveness of the PPM methodology and practices used. As highlighted in the literature by various scholars, effective portfolio selection presents numerous benefits to organisations, including ensuring only 'right projects' are selected for implementation and that those that are selected are adequately resourced. Organisations that correctly apply PPM methods and practices are expected to have better controls in the management of projects and will reduce the amount of delays and costs overruns (Madic, Tadic & Milhajlovic, 2011).

The investigation was carried out against this background and involved, first, analysing the current selection process of the PPM as documented. Second, the investigation looked into portfolio resourcing and availability of competencies and skills to execute projects. Third, an assessment was done of how the organisation manages its projects within the portfolios. Fourth, the study investigated how the organisation monitors and reviews its portfolios. In-depth interviews were used as the main source of data, and were triangulated with the document review. The latter involved multiple sources of documents, which included amongst others, the organisational strategy, annual financial statements, performance reports and other internal project management documents.

5.5.1 The selection of projects

In assessing the effectiveness of the selection process, three key aspects were investigated, namely (i) identification of project ideas, (ii) appraisal and screening; (iii) portfolio structuring and balance; and (iv) portfolio governance effectiveness. The findings on each of these aspects are discussed below:

5.5.1.1 Identification of project ideas

Identification of projects ideas is critical aspect for ensuring that only projects that are supportive of the organisation's objectives are included in the portfolio. This is executed through utilising various scoring and appraisal techniques, which are well documented in the literature. Respondents were asked to provide their understanding of this process as summarised below:

The process commenced through the identification of potential initiatives from various businesses and consolidated as the 'wish-list'. Depending on the organisation, the 'wish-list' is submitted to department, which is responsible for 'funnelling' process. This role was found to be executed by different sections, depending on the divisions. For example, in one division, this responsibility was under the finance department, whereas in other divisions it was under PMO or the asset finance department.

The initial 'wish-list' will most likely contain various types of projects, for example (1) safety and risk; (2) regulatory projects, (3) expansion; and (4) sustainability. Safety and regulatory projects were considered mandatory projects ('Must-Do'), regardless of financial benefits indicators or not. Regulatory projects are those that must be done to ensure ABC SOC complied with regulators, such as Occupational Health and Safety, Railway Safety and Public Finance Management Act (PFMA). Sustainability projects are those that the organisation must implement to remain efficient and competitive in its operations. Such projects typically include, amongst others, process optimisation, operational efficiencies, innovation and technology improvement, and infrastructure upgrading. Their business case ought to show these benefits. Expansion projects on the other hand, are according to one respondent (Respondent 3) those projects that "...generate revenue to sustain the organisation into the future".

Although all respondents admitted to the existence of a formal strategy process which involves identification of potential projects, they pointed out that ABC SOC portfolios remain unbalanced and misaligned due to ineffective selection process. When asked about the wish-list of project ideas, a substantial number of respondents (e.g. 14/21) raised concerns regarding the quality of the proposals (ideas) in the wish-list. They argued that current processes are to be blamed for the quality of projects as noted by Respondent 1 who stated:

“Sometimes you find that the personnel will just come up with a list of proposals of ideas that have nothing to do with where the organisation strategic direction”.

They argued that this problem is caused by lack of adequate involvement of all layers of management and ordinary employees in the development and translation of strategy. In addition, other respondents (e.g. Respondent 13 and 19) blamed this on the blurred line of responsibility and custodianship (accountability) of this process. For instance, a significant number of respondents (e.g. 6/21) suggested that there is a lack ownership from the business unit’s executives who, according to them, delegate their responsibilities either to the project management office or in some cases to junior officials. They argued that it is a business’s responsibility to ensure that the wish lists reflect the needs and wishes of their operations, and they must therefore take full ownership. This was captured by Respondent 8 who noted:

“Business units must provide business ideas and requirements. These inputs must be listed as initiatives and captured into the business case”.

In support, the respondent in the project management office (Respondent 2) provided more clarity and stated that:

“Our job is to guide business units in terms of what questions to answer in a business case and also ensure that their ideas and requirements are adequately captured”.

According to the respondents, this will ensure that their initiatives or ideas are given the best chance to succeed and that they are investigated fully, and then provided with a full view of what the project(s) entail.

In sum, the data from the study showed that there was a unanimous view (e.g. 14/ 21 respondents) to suggest that business unit owners and their management must take full ownership or accountability to ensure that their business ideas and requirements are well captured and included in the wish-list. This was further expressed by the two respondents (e.g. Respondent 4 and 7 who remarked:

“business unit’s employees provide business requirements to PMO managers who in turn help us to capture these requirements in a business case”.

In support, Respondent 7 state that,

“...in most cases the ideas come from the various businesses. Basically, as a request for specific services in regards to a specific idea or need that has emanated from that business for various operational reasons. Either from expansionary purposes or with the view of trying to sustain prevailing conditions”.

However, few respondents (e.g. 6/21) provided a different view as explained by Respondent 5 that:

“... we in PMO end up compiling requirements ourselves because business representatives are always unavailable as they are busy with operational matters”.

Another respondent (Respondent 14) concurred and stated that,

“...sometimes we present business cases ourselves without business owners to support their cases. That’s why some of the business cases are turned back despite good ideas”

The significance of these responses is that despite the acknowledgement of the process ownership driven by PMO, there is total lack of understanding by some business units of the severity of relegating the business responsibilities to PMO or business analysts. This could lead to poor motivation of the business case which could result in business losing funding required to support organisational objectives. Moreover, this create misaligned expectations between what has been promised and what has been delivered. This may be an indication that PPM has not yet being fully understood in the organisation and hence is taken lightly.

5.5.1.2 Appraisal and Screening

The second part of the process entails appraising and screening of the proposals and at this stage, all potential initiatives are screened and evaluated against each other, using a predetermined set of criteria. Respondents were asked to describe how this process is carried out. The results indicated that ABC SOC follows a robust and thorough process, which involves multiple stakeholders and committees. Respondents revealed that ABC SOC has multiple appraisal techniques used to score projects, which include financial, risk and strategy based techniques. However, when it comes to the appraisal techniques being utilised, an overwhelmingly number of respondents (e.g. 18/21) indicated that the organisation tends to favour financial over non-financial techniques for various reasons. These techniques, they revealed, tend to favour initiatives that shows quantifiable over non-quantifiable benefits, as highlighted by Respondent 11 who noted that:

“We select these projects based on some financial parameters that we used which include for example, the net present value (NPV), the internal rate of return (IRR) and payback period (PBP)”

In support, Respondent 7 added that:

“The financial appraisal criteria such as NPV, IRR, or PBP dominate the appraisal. We are running a business and hence profitability is key”.

When further quizzed about any additional appraisal techniques that take precedence, non-financial instruments were least prioritized, as highlighted by Respondent 21 who ranked the criteria as follows:

“...in order of importance, that would be financial return, followed by strategic alignment and then safety and risk reduction”.

This view was supported by another respondent (Respondent 7) who confirmed the least utilisation of non-financial methods and noted that:

“I have barely seen any non-financial factors dominating.”

These discussions and findings at ABC SOC further affirm the preferred and wide use of financial techniques over non-financial techniques. This is despite the fact that many scholars (e.g. Serra & Kunc, 2015; Muriithi & Crawford, 2003) discourage the use of only financial techniques due to their lack of flexibility and robustness when applied in

a public sector environment dominated. Thus, they have been found to have limitations when it comes to scoring of projects that are social in nature and are too rigid to be used in a state-owned company setting where projects have different objectives than those in the private sector. The current poor mix of projects in the organisation's portfolio could be largely due to this one-sided use of financial instruments over others.

The fact that financial techniques are still dominant is an indication of how well they have been developed and widely accepted as a measure for evaluating project. In fact, they argued that current techniques were developed with western economies in mind and rely extensively on economic rationality, a feature that is difficult to achieve in this environment. This is the case, despite the fact that state-owned companies, by virtue of their design, are not profit driven. The high involvement of the finance team in chairing, and deciding which projects pass through the gate may present biases and could result in projects that show higher NPV or IRR being preferred. This was highlighted by a number of respondents (i.e. 9/21) who pointed out that the finance division wields so much power it decides which projects are funded. For instance, Respondent 2

"... finance tend to lean towards projects that show higher NPV. That's how they rank projects. Commercialization gets a lion share of the budget. So, how are we going to achieve our target of being Original Equipment Manufacturer?"

To corroborate the study's findings, document analysis was conducted, where the review and assessment of ABC SOC business case templates and PPM procedures were scrutinised. The analysis revealed what the respondents narrated. For instance, the current business case templates and excel spreadsheets for scoring and evaluating projects were found to be leaning towards projects that have financial benefits. Thus, their designs are quantitative in nature and are best utilized when evaluating projects with financial indicators. In addition, the balance scorecard in the strategy document, and the way in which the organisation reports its performances (e.g. Financial Report of 2021) is dominated by financial indicators over non-quantified benefits. The findings further supported an assertion made by various scholars (e.g. Nassif *et al.*, 2013; Muriithi & Crawford, 2003) who found that financial methods are well developed and that these techniques were mainly designed with private sectors in mind.

From the above, it can be concluded that the use of traditional techniques and instruments as the dominant instruments for screening and evaluating projects in state-owned companies has serious limitations. This narrative is in line with the observation of other scholars, such as Serra and Kunc (2015) and Chih and Zwikael (2015). Thus, the current techniques are the reasons “...we have skewed portfolio dominated with financial projects” (Respondent 18).

Substantial responses (e.g. 12/21) indicated that the current techniques alone are not sufficient, and therefore there is a need to have instruments that can balance between multiple and conflicting needs of the various stakeholders. This was captured by Respondent 5, who puts it succinctly:

“...we are government owned, so we can’t be just mechanical. Some of our objectives cannot be quantified to that number or that financial benefit. There are certain projects that may not bring your NPV, but it’s important for the country”

In essence, the findings collaborate what many scholars have said regarding the rigidity and the limitations of traditional scoring techniques in the public sector. Consequently, the findings motivate the need for scholars to develop instruments applicable and suitable for state-owned companies’ environment. This view also lends support from the views of Ma *et al.* (2020), who argued that sustainability in the public sector should consider three pillars; namely, economic, environmental and social sustainability.

5.5.1.3 Portfolio structuring and balancing

Achieving a well-balanced portfolio is one of the three success key indicators in ensuring that the organisation achieves portfolio success (Jonas, 2010; Heising, 2012). Thus, to achieve portfolio balance and effectiveness in PPM, the decision makers must ensure that only projects that support the organisation’s goals are prioritised and included in the portfolio. Essentially, there must be the ‘balance-mix of projects’ in terms of financial and non-financial, which must be matched against the resources and competencies available. Having the correct number of projects and project resources increases the chances of success in managing multiple projects.

Participants were asked to provide their analysis of the current portfolio. The majority (e.g. 18/21) believed that the current ABC SOC portfolios lack balance and consists of projects that are questionable. In addition, the majority of respondents indicated that there are too many projects with limited resources available, as summarised by Respondent 11 who noted:

“I can't talk about portfolio balance from where I'm standing. There are just too many unnecessary projects and basically depleting the limited resources from a capacity perspective to effectively execute those projects.”

Respondent 20 added that,

“The quality of the portfolio doesn't impress me from the strategic alignment and sustainability perspective”

That observation was elaborated on by respondent 21 who noted:

“I would say about 60% of our portfolio is sustaining the business. Then there is 30% expansionary, but compliance regulatory projects which are non-financial and which form a very small portion of the portfolio at any time, less than 10%”.

In practice, these findings have serious implications for the ability of ABC SOC to deliver on its government macro mandate. First, an unbalanced portfolio leads to the inability of ABC SOC to deliver effectively on its strategic objectives, and also its contribution towards assisting government in achieving its macro-economic goals. Second, an unbalanced portfolio may lead to too many misaligned projects being implemented, which creates wasteful expenditures and financial losses to the organisation. That is, they represent an opportunity cost in terms of scarce resources that could have been utilised effectively and efficiently elsewhere.

This view was clearly emphasised by Respondent 3 who highlighted that the current portfolio consists of mixtures of either delayed, poorly managed and misaligned projects of which some should have been terminated. He noted that:

“... the current portfolio mix and balance is not going to be deliver on the objectives of the business. There are so many individual projects that have

been delayed, and as a result, others are no longer relevant with the current strategy and therefore unable to contribute towards portfolio benefits.”

Other respondents (e.g. Respondent 2, 4, 6, 16 and 18) put the blame on the use of manual or simple tools (e.g. excel spreadsheet), which they argued lacks control and can easily be manipulated to change scores and ranking in order to boost projects that would have ordinarily been excluded from the portfolio, as revealed by Respondent 4 who stated that,

“...people are biased in terms of how they capture project attributes in the spreadsheet. You end up with many projects rated high (e.g. 5) and becoming a priority yet they should not have been so”.

They suggested that there must be a system that is robust, to ensure transparency and objectivity. Without a transparent or systematic approach to decision-making, the study observed that the process of prioritisation and selection of projects will remain open to manipulation.

Other respondents listed corruption and patronage as contributing factors towards the unbalanced portfolio. Quite a high number (e.g. 14/21) of respondents suggested that an unbalanced portfolio was caused by decision-making that borders on greed and self-serving interest over national strategic importance and rationality. The findings further cast doubt on the effectiveness of governance structures and the integrity of its members, as discussed later.

In conclusion, the results indicated that ABC SOC portfolios are skewed, unbalanced, and inadequately resourced to support the overarching strategy objectives, including the country's development agenda. The utilisation of predominantly financial instruments over non-financial instruments contributed largely towards the current portfolio state of ABC SOC. Findings further indicated that the majority of non-financial projects are being excluded in the portfolio despite their contribution towards macro-economic and social needs of the country. Furthermore, the lack of portfolio balance result in the delivery of the so-called 'white-elephant' projects, which in accordance with the PFMA of 2003, constitute fruitless and wasteful expenditure; something that is prevalent within the majority of state-owned companies as noted by the Auditor

General reports (AG, 2019; 2020; 2021). While literature (e.g. Vähäniitty, 2004; Archer & Ghasemzadeh, 1999; Janse van Rensburg & Pretorius, 2014) advocates for the achievement of balance between various potentially conflicting goals, this was not observed at ABC SOC.

5.5.1.4 Portfolio governance effectiveness

The role and importance of governance structures cannot be overemphasised in PPM. The effectiveness of governance structures is the glue that binds the organisation and is vital for maintaining organisational sustainability (Puthamont & Charoenngam, 2007). Thus, portfolio success depends on the collective wisdom of the governance committee members, which consists of the organisation's top leadership. This aspect was investigated to determine first, the existence of the governance structures, and second, their effectiveness in carrying out a portfolio oversight role.

Results indicated that there are governance structures (e.g. committees or forums), including that of individual projects, that are established to guide the decision-making process as well as to review progress. According to all respondents, these committees sit regularly for the purpose of evaluating new initiatives and evaluating the performances of key projects. The study also found out that these committees are formal, with terms of reference defining their roles and responsibilities, including that of the members, as expressed by Respondent 1 who stated that,

"...We have investment committees such as Capital Investment Committee which sit on a monthly basis. They evaluate all business cases and approve funding for all projects"

Accordingly, these committees were found to be adequately capacitated with relevant and senior personnel of the organisation, as pointed out by Respondent 16 who stated that:

"The committee is made up of quite senior individuals (e.g. general managers and chief procurement officers), is chaired by the Chief Executive Officers (CEO) and sometimes by the Chief Financial Officer (CFO). So, there is a good representation from business to legal and procurement departments, so the committee has the right members".

This representation of various divisions of the organisations is important to ensure the integrity of the decisions that are taken. Despite their existence, the majority of respondents (e.g. 18/21) cast doubt on the effectiveness of these structures. For instance, the study revealed that there is a lack of adherence and enforcement to the existing documented processes when key decisions are taken, as was described by Respondent 3 who noted:

“There is a total disregard for the existing processes”.

The statement was elaborated on by another respondent (Respondent 14) who stated that:

“...it is the colleague who shout the loudest or the person who is able to articulate and convince the chairperson who tend to get project approved”.

Others blamed the total disregard of existing processes on the lack of enforcement to adhere to the documented processes. They revealed that the process exists in practice but is not always adhered to. The above sentiments were also echoed by Respondent 9 who suggested that as long as the system is human-driven, there will always be loopholes. What these quotations highlight is that, first, the governance structures are ineffective. Second, there is a deliberate disregard of the existing processes, and this could be interpreted as decision makers lacking confidence in the portfolio management system in place, or that the actors are just not competent and trained in the field of PPM.

Other respondents (e.g. Respondent 9, 13, 16, 18) suggested that the reason for ineffectiveness is also due to poorly defined shareholder performance agreement between government as a shareholder, and ABC SOC. This creates a misalignment with the overarching objectives of the state-owned company. For example, they cited that certain projects selected have little to do with the direction of the government and continue to receive resources despite their poor performance, as noted by Respondent 9 who remarked:

“...sometimes it’s frustrating to find some projects which are not delivering any significant benefits being prioritised and receiving funds year after year”.

The participant illustrated this point by highlighting one of the mega projects that was the subject of an investigation by the State Capture Commission which has received

three-quarter of the portfolio budget and has been delayed by more than five years. He explained that,

“That project started in 2015/16. It should have been completed. But some of the suppliers which were supposed to deliver, for example 200 locomotives have not delivered even one up to now. In fact, the entire project should have delivered all locomotives by end of 2018/19. It has not and that’s the problem. I’m saying that if you look at the portfolio budget allocation, this is a project where the bulk of the budget go to”.

Despite the ineffectiveness of governance structure, the above quotations also highlight that the unprofessional and unethical behaviour of committee members may have an impact on the performance of the organisation. The majority of respondents when asked about this project concurred that some of the members may have misused their powers and colluded with politicians to advance corruption, although this behaviour is in direct contravention of good governance. The results highlight what many scholars (e.g. Kissi & Ansah, 2014; Kikeri, 2018) have said about the role of politicians in the affairs of state-owned companies.

In conclusion regarding the selection of projects, there is inconsistent application of the PPM selection processes, which render the system ineffective. Results of the study indicated that the current selection techniques and methods are inadequate when appraising and selecting multiple projects especially when they include both non-financial and financial. There is no systematic technique that has been developed for evaluating social and political benefits against financial returns from projects. The interpretation is always subject to various stakeholder’s interpretations. This was confirmed by the results of document analysis that revealed that the current portfolios are dominated by financial appraisal, are unbalanced, and inadequately resourced. This raises the question of the effectiveness of governance structures and the behaviour of decision makers which appears unprofessional and unethical. These conclusions are congruent with the findings of scholars such as Lee *et al.* (2008) and Kaiser, El Arbi and Ahlemann (2015).

5.5.2 Portfolio resource management

As noted by Engwall and Jebrant (2003), resource allocation among projects is a process of politicking, horse trading, interpretation, and sense making that is far more complex than traditional discourse. The findings reveal that project and portfolio managers tend to focus too much on administration, rather than on management of dependencies and interdependencies amongst projects.

Participants were asked to share their experiences on the availability and suitability of project resources. Overwhelmingly, results indicated that current portfolios are inadequately capacitated, and lack skilled and knowledgeable project human resources. Respondents often linked inadequate capacity and lack of skilled project resources as having affected the structuring of an optimal portfolio as discussed in the next sub-sections.

5.5.2.1 Lack of adequate human capacity

The study results revealed that an adequate human capacity is a crucial aspect in ensuring that portfolio delivers its benefits and value to the customer. The most precious and valuable assets in any contemporary enterprise of the 21st century is its human resource. However, public sector organisations find themselves having to compete not only with one another (Dutra, Ribeiro & de Carvalho, 2014), but also with the private sector for these limited resources.

Evidence from the in-depth interviews overwhelmingly confirmed the widely known views in literature (e.g. Ika, 2012; Yanwen, 2012) that state-owned companies in the developing countries still experience a lack of human resources and skills to manage projects. All twenty-one respondents agreed that the current human capacity falls far below the expected standards in terms of the magnitude of the projects in execution, as highlighted by one respondent (Respondent 6) who stated that:

“...the greatest mistake we probably made was assuming that we have adequate capacity. Our failure to deliver might actually be that we do not have enough human capacity and that our assumptions were not right”.

This view support literature regarding shortage of professional resources to plan, procure, execute, monitor, and evaluate projects effectively in the public sector (Ika & Saint-Macary, 2014; Ika, 2012).

In addition, the majority of respondents (e.g. 14/21) cited this as one of the reasons state-owned companies are unable to effectively execute and manage their portfolios, as summarised by Respondent 5 who stated that,

“...I would really argue that from my observation, the organisation is not capacitated to execute projects of significant magnitude and risk properly”.

From the above, it would appear that PMO processes, tools and methodologies are not mature enough to assist the organisation to effectively execute the large and complex projects that dominate the SOCs environment. Similarly, they also agree that there seems to be a total lack of scientific approach to determine the adequacy of the required capacity, and that the current on-boarding and allocation approach is accidental. This was evidenced by the overloading of the project managers, as noted by Respondent 7 (a project manager) who stated that:

“You find one project manager allocated six or more mega projects to run. It becomes difficult to follow best practice in project management with such as work load.”

Supporting this view, respondent (Respondent 9) demonstrated the impact of inadequate capacity by stating that,

“We cannot deliver projects the project management way. There are project management best practice which we must practice and adhere to, but unable to, for example, we don't track project schedule consistently and we also don't do a thorough risk management. Stakeholder management is also accidental. Every week we have to see what is critical and urgent”

In light of the above, it is quite evident that the lack of capacity creates a bottleneck and jostling of a few experienced and skilled project managers, for example, the study findings revealed that project managers that are seen as competent and experienced are overloaded with projects. This phenomenon results in projects not being properly managed, thus creating unbalanced performing portfolios.

Moreover, lack of adequate resourcing has contributed to the lack of quality project deliverables. For instance, a review of reports revealed that on average, forty-percent (40%) of project budgets were not spent and subsequently returned or rolled-over. Second, the poor delivery of infrastructure projects has negatively affected ABC SOC operational targets, as noted by Respondent 12:

“Our failure to deliver key infrastructure projects has affected our operations. For example, in the 2019 financial year we had planned to move 250 million tons of haulage due to anticipated increased capacity from projects, we are nowhere near that.”

The document analysis of ABC SOC annual financial statements for year-end 2017 to 2019 further corroborate the above statement, confirming decline of operational performance. For example, it was found that ABC SOC fell short of meeting its target of delivering 300 million tons of haulage in the 2021 financial year by 30%. This delay can be traced back to the inability to effectively deliver some the infrastructure projects aimed for operational expansion. A further proof that PMO in the organisation is not capacitated or matured enough to deliver projects.

In summary, the above findings demonstrated that the PMO has been ineffective in managing projects and programs. The evidence of failure suggests that projects are either not well supported, staffed or progress is not well tracked and monitored. This also raises an issue about its ability to provide an oversight role and management of risks and issues. The results are in line with the literature where it was noted that there is a direct proportional relationship that exists between capacity, portfolio success, and the achievement of the organisation’s objectives (Grundy, 2000). Achieving effectiveness in PPM is dependent on having adequate capacity to manage the portfolio. Organisations that fail to attain adequate capacity, experience poor execution and delivery of portfolios, and subsequently failure of organisation to achieve its key strategic goals, as was the case with ABC SOC.

5.5.2.2 Lack of adequate Skills

While the previous section highlighted inadequate capacity, this section sought to understand the level of competencies and skillsets that are available to ensure key projects are delivered successfully. This is because managerial and technical skills

are considered key success factors in driving portfolio success. In a turbulent environment, project resources such as portfolio managers are expected to equip themselves with not only the technical skills, but to demonstrate the understanding of the environment they operate in, including the socio-political dynamics of the country.

Participants were asked to provide a detailed understanding of the skills and competencies available, and relate them to project and portfolio management performance. The overwhelming majority highlighted that the lack of tailored competencies and skilled personnel have contributed to the portfolio performance decline. Evidence from the study revealed that to achieve portfolio success and effectiveness, project human resources (e.g. project managers, portfolio managers, and business analysis) must have a combination of competencies and experience. For instance, project and portfolio managers must be competent in managing project dependencies and interdependencies over and above the traditional project management competencies of planning, scheduling, control and monitoring, risk management, cost, and resource management, as was highlighted by Respondent 5 who stated that,

“We need properly trained project portfolio managers. Currently, there are few project managers that are trained in project management (e.g. PMP certified). Our recruitment process does not make this a compulsory requirement. Equally, we need a proper leadership that understands the role of portfolio management in delivering strategy”.

In addition, the results concluded that portfolio managers ought to be equipped with skills to be able to negotiate and manage multitude of stakeholders that may have conflicting goals. This was summarised by a key PMO participant (Respondent 3) who clearly stated that,

“...project managers in certain instances might be capacitated from a technical perspective only, and not balanced with other significant contributing factors especially socio-economic as well as a political environment...”

Understanding diverse stakeholders and their power base and interest is important to align needs and expectations. These views align well with scholars (e.g. Selepe, 2019; Ika, 2012; Muriithi & Crawford, 2003) who highlighted the importance of multi-skilled

portfolio actors to enable them to align well with various and diverse stakeholder's needs and expectations. A dynamic and politically infused environment requires project portfolio actors that possess multiple skills. For instance, social and large infrastructure are good targets for politicians. They are used as a source of achieving political power and therefore, portfolio actors such as portfolio and project managers should recognise these dynamics as part of portfolio practices. This is because traditional project management practices alone are ineffective in addressing African challenges, as highlighted by two respondents (Respondent 13 and 6) who noted that:

“Unfortunately, it's the nature of the environment we are in. Politics do play a strategic role in state-owned companies and if portfolio managers of today do not understand how to factor these dynamics in the manner in which projects are selected, located, funded and executed, they are not going to be successful”.

In support, Respondent 9 clearly summarised, and stated that:

“I am not saying portfolio personnel must be trained politicians, but they must have real and meaningful understanding of the political dynamics of the country and how that impact on the running of the SOCs”.

The significance of the expressed views is that there is a need for an African project management approach that is tailored to African values, cultures and sociality. This aligns well with the findings of Ika & Saint-Macary (2014). When it comes to Africa, project options regarding locations or target groups are often political decisions by political leaders (Ika, 2012). Thus, there is a huge value placed on politics when deciding which projects to implement. Moreover, projects in developing countries are social in nature and not for profit, to facilitate growth in the economy and solve other socio-economic challenges such as poverty reduction, addressing inequality and unemployment. This was explained by Muriithi and Crawford (2003) who highlighted that the socio-economic and political context is characterised by poverty, low wages, lack of skills and weak political institutions and as a result project success continues to be elusive in African organisations.

The same also applies to the project and portfolio management skill sets. Lack of holistic or all-rounder competencies often lead to failure of social and infrastructure

projects. The study results also indicated that project and portfolio managers have consistently failed to spend project budgets and have returned forty-percent (40%) back to the National Treasury due to numerous delays caused by external factors, such as, political interference and community unrests. This was captured clearly by a respondent who stated:

“... by the end of each financial year, you find we have not spent 40% of the Capital Expenditure budget due to skills level of our PMO office and lack of support from businesses”

In addition, the ABC financial reports on organisational performance clearly indicate a significant decline on CAPEX spending (ABC SOC, 2019; 2020; 2021).

Lack of skilled competencies was further blamed for poor development of business cases. This was demonstrated by the large number of non-approvals of the business cases submitted. This view was captured by the Chief Financial Officer who is also the custodian of all business cases, who stated that:

“In most cases, I have seen about 30% of business cases that are rejected and sent back to the teams”.

The document review revealed that business cases were poorly written and motivated and in other cases, the objectives were not aligned with organisational strategy.

Addressing the issue of leadership in projects, participants also questioned the competencies of top-management and their ability to lead and take timely decisions. For instance, Respondent 5 stated that:

“... there is a need for top-leadership to be fully competent in areas of strategy, finance, PPM, political dynamics and understand culture of the organization. This is due to the fact that effectiveness and portfolio success depends on the decisions taken by these leaders”

In the light of the above discussions, it can be inferred that the skills and competencies deficiencies have contributed towards portfolios and outcomes that are poorly designed, unbalanced, misaligned, and poorly delivered with questionable benefits. This is an indictment of the organisation’s PMOs which are the custodians of all project management practices including responsibilities of ensuring that projects are

resourced with trained and skilled human-resources. Where there is a skills gap, plans must be put in place to address the gap. Achieving better results will require the actors of PPM to have competencies to manage interdependencies between multiple projects (Nielsen & Pedersen, 2014; Beringer, Jonas & Kock, 2013). Thus, they must not only be equipped with technical skills, but must have social and political (politics) knowledge that would assist them to navigate the environment to enable successful project implementations.

The overall conclusion regarding portfolio resourcing and management is that current portfolios are inadequately resourced. PMOs have human resources deficiencies to deal with the challenges experienced by projects in ABC SOC environment. Traditional project management practices are less useful to deal with these types of complexities. For instance, the literature (e.g. Maylor & Turner, 2017) revealed that PMOs' resources lack interpersonal skills of communication, conflict management, influencing, leadership, negotiation, and teamwork to manage projects in a socio-politically complex environment. A lack of understanding of the current political affairs of the country by portfolio actors have resulted in a failure to resolve political issues affecting projects. Moreover, the absence of multi-skilling contributed to depriving key projects of much needed support and funding due to the portfolio actor's inability to mobilise political and public backing. These findings confirm the findings by various scholars (e.g. Ika, 2012; Ika & Saint-Macary, 2014; Muriithi & Crawford, 2003) who established that developing nations simply do not have adequate trained personnel to plan and implement projects effectively.

5.5.3 Project execution

PPM literature has attributed the effective management and execution of individual projects as central to achieving portfolio success. The majority of participants reiterated the importance of timeous delivering of projects as crucial in maintaining portfolio balance and alignment with strategy. To achieve this, the execution of individual projects must be efficient, such that the portfolio must be able to access project information easily for decision-making as well as adapt to risks caused by the internal and external environment (Patanakul, 2015). Without this flexibility, the organisation risks implementing portfolios that are misaligned.

Although this study is not about the assessment of individual projects, in complex systems thinking it is difficult to draw a line between when the strategy formulation ends and when the project execution begins and where fault lines are created or have the most impact on the eventual outcome and impact.

Respondents overwhelmingly (e.g. 16/21) noted the poor projects execution as the basis for lack of effectiveness in the project portfolio management practices. They cited the inability to execute projects in accordance with project management principles and practice as the reason for an unbalanced portfolio, as highlighted by a senior portfolio manager who stated that:

“The challenge we have is largely on the execution of the projects as well. We don’t execute projects effectively. Our rate of executions; for example, success versus plan, calls for major room of improvement and part of it is due to cumbersome decision-making process”

The results also revealed that poor delivery of individual projects in a portfolio contributed to missing of performance targets, which are linked with organisational strategic objectives.

Another factor which was highlighted by the majority of the participants as contributing towards the misaligned portfolio is project budget spending inefficiencies. They found mismanagement of the project budget as the reason for portfolio problems such as delays, rollovers, and forensic investigations that hamper the smooth delivery, as highlighted by Respondent 8 who stated that:

“...if we don’t execute some of the projects now that we have planned to execute, next year we will have R500m that is going to be consumed by the roll overs. That uncertainty throws the portfolio off, that is the one of the biggest issues”.

Other respondents (e.g. Respondent 11 and 14) focused on government regulations that make it impossible for project management processes to remain flexible and dynamic, as confirmed by Respondent 13 who stated that:

“We are not as flexible and adaptable as private sector. As a result of these regulations, the procurement process is prolonged, the execution is then

prolonged. In addition to this are community related issues which result in communities damaging our infrastructure to vent their frustrations with the government. So, with all of these challenges, projects take too long to be completed with missed opportunities”.

From the above, it is noted that poor management of projects delays the achievement of portfolio benefits. Second, it creates an imbalance on the portfolio going forward. Third, it reduces the allocation of budget for new opportunities or projects. In addition, at a practical level, such lack of delivery promotes the culture of fruitless and wasteful expenditures, as noted by a number of audit reports.

5.5.4 Monitoring and reviewing of portfolio performance

Monitoring and reviewing of portfolios is one of the factors that influence portfolio success. This function is usually the responsibility of governance committees to perform and enforce. Under this process, new projects continuously become candidates to be added to the existing portfolio, while those existing are evaluated in terms of performance (Patel, 2009).

Participants were asked to provide their experiences when it comes to how they view monitoring and reviewing of portfolio progress and performances. First, participants were unanimous in acknowledging the importance of monitoring and reviewing performance to ensure portfolio success. Secondly, respondents agreed that the review committees do exist and that its responsibilities include assessment of the portfolio’s progress and overall performance as summarised by Respondent 8 who stated that:

“Yes, the committees are there. We actually conduct a formal process to appraise projects before they get completed”. We sit down in those committees and for the projects that were approved, and interrogate them. For example, we look at where the projects are, how far are they in terms of progress and whether they are in line with the approved budget and baseline timelines? Are the benefits being realised?”

On the other hand, Respondent 3 suggested that although the monitoring and review committees do sit, the inner workings of the committees are questionable. He noted that:

“We stop reviewing properly at the business case approval stage, thereafter the process runs itself. It’s unlikely to find a forum which thoroughly analyses the performance of a project in terms of risks, budget spent, and milestones achieved including projections”

The above views were also noted by four respondents (i.e. Respondent 2, 6, 13 and 20) who observed that although reviews meetings are held to deliberate on the progress of the projects, their effectiveness is doubtful. For instance, in instances where committee meetings are convened to assess the portfolios, it was found that projects are reviewed on an individual basis and not as a portfolio, making it difficult to assess portfolio performance and benefits. The focus was on measuring the performance of individual projects using traditional output measures such as time, budget, and quality attributes. Very little was done to assess whether the projects within the portfolio have contributed to the overall portfolio benefits, which subsequently ensures the organisation achieves its intended goals. This approach often undermines the effectiveness of the portfolio and prioritises the efficiencies (Maier & Branzel, 2014; Toor & Ongunia, 2010). Secondly, the discussions lack insight about key portfolio risks and mitigation plans to restore adherence to plans.

This finding was echoed by Respondent 5 who observed that the current process lacks mechanisms to terminate projects when they are found to be no longer contributing towards the direction in which the organisation is going; or the costs of continuing the project outweigh the anticipated benefits; or the project could no longer be justified due to long delays. He stated:

“...and we simply just continue with projects as if all is going normal. That is why in most of the projects we are not providing returns on investment. We do not have a prudent process where we can for example, abort projects if we see they are not working”.

To triangulate this observation, a document analysis was conducted using the official 2021 annual performance report of ABC SOC. The result of the document analysis

corroborated the finding(s) by highlighting a key portfolio which was found to have cost overruns amounting to over R50 billion, which contravened the PFMA guidelines. It was also categorised as an irregular expenditure by Auditor General and also become a subject of the state capture investigations (Madonsela, 2019; ABC SOC, 2021). The cost overrun contributed to the decline in the company's operational key performance for the years 2019 until 2021 (ABC SOC, 2021).

The findings above indicate that a lack of consistent and effective monitoring and review of the portfolio negatively affected the effectiveness of portfolio management. This gap in practice has serious implications for the management of the organisation as this could result in projects incurring unnecessary costs and depleting scarce resources that could be used elsewhere.

5.5.5 Level of project management maturity

While the previous sections dealt with how project resources and the managerial aspect have had an impacted on project delivery, this section discusses an investigation that sought to understand the level of project portfolio management maturity.

When asked about their views and rating of the organisational project and portfolio management maturity, the majority of respondents (e.g. 19/21) cited a low organisational maturity, and in particular that of project and portfolio management as a contributor to the level of ineffectiveness. They highlighted that project management, and portfolio management maturity is at an infancy state and that project delivery is closer to being accidental and unpredictable. This was clearly summarised by Respondent 6 who stated that:

“Project Management maturity level is still at a nursery stage. We are not a mature Project Management Organisation. We should be far ahead and operating on autopilot”

In support, Respondent 12 noted that:

“... PMO processes are not followed in its entirety. For example, some projects are implemented without steering committee in place and reporting is done

haphazardly. Project gates requirements are not ticked off before the next phase”

The above quotations demonstrate a state of an organisation that has not matured and not fully embraced the culture of project management and its practices. This was also highlighted by the majority of respondents who indicated that project management practices, such as risk, budget, stakeholders and time management are often lacking when it comes to the delivery of projects. For instance, Respondent 8 highlighted some challenges leading to the state of project management:

“...you hardly find an updated risks register per project. The project timelines are not baselined and also not updated properly. It is difficult to determine where the project is in terms of milestones achievement...”

This view was further corroborated through document review when an assessment of key project folders and documentations was conducted. The analysis revealed that key project artefacts and deliverables, such as signed-off project business cases, updated timelines, stage completion certificates, approved scope, risk matrix, and other key documents are either missing or were not approved.

In demonstrating the level of enterprise maturity, the majority of respondents highlighted that the project management community in the organisation do not receive full support from end-user departments such as the operations department. Project and portfolio management is considered as a ‘cost-centre’ in which business units see little value-add, as highlighted by portfolio owner (Respondent 6) who stated that:

“...If you look at our projects, they hardly receive support from operations and other business units. The operations only care about their daily operational and hence their KPIs”.

Lack of business unit support in delivering key infrastructure projects and portfolios could also be traced in the decline in volumes and the poor operational performance targets from 2019 until 2021 (ABC SOC, 2021). When performing a document analysis on the annual financial statements for the past two years (e.g. 2020 and 2020), a decline in performance was observed. As an example, there was a lack of delivery on strategic projects such as one code named Godzilla. Although a global pandemic,

Covid-19 also contributed. Godzilla was a project aimed at the modernisation of ABC SOC's ageing rolling stock to improve reliability of its services. The project was also intended to increase the usage of rail over road infrastructures for rail-friendly cargos.

In addition to the above, there were significant increases in unqualified audit reports from the Auditor General on irregular expenditure related to the procurement of key projects and disregarding of PFMA processes. For instance, the outcome of the document analysis revealed that over R131 billion and R104 billion worth of contracts were irregular for the financial years 2019/2020 and 2020/2021 respectively (ABC SOC, 2021). This observation reinforces the above notion of low maturity in dealing with project related contracts. In essence, the evidence points to a weak project and portfolio management maturity and governance.

In view of the above discussions, results indicate that the current execution of projects and portfolio is hampered by, first, ineffective management of projects, as characterised by long delays and wasteful expenditures. This is attributed to ineffective PMOs that do not adequately support projects. There is a strong relationship between project and portfolio management, strategic and portfolio alignment, and the success of the firm. Organisations that continue to mismanage projects would find it difficult to derive 'value' and superior performance for the organisation due (Serra & Kunc, 2015).

5.5.6 Concluding remarks on PPM methodologies and practices

In light of the above findings, the study concludes that PPM methodologies, tools and practices are ineffective when structuring, prioritising and selecting projects. The traditional selection methods are inadequate as they lack logical incorporation of social considerations, and have little or no way of estimating the economic opportunity cost of achieving stated goals (Medaglia *et al.*, 2008). Moreover, these instruments and methods were found to be too mechanical to fit the dynamics, demands, and conflicting interests from various stakeholders, thus creating unbalanced and misaligned portfolios. In addition, the study concludes that the successful delivery of projects was impeded by the weak execution of individual projects, characterised by a lack of proper planning, inadequate capacity, insufficient competencies, weak governance structures to monitor portfolio and low project management maturity within the organisation. Key projects were found to be delivering outputs that do not benefit

the community, resulting in being labelled 'white elephants'. Although these findings were not surprising for parastatals in Africa, they further compounded challenges to portfolios actors, who are faced with mammoth tasks of ensuring that state-owned companies such as ABC SOC, supports the successful deliveries of government programs aimed at the development of the country.

Ineffectiveness was further hampered by poor decision-making in dealing with a multitude of conflicting interests and pressures from external stakeholders such as the government. The current PPM practices were found to be less dynamic in an environment characterised by instability. As a result of these pressures, decision-making becomes a jostling of resources and projects that benefit individual stakeholders rather than achieving organisational objectives. For instance, the results found that the majority of the decisions were taken outside formal structures, and in most cases based on a patronage system and cronyisms and favoured those who wield political powers.

5.6 The Effectiveness of PPM

This study adopted the definition and understanding by Patanakul (2015) and Petro and Gardiner (2015) as to what and how the "effectiveness of PPM" should be achieved. In this definition, several attributes were listed as having an impact on the effectiveness. For the purpose of this study, the following five attributes as advocated by Patanakul (2015) were adopted: (1) strategic alignment; (2) internal and external adaptability; (3) effectiveness and efficiency of portfolio selection (transparency) (visibility); (4) portfolio monitoring and (5) effective project execution (predictability). The results indicated that the PPM practices within ABC SOC fall short of meeting these attributes and hence its ineffectiveness as a decision making tool. These findings were supported by the following sub-findings:

5.6.1 *Strategy misalignment*

The results indicated that ABC SOC struggles to align projects with strategy. The misalignment was caused by portfolios that are unbalanced, consisting of chosen projects that do not yield best result; are managed poorly; poor value projects and too many projects for the available resources. For instance, the organisation has

investments (portfolios) that do not mirror strategic priorities; there is a lack of scientific and balance selection techniques; there are too many projects for available resources. Portfolio alignment was further made difficult to achieve due to processes that have been found to be less effective when applied to ABC SOC's environment; that is, an environment dominated by complexity, uncertainty and unambiguity (Gerald, 2008; Sandstrom & Bjork, 2010). Formalised processes are considered rigid and lacking the dynamism to respond to the constant changes and needs of the external environment. To achieve this alignment, PPM must integrate portfolio management process activities to those of other organisational processes (Hyvari, 2014). There must be a deliberate effort by management to ensure that there is an alignment between the strategic objectives and goals of the organisation and the projects and programs. Success can only be realised when the decisions taken by managers are consistent with organisational goals and objective. Thus, there is a need for harmonisation between PPM processes and other organisational systems or processes that are deemed inefficient (Artto & Martinsuo, 2001).

5.6.2 *Insufficient adaptability*

In line with the findings by Patanakul (2015; 2020), the study results revealed that achieving effectiveness and portfolio success was further exacerbated by the inability of portfolio processes to adapt to the external environmental factors. It is revealed in the case study that macro-environmental issues are factors that directly influence how the portfolio performs. This includes the portfolio manager's inability to manage external stakeholders. Various respondents, in line with many researchers (e.g. Yanwen, 2012; Beringer, Jonas & Kock, 2013) agreed that actors within the PPM process ought to be conscious of external environment changes, and in doing so, ensure that only 'right projects' are selected for implementation, and that those that are selected are fully resourced and capacitated. For instance, Muriithi and Crawford (2003) advocated the need for portfolio administrators (actors) to familiarize themselves with the political landscape and its dynamics in order to get buy-in and support during the pre-initial and implementation stages of the process. This will reduce political risks, which may lower the progress of the project. The environment shapes how activities are configured, which resources can be assembled uniquely, and what commitments can be made successfully.

5.6.3 *Poor selection of projects*

The results further indicate the inappropriateness of portfolio selection practices and methods when applied in ABC SOC. The current PPM selection process lacks the agility and robustness to appreciate factors and dynamics of the environment, in particular the macro-environment. For example, the study found the dominant use of financials over non-financial techniques as inappropriate to select projects. Scholars (e.g. Pereira & Veloso, 2009) have suggested the use of multiple methods to improve quality and rigor. This is because financial techniques have a tendency to produce portfolios with poor-value projects, too many projects for the available resources, and a gridlock in the pipeline (Cooper, Edgett & Kleinschmidt, 1999). These models often rely extensively on assumptions of economic rationality that seem to be insufficient to deal with the political environment of public companies (Muriithi & Crawford, 2003). An effective and flexible decision-making process combines both the formal and rational approaches with informal, subjective, and non-rational approaches having taken cognisance of the risk of biases and chaos during resources allocations (Gutierrez & Magnusson, 2014).

5.6.4 *Poor portfolio visibility*

Amongst additional attributes underlying effectiveness are project visibility and transparency (Patanakul, 2015). Visibility is associated with the monitoring and reporting of the portfolio, whilst transparency is related to portfolio selection practices and methods. However, evidence in this case study suggests that there is lack of portfolio reporting and performance monitoring. This is despite the fact that performance measurement has become one of the most important aspects of project management and strategy realisation (Toor & Ongunlana, 2010). Ensuring the realisation of benefits from projects improves the performance of an organisation (Chih & Zwikael, 2015).

5.6.5 *Ineffective execution of projects*

The inability to manage and deliver projects successfully contributed towards portfolio misalignment, and hence its ineffectiveness. The study found poor management of project dependencies and interdependencies; inadequate capacity and competencies; poor stakeholder management; poor management of risks and budget as some of the challenges experienced in projects. This includes the role of PMOs, which was

deemed ineffective in supporting projects with human resources and skills, highlighting an organisation that has low project management maturity. Thus, project executions ought to be considered as a building block to ensure that there is a continuous alignment for future delivery of strategies. The relationship between the management of projects and the alignment of strategy should be re-emphasised. This is because ongoing (continuous) strategy alignment is also dependent on the efficient management of projects. A fit must exist between business strategy and the outcomes of the portfolio projects, which will lead to better organisational performance (Hyvari, 2014). Conversely, when the portfolios are misaligned, the chance of achieving value and benefits for the broader customers is compromised. There is a need for methods that link strategy with portfolio decisions. This area is often lacking, or poorly understood and is not well covered in the literature (Killen, Hunt & Kleinschmidt, 2008).

5.7 PPM Literature versus PPM Practice

From the in-depth interviews, and analysis of findings, and in comparison with the literature review, the following differences and observations can be deduced about how PPM is practised.

First, despite extensive growth of PPM literature over the past decade, research on the effectiveness underlying PPM in state-owned companies is still lacking. There is a need for actors and implementers of portfolio management to understand how PPM effectiveness is achieved.

Second, it has been observed in this study that strategy formulation is still lacking and that identification of initiatives was done without due consideration of strategy and the factors that affect strategy. The approach to strategy formulation is strictly top-bottom with top management being exclusively involved. Literature calls for the organisation to ensure broader consultations and participations. In addition, various literatures advocate for the use of multiple approaches.

Third, despite the availability of selection and prioritisation methods and tools in literature, there are still gaps in the literature to develop further and formalise instruments and approaches that can be applied in state-owned companies of the

developing world (e.g. ABC SOC) where the use of a technical rationality approach is not sufficient. It was found that the selection of projects is complex and is based on the combination of political symbolism, mobilisation, and intuition.

Fourth, despite extensive literature emphasizing human resource sufficiency and portfolio balance as key for effectiveness, evidence from the study suggested that human resource sufficiency was lacking and that the allocation of resources was done haphazardly. There is no scientific approach to ensure that portfolios are adequately resourced and capacitated based on their unique requirements.

Lastly, while the aim of portfolio management was to help the organisation to achieve its strategic objectives through the effective delivery of portfolio of projects, evidence from this study revealed that projects are managed individually as opposed to portfolios. The portfolio actors still lack understanding regarding the benefits of managing projects as a portfolio as opposed to the management of individual projects. In addition, the majority of respondents have revealed that tracking and monitoring portfolio performance and benefits realisation is non-existent despite literature emphasising the importance of these aspects.

In light of study findings, it can be concluded that effectiveness in PPM is still far from being understood, especially in ABC SOC and that there is much more that needs to be done to address these gaps. The development of a conceptual framework underlying the effectiveness in PPM will help organisations and actors of PPM in ABC SOC to understand factors and influences that affect the effectiveness. These include understanding that achieving effectiveness in PPM hinges on various factors being managed well, including the ability to understand and manage multiple stakeholders, such as the politicians, and community over and above the normal project stakeholders. In addition to that, there is a need for portfolio actors to have a better understanding of the prevailing political environment in order to manage political risks that may have an impact on projects.

5.8 Chapter Summary

This chapter presented research results and findings from the data gathered from the participants of the study. The chapter began with the analysis of the demographics of the study.

The premise of this study was that an effective and dynamic PPM facilitates the achievement of organisational strategic outcomes and improved performance. This happens only when the portfolio of projects selected is aligned with the strategy, are balanced, adequately resourced, and control and monitoring is exercised effectively.

Overall, the results found that it is difficult to implement PPM practices within the ABC SOC, due to the number of factors, which the study revealed, and that must be addressed in our view.

First, the strategy alignment was found to be difficult to achieve, due to a strategic planning process that lacks a long-term view for planning, and poor integration, which has led to silos in working, and a shortage of skilled human resources who are knowledgeable about the process. The consequences of this are that the current portfolios do not reflect the organisational strategy, and in turn are not aligned with government priorities.

Second, the study found that when it comes to the selection of the portfolio of projects, various internal external factors infiltrate and influence the decision-making process. In fact, the data revealed that the decision-making process is a mixture of a political, patronage system, and bargaining and has little to do with economic and technical rationality. Projects should be selected not based on technical rationality alone, as advocated by traditional literature, but the selection should be a combination of multiple considerations. The results, however, were not surprising as they confirm what various studies and authors have found regarding the weaknesses of current PPM processes when applied to an environment dominated by instabilities and uncertainty.

Third, the study found that portfolio balance is difficult to achieve and that ABC SOC portfolios are unbalanced and ill structured. This is despite the fact that the organisation attempts to follow PPM processes and traditional techniques widely used, such as financial techniques, cost benefits, strategy, and other instruments, such as NPV, IRR, PB, in choosing projects. Other factors, such as politics, are role players in determining the shape and form of the portfolios. Accordingly, these techniques were found to be deficient when applied in the public sector environment because of their reliance on economic rationality and maximizing profits over socio-economic benefits (Muriithi & Crawford, 2003).

Fourth, the results highlighted a low maturity in project management as demonstrated by weak project and portfolio management maturity and governance.

The chapter concluded by correlating similarities and differences between the literature and the practice. The next chapter introduces and presents a conceptual framework, and uses the concepts highlighted in this chapter to highlight portfolio management components and their significance in structuring the portfolio and influencing the effectiveness in project portfolio management.

CHAPTER 6 : CONCEPTUAL FRAMEWORK UNDERLYING EFFECTIVENESS

6.1 Introduction

This Chapter addresses the fourth objective of the study, which was to develop a conceptual framework of Portfolio Project Management (PPM) as part of the study's contribution to knowledge. The conceptual framework is intended to guide ABC SOC in decision-making in a structured way that ensures alignment and a balanced portfolio and subsequent effective implementation. This Chapter follows on Chapter 4, which addressed the three objectives of the study relating to the effectiveness of three aspects of PPM as a tool for sound decision-making in ABC SOC. A number of gaps were identified relating to how PPM has been practiced and applied within ABC SOC in terms of PPM methodologies, strategic alignment, and PPM adaptation to its environment. Hence, this chapter is intended to provide a guideline on how to address the gaps which arose from the findings relating to the three objectives.

This chapter is therefore divided into seven sections, including the introduction. The second section provides a justification for a conceptual framework and third section provides an overview of the proposed conceptual framework. The rest of the sections go deeper in describing the three key parts of the framework, i.e. section four and five discusses how to achieve strategic alignment, and an adaptive PPM system, respectively while sections six discusses frameworks for achieving an effective PPM Methodology. The Chapter ends with a summary.

6.2 Justification for a Conceptual Framework

Traditional and previous studies about PPM have their focus on the selection and prioritisation of projects on selection techniques such comparative approaches, scoring models, portfolio matrices and optimization models (Archer and Ghasemzadeh, 1999). This was expanded by various scholars to include other criteria, such as alignment to strategy (Venkatraman, 1989), and technology road-maps (Lee *et al.*, 2007). Others, such as Cooper *et al.* (2000, 2004), examined the efficiency of PPM by estimating the degree to which the portfolio meets the achievement of the objectives of strategic alignment, portfolio balance and value. Similarly, Voss (2012)

expanded this to incorporate customer integration due to organisations that are confronted with growing demands for value-adding activities. Most recently, Patanakul (2015) introduced and developed PPM effectiveness which he argued is still new and limited. This was further supported by Muller and Gardiner (2015) who believed that effectiveness in managing portfolios is essential. There is a positive link between effectiveness and portfolio success. According to Patanakul (2015, 2020), the goals of PPM effectiveness can be assessed both strategically and operationally. First, strategically, the effectiveness is viewed in terms of the organisation's ability to align its projects strategically and adaptability to its micro and macro-environment. Secondly, operationally, effectiveness is assessed in terms of organisation ability to manage its portfolio such that there is visibility, transparency in decision making and predictability in delivering projects.

However, very little has been undertaken for public companies such as state-owned entities, which operate in a different environment and have different objectives to private entities. The practice and application of holistic project management, which encompasses portfolio management or management of multiple projects is still at an immature stage, or Cinderella field, although the general awareness of the concept seems to permeate within various industries (Rwelamila & Purushottam, 2012; Lawani, 2016). It has been claimed that government derives their socio-economic value and improves the standard of living of people in a society through public projects (Graham & Englund, 2013; Lawani, 2016). Similarly, portfolios are not stand alone entities but are part of a wider organisation context (Muller, 2008). Thus, portfolio decisions, such as which projects to select, prioritise, and which resources to allocate must balance the conflicting goals of an organisation (Ika, 2012; PMI, 2006; Muller, 2008). These decisions, cannot therefore be taken in a vacuum, and must therefore be made in consideration of the wider environment (Maylor & Turner, 2017).

Few qualitative studies provided a linkage between portfolio success in the SOC's and the external environment in which it operates. Muriithi and Crawford (2003) asserted that research on PPM in Africa must go beyond resource allocations, poor scoring technique, and start to address socio-economic challenges. Maylor and Turner (2017) and Seriki *et al.* (2010) concurred and suggested that projects need to adapt their methods to incorporate the diversity inherent in society, redirecting project focus

towards creating value for society. Thus, there is a need for current project management practices to cope with community demands, and recognize that economic rationality and efficiency, which are core principles in project management do not reflect the needs or realities of the locals. Continuing to utilise such tools and techniques will not enhance project success, especially if they run counter to cultural and work values. Hope and Moehler (2014) further noted that issues such as poverty, inequality and unsustainable use of resources calls for incorporating the principle of sustainability into PPM. They argued that there is a need to respond to global environment issues such as climate change, energy security and social justice. Other scholars (e.g. Maylor & Turner, 2017; Seriki, Hoegl & Parboteeah, 2010), suggested that the PPM approaches must consider political dynamics, cultural diversity and norms.

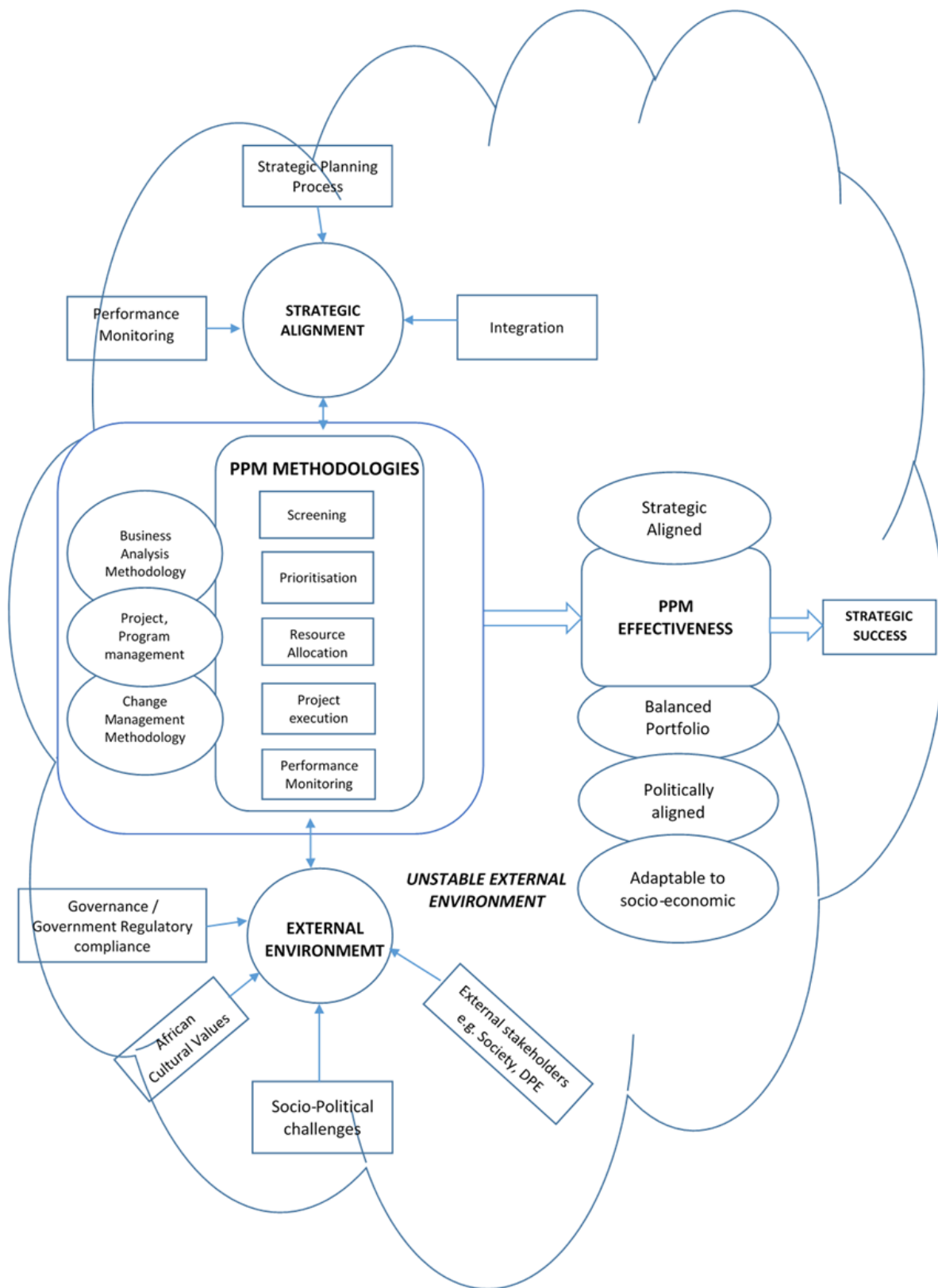
6.3 Overview of Conceptual Framework

This section proposes a dynamic conceptual framework of PPM to guide the decision-making process at ABC SOC to ensure effectiveness of PPM. The proposed conceptual framework is illustrated in Figure 6.1. The figure indicates that in order to achieve effective PPM; the three key areas which were found deficient in ABC SOC must be efficiently and effectively run.

The conceptual framework proposed in this study submits that achieving effectiveness is not a linear process, but consists of a combination of various factors and relationships, which must be achieved in tandem. Thus, achieving PPM effectiveness in ABC SOC requires that its portfolios must not only be strategically aligned or balanced in terms of projects mix and allocation of human resources, or achieve individual project visibility and successes. Rather, it ought to be responsive, and adaptable to the dynamic external environment challenges. Moreover, its portfolios must reflect the aspirations and needs of a broader community.

In essence, the framework embraces and incorporates socio-political dynamics created by the external environment in which ABC SOC operates. The framework also confirms that achieving strategic success, financial benefits and portfolio balance alone in projects can no longer be sufficient guarantees for effectiveness in ABC SOC.

Figure 6-1 Proposed Conceptual Framework



Source: Developed by researcher

Thus, effectiveness goes beyond the traditional approach and includes ensuring adaptability to the environment and its political dynamics. This applies to all other state-owned companies found in the developing world that, due to similar conditions, are characterised by polarised political dynamics and a greater focus on compliance than on the state-owned companies' strategic focus.

First, the proposed framework assists in ensuring that there is an alignment between strategic themes of the ABC SOC, and that of the broader macro environment mandates (e.g. economic, political, and social). Second, the framework enables the considerations of both the tactical and operational project portfolio selection criteria (e.g. financial, semi-financial, and non-financial). Lastly, the methods and tools that are chosen must adapt and be responsive enough to deal with uncertainties created by the environment in which state-owned companies operate.

The next sections go deeper to discuss how the deficiencies in the three main areas are bridged to achieve superior performance.

6.4 Strategic Alignment

Strategic alignment is an important step in ensuring that ABC SOC delivers on its strategic objectives. Similarly, the level of effectiveness of strategic alignment is fundamental in achieving PPM effectiveness. This study proposes that the level of effectiveness of strategy alignment can be achieved by strengthening the five areas that include processes of strategic planning and integration, adaptability, political dynamics, and the regulatory regime, as discussed in the next sections and summarised in Table 6.1.

Table 6-1 Proposed solutions to fill identified gaps in terms of Strategic Alignment

Strategic alignment dimension	Sub-process	Identified gaps	Proposed solutions to bridge the identified gaps
Level of effectiveness of strategic alignment	Strategy Planning Process	Formal and rigid strategic planning (deliberate strategy)	An Integrated Strategy planning with mixed approach towards strategy development: i.e. emergent and deliberate strategies
		Organisational internally focused	Outward focused (external environment)
		Current approaches assume rationality approach and avoid culture dynamics and politics	
		Lengthy process (heavily dependent on government processes)	Streamlined process Exempted certain process
		Top-down approach leading to inadequate stakeholders participation	Mixed approach (bottom-up and top-down) Effective On-boarding/recruitment process
		Limited knowledge of PPM role Rigid, unstructured budget process Culture of poor performance	Continuous performance evaluation High performance culture – Consequence management
		Inadequate strategy monitoring and review	Monitoring and reviewing
	Integration	Silos, autonomous structures Poor management of interdependencies Lack of stakeholder support and commitment Too rigid and inflexible structures (Bureaucracy)	Streamline organisational design to deal with Silos A dynamic and systematic integrated strategic planning approach

Source: Compiled by the researcher

6.4.1 Increasing the effectiveness of the strategic planning process

Findings indicated that strategy misalignment was caused by a number of factors, both internally and externally to the organisation. First, ABC SOC, like the majority of state-owned companies, tends to use 'deliberate strategy' approaches over other strategies, such as emergent strategies when formulating strategies. This is despite findings in the literature, which found deliberate strategies to be less effective when applied to an environment dominated by external instabilities and political dynamics. For instance, deliberate strategies were found to be inflexible; assume rationality; and disregard external dynamics brought about by government regulations, politics, and other cultural dynamics. It was also found that ABC SOC's strategic planning process tended to be inward looking. The consequences of an inward looking process were inadequate participations of key stakeholders (e.g. customers, society, etc.), resulting in poor external stakeholder management and their expectations.

Based on the evidence from the findings, this study suggests the need for not only a formal strategic management process, but also a robust process to deal with the challenges brought about by the external environment, named emergent strategy. This is because deliberate strategies are found to be less adequate to address the external environment challenges faced by ABC SOC. Combining emergent strategy in the strategic planning process will promote interactions across all levels of the organisation and the external environment. This would make ABC SOC strategic planning much more responsive in scanning and responding to changes in the external environment.

Further, this study found that the ABC SOC strategic planning process prefers a much more popular top-bottom approach towards strategy formulation as opposed to the bottom-up approach. It was revealed by scholars (e.g. Klopmann *et al.*, 2017) that the use of top-down operationalisation of the strategy approach alone is inappropriate under environmental conditions characterised by turbulences. The result of excessive application of a top-bottom approach meant that key stakeholders, such as ordinary employees, and junior and middle management (e.g. engineers, artisans, and technicians) who possess the technical know-how were excluded from participating in the strategic planning. In addition, this study's findings showed a lack of recognition of

the role and importance of portfolio management by the majority of top management in delivering strategy. The majority of them were not trained and could not differentiate between project and portfolio management.

A hybrid approach that combines a top-down and bottom-up approach will be inclusive and will ensure that, for example, the inputs of the majority of employees and other key stakeholders is considered when developing the strategy of the organisation. This will strengthen the ownership and the buy-in that is necessary (from the marginalised stakeholders such as the ordinary employees) for effective implementation. The use of a mixed approach (bottom-up and top-bottom) will further promote the rapid flow of information regarding the strategic direction of the organisation, and further create a healthy collaboration amongst the actors within PPM. This is supported by the views of Patanakul (2020) who submitted that adequate consultation and participation by broader stakeholders (including society) will enhance portfolio effectiveness.

Other causes of strategy misalignment found during this study, include the fact that governance committees (e.g. Board of Directors, Executive committee, Steering Committees, and Capital Investment Committees) are ineffective and lack periodic progress reviews. In the few instances where there are reviews and monitoring meetings, it was found that such meetings degenerate into political meetings where decisions are unilaterally and politically driven. Very little is discussed regarding the organisation's strategy, or how the organisation is performing in terms of its targets. This was evidenced by the number of non-performing programs supporting strategy left to run, and in so doing, depleting much needed resources. Moreover, in practice, this gap has resulted in, for example, bias in a sense that more emphasis was placed on financial and tangible benefits of strategy, while ignoring non-financial and intangible benefits. Ramanujam, Venkatraman, and Camillus (1986) cautioned against the exclusion of non-financial appraisal and performance and warned that this tendency is conceptually flawed. They therefore stressed that strategic planning should be a multi-dimensional and a multi-faceted management system.

Therefore, there should be forums that are adequately capacitated by human skills, and that should frequently sit for active performance monitoring. This study, for example, proposes that strategy review meetings with the Department of Public

Enterprises (DPE) should happen at least quarterly, and that their focus should be to discuss strategic oriented planning and monitoring as suggested by Artto and Dietrich (2007). Effective and continuous monitoring, will ensure that the portfolio aligns with the strategy of the organisation, and furthermore, that any change in the macro-environment that has an impact on the portfolio and strategy is fed back to the organisation and evaluated for effective decision-making and monitoring to ensure that the portfolio remains aligned with strategy.

6.4.2 *Increasing the level of integration*

The study found that ineffectiveness of strategy planning is hampered by a lack of integration amongst organisational structures, both internally and externally. For example, ABC SOC lacks an organisational design that fosters integration, especially with regard to both internal and external processes. Internally, the majority of functions operate in silos, and are deemed autonomous. For instance, it was found that there is very little integration among the key departments, such as strategy, portfolio management, and business operations, and this has led to poor management of integration points and project dependencies and interdependencies. Moreover, the study found that projects are conceptualised with little consideration to the strategy objectives. Externally, poor integration and an inward looking strategy formulation stance meant that few key external stakeholders participated in the process of strategic planning, resulting in the needs of key stakeholders being excluded. The implication was that 'inappropriate' projects that do not necessary support strategy were undertaken, resulting in portfolios that are misaligned and in a few instances resulting in 'white-elephant' projects. Furthermore, the bureaucracy in government also meant that the flexibility and speed in which ABC SOC garners support and commitment from stakeholders was reduced.

To achieve strategic alignment, the study proposes that there must be a multifaceted, multidimensional, contextually embedded, and integrated strategic planning processes. Moreover, the proposed integrated strategic planning process must promote interactions across all levels of the organisation and the external environment. Internally, all functions of the organisation ought to operate as an integrated whole, rather than individually in silos. The suggested mixed approach which is outward looking will improve integration amongst internal organisational

processes, such as strategic planning, PPM, and those of the environment, such as PFMA and other processes of the National Treasury. Thus, strategic planning should not be treated as an isolated stage, but rather a process, which should be embedded into the PPM process.

6.5 PPM Adaptability to the External Environment

The external environment and its impact on the organisation's strategies and portfolios have been widely acknowledged. It has been found that external environment factors, such as changing conditions, new threats, and opportunities, and political changes often trigger adjustments in organisational strategies. Similarly, the effectiveness of PPM depends on the organisation's ability to address external dynamics, risks, and uncertainties in the environment. Failure to adapt and adjust often leads to portfolio failure. This section addresses the gaps identified by the study regarding the level of effectiveness in adapting to the external environment by ABC SOC. Table 6.2 summarises both the gaps and the proposed means of bridging them. These are briefly discussed in the subsequent sections.

6.5.1 *Effective management of political dynamics*

The study found that the current PPM methods lack the agility to cope with the dynamic nature of the external environment, which is characterised by constant changes and uncertainties brought about by the external environment. As an example, it was found that there are no systematic methods to evaluate political decisions or behaviours that impact on the management of PPM, resulting in decisions that are often politically driven, and biased towards the majority party in parliament (with some hinging on corrupt behaviour), regardless of the strategic value to the organisation. Although this is prevalent in the developing world, it should not be the norm, and care should be exercised not to allow political decisions to override rationality. If left unchecked, misaligned projects will end up being selected and implemented, thus diminishing value and service delivery to society.

Table 6-2 Proposed solutions to fill identified gaps in terms of Adaptability to External Environment

Adaptability to environment dimension	Sub-process	Gaps	Contribution of this research in form of closing the gap
Adaptability to External dynamics	Politics	Current methods rigid Lack mechanism to evaluate political decisions Political, subjective over rationality decisions Political interference Political buy-in and support lacking Poor management of political conflict	Political understanding by PPM actors Ethical leadership of Selection committee Integrate/map PPM process with key regulations Politically aligned portfolio Socio-cultural aligned portfolio
	Governance regulatory Compliance	Greater focus on compliance than strategic focus Stringent government regulations (e.g. National Treasury processes, PFMA, BBBEE) reduces agility	Oversight agencies increase capacity Focus on SOE strategic mandate and performance

Source: Compiled by the researcher

Similarly, the study discovered that more often, the majority of PPM actors lack background and understanding, and hence lack the competencies to deal with the vagaries of the political landscape. These limitations were found to be some of the contributing factors towards the lack of political buy-in and support needed from government and politicians to implement key developmental projects. For example, this study found that certain key projects were stopped due to a lack of political support, despite their positive contributions to government macro-economic targets. Interestingly, those that had political buy-in, but failed to demonstrate benefits and value, were allowed to be selected or to continue. In all these instances, actors of PPM were found to have lacked the political skills to mobilise support and manage political dynamics in order to take the right decisions at the right time.

This study therefore proposes that there must be a dynamic PPM process that is suitable and adaptable to the ABC SOC environment characterised by economic uncertainty, chaos, and political instabilities. The framework should explicitly incorporate major government regulatory frameworks and processes to the PPM process (organisation strategic planning process) to enable it to be realistic.

Additionally, it is also proposed that the actors within the PPM process ought to be equipped with, not only the technical skills, but should be capacitated with interpersonal skills, including how government works, political understanding, policy development, and stakeholder and public relations to enable them to navigate the government and political spaces in which the state-owned company operates. Building relationships with key stakeholders (e.g. politicians) is critical to how project participants approach and manage project activities, including resolving conflict (Amoako-Gyampah *et al.*, 2021).

6.5.2 Streamline the level of regulatory regime

Contrary to good governance, the current legal framework for SOC consists of regulations and laws that inhibit good governance. Government frameworks such as PFMA, Broad Based Black Economic Empowerment (BBBEEE), and other policies, have had an adverse impact on SOEs and have put a heavy compliance burden on state-owned companies (Kikeri, 2018). For instance, the study finds that the supply chain tendering process alone usually takes over twelve (12) months before the actual

execution happens. This period, according to the findings, reduces the competitiveness of ABC SOC and delays value being delivered, resulting in a portfolio that is skewed and misaligned. Similarly, there are no systematic methods to evaluate and measure political decisions and their impact on portfolios.

This study proposes that certain processes should be streamlined to allow agility and expedite results. For example, it was proposed that ABC SOC should streamline their procurement processes in line with government regulation requirements. The focus should be on strategic imperatives, developmental agenda, and performance, rather than on compliances. The agencies responsible for oversight must capacitate themselves with technical competencies and capacity to undertake quarterly reviews of state-owned companies' performance instead of placing greater emphasis on compliances.

6.6 Project Portfolio Management Practices

Implementing effective PPM processes ensures timeous and transparent decision-making in the form of prioritisation and inclusion of appropriate projects, replication of successful projects, promotion of project visibility, and realising a balanced project portfolio that maximises organisational value (Patanakul, 2015; 2020; Young & Conboy, 2013; Jonas, 2010; Heising, 2012, Coper *et al.*, 2001; Teller *et al.*, 2012). Similarly, the level of effectiveness and the choice of PPM practices are fundamental in achieving PPM effectiveness. The study found that the practices used at ABC SOC are either insufficient, or too weak to deal with the dynamics of the external environment. This section proposes ways of bridging the gaps that were identified in terms of achieving an effective regime in applying project portfolio methodologies. Table 6.3 summarises the identified gaps and means of bridging them. Therefore, the next sections briefly shed more light on the proposed solutions.

6.6.1 *Increasing the effectiveness in the selection of projects*

The study's findings indicated that there are gaps at ABC SOC when it comes to the selection of techniques commonly used in implementing PPM. First, the study found that the current selection techniques used are designed to work effectively for private companies where the maximisation of profit is the most important factor.

Table 6-3 Proposed solutions to fill identified gaps in terms of PPM practices

PPM methodology and practices dimension	Sub-process	Gaps	Contribution of this research in form of closing the gap
The level of effectiveness of PPM methods and techniques	Selection of projects / portfolio structuring	Financial indicators methods preferred (Western techniques) Non-scientific approach selection criteria Decision political, documented processes ignored	Balanced Selection approach: Mixture of financial and non-financial techniques Dynamic methods (social, political behaviour, intuition and exploitation) Key indicators: socio-political and economic (poverty, unemployment inequality)
	Resource balance	Inadequate portfolio capacity and skills PMs lack qualifications – e.g. PMP certified Lack of competent skills in Africa Lack of scientific approach to resource projects Allocations is political	Multi-skilled PPM resources (political knowledge) Efficient Scientific on-boarding of resource PMP certified PM for key projects
	Execution of projects	Poor execution of projects – excessive costs, poor quality, delays Increased irregularity and wasteful findings Low level PPM maturity	Enforce PPM process Implement portfolio Steering Committee
	Performance Monitoring	Inadequate portfolio monitoring and review Projects monitored individually instead of portfolio Projects benefits not quantified	Continuous tracking and monitoring. Benefits realisation implemented Lesson learned

Source: Compiled by the researcher

These techniques and methods appeared to have been developed in the context of western countries. In practice, the study found that these tools have failed to address problems and challenges faced by ABC SOC. This finding has been echoed by other scholars (e.g. Herbst, 2019; Ika, 2012) who noted that state-owned companies in the developing world need agile techniques. In addition to that, the techniques and scoring methods commonly used prioritise projects that highlight financial benefits over non-financial benefits. This implies that socially inclined projects designed to create employment and alleviate poverty, and which may not necessarily demonstrate financial benefits, are overlooked. Similarly, in cases where there is a formal process in place, this study found that the selection of projects is politically driven, and lacks transparency and objectivity i.e., the project selection is enshrined in a non-objective approach.

Therefore, there must be a dynamic PPM approach to project selection that is not biased towards projects that shows financial benefits only, but should be balanced and guided by the objectives of the organisation. Thus, the scoring techniques ought to be balanced and not biased towards projects that show financial benefit. Apart from indicating viability, they should also focus on key macro indicators that address government socio-political and economic challenges such as the triple constraints, namely, poverty, unemployment, and inequality. Successful organisations in this area have employed a combination of different methods (Cooper, Edgett & Kleinschmidt, 1999). In these instances, ABC SOC must select methodologies that will suit the culture within the state environment. These will allow the consideration of the project attributes; namely financial viability and delivery of macro-economic targets of government.

6.6.2 Increasing the level of Project delivery predictability

With regard to the level of predictability of project delivery, this study found that project execution is poor and is characterised by projects that are late in terms of schedule, have incurred excessive costs overruns, and poor quality. As a result, this has contributed towards increased audit findings by the Auditor General SA of wasteful expenditures by a state-owned company, ABC SOC being one of them. These findings further bring into question the project management maturity level of ABC SOC.

This study proposes that ABC SOC should adopt and implement a project management end-to-end process, which will guide the execution of projects. This study suggests that a formal and standardised project execution methodology be implemented across the functions of the organisation, and that this must be strictly enforced. In addition, each project, depending on its significance, should establish a project steering committee, which will discuss and steer the performance of the project and further report the progress to the portfolio committee. All risks and performance in terms of progress, cost and quality and other issues affecting projects, and in turn the portfolio, must be analysed and expeditiously resolved.

6.6.3 Increasing the adequacy of portfolio human resource

The study found that the project delivery effectiveness is hampered by a lack of the availability of critical human resources. This finding is in line with Muriithi and Crawford's (2003) observations about a shortage of project and portfolio management skills and competencies in the African continent, and the fact that state-owned companies often have to compete for limited resources with private sectors. For ABC SOC, the study discovered that there is lack of technical skills, such as certified project personnel (e.g. project managers, portfolio managers, etc.). A shortage of other skills was also noted, which included leadership and financial skills, amongst others. Moreover, those that are available are unable to navigate the politicised environment to enable them to garner support from key stakeholders such as politicians and the government.

In addressing the above, there should be an effective on-boarding system for the recruitment of human resources and the sponsorship of continuous professional development (CPD). As an example, there is a need for project managers that are equipped with international standards certifications in project management and procurement to enable them to effectively manage projects and global suppliers, such as the Original Equipment Manufacturers (OEM) of their products (e.g. locomotives and wagons) and other complex suppliers. Moreover, this on-boarding system must be able to identify human resources that are multi-skilled, and who are able to operate in a politically loaded environment. For example, portfolio managers and decision-makers (portfolio actors) are recommended to have equipped themselves not only with

project and portfolio management skills alone, but also with skills such as understanding the political landscape, government policies, and international relations.

6.6.4 Increasing the level of monitoring and reviewing portfolio

Another finding from the study was the ineffectiveness and inconsistencies when performance monitoring the ABC SOC portfolios. This is very necessary due to the continuous changes that are created by instabilities in the environment, such as, political interference, changes at cabinet level, and others in the macro-economic context. These instabilities, which the ABC SOC has no control over, have impacted on the portfolio planning and its performance, and yet there is no system to track and monitor them. In a few instances where monitoring and reviewing occurred, it was discovered that this was done at an individual project level rather than at a portfolio level. Similarly, it was further discovered that monitoring occurred within functional departments rather than at a portfolio level. This means that not all information regarding the impact of intra- and interdependencies is available when decisions are taken. The study further highlighted poor tracking of project benefits and a lack of benefit realisation management across the organisation. Projects that are delivered and their benefits cannot be traced back to the strategy objectives that triggered them. Similarly, portfolio benefits, if any, cannot be quantified and traced back to the business case.

In view of the above, the study found that there is a need for ABC SOC to establish a sound monitoring system that will ensure that only projects that are still relevant, aligned, and can maximise value, in the context of strategic objectives, are pursued. Such a monitoring system is central in ensuring that portfolios that are chosen are not deviating from the mandate, but further assist SOEs to deliver the best possible outcomes. For example, projects that are found to be irrelevant, poorly managed, costly, and no longer contributing to the overall strategy can be terminated. Through this feedback loop, projects that require management interventions will receive the attention they deserve, moreover, this will happen timeously. The methodology should further enable the tracking and monitoring of portfolio performance to occur consistently. This will foster a much needed feedback loop that ensures that lessons learned are used to increase portfolio and project delivery effectiveness. One way of

ensuring that monitoring happens consistently is through the use and enforcement of steering committees and other project forums where portfolio performance is discussed.

6.7 Summary

This chapter presented a conceptual framework underlying the effectiveness in ABC SOC and its demanding environment. The conceptual framework undertakes to highlight some (not all) important aspects that the decision-makers of ABC SOC must consider when making decisions to ensure that effectiveness is achieved. In doing so, it highlights the most important portfolio components that must be considered when decision-making about portfolio selections are taken. Of significant importance to this conceptual framework is that unlike other quantitative approaches, this approach uses qualitative analysis to highlight portfolio components that are vital to ensuring that the organisation achieves PPM effectiveness.

The next chapter concludes the study by highlighting its contribution to the body of knowledge and stating suggestions for future studies.

CHAPTER 7 : CONCLUSIONS AND RECOMMENDATIONS

7.1 Introduction

This study investigated the effectiveness of PPM as a decision-making tool to guide the selection of portfolios for ABC SOC. The study was triggered by the continued and perceived failures and poor delivery of key strategic projects in the state-owned companies, which threatened their continued existence in favour of privatisation. In doing so, the study proposed a conceptual framework, which can be useful as a tool for decision making in state-owned companies when faced with conflicting investments. Traditionally, PPM has been widely used by various organisations as a means through which organisations achieve their strategic objectives. It has been discovered that organisations that implement PPM effectively have a better chance of achieving success (Gutierrez & Magnusson, 2014; Dutra, Ribeiro & de Carvalho, 2014). However, despite its limited successes in public sectors, there have been gaps in theory and in practice when it comes to its application. In fact, scholars (e.g. Ika & Pinto, 2022; Muriithi & Crawford, 2003) have argued that there is a need to develop methods that can be applied in an environment that is characterised by political influences and other macro-environmental dynamics.

In assessing the effectiveness of PPM as a key decision-making tool at ABC SOC, several interviews were held with key personnel who deal with both strategic and operational matters to understand the modus operandi of the organisation. Data was analysed and some key findings emerged. This chapter, therefore, presents concluding remarks relating to the study, and some recommendations. Specifically, section two provides a summary of findings and conclusions arising from the study. Section three, provides some recommendations based on the study findings, particularly their implications on practice, and how future studies could improve and extend the study given its limitations.

7.2 Conclusions

The goal of this study was to investigate the effectiveness of PPM as a decision making tool in a state-owned company code named ABC SOC and to further develop

the conceptual framework that can be used to assist state-owned companies in improving their performance. In light of the study findings, this study concluded that the application and implementation of PPM as a decision-making tool in ABC SOC is ineffective, and therefore affects the decision making of ABC SOC. The cause of this ineffectiveness was identified and categorised into three groups; namely, poor strategic alignment, failure to adapt to the external environment and lack of an appropriate use of PPM practices.

First, regarding strategic alignment, the study found that misalignment was caused, by an ineffective strategic planning process, which is too rigid, lengthy, and adopts an inward-looking approach, as opposed to outward looking. Further, the misalignment was exacerbated by a preferred 'top-bottom' approach, which excluded and prevented the majority of key stakeholders from participating in the formulation of strategy. For example, the study found that key stakeholders such as ABC SOC employees, some key customers/suppliers and users had limited involvement when some key initiatives were conceptualised. This study calls for the participation and involvement of beneficiaries in decision-making as an important success factor for sourcing valuable information that may impact the success of the project in the local environment. This can lead to successful project outcomes through community ownership of the project goals and empowerment in project implementation, as observed by Dyer *et al.* (2014). The inherent design of the organisation also fosters silos; hence, there is lack integration of various functions to produce a high performance value chain. This aspect was observed by some scholars (e.g. Velikorossov *et al.*, 2020) who concluded that such designs, which are often found in state-owned companies, inhibit strategic performance. It is argued that the role of corporate strategy is to ensure that functional departments are harmonious and congruent and further assist with resources to achieve a common goal. By continuing in this manner, ABC SOC's functional departments and divisions forfeited the interconnectedness and holistic view of what other parts of the organisations were doing.

Second, this study found that ineffectiveness was due to a lack of adaptability to deal with instabilities created by an unstable macro-environment characterised by a highly contested political environment. For instance, this study found that current portfolio processes lack the dynamism required for effective application in this environment,

and to evaluate political decisions or behaviours that impact on the management of PPM. There was overwhelming evidence from the study regarding the extent to which decision-making regarding the strategy directions was infiltrated and compromised by continuous changes in government and at a political level. This affected the effectiveness of portfolio management, and in particular key strategic projects. Other contributors cited for this ineffectiveness were government regulations such as the Public Finance Management Act (PFMA), Broad Based Black Economic Empowerment (BBBEE), and National Treasury supply chain processes, which were found to impede executions. Current PPM processes appear to fall short of the dynamism required, in the context of an environment dominated by volatility and instability, as currently exists within South African SOCs. In essence, this study advocates for a political alignment when structuring portfolios for SOCs in South Africa.

Lastly, the ineffectiveness and poor balance in ABC SOCs portfolios were caused by a lack of appropriate use of PPM methodologies and tools. This inadequacy in the tools and techniques, have resulted in portfolios that were skewed, incapacitated, poorly delivered, and poorly monitored. For example, due to its popularity, the study found that financial appraisal methods (e.g. NPV, IRR, ROI, CBS and PBP) were preferred over non-financial techniques despite being inefficient when applied to ABC SOC environment. These approaches were found to lack guidelines to deal with socio-economic and socio-political challenges such as poverty, inequality, and unemployment. Additionally, the study found that ineffectiveness was also caused by a lack of guidelines or scientific approach to ensure that only competent and skilled human resources are on boarded and allocated to projects. A lack of competent and experienced project human resources also resulted in poor management of dependencies and interdependencies. Consequently, these resulted in individual projects being delivered poorly, characterised by delays, excessive costs overruns, poor quality, audit findings by the Auditor General, and duplications of work. Lack of performance monitoring and review also added to this misfortune; because for example, projects that ordinarily should have been stopped were left to continue, despite adding no value or benefit to the organisational strategy.

7.3 Implications for the Research

In view of the identified inadequacies of PPM in ABC SOC, a framework was constructed to address the identified deficiencies. The framework also happens to be first, the study's contribution to knowledge. The framework captures the most common, but less researched components of project portfolio management in state-owned companies. This framework provides portfolio decision makers with a holistic approach, and factors that are important to consider when structuring portfolios. This will minimise the subjectivity and irrational decision-making that commonly dominate state-owned companies. The framework further provides PPM decision-makers an objective view of various factors that must be considered when structuring portfolios.

Second, the study makes a crucial discovery of the complex relationships and interrelationships that exists between project portfolio management components, the variables of a changing external environment, and the organisational imperatives and performance. It clarified that for an organisation to achieve effectiveness, it must move beyond the traditional PPM practices of matching project requirements with organisational strategic objectives. Rather, there must be an understanding of macro-economic factors such as the macro socio-political and environmental factors that influence how projects are initiated, supported, and implemented. For instance, understanding political dynamics and management of political dynamics enhances the chance of project success, and reduces political risks that may impact negatively on the project progress. This study goes beyond showing the importance of politics in decision-making. It suggests that political decisions and behaviours form part of decision-making and must be incorporated into the decision-making process. The portfolio decision-making processes should be a mixture of political and societal behaviour, intuition, and exploitation of opportunities over and above the traditional approach.

Therefore, this study adds further insights to project portfolio management by calling for 'political alignment' as a key driver for PPM adaptation in the macro environment. It is argued here that strategic alignment is not sufficient for the effectiveness of PPM as it is often interpreted differently, and therefore calls for portfolios to be politically aligned. This study demonstrated that the survival and relevancy of portfolio is often

impacted by decisions made at a political level. This is because all public sector projects have political consequences (Selepe, 2019). Further, the study demonstrated that although political decisions can sometimes frustrate portfolio actors, political backing and support cannot be ignored and is crucial for the survival of the projects.

The third contribution is that the study has confirmed that the preferred and dominant use of financial techniques over non-financial techniques tends to negate social projects, and subsequently renders the portfolio unbalanced. In other words, portfolios tend to be dominated by projects that offer financial benefits. These techniques were found to be rigid, inflexible, and unable to deal with the broader needs of the communities that are of a social nature. Similarly, the overwhelming use of subjectivity and patronage, have resulted in projects that have no alignment with the strategy being implemented. The study therefore suggests the need for a well-balanced and rigorous approach to selecting portfolios in SOCs. Thus, the selection instruments must be based on success criteria that include economic, social, and financial considerations (Ika & Pinto, 2022; Ika, 2012; Medaglia *et al.*, 2008; Cooper, Edgett & Kleinschmidt, 1999).

7.4 Recommendations

Despite the limitations of studying a single state-owned company, it is argued that the results highlight a number of issues that may cut across similar state-owned companies. Based on that premise, the following recommendations are made regarding the practices and future research work.

7.4.1 Improving effectiveness of PPM

Arising from the deficiency highlighted in this study, this study has developed the conceptual framework that addresses the gap that has been identified. The proposed conceptual framework will presumably improve decision-making processes within SOEs, which in turn will improve its performance. It integrates both the short-term goal components of ABC SOC with the long-term macro goals of the government.

Some of the features of this framework are that it allows the decision-makers to consider a holistic strategic and sustainability view in identifying and choosing a

portfolio of projects. Thus, for example, it enables the decision-makers to consider socio-economic and socio-political factors affecting organisational strategy when evaluating alternatives. This framework is also supported by findings of various scholars (Ika & Pinto, 2022; Muriithi & Crawford, 2003) who argue that project management practices are not universally valid across all environments and therefore rely on certain assumptions about economic rationality. Thus, a contemporary environment is one that is characterised by instabilities, political interferences, and is far from an ideal world.

In explicit terms, this study recommends that the portfolio management in ABC SOC should embrace and cope with the political dynamics created by the external environment in order to achieve alignment, adaptability, and effectiveness. In essence, the PPM ought to achieve 'political alignment' for buy-in at the beginning, and support during implementation. This will ensure that not only the portfolio will be balanced, but will serve the government-owned initiatives, which are more inclined to politics and its patronage system.

Furthermore, the framework advocates for selection instruments and tools that are based on success criteria; namely, economic, social and financial. For ABC SOC and other similar SOEs, instruments used must be such that these contribute towards reducing the so-called triple constraints of poverty, inequality, and unemployment. This is in line with the views of Medaglia *et al.* (2008). However, caution must be made when introducing new criteria to avoid rendering the entire process too irrational, subjective, and chaotic.

7.4.2 Suggestions for future research work

While the results of this study have provided insights into how PPM can be useful in facilitating decision-making in SOCs, future research could explore how other SOCs can use the PPM framework to improve portfolio success in an environment dominated by complexities and uncertainties. This section elaborates further on the future research in PPM.

Despite limitations, such as having studied a single SOC, future research may be carried further by including other state-owned companies. In other words, what the

researcher has leaned in ABC SOC can be investigated in similar state-owned companies. In Africa and in particular South Africa, SOCs share similar cultural values and macro goals; experience resources scarcity, an unskilled labour force and are affected by similar socio-economic and political challenges. Therefore, future studies should test other portfolio management attributes that can enhance understanding of the effectiveness of PPM in similar environments.

Future studies can be used to explore key issues/attributes that have emerged from the research that warrant a more focused and thorough investigation, such as the inclusion of diverse stakeholders in the formulation of strategy, the impact of politics as well as the incorporation of politics throughout the portfolio implementation. For example, how the inclusion of diverse stakeholders (e.g. public) with conflicting interests in strategy formulation could impact the decision making regarding the structuring and balancing of portfolios. Can involvement by politicians, or the lack of interpersonal skills (e.g. politics) by portfolio actors, impact on the decision-making about which projects to prioritise or impact the effectiveness of project portfolio management?

To further determine the impact of the framework, future research in a different context, such as in a different region or country, can be used to test and validate the conceptual framework. The researcher has provided detailed descriptions of the environment and the assumptions made during data collection, which should allow other researchers to compare or transfer the findings to a different context.

Furthermore, future research about the growing importance of state-owned companies as a driver for the governmental developmental agenda becomes vital to better understand practices and relationships. At a practical and management level, future research about how this phenomenon would improve strategic decision-making on the management side, which will, in turn, improve the performance of the SOCs and subsequently of government. How the employment of the dynamic framework could assist reducing our failure rate in large projects that are called 'white-elephants' and categorised as irregular and wasteful expenditures by Auditor General upon their delivery

Finally, this study calls for an urgent need for empirical work to establish a project portfolio management framework and techniques that suit the African context. For example, what portfolio management attributes are considered essentials to the modern African context. This is in line with various scholars (e.g. Ika, 2012; Rwelamila & Purushottam, 2012) who suggested that future studies must articulate what is considered an effective approach to project portfolio management in Africa.

7.5 Personal Reflections of the Researcher

The next sections contain my personal reflections on six pillars chosen by the university; namely, (i) research, (ii) strategic acumen, (iii) ethics and governance, (iv) networking, (v) knowledge and information management and (vi) organisational leadership.

7.5.1 *Research journey*

No amount of reading literature and preparation can prepare anyone for the complexity associated with qualitative research. The journey towards a qualitative enquiry is one that involves emotional, personal, and intellectual experiences. It is a journey of uncertainty, loneliness, pain, grief, confusion, and many regrets. Looking at my experiences, there were so many obstacles and challenges along the way that could have made the researcher give up. There were times when one could not see the end or imagine how to get there. Maintaining the work-life balance between family, social, and entrepreneurship, and still remain focused and dedicated to complete the journey was the most challenging. Thus, my passion for the study was tested in so many ways, both personally and business wise. The targets and milestones I set kept shifting backwards, and what seemed like practical goals became impossible. Regardless of these challenges, I persevered.

Having gone through this endless journey, I can now see the light at the end of a tunnel, and therefore it is time to share personal reflections about this journey.

The topic of my research was driven, first, by a passion I have had in the field of project management. Second, the project portfolio management (PPM) concept, which is considered new, has been poorly practiced in various organisations including those I

worked for, and in state-owned companies. In fact, in one of the organisations I worked for, PPM processes were treated as a tick box exercise merely for compliance purposes. Most portfolio actors had no training in PPM, and therefore did not see PPM as a strategic tool to facilitate decision making. There was a lack of understanding about its strategic value, including its role in improving organisational performance. The majority of portfolio actors believed that decisions about which investments to make are reserved for a selected few, in this case political heads, especially in the public sector. Although not surprising, this confirmed what many scholars have found about the state of project management in Africa. There is little appreciation of the value and the benefits PPM can bring to the organisations. Further, the disregarding of process also pointed to the low maturity levels of project management in our institutions. In addition, the implementation of projects in state-owned companies continued to be poor and affected government's responsibilities in rendering efficient services to the citizens. The thought of making a positive contribution in theory and in assisting SOCs to perform better motivated me to pursue the study. Third, personal reasons to fulfil a family ambition driven by my mother to complete 'schooling', was a strong motivator.

Reviewing the literature and organising theories of various scholars was perhaps the second most difficult and challenging activity. Having to search and scrutinise journals and articles applicable to this study and evaluate their usefulness was a daunting task. However, this process enabled me to enhance my knowledge about the topic and increased the ability to critically analyse and evaluate academic articles and arguments from various scholars. Through this process, I can confidently say I am more critical thinker and a better writer than before.

Regarding data collection and analysis, many scholars (e.g. Merriam, 2009; Watt, 2007) have warned that researchers of qualitative enquiry should brace themselves for a sheer volume of data being accumulated. This was proven to be true for my study. First, one of the most frustrating periods was getting participants to honour the interviews as scheduled. On a few occasions, I was forced to extend my stay in another province, such as KwaZulu Natal, only because participants had cancelled interviews on the appointed day of the interview. Once the interview was secured, the process of listening to what these participants had to share was mind-blowing and

thought-provoking. Since I was the primary instrument during the interviewing process, it was a bit difficult to remain objective. I had to remind myself of what the literature says about the role of the researcher and the importance of the researcher ensuring credibility and trustworthiness of the study. Thus, reflexivity is important in qualitative studies to enhance the credibility of the process and the trustworthiness of the data.

Second, data analysis of the transcribed interviews was difficult as I moved from one interview to another, and a lot of preparation was required from me. I kept field notes for each interview conducted and allowed for initial analysis immediately after each interview. Analysing data became the most difficult, confusing, time consuming, and challenging part of the study. I read various literatures (e.g. Merriam, 2009; Patton, 2002) trying to gain clarity about qualitative case study analysis. Reading data over and over allowed me to gain insight into the data and enabled me to identify themes and categories related to the study. This process forced me to be patient with data, and thoroughly reading and rereading my work enabled me to connect data together to create meaning.

While busy with data analysis and consolidating findings, tragedy struck my family in November 2021. Our family lost a brother through a gruesome accident. To make matters worse, it took time for the family to bury and find closure, due to the nature of the accident which warranted us to get DNAs first before burial. This process alone took three weeks. This affected my study and delayed me in submitting the final thesis, which was due in March 2022.

The final stage of the study required me to put the results and findings together in a conceptual framework proposed for this study. This was least challenging, due to the amount of time already spent in analysing and understanding data. A conceptual framework aimed at assisting SOCs in decision-making was conceived, and if used, will assist SOCs in deciding in which investments to invest their limited resources. Lessons learned from this enquiry were that qualitative research requires serious commitment and utmost dedication, not only of time, but of resources as well. Reflecting back on the struggles I encountered at each phase of the research, led me to fully appreciate the role of reflexivity in carrying out a qualitative enquiry and in fostering my development as a qualitative researcher.

7.5.2 Strategic acumen

Strategy and strategic thinking have been well-researched concepts and continue to evolve as time elapse. This relates to setting organisational vision and long-term goals, and translating those goals into actionable activities. There is no organisation or business that can survive without strategy. This has become even more important as the environment is becoming more competitive due to globalisation. On an individual level, for example, in research, researchers are also expected to be strategic in their studies. This involves establishing the goals and aims of the study, clearly articulating the objectives, and setting up plans (actions) on how the objectives are going to be realised. Not only did strategy assist during formulation, but even more during times of turbulence or uncertainty where the end goal seemed impossible. For example, I was able to revisit and make adjustments to strategic goals and purpose set at the beginning of the study, when faced with the possibility of terminating my studies. The researcher's view in this regard is that strategic acumen should be a requirement for every researcher, and more so for leaders of society, in particular those tasked with the responsibility of managing public funds and discharging service delivery to the people. In this study, the researcher has discussed in detail the concept of strategy, provided sufficient background on strategic planning and the importance of aligning strategy with projects and operational activities for organisational success, hence it is not necessary to recite what has been provided.

7.5.3 Ethics and governance

Throughout the journey of this study, I came to appreciate the role of ethics and the importance of adhering to ethics principles in research, namely, honesty, objectivity, integrity, carefulness, transparency, confidentiality, and accountability. This was also emphasised by Merriam (2009), who explained that although there are ample guidelines and policies written by various organisations and institutions, the actual ethical practices hinge on the researcher's value and ethical conduct.

During the course of this study, there were lessons learned and ethical considerations to apply to ensure the study is credible and reliable, specifically during data gathering and analysing and disseminating the findings. For example, credibility was enhanced by the type of relationship the researcher has with respondents, in other words, how

the researcher treated and behaved towards the respondents. The relationship was one that protects respondents from harm, in particular, maintaining confidentiality, privacy, and anonymity. Additionally, and due to the role of the researcher as a primary instrument in collecting data, it was important to maintain impartiality and avoid personal views (biases) or judging respondent's views during interviews. It is therefore important that researchers are well trained and informed of their roles and responsibilities as qualitative researchers.

Ensuring that documents were legitimate and suitable for consideration as part of the study was also problematic although this study opted to use documents that are open to the public and are required by law to be disclosed. Similarly, while disseminating findings and compiling the final research document, it was important to maintain ethical principles of privacy, anonymity, and not allow access to data to cloud my judgement when handling it. The use of codes and abbreviations were used to hide the names of the institution and respondents.

Another ethical issue that emerged during the course of this study was plagiarism. If not addressed, plagiarism could be detrimental to the trustworthiness of the study. Using other scholars' views as your own constitutes a serious offence in research. Similarly, submitting a study already submitted to another institution also constitutes a breach of ethics that governs research, and is punishable. The researcher noted these misconducts and the impact they have on the study as a whole, including the consequences that comes to non-adherence to ethics standards or norms, which are punishable.

The role of governance in research and in this study could not be emphasised more. Governance has been referred to as a set of rules, policies, and controls that regulate organisations and mechanisms used to hold people accountable, transparent, and obey the rule of law. The existence of the University's Ethical Committee, as a governance forum that enforces ethics and ultimately grants ethical clearance to deserving students, is commendable to ensure that students adhere to ethical principles, and where necessary, are held accountable for their actions or misconducts. In this study, PPM can also be seen as a governance committee that evaluates and decides which project to select. Governance forums, such as

Investment and Steering Committees are crucial to ensure that, first, only right project are selected. Second, these forums ensure that projects selected are executed effectively and their progress is reported to relevant key stakeholders as they occur. Lastly, for those forums that are performing poorly, corrective actions are taken, which may include, termination or re-prioritising.

In SOC's that are state funded, the researcher is of the view that establishing a governance framework will go a long way in ensuring transparency and accountability in the use of public funds. For example, all decisions regarding the use of public funds must be made public; and where decisions taken are not in the best interest of the citizens, decision makers must be held accountable. In addition, the researcher believes that effective governance in SOC's will go a long way to minimise political interferences in the day-to-day running of the organisation, which is the responsibilities of the executives (management) and the board. Similarly, effective governance ensures that only right competencies are assigned to SOC's boards and to the management of SOC's. In sum, the researcher considers governance as the foundation that facilitates decision-making in the organisation. Organisations that implement effective governance stand to benefit more through proper constituted boards, assignment of right competencies and skills, accountability and transparency, and maintaining independence.

7.5.4 Networking

Networking is described as a tool for making new friends and exchanging ideas. Without a doubt, networking is crucial for success, be it in academia, social, or business. The researcher has noted these types of networking, which he argues are valuable in everyone's development and that has impacted positively in his career. In the field of academia, this concept has evolved over time and has moved away from a traditional protégé-mentor relationship to one that encourages academics to establish connections and gain experience with multiple academics (Ansmann, Flickinger, Barello, Kunneman, Mantwill, Quilligan, Zanini & Aelbrecht, 2014). Modern networking practices, which are bi-directional instead of traditional linear or one-directional, also enable mentors to learn from their mentees or protégés. In an academic environment, networking is useful to enhance one's career development. For example, the researcher concurs with Ansmann *et al.* (2014) that graduates and

early academics can enhance their chance of getting new jobs and job opportunities or scholarships respectively. Through the use of networks built over time, the researcher was able to access insightful information related to this study with ease. In addition, his networks enable him to be invited to seminars, which have contributed immensely to the understanding and development of the research study embarked on. In sum, the researcher believes that each researcher must overcome any potential challenges and learn the art of networking for career progression and success.

In business, networking can be a source of new business opportunities and is essential for a firm's survival and growth. Literature sources have identified a positive relationship between networking and company improved performance or success. Since it is nearly impossible for any firm to own or possess all resources and skills that are critical for firm success, networking and networks can be used as an instrument through which business can source knowledge and resources that otherwise would be impossible to attain (Schoonjans, Van Cauwenberge & Vander Bauwhede, 2013). For example, the researcher argues that social networks are useful for small and medium enterprises (SMEs) to access markets that ordinarily would not have been possible. The researcher is of the view that SMEs, in particular, must invest more in mastering networking to be able to deal effectively with the rapidly changing environment. Using social platforms such as Facebook helps organisations to penetrate markets quicker, with less effort. Effective networking is also useful in getting businesses (e.g. small medium enterprises) achieving economies of scales such as discounts.

7.5.5 Knowledge and information management

These aspects were covered enough during data gathering and making sense of data. By definition, information management refers to management of data that has been collected from various sources, whereas knowledge management is concerned with deriving meaning from information. This is an important aspect, not only in research, but organisationally as a whole, and is therefore critical for any individual or business that wants to create a competitive advantage.

First, to ensure reliability and credibility of research, it is important for the researcher to ensure that the information collected has been structured, organised, and processed to create meaning or knowledge. Poor structuring of information may cause

difficulties in data analysis and as such, may introduce doubts or issues of trustworthiness on the findings of the study. Therefore, it is important for researchers to familiarise themselves with the concepts of knowledge and information management. For business, decision makers require information and knowledge to enable them to take informed decisions about organisational direction. Structured and well-stored data facilitates faster and more efficient decision making as it allows employees to spend less time searching for information. For example, businesses that have implemented enterprise content management (ECM) systems (e.g. Document Management Systems) experience increased productivity since they are able to access and retrieve information faster, thus freeing more time for personnel to focus on their core business activities (e.g. innovation, operations, R&D). Accessing information in large bureaucratic organisations that function in silos can be a mammoth task because information is stored departmentally in various places. The benefits of effective ECM implementation includes reduced storage time, improved security, compliance with regulations, quick and easy document retrieval, and improved productivity.

7.5.6 Organisational leadership

The importance of organisational leadership (OL) cannot be overly emphasised, especially during times of uncertainty and constant change that requires adaptability. The increased organisational demands and cultural changes, coupled with changes in the environment, dictate a change in leadership behaviour. Changes in the environment include external factors such as socio-economic factors and politics that influence the organisation. In state-owned companies, the challenges have increased since they are expected to deliver increased performance while maintain sustainability. This calls for effective leadership capable of moving beyond traditional leadership that focused on the setting up of strategic goals and communicating the vision and mission. Effective organisational leaders go beyond setting strategic goals to ensuring that employees are motivated and equipped to carry out their tasks. In other words, organisational leaders provide leadership that inspire their people to use their skills and capabilities to fulfil organisational goals and vision. In SOCs, these leaders are agents for change who must ensure that strategic planning is inclusive, and who incorporate inputs and requirements that are both internal and external to the organisation. That is, OL ensures alignment of the organisation's objectives with the

government's macro agenda. For the purpose of this study, the proposed conceptual framework effectiveness hinges on the ability of leaders, and organisational leadership demonstrated in the organisation.

7.6 Impact of Study on Africa and the World

The study about the effectiveness of project portfolio management (PPM) in SOCs is aligned with nearly all seven pillars of Sustainable Development Goals (SDGs) and Africa Agenda 2063, particularly pillar three to seven. One of the key principle in creating sustainable development is that there must be accountability and transparency in the dealing of any business in particular the SOCs. Moreover, to enable Africa to develop and reduce poverty, unemployment and inequality, there must be a deliberate effort by government to create policies and provide key infrastructure that makes the environment to be conducive for business to flourish. This study fosters good governance and encourages decision makers to act with integrity and honesty, and further emphasises the need for transparency in decisions taken by leaders.

The development of a conceptual framework further fosters inclusivity, and for this to be effective there must be adequate participation from all stakeholders to design the type of services they want. For example, citizens, must actively participate during strategy formulation, or the strategy must be people-centric. Effectiveness of PPM is only achieved through assigning skilled and competent resources to the position of responsibility to enable effective and efficient services. When this happens, the likelihood is that the portfolio will deliver value to society. Moreover, the conceptual framework promotes monitoring and evaluation of the portfolio at all times. This to ensure that leaders remain accountable and transparent in utilising public funds and that funds are used to the benefit of the public. When PPM is effectively implemented such that funds are utilised correctly on projects support government goals, the likelihood of having a world class infrastructure increases which will result in job creation and improved infrastructure.

The development of a conceptual framework of PPM provides insightful information which will assist practitioners around the world to consider key attributes or factors for

ensuring project success in Africa. For example, political and cultural dynamics are essential components when doing business in South Africa and that there is a need for practitioners around the world to understand that.

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APPENDIX A: Introductory Letter

ACCESS LETTER REQUESTING PERMISSION TO CONDUCT RESEARCH

T.F Muthivha
PO Box 30509, Sunnyside
Pretoria, 0132

The Group Chief Executive
ABC SOC
P.O. Box 72501
Parkview
South Africa
2122

Date: 31 January 2017

Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

My name is Takalani Muthivha, a doctoral candidate at the University of South Africa (UNISA) School of Business Leadership. My supervisor is Professor Joseph Ssegawa. I'm undertaking a study titled: *A Development of a Conceptual Framework for Project Portfolio Management (PPM) to improve portfolio decision-making for Parastatals in South Africa*. The research study aimed at developing a conceptual framework (model) of project portfolio management (PPM) to facilitate the improvement of decision-making when selecting project portfolios at the parastatals.

The study shall be guided by the following research objectives:

- (a) To assess the effectiveness of PPM practices and methodology at ABC SOC (PTY) Ltd.
- (b) To assess the extent to which the PPM aligns with ABC SOC strategy.
- (c) To investigate the effectiveness of PPM in adapting to the operational environment.
- (d) To develop a conceptual framework that facilitates effective management of the AB SOC.

Your organisation has been identified as the participant of the study because of its significant role it plays in the development of our economy by investing largely on infrastructure development projects.

Prior to undertaking the study, I need your agreement/consent to approach all divisions within your organisation to take part in the study. I assured you that I will make every effort to ensure the study does not disrupt the working environment in any way and any data collected remain confidential. Your company details or names of the participant will not be disclosed to anyone.

To assist you in making a decision, I have attached to this letter a copy of research protocol which I intend using during data collection. I have also applied for ethical clearance from the University of South Africa Ethical Committee.

The outcome will lead to the development of a practical model that will be used by parastatals to guide the PPM process and will go a long way in improving the decision-making process which in turn will improve the performance of the parastatals.

Your permission to conduct this study will be greatly appreciated.

Yours faithfully

Takalani Muthivha

APPENDIX B: Request to Conduct Research Study at SITE A

ACCESS LETTER REQUESTING PERMISSION TO CONDUCT RESEARCH

T.F Muthivha
PO Box 30509, Sunnyside
Pretoria, 0132

ABC SOC
Girton Road
Parktown

Date: 24 March 2017

Attention: Acting GM: Human Resources

Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

My name is Takalani Muthivha, a doctoral candidate at the University of South Africa (UNISA) School of Business Leadership. My supervisor is Professor Joseph Ssegawa. I'm undertaking a study titled: *A Development of a Conceptual Framework for Project Portfolio Management (PPM) to improve portfolio decision-making for Parastatals in South Africa*. The research study aimed at developing a conceptual framework (model) of project portfolio management (PPM) to facilitate the improvement of decision-making when selecting project portfolios at the parastatals.

To achieve the aim, the study was directed by the following research objectives:

- i) To assess the effectiveness of PPM practices and methodology at ABC SOC (PTY) Ltd.
- ii) To assess the extent to which the PPM aligns with ABC SOC strategy.
- iii) To investigate the effectiveness of PPM in adapting to the operational environment.
- iv) To develop a conceptual framework that facilitates effective management of the AB SOC.

Your organisation has been identified as the participant of the study because of its significant role it plays in the development of our economy by investing largely on infrastructure development projects.

Prior to undertaking the study your consent to approach the participants is of the utmost importance. The following are the roles within your organization that would be required to form part of the study:

- Executive Managers / Sponsors – not more than 3
- Departmental / Business Manager (Project Owners) – not more than 3
- Financial Manager (Financial Owners)
- Head of PMO (Project Owner)
- Program Managers – not more than 3
- Project Managers – not more than 3

I assured you that I will make every effort to ensure the study does not disrupt the working environment in any way and any data collected remain confidential. Your company details or names of the participant will not be disclosed to anyone. I have also applied for ethical clearance from the University of South Africa Ethical Committee.

The findings and the results of the study will be used firstly towards my academic purposes and also contribute towards the development of a practical model that will be used by parastatals to guide the PPM process. This will go a long way towards improving the decision-making process which in turn improve the performance of the parastatals.

Your permission to conduct this study will be greatly appreciated.

Yours faithfully

TF Muthivha

APPENDIX C: Request to Conduct Research Study at SITE B, C and D

ACCESS LETTER REQUESTING PERMISSION TO CONDUCT RESEARCH SITE B

T.F Muthivha
PO Box 30509, Sunnyside
Pretoria, 0132

ABC SOC SITE B
160 Lynnette Street
Kilner Park
Pretoria

Date: 24 March 2017

Attention: GM
Dear Sir/Madam

REQUEST FOR PERMISSION TO CONDUCT RESEARCH

My name is Takalani Muthivha, a doctoral candidate at the University of South Africa (UNISA) School of Business Leadership. My supervisor is Professor Joseph Ssegawa. I'm also a former bursary holder and ex-employee of ABC SOC from 1999 to 2007. I'm undertaking a study titled: *A Development of a Conceptual Framework for Project Portfolio Management (PPM) to improve portfolio decision-making for Parastatals in South Africa*. The research study aimed at developing a conceptual framework (model) of project portfolio management (PPM) to facilitate the improvement of decision-making when selecting project portfolios at the parastatals.

To achieve the aim, the study was directed by the following research objectives:

- i) To assess the effectiveness of PPM practices and methodology at ABC SOC (PTY) Ltd.
- ii) To assess the extent to which the PPM aligns with ABC SOC strategy.
- iii) To investigate the effectiveness of PPM in adapting to the operational environment.
- iv) To develop a conceptual framework that facilitates effective management of the AB SOC.

Your organisation has been identified as the participant of the study because of its significant role it plays in the development of our economy by investing largely on infrastructure development projects.

Prior to undertaking the study your consent to approach the participants is of the utmost importance. The following are the roles within your organization that would be required to form part of the study:

- Executive Managers / Sponsors
- Departmental / Business Manager (Project Owners)
- Financial Manager (Financial Owners)
- Head of PMO (Project Owner)
- Program Managers
- Project Managers

I assured you that I will make every effort to ensure the study does not disrupt the working environment in any way and any data collected remain confidential. The interview will take not more than 60 minutes preferably at TE offices. Your company details or names of the participant will not be disclosed to anyone. I have also applied and granted approval for ethical clearance from the University of South Africa Ethical Committee.

The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.

Your permission to conduct this study will be greatly appreciated.

Yours faithfully
TF Muthivha

ACCESS LETTER REQUESTING PERMISSION TO CONDUCT RESEARCH

T.F Muthivha
PO Box 30509, Pretoria, 0132

ABC SOC SITE C
30 Wellington Road
Parktown

Date: 24 August 2021

Attention: GM: Human Resources
Cc: CEO

Dear Sir/Madam
REQUEST FOR PERMISSION TO CONDUCT RESEARCH

My name is Takalani Muthivha, a doctoral candidate at the University of South Africa (UNISA) School of Business Leadership. My supervisor is Professor Joseph Ssegawa. I'm undertaking a study titled: *An Evaluation into the effectiveness of Project Portfolio Management (PPM) as a decision-making tool at Parastatals in South Africa*. The research is aimed at developing a conceptual framework of project portfolio management (PPM) to facilitate the improvement of decision-making during selection of projects.

ABC SOC has been identified as the participant of the study because of its significant role it plays in the development of our economy by investing largely on infrastructure development projects. To that respect, a permission to conduct the study within the division of ABC SOC was granted to me by ABC SOC Group in 2017 (see letter attached). In addition to the approval, ethical clearance from the University of South Africa Ethical Committee was also granted.

To achieve the research aim, the study shall be guided by the following research objectives:

- i) To assess the effectiveness of PPM practices and methodology at ABC SOC (PTY) Ltd.
- ii) To assess the extent to which the PPM aligns with ABC SOC strategy.
- iii) To investigate the effectiveness of PPM in adapting to the operational environment.
- iv) To develop a conceptual framework that facilitates effective management of the AB SOC.

Prior to undertaking the study your consent to approach the participants is of the utmost importance. The following are the roles within your organization that would be required to form part of the study:

- Executive Managers / Sponsors
- Departmental / Business Manager (Project Owners)
- Financial Manager (Financial Owners)
- Head of PMO (Project Owners)
- Programme Managers
- Project Managers / Business Case compiler

I assured you that I will make every effort to ensure the study does not disrupt the working environment in any way and any data collected remain confidential. The interview will take not more than 60 minutes preferably at your offices or offices convenient to the participants. Your company details or names of the participant will not be disclosed to anyone.

The results of the study will be used for academic purposes only. We will provide you with a summary of our findings on request.

Your permission to conduct this study will be greatly appreciated.

Yours faithfully
Takalani Muthivha

APPENDIX D: Informed consent for participation in an academic research project

A Development of a Conceptual Framework for Project Portfolio Management (PPM) to improve portfolio decision-making for Parastatals in South Africa

Dear Sir/Madam

RE: Request to participate in a study interview.

My name is Takalani Muthivha, a doctoral candidate at the University of South Africa. I'm undertaking a study titled: **"A Development of a Conceptual Framework for Project Portfolio Management (PPM) to improve portfolio decision-making for Parastatals in South Africa"**.

The purpose of this study is to assess the applicability and effectiveness of Project Portfolio Management (PPM) processes and techniques in decision-making within the parastatals. The study shall be guided by the following research objectives:

- (i) To assess the effectiveness of PPM practices and methodology at ABC SOC (PTY) Ltd.
- (ii) To assess the extent to which the PPM aligns with ABC SOC strategy.
- (iii) To investigate the effectiveness of PPM in adapting to the operational environment.
- (iv) To develop a conceptual framework that facilitates effective management of the AB SOC.

All your answers will be treated as confidential, and you will not be identified in any of the research reports emanating from this research.

Your participation in this study is very important to us. You may however choose not to participate and you may also withdraw from the study at any time without any negative consequences.

As a key participant in the PPM decision-making and implementation process in your organisation, kindly avail yourself for an interview which should not take more than 60 minutes maximum. I have attached the list of questions for your perusal before the interviews take place.

The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.

Please contact my supervisor, Prof. Joseph Ssegawa (Ssegawa@mopipi.ub.bw) if you have any questions or comments regarding the study. Please sign below to indicate your willingness to participate in the study.

I have also attached a Group's approval to conduct the study within ABC SOC divisions.

Yours Sincerely

TF Muthivha

I, [REPODENT NAME], herewith give my consent to participate in the study. I have read the letter and understand my rights with regard to participating in the research.

Respondent's signature

Date

APPENDIX E: Ethical Clearance Approval

Graduate School of Business Leadership. University of South Africa. PO Box 392, Unisa. 0003. South Africa
Cnr Janadel and Alexandra Avenues, Midrand. 1685. Tell +27 1 652 0000. Fax +27 1 652 0299
E-mail: sbl@unisa.ac.za Website. www.unisa.ac.za/sbl

SCHOOL OF BUSINESS LEADERSHIP RESEARCH ETHICS REVIEW COMMITTEE (GSBL CRERC)

29 June 2017

Ref#: 2017 SBL DBL 007 FA

Name of applicant: Mr. T
Muthivha

Student 71362703

Dear Mr Muthivha

Decision: Ethics Approval

Student: Mr T Muthivha, tmuthivha@muthanyitech.co.za, 079 513 1489

Supervisor: Prof J Ssegawa, ssegawa@mopipi.ub.bw, +267 71498140

Project Title: Development of conceptual framework project portfolio management (PPM) to improve portfolio decision-making for parastatals in South Africa

Qualification: Doctorate in Business Leadership (DBL)

Expiry Date: June 2021

Thank you for applying for research ethics clearance, SBI- Research Ethics Review Committee reviewed your application in compliance with the Unisa Policy on Research Ethics.

**Outcome of the SBL Research Committee:
Approval is granted for the duration of the Project**

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the SBI- Research Ethics Review Committee on the 27/06/2017.

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
- 2) Any adverse circumstance arising in the undertaking of the research project relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the SBI- Research Ethics Review Committee.
- 3) An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.
- 4) The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.

APPENDIX F: ABC APPROVAL TO CONDUCT RESEARCH



9 February 2017
Mr Takalani Muthivha
P O BOX 30509
Sunnyside
Pretoria
0132

tmuthivha@muthanyitech.co.za

Dear Mr Takalani Muthivha


Re: Request for permission to conduct research at Transnet SOC Ltd

Your letter of request for permission to conduct research at Transnet on Development of a conceptual framework for project portfolio management (PPM) to improve portfolio decision-making for parastatals in South Africa is acknowledged.

We duly note the conditions of the study for strict academic purposes, the results of the study will be submitted to Transnet, and the research will be confidential and that anonymity for both respondents and the organisations is guaranteed. Should you or the University of South Africa (UNISA) School of Business Leadership want to publish the study in any other manner than the final assignment, Transnet will be approached for permission to do so.

Based on the above conditions, your request to conduct the research study in Transnet is granted. We are looking forward to the outcomes and recommendations of your study and the positive contributions towards the marketing strategy of Transnet.

Yours sincerely,


Ms. Nonkululeko Sishi
Chief Human resources Officer
Date: 15/02/2017

APPENDIX G: Confidentiality Agreement: Coder



Confidentiality Agreement Template: Coder

This is to certify that I, Charmaine Williamson, the second coder for the Doctorate of Business Leadership (DBL) for Takalani Muthivha, agree to the ethics, responsibilities and integrity of the qualitative analysis of the data (content/thematic analysis), obtained from participants (and additional tasks the researcher(s) may require limited to my capacity as second coder).

I acknowledge that the research project is conducted by Takalani Muthivha of the School of Business Leadership, University of South Africa.

I understand that any information (written, verbal or any other form) obtained during the performance of my duties must remain confidential and in line with the UNISA Policy on Research Ethics.

This includes all information about participants, their employees/their employers/their organisation, as well as any other information.

I understand that any unauthorised release or carelessness in the handling of this confidential information is considered a breach of the duty to maintain confidentiality.

I further understand that any breach of the duty to maintain confidentiality could be grounds for immediate dismissal and/or possible liability in any legal action arising from such breach.

Full Name of Second Coder: Charmaine Williamson

Signature of Second Coder:

Date: 15-06-2017

Full Name of Primary Researcher: Takalani Muthivha

Signature of Primary Researcher: Muthivha

Date: 19/6/2017



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APPENDIX H: Data Collection Instrument

<p>Section A:</p> <p><i>Profile of participant</i></p>	<ol style="list-style-type: none"> 1. Describe yourself in terms of the: <ol style="list-style-type: none"> a) working experience, b) the number of years in project management and c) the number of years in the industry 2. Describe your role in the company and in particular within PPM 3. Describe your involvement and experience in strategic planning
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<p>Section D:</p> <p>OB3</p> <p><i>PPM practices, processes and techniques</i></p>	<ol style="list-style-type: none"> 1. Does your organisation have a formal PPM process, tools and techniques of identifying, evaluate and prioritise projects? Is there a committee tasked for ensuring portfolio is balanced? What is the name of the committee and who is part of the committee? 2. Describe the process in terms of the following: <ol style="list-style-type: none"> a. Persons Responsible in terms of identifying opportunities in the BU's. b. Persons Responsible in terms of compiling the business case. c. Are these persons aware or privy of strategy formulation? Do they have knowledge of key-priorities? 3. Explain the process of evaluating/screening/appraising/ranking/selecting projects. <ol style="list-style-type: none"> a. What techniques/criteria or set of parameters are considered b. The importance of financial benefits over non-financial benefits project c. How effective is the PPM in terms of monitoring/supervise the performance of the portfolio as well as benefits tracking? 4. Do you think your current portfolio is well balanced, resourced and performing in line with the objectives of the strategy? 5. How matured is PPM in your organisation: Explain in terms of how it is used to ensure projects under the portfolios are still relevant and that the portfolio is still balanced. 6. How has your organization dealt with lack of constraints such as scares skills, funding availability etc.? Explain 7. In your view, how does the lack of formal PPM structure affect effectiveness and performance of portfolios? 8. What is the level of project management capability and capacity to support PPM in terms of the following? <ol style="list-style-type: none"> a. Stage of maturity b. Competencies of staff / availability of resources c. Governance structures and their effectiveness
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	<p>9. Do you think lack of project portfolio management understanding has contributed towards poor performance of portfolio? Share your experience.</p>
<p>Section B: OB1: <i>Alignment between Strategy and PPM</i></p>	<p>1) Please describe or explain key stakeholders, roles and interest in the planning stage (strategic formulation):</p> <ul style="list-style-type: none"> a) Internal and b) external stakeholders (shareholders - society or government) c) Customers <p>How do they influence strategic formulation? Explain</p> <hr/> <p>2) Please explain if your organisation has process for strategic formulation?</p> <ul style="list-style-type: none"> a) Who formulates the strategy? And what formal process is followed. b) How do you ensure alignment is achieved in relation to the portfolio chosen? c) How often does your organisation review strategy? <hr/> <p>3) Due to nature of your shareholder being government, how does your organisation deal with uncertainties presented by your shareholder during strategy formulation and execution?</p> <hr/> <p>4) How does your organisation ensure they deliver key strategic objectives set-out by your shareholders?</p> <p>5) How do you ensure effective integration across your organisation's functions?</p> <p>6) How does your organisation handle the integration and interdependencies across projects or portfolios? Explain</p>

<p>Section C:</p> <p>OB2</p> <p><i>Adaptability to external environment</i></p>	<ol style="list-style-type: none"> 1. How did the following factors affected or influenced how your organisation makes decisions regarding projects that are to be selected or chosen? Explain <ol style="list-style-type: none"> a. Society, b. Economic policies c. Profits d. Social considerations 2. In your assessment, how does your organization treat projects that show financial benefits (i.e. show high profits / revenue) over projects that shows non-financial benefits? Explain in terms of the dominance of projects in the current portfolio. 3. Describe the role and or impact of politics in the decision-making of PPM process. Was there interference in the decision-making? Explain 4. How have you managed the expectations of from government and in particular politicians. 5. In your assessment, how does government policies and regulations affected the effectiveness of PPM. Explain.
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APPENDIX I: EDITOR'S CERTIFICATE

Marianne Kapp Language Services — *marscaro@gmail.com*

Cape Town
10 Nov. 2022

To whom it may concern,

This letter confirms that the manuscript detailed below was edited for proper English language grammar, punctuation, spelling, and overall style by a qualified and highly experienced native English-speaking editor:

Manuscript title: **The Effectiveness of Project Portfolio Management as a Decision-making Tool: a case of a Project Based State Owned Company in South Africa**

Author: **Takalani Freeman Muthivha**

Neither the research content nor the author's intentions were altered in any way during the editing process. The editor makes no claim as to the accuracy of the research content or objectives of the author. The document above as edited is grammatically correct and ready for publication; however, the author has the ability to accept or reject the editor's suggestions and changes after the editing process is complete, and prior to submission to any journal or examining body.



Marianne Kapp
0824813300

APPENDIX J: TURNITIN RECEIPT



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