University of KwaZulu-Natal

An exploration of the restructuring of port governance and economic regulation in South Africa

By

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ABSTRACT

Port governance structures and economic regulation are vital to investment, effectiveness, efficiencies, and production. The determining factor is the port management, whether centralized directly under the state as a state-owned entity (SOE), decentralized to local government, or privatized. South Africa has eight commercial ports strategically located along the country's coastline. Ports facilitate economic growth and recognize the need for an effective and efficient logistics model. Contemporary port reforms dictate that ports either subscribe to a public service port, a tool port, or a landlord port or adopt the public-private partnership approach. However, due to poor management, several governance inefficiencies at the Durban and Cape Town ports have been experienced, triggering operational challenges and negatively impacting economic growth and competitiveness. This study explores the possibility of the restructuring of port governance structure and economic regulation in South Africa. The study uses a qualitative research method. A purposive sampling technique method was followed due to study participants' industry knowledge and experience. Semi-structured online interviews were conducted for data collection. Due to limited time and resources, only five of the six identified study participants contributed to the study. The data collected was analyzed and coded, and themes were generated using an online thematic analysis tool. Thematic analysis is a method for identifying, analyzing, and reporting patterns (themes) within data collected. The main findings confirmed the need to explore a more effective governance structure model, port pricing, tariff methodology reform, and the need for private sector participation in the marine sector. Therefore, the study recommends that TNPA conduct an assessment and an investigation on amending the legal framework governing ports and the corporatization of NPA for the port regulator of South Africa to focus on regulatory matters that advance port investment and oversight mechanisms. Additionally, the participation of the private sector in the provision of marine services should enhance the economic growth of the region and improve efficiency and competitiveness.

Keywords: Port Governance, Restructuring, Decentralization, Economic Regulation

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ACRONYMS

DPE Department of Public Enterprises
DOT Department of Transport
GCE Group Chief Executive
MOPS Marine Operators Performance Standards
KPIs' key performance indicators
NFLS National Freight Logistics Strategy
NPA National Ports Authority

NPA Act National Ports Act no 12 of 2005

PRSA Ports Regulator of South Africa

ROD Record of Decision

ROPS Rail Operator Performance Standard

SAAFF South African Association of Freight Forwarders

SAASOA South African Association of Ship Operators and Agents

SAPO South African Port Operations

SARB South African Reserve Bank

SAR&H South African Railways and Harbours

SATS South African Transport Services

STER Single Transport Economic Regulation

TFR Transnet Freight Rail

THC Terminal Handling Charges

TNPA Transnet National Ports Authority

TOPS Terminal Operator Performance Standards

TFP Total Factor Productivity

TPT Transnet Port Terminals

UKZN University of KwaZulu-Natal

UNCTAD United Nations Conference on Trade and Development

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CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction and background

Ports offer critical marine services and are considered strategic entities as they play a crucial role in South Africa's transport system and the region's economic development (Mthembu and Chasomeris, 2023). Prolonged delays, inefficiencies, and long turnaround times in providing marine services in ports can negatively impact sea trade and commercial activities (Mthembu and Chasomeris, 2023). Commercial ports provide a critical enabling link in global trade and offer a platform within which global supply chains and production networks interact (Notteboom, T., Pallis, A., & Rodrigue, J.-P., 2022).

Dynamic forces in the international markets, such as technological advancements, advances in international supply chain management networks, and port user needs, make these chains vulnerable to global market changes and demand an efficient and effective environment (Notteboom et al., 2022). According to Pallis (2022), port governance structure elements are critical in the case of port infrastructure as they contribute to port effectiveness, allowing efficient global trade and the movement of goods. These elements are port management, operations, policy objectives, and environmental impacts, which involve multi-disciplinary role players such as the port authority, the port regulator, terminal operators, rail operators, and trucking companies (Pallis, 2022).

The port policy driven by the state influences the overall port governance structure, referred to as the port doctrine. Port doctrines influence the pricing method of port tariffs and operational efficiency (Meyiwa and Chasomeris, 2020; Meyiwa and Chasomeris, 2016). South Africa is notorious for its failures in the provision of marine services, and this has created port user concerns regarding shipping delays (Mthembu and Chasomeris, 2023; Meyiwa and Chasomeris, 2020). Meyiwa and Chasomeris (2016) explain that of the eight commercial ports owned and managed by Transnet, the Port of Durban is Africa's busiest and largest container terminal. Because of its strategic geographic positioning and vital role in facilitating sea trade, the port often experiences congestion, causing delays.

The governance structure and its associated model are among the perceived problems that cause the most challenges in the port organization (Maemo, 2014). According to Hartwell (2024), the Port of Durban came number 364 in the rankings on operational efficiency as per a report compiled by the World Bank on competent container handling facilities. Ports in the country were ranked towards the bottom, with the Port of Elizabeth at number 312, Ngqura was ranked at 363, and the Port of Cape Town at 365. This was partly due to long delays, inefficiency, theft, and vandalism, bringing the port productivity significantly lower than the benchmark in African and European ports (Meyiwa and Chasomeris, 2020).

The Ports Regulator of South Africa (PRSA) indicated that even though TNPA pricing is 69% above the internationally benchmarked mean, port dues in South Africa are 44% below the mean (PRSA 2021). According to Meyiwa (2020), previous studies on South African ports focused on the pricing methodology, tariff structure, and productivity of ports given the prevailing operational challenges. These studies did not address the prevailing governance challenges based on the rigid and outdated ideological governance model (Meyiwa and Chasomeris, 2020). The centralization of decision-making, the lack of solid leadership and management, the lack of an oversight mechanism, the unavailability of essential port equipment and the interconnectedness of the port system are arguably the main contributors to the current governance challenges (Mthembu & Chasomeris, 2024).

Port governance plays an essential role in port investment, modern port infrastructure, port development, and ensuring effectiveness and productivity in providing marine services to port users in the country's ports (Meyiwa and Chasomeris, 2020). The recent developments in port governance structures have led to mounting pressure on governments to decentralize ports into regional state-owned entities and municipal entities, and, in some instances, they have sought assistance from the private sector through public-private partnerships (Panayides and Song, 2009). Restructuring and decentralizing port management and providing marine services through public-private partnerships, leasing, and concessions have increased the private sector's role in port operations (Brooks and Ferrell, 2019). Operational challenges have led to TNPA proposing to partner with the private sector to deliver its rail network service delivery, which has been neglected for decades with an estimated maintenance backlog of R200 billion (Daily Maverick, 2024). These plans to partner with the private sector should invite billions of rands in infrastructure investments and upgrades.

Whilst the TNPA, which the Ports Regulator of South Africa regulates, has said that it is committed to promoting competition within ports to improve port efficiency, its unregulated sister company, Transnet Ports Terminals (TPT), still has an effective monopoly on the two most profitable sectors, namely containerized cargo and automotive cargo creating an unfair advantage and a conflict of interest (PRSA, 2010). This is despite the legislation's legal requirements stipulating that the National Ports Authority should be corporatized into an independent entity instead of a division of TNPA.

Research is essential to explore the restructuring of the port governance structure, the economic regulation, and the decentralization of TNPA to respond to the overall governance and operational challenges. The study will also assist in identifying strategic initiatives to remedy the current situation and identify contemporary port governance models that can be adopted. This study explores restructuring the governance structure at SA ports and TNPA. The research methodology included online interviews with semi-structured interviews with five industry experts, including a University Professor. The study reviews existing literature, adopts the method, and analyzes the data. Lastly, the study findings are presented, as well as the conclusions and recommendations.

1.2 Problem statement and rationale for the study

South Africa’s state-owned ports, managed by Transnet National Ports Authority (TNPA), face significant operational and governance challenges, leading to inefficiencies that impact trade and economic growth. Despite having eight commercial seaports, the centralized governance structure under Transnet has contributed to equipment shortages, congestion, and declining service levels (Mthembu and Chasomeris, 2024). Recent operational challenges at the Ports of Durban and Cape Town can be traced back to the historical governance of ports (Chasomeris and Gumede, 2015). According to Chasomeris and Gumede (2015), reviews done on stakeholder comments, Transnet has an ongoing challenge of congestion due to low productivity, inefficiency, and poor customer service delivery, severely affecting the timeous delivery of goods, thereby affecting the country’s economic and industrial growth. These challenges are attributed to a rigid central governance structure, theft, vandalism, lack of leadership and management due to high turnover, and no oversight mechanisms in place. This is against a developmental state's financial objectives and policies (Gumede and Chasomeris, 2015).

As international trade expands and technology advances, port governance models have evolved to enhance efficiency and competitiveness (Notteboom and Yang, 2017). Many developed countries have embraced port devolution, shifting management from central authorities to regional or private entities (Cullinane and Song, 2001). These reforms take various forms, including decentralization, corporatization, privatization, regionalization, and cooperation (O'Brien et al., 2019).

Since 2009, TNPA and the Ports Regulator of South Africa (PRSA) have applied the Required Revenue (RR) model to determine tariff adjustments (Gumede and Chasomeris, 2017). However, port users and stakeholders have repeatedly raised concerns regarding the inefficiencies and unfair pricing strategies of the RR model (TNPA, 2012). Research by Chasomeris (2015), Gumede and Chasomeris (2017), and Meyiwa and Chasomeris (2020) have reviewed and highlighted port stakeholders comments on the model's shortcomings, including inflated asset valuations and excessive tariff increases, which further burden port users (Mthembu and Chasomeris, 2024).

Using content analysis, a study by Meyiwa and Chasomeris (2020) analyzed 137 stakeholder submissions from 2009/2010 to 2018/2019. It concluded that the revenue requirements were unjustifiable and arbitrarily determined, with requested tariff increases often exceeding inflation. The study also found that incorrect investment return calculations and inflated regulatory asset valuations contributed to excessive revenue generation and higher profits for TNPA. Given these issues, multiple researchers (Meyiwa and Chasomeris, 2020; Gumede and Chasomeris, 2017; Chasomeris, 2015) have advocated reviewing and revising the current RR pricing methodology.

These operational inefficiencies and governance challenges undermine South Africa's port performance and competitiveness. There is an urgent need to restructure the port governance system, including exploring the potential of decentralization of Transnet into regional SOEs to improve service delivery, infrastructure investment, and overall port operations (Meyiwa, 2019). Additionally, poor leadership and rigid governance frameworks exacerbate these challenges, necessitating policy reforms and strategic interventions to enhance the efficiency and sustainability of South Africa's port sector (Meyiwa, 2019).

1.3 Aim of the study

The fundamental aim of the study is to explore the restructuring of the port governance leadership structure and economic regulation in South Africa to improve overall port efficiency.

1.4 Research questions

Given the vital role played by TNPA in providing marine services in South Africa, the critical question is how the utility can be transformed to achieve its strategic objectives. Therefore, below are some of the questions that would be considered for the dissertation:

1.4.1 What is the current governance structure in South Africa?

1.4.2 Does the current governance structure contribute to the needs of the port users and contribute to the economic growth of the region?

1.4.3 What is the stakeholder's perspective on the pricing methodology and economic regulation of TNPA?

1.4.4 What strategic interventions would you recommend to enhance governace structure efficiency and the economic regulation of TNPA?

1.5 Research objectives

1.5.1 To explore the current port governance structure in South Africa.

1.5.2 To explore stakeholders' perspectives on port governance challenges and economic regulation affecting TNPA.

1.5.3 To explore stakeholders’ perspectives on the port pricing and economic regulation in South Africa.

1.5.4 To identify vital strategic interventions required to improve port governance and economic regulation at TNPA.

1.6 Research methodology

The study will follow the qualitative research approach to explore the restructuring of port governance and economic regulation in South Africa. Research methods can be classified into

qualitative and quantitative methods. Smith, Thorpe, and Jacksons (2008:82) point out that the former involves collecting data mainly in words, and the latter involves data that is either in the form of statistics or can be expressed as numbers. The study will explore the possibility of adopting a new contemporary port governance model that includes restructuring and decentralizing TNPA and exploring the role of public-private partnerships through online interviews. The collected study data will be analyzed and coded to generate themes that will emerge.

Upon obtaining ethical clearance, data collection through online interviews commenced using semi-structured interview questions shared with the study participants before the interviews. This assisted the participants in preparing for the interviews to provide insight into the study. The data collection process encompassed audio-recorded online interviews and the subsequent data analysis using a combination of thematic analysis tools Tuboscribe and ChatGPT for qualitative data analysis. Thematic analysis is a method for identifying, analyzing, and reporting patterns (themes) within data. The most widely cited framework is from Braun and Clarke (2006), which outlines six key steps:

1. Familiarization with the Data

- Read and re-read the data to become deeply familiar with its content.
- Make initial notes or observations.

2. Generating Initial Codes

- Identify features of the data that appear interesting or significant.
- Systematically code the entire data set, highlighting meaningful segments.

3. Searching for Themes

- Group related codes together to form broader patterns or themes.
- Begin organizing codes into potential themes and subthemes.

4. Reviewing Themes

- Refine themes by checking if they work in relation to the coded extracts and the full data set.
- Split, merge, or discard themes as necessary.

5. Defining and Naming Themes

- Clearly define what each theme is about and what aspect of the data it captures.
- Assign concise, informative names to each theme.

6. Producing the Report

- Final analysis of selected themes.
- Write up the narrative with illustrative quotes and relate it back to the research question and literature.

The primary reason for using qualitative investigation techniques is to capture the authenticity of the data gathered from the participants. Therefore, there is a greater sense of credibility when interpreting data collected from the participants (Nxumalo, 2019). According to Roberts (2014), qualitative techniques, such as interviews, allow participants to provide information without restrictions and offer purpose with more depth, and the researcher can probe for further details.

1.7 Outline of the dissertation

The study will follow a standard framework and will be set out as follows:

- Chapter 1 provides an overview of the study. It demonstrates insight into the motivation behind the study, the research objectives and questions, the research methodology that will be applied, and the study's limitations.
- Chapter 2 reviews relevant literature on port governance structure and economic regulation.
- Chapter 3 deliberates the research methodology followed in the study and clarifies the methodology's choice.
- Chapter 4 presents the analysis of the data collected.
- Chapter 5 is the discussion of the study findings.
- Chapter 6 will discuss conclusion points and recommendations.

1.8 Conclusion

This chapter is intended to provide a comprehensive overview of the study objectives and explore the restructuring of the port governance structure and economic regulation in South Africa. The chapter provided the background to the study, the motivation, and the focus of the study. An analysis of the research problem was presented, followed by the research questions

that are significant to the study. The research methodology and the sampling method followed by the data collection and the relevant analysis to be applied were presented. Lastly, the timelines of the study were presented. Chapter two will present a review of the literature.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction and background

South African ports have been plagued by poor service delivery and long vessel turnaround times due to several issues ranging from poor operational efficiencies, poor leadership and management and lack of oversight mechanisms to the unavailability of essential equipment. The purpose of this chapter is to review existing literature on port governance and economic regulation of South African ports. Therefore, this study aims to explore the restructuring of the port governance structure and economic regulation in South Africa.

Post the country's first democratic elections in 1994, the South African government adopted a developmental state orientation when it came into power, and the country's political strategies and economic policies, through the industrial structure and rational policies, followed the same developmental model (Meyiwa and Chasomeris, 2020). In its efforts to address the imbalances of the ugly past of apartheid and segregation and grow the economy to achieve its Millenium Development Goals (MDG), the South African government follows a democratic developmental state (Meyiwa & Chasomeris, 2020). A developmental state is a concept invented by Chalmers Johnson in his research on post-war Japan's economic state (Johnson, 1982). From his findings in a series of studies, Johnson identified vital elements constituting Japan's developmental state which, albeit not static, could be replicated and transferred to other developing nations (Meyiwa & Chasomeris, 2020).

This chapter is structured as follows: Section 2.2 provides a definition of port governance, and Section 2.3 presents the objectives of port governance. Section 2.4 provides various port governance tasks, and section 2.5 presents the different models. Section 2.6 focuses on port governance in South Africa, and section 2.7 discusses the modern port governance reforms. Section 2.8 presents the contemporary port governance reforms, and section 2.9 concludes.

2.2 The developmental state and the role of state-owned enterprises

The South African government follows the developmental state orientation for the country's economic growth (Meyiwa and Chasomeris, 2020). The national government has put

economic-driven policies and measures in place to allocate resources to SOEs to ensure economic activity geared towards the country's economic growth. In a developmental state, the government utilizes SOEs for economic growth and as key players in industrial development (Chow, 2004; Edigheji, 2010; Chang, 2010). A developmental state plays a critical role in implementing the government's economic and industrial development strategies and policies through active participation in the market, setting up governance models and structures of SOEs, and market rules and regulations that industries need to conform to facilitate a collective, inclusive reengineering process that will create a conducive environment for all stakeholders including the previously marginalized through segregation and policies in place at the time, for long-term future industrial growth and development (Meyiwa & Chasomeris, 2020).

The first element is the existence of a bureaucratic government with the best available skilled talent whose duty is to identify vital industries in the economy to drive the state's strategic economic growth policies and to implement the best practices to grow those chosen industries rapidly and finally to monitor competition in the market within those designated sectors to ensure an effective and efficient state entity in the selected industry (Meyiwa & Chasomeris, 2020). The second element is the political ideology of the ruling party in government, which provides for bureaucratic scope in the market to take creativity and operate efficiently. The third element is introducing market-conforming legal methods and regulations that provide clear guidelines in the market that enable growth and development (Meyiwa & Chasomeris, 2020). The final element is the existence of a pilot organization within the industry controlled by the state that can be utilized to implement the state's industrial policy at the micro-level (Meyiwa & Chasomeris, 2020).

Transnet was established in 1989 as a state-owned entity that became a transport conglomerate for the country, maintaining five divisions: Spoornet, Portnet, Petronet, Autonet, and South African Airways. However, Portnet faced the dilemma of being a referee and a player as it had to play the role of a regulator and an operator of ports and balance the two roles (Meyiwa and Chasomeris, 2016). In 2001, the World Bank called for an independent Port Regulator to deal with the player and referee conundrum, free from political intervention. Ultimately, the National Ports Act of 2005 provided the legislation necessary to create the Ports Regulator of South Africa (Chasomeris and Gumede, 2016; Fakir and Chasomeris, 2022).

Section 30 (1) (a) of the National Ports Act of 2005 specifies that one of the main functions of the Ports Regulator is to exercise economic regulation of the ports system in line with the government's strategic objectives and the country's development context. The mandate of the Port Regulator is to perform certain functions in the industry that relate mainly to the regulation of pricing and other aspects of economic regulation, promotion of access to port facilities and services, port efficiency, monitoring the industry's compliance with the regulatory framework and also hearing any complaints and appeals lodged by stakeholders (Ports Regulator, 2014).

However, most state-owned entities need to perform better to the extent that they are affecting economic growth with rolling blackouts experienced by another SOE, Eskom, failing to provide power to the country. TNPA, as a division of Transnet, a state-owned entity, falls under the Department of Transport and provides for the country's economic growth (Roberts & Rustomjees, 2010). The South African Airline (SAA) has since stopped operating due to financial mismanagement reports and has turned to the national treasury for financial bailouts. The extent to which SOEs contribute to the country's economic growth plays a significant role in ensuring the state's achievement and attainment of the economic objectives.

Global trends in trade facilitated by the dynamic technological improvements in the international markets define the environment within which Ports must operate. The recent operational challenges at the Ports of Durban and Cape Town can be traced back to the historical governance of ports (Chasomeris and Gumede, 2015). According to Chasomeris and Gumede (2015), reviews done on stakeholder comments, Transnet has an ongoing operational challenges of congestion due to low productivity, inefficiency, and poor customer service delivery, severely affecting the timeous delivery of goods, as a result of poor planning and a lack of accountability thereby affecting the country's economic and industrial growth.

The Ports of Durban and Cape Town face significant operational challenges, including delays, congestion, and productivity issues. These key operational challenges stem from factors like outdated infrastructure, workforce shortages, and bottlenecks in scheduling, leading to financial losses and disruptions for the export industry (Moatshe, 2025). According to Moatshe (2025), these are key operational challenges and possible solutions:

- **Congestion and Delays:**

Both ports have experienced significant delays in cargo handling, leading to backlogs and extended waiting times for vessels.

- **Outdated Infrastructure:**

Aging equipment, including cranes and other infrastructure, contributes to inefficiencies and equipment failures, hindering productivity.

- **Workforce Shortages:**

A lack of skilled personnel and inadequate training contribute to slower processing times and operational bottlenecks.

- **Inefficient Scheduling and Processing:**

Bottlenecks in scheduling and processing shipments further exacerbate delays and congestion.

- **Weather Disruptions:**

Extreme weather conditions, particularly strong winds in Cape Town, can disrupt port operations and cause equipment failures.

- **Container Port Performance:**

The World Bank's Global Container Port Performance Index consistently ranks these ports poorly, highlighting their low productivity and efficiency.

- **Financial Losses:**

The delays and inefficiencies at the ports have resulted in significant financial losses for the fruit industry and other exporters.

- **Low Productivity:**

The ports' productivity levels are significantly below international standards, with crane movements per hour (GCH) lagging behind global benchmarks.

- **Impact on Export Industry:**

The operational challenges at the ports have had a negative impact on South Africa's fruit export industry, leading to lower export volumes and decreased profitability.

Potential Solutions:

- **Infrastructure Upgrades:**

Investing in new and modern infrastructure, including equipment and rail lines, is crucial to improve efficiency and reduce delays.

- **Workforce Development:**

Addressing workforce shortages and improving training programs can enhance operational capacity and productivity.

- **Optimized Scheduling and Management:**

Implementing better scheduling and management systems can streamline operations and reduce bottlenecks.

- **Private Sector Involvement:**

Exploring opportunities for private sector participation in port management and operations can improve efficiency and attract investment.

- **Automation and Technology:**

Implementing automation and advanced technologies can streamline processes and improve productivity.

This is against the financial objectives and policies of a developmental state. In an attempt to improve port efficiency, the shareholder has, in the past and most recently, attempted to restructure the port governance model structures by inviting the private sector in a private-public partnership to manage the ports (Van Niekerk, 2007). To achieve its millennium development goals, the South African government is pursuing a democratic developmental state as it has no direct control over commercial banks. Still, it has SOEs like Transnet and Eskom to drive economic growth and industrial development, the Development Bank of South Africa (DBSA) with financial resources, and the Industrial Development Corporation (IDC) to influence and drive its developmental agenda (Meyiwa & Chasomeris, 2019). Over the last century, South African ports have gone through different governance models to improve efficiency and facilitate cross-subsidization of the various sectors (Meyiwa & Chasomeris, 2019).

2.3 Defining port governance

Port governance can be defined as the adoption and implementation of rules governing port conduct, exercising authority and institutional resources to develop and manage port activities for the benefit of society and the economy (Notteboom et al., 2022). It refers to the oversight role played by the Port Regulator and various other stakeholders, including the shareholders, the port authorities, the terminal operators, and the private sector (Meyiwa and Chasomeris, 2016). This oversight role includes managing and regulating port activities within the industry framework to ensure port efficiency and compliance with the regulations.

Port governance concerns the public and the private sectors but tends to apply differently depending on whether public or private interests are at stake (Notteboom et al., 2022). It encompasses the developmental strategies, policies, and procedures that the shareholder implements to guide operations. It also includes developing and maintaining the ports to ensure efficiency and effectiveness. It ensures that the safety and security standards are maintained in terms of the applicable framework and the self-sustainability of the ports (Chasomeris and Meyiwa, 2016).

Port governance principles are most important in the case of ports as the ports are critical infrastructure for an economy, contributing to the realization of trade and movement. Governments and their principles apply to relationships between businesses, public/private agencies and their stakeholders, organizations, and those who establish them to undertake activities on their behalf (Notteboom et al., 2022). Dynamic global trade trends and transport forms are vital for port governance, as they define the environment within which ports operate. Since the 1980s, port governance has become critical to the agendas of many developmental states. A dynamic economic climate shaped by mass production and distribution globalization, changing cargo transportation forms, and technological reforms and advancements ended an era of stable, state-controlled port governance models in most countries (Notteboom et al., 2022).

An effective port governance model incorporates the following activities (Notteboom et al., 2022):

1) Compliance with international standards and regulations
2) Managing and maintaining environmental impacts.

3) Investing in the latest port technology and equipment.

4) Stakeholder engagement and collaboration.

5) On-going monitoring and evaluation of port output.

6) Transparency in decision-making processes concerning tariffs and operational changes.

7) Clear definition of roles and responsibilities of all stakeholders.

As global economic conditions change, so do changes to the port governance structures in major ports. Many governments entered a port reform period to adapt to a new context, changing and adopting applicable governance structures (Notteboom et al., 2022).

The figure below depicts the economic context within which trends are defined in trade and transport, which is vital for port governance reform.

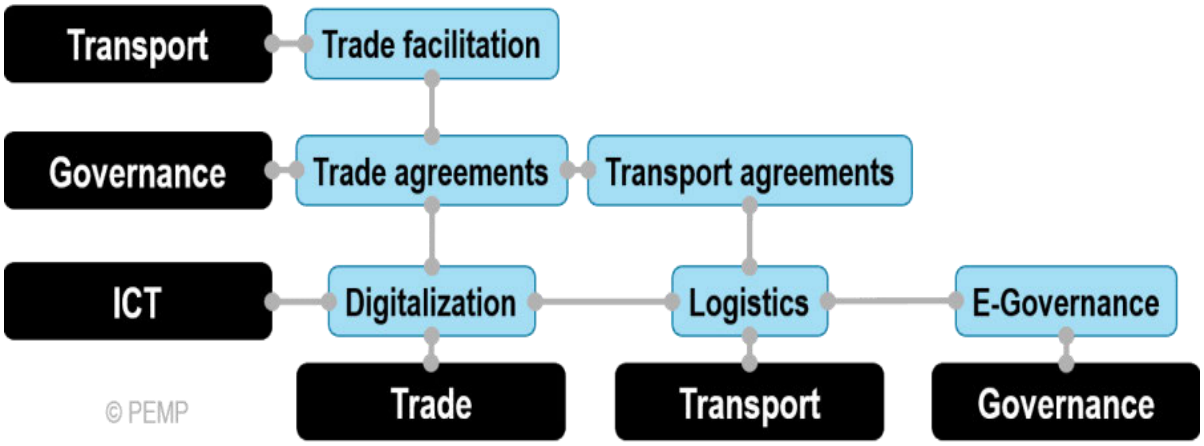

Figure 2.1: Transport Trade and Port Governance

Sources: adapted from Brooks and Pallis (2012). Port Governance. In: Talley W.K. (ed.). Maritime Economics – A Blackwell Companion. Blackwell, 232-267.

Technological advancements and the resulting e-governance mechanisms have readjusted the operational and commercial relationships within the maritime sector, increasingly informing port-governance reforms. Policymakers impose and ensure the implementation of port governance structures with particular policy objectives in mind (Notteboom et al., 2022). In the absence of a flawless, efficient governance model, shareholders impose different dynamic

features on different models, which vary and are adjusted as the demand increases within the broader perspective that involves:

a) "A multi-modal vision of port governance that considers the importance of logistics integration and inland freight distribution. This requires stakeholder management approaches as the scope of coordination beyond price between actors involved is essential. With a multi-modal perspective, port governance includes spatial-jurisdictional scales, stakeholder relations, and logistical capabilities (Notteboom et al., 2022).

b) A more considerable stakeholder engagement that addresses all economic, operational, social, and cultural variables linked with port management, operations, and development (Notteboom et al., 2022)".

The figure below depicts a multi-modal vision that encapsulates the port system, the region where the port is located, the port community, and the actual port.

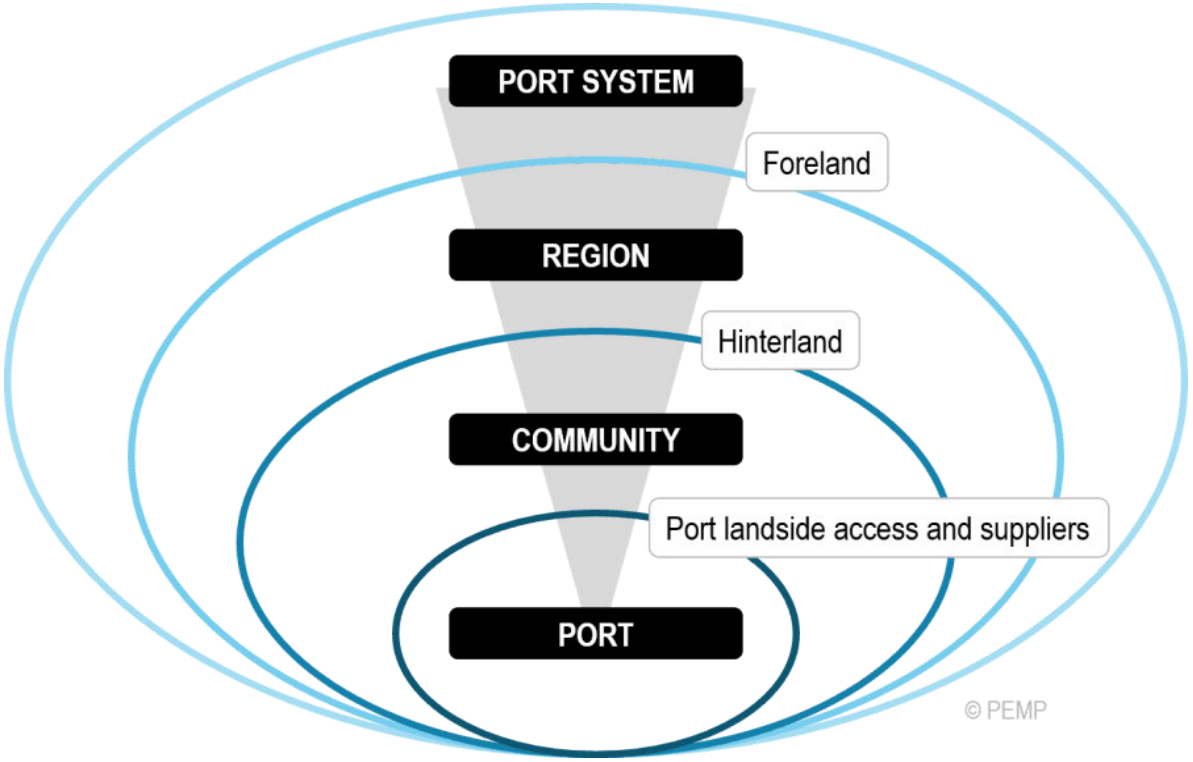

Figure 2.2: A Multi-Modal Vision of Port Governance

Source: Adapted from Brooks and Pallis (2012). Port Governance. In: Talley W.K. (ed.). Maritime Economics – A Blackwell Companion. Blackwell, 232-267.

A port governance model that seeks to optimize the management competence, operational efficiency, and the prospects of economic development of the region while taking into consideration the social and cultural variables might be realized by rational concentric circles about those who need to be engaged in a multi-modal perspective (Notteboom et al., 2022).

The integration of ports and the regionalization of port functions significantly impact port governance. The combination of different stakeholder management approaches emerges as the scope of coordination beyond value between the various stakeholders is essential, and opportunistic behavior could limit trust among the other role players and hamper infrastructure development for solving collective action problems. In a multi-modal outlook, port governance considers spatial-jurisdictional measures, internal and external stakeholder relations, and logistical capabilities (Notteboom et al., 2022).

A broader stakeholder engagement aims to address all economic, operational, social, and cultural variables linked with port management, operations, and development. Ports are critical infrastructure for an economy that, like other terminal assets, their management, operations, and development are capital intensive, consume scarce land use, are associated with noise and emissions, and involve different port stakeholders (Notteboom et al., 2022). A broader view of port governance encompasses the complex interactions among various stakeholders, levels of government, and economic, social, and environmental factors.

Developing a governance model for a port requires a broader vision that considers addressing port relationships and every economic and operational constraint. It also allows for the weighting and considering several social and cultural variables linked with port operations and developments. Governance principles impact relationships between port users and their shareholders, governments in other countries and the citizens, the public and private agencies and stakeholders, port authorities, other organizations, and those who establish them to undertake activities on their behalf (Notteboom et al., 2022).

The figure below depicts a broader view of port governance that encapsulates the stakeholders, the governance model, and the port operations.

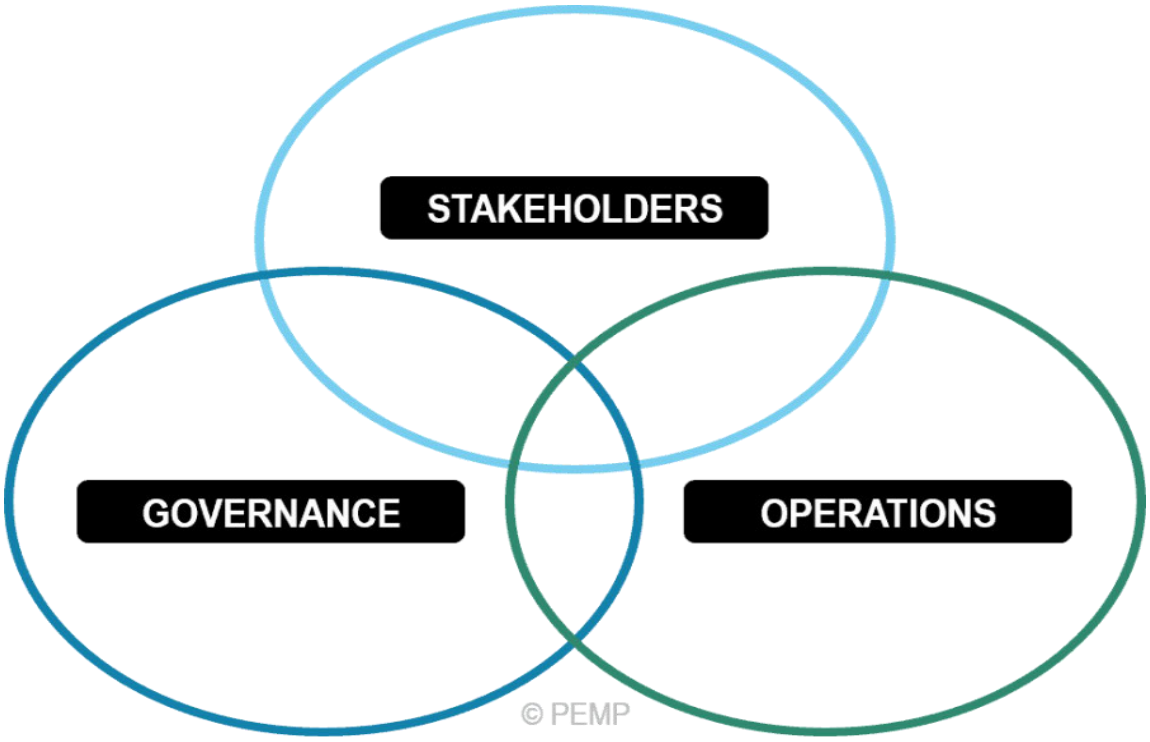

Figure 2.3: A broader view of port governance

Source: Adapted from Brooks and Pallis (2012). Port Governance. In: Talley W.K. (ed.). Maritime Economics – A Blackwell Companion. Blackwell, 232-267.

This broader view recognizes that effective port governance requires a refined understanding of the complex interactions among stakeholders, the different levels of government, and the economic, social, and environmental factors.

2.4 Port governance objectives

Ports facilitate global trade and provide a gateway for maritime transport by connecting global supply chains (UNCTAD 2021). Major ports globally develop and set goals and plans that guide ports' operations, management, and oversight. Governments impose port governance structures with particular policy objectives in mind, and these objectives vary across the world as ports are as interested in economic development as they are in serving commercial and trading interests (Notteboom et al., 2022).

Ports often see their roles as complex, with multiple objectives and having national, regional, and local impacts. They serve more than just their customers or their communities. They are in the industry to balance their multiple roles and the expectations of internal and external stakeholders (Notteboom et al., 2022). Public-owned ports develop their objectives to enhance their contribution to the local economy and marine services and advance and safeguard the country's strategic maritime interests. Private ports focus on generating profit, maximizing revenue, increasing sales, and increasing their shareholders' financial value (Ferrariet al., 2022).

Port governance objectives are decided within a given economic context, where trends in global trade, the facilitation of international trade, transport mode organization, and the related agreements and logistics inform the decisions of policymakers at the national, regional, or local/port level (Notteboom et al., 2022). Policymakers in developmental states impose port governance structures with particular policy objectives in mind. The strategic objectives that may drive the choice of port governance model involve maximising traffic throughput subject to maximum allowable operating profit, return on investment, profits for shareholders, and economic development prospects at the local or national level (Brooks and Pallis, 2012).

The strategic objectives of major ports worldwide include some of these goals and their priorities include efficiency by optimizing overall port performance through processes that reduce costs and improve port efficiency, participating in the region's economic growth by supporting economic development and growth policies, attracting investment through port efficiency, and promoting international trade, providing an efficient and effective service and high-quality modern port facilities to port users, with up-to-date technological advancements leading to customer satisfaction, by ensuring compliance with applicable statutory legal requirements and international standards, and ensuring that the environment is protected and that there is minimal impact, if any, on the environment in which the port operates by implementing measures to sustain the environment (Notteboom et al., 2022).

Port governance strategic objectives vary worldwide as ports are interested in their regions' economic development and serve commercial and trading interests. Most ports see their roles with multiple objectives and as having national, regional, and local influences. The critical role of ports is to balance their various roles in serving the port users and the shareholders and their expectations. Ports ultimately determine their objectives to cope with the policymakers,

the port users being the port stakeholders, and the local community (Notteboom et al., J.-P., 2022).

2.5 Port governance models/doctrines

Governance can be defined as structures put in place to control and guide an organization. These structures identify processes and systems for optimum operational output and policies and procedures to be followed (Meyiwa & Chasomeris, 2020). Stoker (1998) states that governance is about an autonomous self-governing network of an entity drawn from the public and private sector that characterizes port governance in particular.

Good governance involves transparent decision-making processes and holds individuals in power accountable for their actions while involving internal and external stakeholders. For management to be effective, it requires the participation of all stakeholders to achieve set objectives and long-term organizational goals efficiently through optimizing available resources. It requires the entity to act and function within the legal prescripts responsively to industry and stakeholders' requirements (Meyiwa & Chasomeris, 2020).

There are differences in port functions and responsibilities worldwide, dependent on the model adopted. According to Brooks and Cullinane (2007), there are various port devolution models as there are maritime ports worldwide, and this was in response to the study conducted by Baird (1995, 1997) wherein port governance models are classified into four models as shown in the table below:

Table 2.1 Port governance models

Port Functions			
Port Models	**Regulator**	**Land Owner**	**Operator**
Public	Public	Public	Public
Semi-public	Public	Public	Private
Semi-private	Public	Private	Private
Private	Private	Private	Private

Source: Baird (1995, 1997) in Song and Lee (2007)

Port devolution options other than the abovementioned models involve privatization, incorporation, and public-private partnerships (PPPs). The National Ports Act of 2005 makes a provision to fulfill the objects of the act for the Ports to operate as a corporate entity under Section 3 (3) (b). Such a provision is made to fulfill the objects of the act, which all point to the workings of a private company as articulated in Sections 2 (a) to 2 (f) (Chasomeris and Meyiwa, 2020).

2.5.1 The Anglo-Saxon port doctrine

This passage highlights the Anglo-Saxon doctrine as an economic and political ideology that advocates for free markets with minimal government intervention. The doctrine has significantly influenced the monetary policies of the UK and the US, particularly in the 1980s, emphasizing entrepreneurship, economic growth, and efficiency. In the UK, this ideology has shaped port governance, where ports are not regarded as part of the country's social infrastructure and are excluded from macroeconomic objectives (Chasomeris and Meyiwa, 2020). The UK leads private port models in Europe and operates one of the most corporatized port sectors globally (Bairs and Valentine, 2007; Monios, 2017).

A key function of port governance is setting tariffs and pricing principles. Under the Anglo-Saxon doctrine, port pricing prioritizes long-term financial sustainability, ensuring ports remain profitable with minimal shareholder assistance (Liu, 1995). This approach contrasts with models that consider ports as strategic assets requiring government support, highlighting the doctrine’s emphasis on market-driven economic management (Chasomeris & Meyiwa, 2020). Under the Anglo-Saxon doctrine, ports are expected to charge reasonable tariffs for their services to all users. However, public ports are expected to be something other than profit-seeking (De Langen and Heij, 2013). They are non-profit organizations that receive no government subsidies and must generate adequate revenue to cover operating and future investment costs. Most ports in the UK are privately owned, and tariffs are charged on a commercial cost basis (Chasomeris and Meyiwa, 2020).

Accordingly, Strandenes and Marlow (2000) propose the following five pricing guidelines:

1) “The total cost of providing port services should be recovered from port users.

2) Costs arising from services provided for identifying users or groups of users should be recovered from that user or group.

3) Costs that cannot be attributable to any specific users should be allocated according to the following principles:

(a) all port users should make some contribution to standard costs and

(b) the contribution that any group of users makes should not exceed the cost that they would incur if they were the sole users of the port, and

(c) within these limits, cost allocation should reflect a user's benefit from the service provision.

4) As far as possible, the structure of port charges should reflect the structure of costs.

5) The capital cost should reflect the original investment's opportunity cost in the case of assets for which there is no ready market. For other assets, it should reflect the opportunity costs of holding the asset in its current use (Strandenes and Marlow, 2000: pp. 320–321)".

2.5.2 The Asian port doctrine

The Asian Port doctrine refers to a set of economic and political models adopted by some Asian countries to develop and manage their ports (Meyiwa and Chasomeris, 2020). The key features of an Asian port doctrine may include government involvement in port development and management. Ports are seen as crucial for export-driven economic growth, emphasizing connecting ports to regional transportation networks. Under the Asian Port doctrine, there needs to be a balance between competition among ports and cooperation to achieve regional goals (Lee & Flynn, 2020; Meyiwa & Chasomeris, 2020).

The government makes substantial investments in modernizing port facilities and technology. It encourages diversification of port activities, such as logistics, shipbuilding, and tourism, by creating regional port hubs to increase efficiency and competitiveness.

According to Meyiwa and Chasomeris (2020), the Asian port doctrine includes:

1. China's "String of Pearls" strategy aims to create a port facilities and infrastructure network across the Indo-Pacific region.
2. Singapore's "Global Hub" strategy, positioning itself as a leading international logistics and trade hub.
3. Japan's "Port City" concept, integrating ports with urban development and logistics infrastructure.

4. These doctrines aim to leverage ports to drive economic growth, trade, and regional influence.

2.6 Port governance in South Africa – Institutional framework

The ports in South Africa have public port characteristics, yet they are not purely public port systems. According to Gumede and Chasomeris (2012), South African ports have unique port management models that crisscross public and semipublic port management models. The Port Regulator is a public body. The land owner is TNPA, a division of a public company wholly owned by the South African government, and the public port operator is Transnet Port Terminals (TPT), a dominant terminal operator and a sister company to TNPA. Despite this position, it is difficult to classify the governance model as a purely public port model because, while TPT as an SOE is a significant goods handler, there are smaller private players essentially handling the bulk and break-bulk commodities as well (Chasomeris and Meyiwa 2020; Gumede and Chasomeris 2022).

Neither can one classify the ports system as a Semi-Public port model because both public and private sectors have a role to play. Therefore, the SA ports system only partially conforms to any of the four classifications and finds itself an odd fit between a public and semi-public port model. Transnet is one of five operating divisions of Transnet SOC Ltd. TNPA manages all eight commercial ports in South Africa in a landlord capacity, providing infrastructure and marine services for port users (Chasomeris and Gumede, 2022).

The mandate for the NPA is to act as the landlord and own, manage, control, and administer all nine commercial ports along South Africa's coastline (National Ports Act 2005). The National Ports Act provides a legal, regulatory framework within which TNPA controls marine services and issues licenses to port users, and enters into service-level agreements (Meyiwa and Chasomeris, 2020). The South African government has created barriers to entry for the provision of marine services through the regulation and policy framework that includes but is not limited to the Government Maritime Policy, the National Port Act (2005), Port Rules, and Berthing Rules (Meyiwa and Chasomeris, 2020; Mthembu and Chasomeris, 2023b).

The Government Maritime Policy and the National Port Act (2005) provide the framework for managing maritime stakeholders. The Act also makes a provision for the establishment of the National Ports Regulator (NPR), whose primary functions are:

1) "Exercise economic regulation of the port system in line with the government's strategic objectives.
2) Promote equal access to port facilities and services provided in the ports.
3) Play an oversight role regarding the activities of TNPA by ensuring that it acts and adheres to the requirements of the Act and hears complaints and appeals".

The National Ports Act (RSA, 2005) stipulates that the Regulator must:

(a) "Hear appeals and complaints contemplated in sections 46 and 47, respectively, and investigate complaints contemplated in section 48;

(b) Negotiate and agree with the Competition Commission established by section 19 of the Competition Act, 1998 (Act No. 89 of 1998) to coordinate and harmonize the exercise of jurisdiction over competition matters and to ensure consistent application of the principles of this Act;

(c) advise and receive advice from any other regulatory authority;

(d) consider proposed tariffs of the Authority, contemplated in section 72, in the prescribed manner;

(e) promote regulated competition;

(f) regulate adequate, affordable, and efficient port services and facilities."

Another division of Transnet SOC Ltd is Transnet Port Terminals (TPT). This freight logistics company owns and manages 16 port terminals across seven of the eight commercial ports in South Africa and is organized into three regions: the Eastern Cape, Western Cape, and KwaZulu Natal (Chasomeris and Gumede, 2022). TPT operations are divided into different market sectors: containers, bulk, break bulk, and automotive. The Port Regulator regulates port tariffs and operations, but its regulatory functions do not extend to TPT as a port terminal operator (Chasomeris and Gumede, 2022).

TNPA's dual mandate, in its landlord capacity, is to contribute towards the region's economic development and lower logistics trade costs in the country. These roles share similarities with the World Bank's Port Reform Toolkit (Meyiwa and Chasomeris, 2020). The Competition Commission was investigating TNPA amid accusations by port users of abuse of its dominant position to prevent competition in the sector and its unregulated sister company, TPT, benefitting from preferential pricing arrangement and treatment with TNPA (Competition Commission, 2016). According to Meyiwa and Chasomeris (2020), a conflict of interest exists between the Transnet National Port Authority and Transnet Port Terminals as the Authority and public operator are both sister companies. Port administration, port infrastructure, nautical management, nautical infrastructure, pilotage, towage, mooring, and water transfer are all provided by the NPA. The private sector has been allowed to handle other functions like the provision of port equipment, cargo handling, and dredging (Gumede and Chasomeris, 2015).

Transnet has been accused of cross-subsidizing loss-making divisions by the port sector, and the automotive division has been charged premium tariffs, thus appearing to be subsidizing other loss-making divisions. This practice, according to Gumede and Chasomeris (2015), is similar to the levy or fee that was estimated based on the value of goods for the use of the port to unload cargo from a vessel, which was discontinued during port reforms in 2002, as it was against international standards and best practices. Several inefficiencies exist in the pricing and operations of marine services in South Africa (Mthembu and Chasomeris, 2024).

The National Ports Act states that NPA is to be incorporated into a subsidiary instead of a division of Transnet SOC Ltd; nevertheless, NPA remains a division of Transnet. According to Meyiwa and Chasomeris (2020), the governance model resisted the legislation, which has, at best, promoted anti-competitive behavior and, at worst, accommodated years of inefficiency and corrupt activities that have negatively impacted the economy. The country remains deeply entrenched with supply inefficiencies and a need for more government investment in port infrastructure (Meyiwa and Chasomeris, 2020).

Meyiwa and Chasomeris (2020) recommend incorporating NPA as a stand-alone entity outside of Transnet to align the governance structure with international best practices for a landlord port (World Bank 2007). However, this provision has not been implemented since the promulgation of the Act and beyond the establishment of the Port Regulator, whose sole mandate is to ensure compliance and adherence with the provisions of the Act (Meyiwa and

Chasomeris, 2020). The South African port governance model shares characteristics similar to the Asian Port doctrine in that ports are state-owned for many categories of cargo, like containers and automotive, publically operated (Chasomeris, 2011). The previous government regime constructed them through huge investments as they were targeted for developing the economy (Trade and Industrial Policy Strategy, 2014). These are some of the characteristics of a developmental state where the government targets and invests heavily in sectors earmarked for the economic and industrial growth of the state (Woo-Cummings ed, 1999). These similarities and shared common traits are developed and are evident in the Asian development state model, with the significant difference being the tariff structure and pricing.

The misallocation of funds that cross-subsidizes loss-making divisions has attracted several complaints from port users regarding the governance model in South African ports (Meyiwa and Chasomeris, 2020). According to the World Bank (2007), all port reforms require an articulated clear vision, proper planning, and organization. A big question in the minds of port users and the industry is whether the evolution of marine services governance will allow the private sector to have complete control over providing marine services in South Africa's ports. The answer appears to be tied to the country's socio-economic objectives, with the ANC-led national government opting to continue centralizing port governance (Mthembu and Chasomeris, 2023b).

The benefits and lessons can be extracted from the case studies of Colombia and Argentina, with evidence of the liberalization of port operations and the transfer of services from the public to the private sector, releasing obstructive points in the port system (World Bank 2007). In South Africa, the mandate is for Transnet to act as the major shareholder, the landlord who owns, manages, controls, and administers all nine commercial ports (National Ports Act 2005). Except for Port Nolloth, Transnet provides marine services (pilotage, towing, mooring, vessel traffic control, lighthouses, and water transfer) in the other eight commercial ports (Transnet, 2018). Transnet has implemented an integrated port management system creating barriers to entry for the private sector to provide marine services through regulations and policy frameworks like the Government Maritime Policy, the National Port Act (2005), Port Rules and Berthing Rules (Mthembu and Chasomeris, 2023b).

The Maritime Policy and the National Ports Act of 2005 provide a provision for maritime stakeholders' management. Still, they need to be more adequate in providing the grounds for administering penalties for non-compliance by terminal operators. Meyiwa and Chasomeris (2020) cite a conflict of interest between the Transnet National Ports Authority and Transnet Port Terminals (TPT) as the authority and the public operator are sister companies.

Table 2.2: Public and private role in port anagement.

ACTIVITIES / PORT	PORT ADMIN	PORT INFRASTRUCT	PORT SUPERSTRUCTE (EQUIPMENT)	PORT SUPERSTRUCT (BUILDING)	CARGO HANDLING ACTIVITIES	NAUTICAL MANAGT	NUATICAL INFRASTRUCT	PILOTAGE	TOWAGE	MOORING	DREDGING	OTHER FUNCTIONS
PUBLIC PORT	Public	Public	Public	Public	Public	Public	Public	Public/ private	Public/ private	Public/ private	Public/ private	Public/ private
TOOL PORT	Public	Public/ private	Private	Private	Private	Public	Public	Public/ private	Public/ private	Public/ private	Public/ private	Public/ private
LANDLORD PORT	Public	Public	Public	Public	Private	Public	Public	Public/ private	Public/ private	Public/ private	Public/ private	Public/ private
CORPORATISE PORT	Private	Private	Private	Private	Private	Private	Public/ private	Public/ private	Private	Private	Public/ private	Public/ private
PRIVATE PORT	Private	Private	Private	Private	Private	Private	Private	Public/ private	private	Private	Public/ private	Public/ private
SOUTH AFRICA	Public	Public	Public/ Private	Public/ Private	Public/ private	Public	Public	Public	Public	Public	Public/ private	Public/ private

Source: Meyiwa and Chasomeris (2020) using data compiled from the World Bank (2007 and Chasomeris (2011)

The table above reflects the monopolistic ownership and provision of marine services in South Africa's ports, which Transnet broadly owns, manages, and controls. Port administration, port infrastructure, nautical management, nautical infrastructure, pilotage, towage, mooring, and water transfer are all provided by the NPA. The private sector has been permitted to participate in other functions like port superstructure, cargo handling, and, in some cases, dredging (Gumede and Chasomeris, 2015).

2.6.1 TNPA reporting structure

DoT (2001) and Walker (2018) highlight that South Africa relies on its eight major commercial seaports to facilitate international trade. The Transnet National Ports Authority (TNPA) was established under The National Ports Act, No. 12 of 2005 (RSA,

2005), and is responsible for managing, controlling, and administering the economic activities of the national ports system as a landlord port authority.

South Africa's coastline extends approximately 2,798 kilometers, and TNPA operates within this jurisdiction to ensure the efficient functioning of its ports. The figure below illustrates the TNPA governance reporting structure, outlining its regulatory and administrative framework.

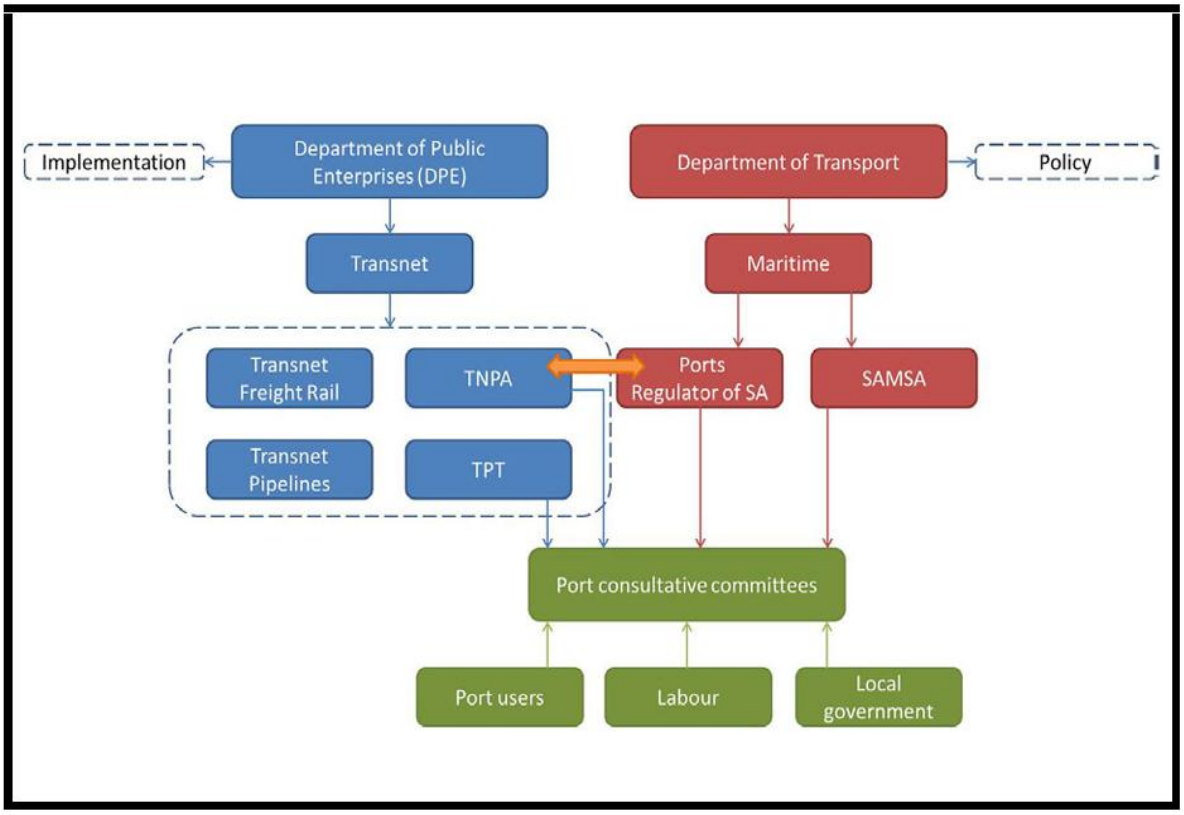

Figure 2.4 The TNPA Reporting Governance Framework for South African Ports

Source: Author adopted from Havenga et al., 2016, p.4

2.6.2 Port Pricing in South Africa

The regulation of port tariffs is a key function in ensuring fair pricing for port users. Industry leaders in the marine sector advocate for a marginal cost pricing approach, where tariffs are based on cost structures and policy frameworks specific to each port (Meyiwa, 2020). Several scholars, including Charalambides et al. (2001), Bennathan and Walters (1979), Meersman et

al. (2003), and Swahn (2002), support the idea that Port Regulators should incorporate marginal cost pricing principles when setting port tariffs.

Internationally, successful ports operate under the landlord model, where the port authority owns the infrastructure while the private sector manages the superstructure (Suykens and Van De Voorde, 1998). However, in South Africa, the government holds ownership through the port authority, while the Port Regulator focuses on service charge regulation (Meyiwa, 2020). In contrast, Chinese and other Asian ports have followed a more unconventional pricing approach, leading to significant port expansion and economic development over the past four decades (Lee and Flynn, 2011). South Africa faces ongoing challenges such as infrastructure backlogs, poor service delivery, weak intra- and inter-port competition, and ineffective cross-subsidization within Transnet, which have hindered port sector efficiency (Meyiwa and Chasomeris, 2020).

TNPA's dual role as both a landlord and port authority requires it to support economic growth while ensuring affordable marine service costs (Meyiwa and Chasomeris, 2020). The Ports Regulator of South Africa (PRSA) plays a crucial role in setting and regulating tariffs, covering both infrastructure and service charges at all South African ports. However, PRSA's regulatory oversight is limited to TNPA, which operates as a division of Transnet and does not extend to TPT (Transnet Port Terminals), the port terminal operator (Gumede and Chasomeris, 2017). TNPA and PRSA have jointly agreed to use the Revenue Requirement (RR) methodology, a rate-of-return pricing model when determining port tariffs.

Each year, the Transnet National Ports Authority (TNPA) submits an application to the Ports Regulator of South Africa (PRSA) for a tariff adjustment, a process that has been followed since the 2009/2010 financial year. As part of this process, the PRSA invites feedback from port users and other stakeholders, conducts industry research, evaluates the proposed adjustment, and determines the tariff changes for the following financial year (Grater and Chasomeris, 2022).

The South African Reserve Bank (SARB) aims to maintain inflation between 3% and 6%, as measured by the Consumer Price Index (CPI). In alignment with this target, the PRSA endeavors to limit TNPA's price adjustments to below 6%, utilizing the Revenue Requirement

(RR) model, a rate of return pricing methodology to calculate the weighted average tariff adjustment (Grater and Chasomeris, 2022). Moreover, Grater and Chasomeris (2022) estimate that reducing the National Ports Authority (NPA) weighted average tariff by up to 20% could significantly enhance South Africa's trade competitiveness.

Since 2009, the Transnet National Ports Authority (TNPA) and the Ports Regulator of South Africa (PRSA) have utilized a rate of return pricing model, known as the Required Revenue (RR) model, alongside the return on assets methodology to determine annual tariff adjustments. The RR formula, as adapted from TNPA (2021), is expressed as:

$$RR = (v - a + w)r + d + o + t + c + e + g$$

where RR represents the required revenue, v is the value of assets used in regulated services, a denotes accumulated depreciation, w is working capital, r refers to the regulated return on capital, d accounts for depreciation within the tariff period, o represents operating costs, t stands for taxation expenses, c is the claw-back mechanism, e reflects excessive tariff increase margin credits, and g captures weighted efficiency gains from operations (Mthembu and Chasomeris, 2024).

Over the years, port users and other stakeholders, including private sector representatives, government agencies, and academics, have consistently raised concerns regarding the RR pricing model and TNPA's tariff strategy through their annual submissions to the PRSA (TNPA, 2012). Several researchers, including Chasomeris (2015), Gumede and Chasomeris (2017), and Meyiwa and Chasomeris (2020), have critically examined the RR model, highlighting its limitations.

A study by Meyiwa and Chasomeris (2020) analyzed 137 stakeholder submissions from 2009/2010 to 2018/2019 using content analysis and concluded that the revenue requirements were unjustifiable and arbitrarily determined, with requested tariff increases often exceeding inflation. The study also found that incorrect investment return calculations and inflated regulatory asset valuations contributed to excessive revenue generation and higher profits for TNPA. Given these issues, multiple researchers (Meyiwa and Chasomeris, 2020; Gumede and Chasomeris, 2017; Chasomeris, 2015) have advocated for a review and revision of the current RR pricing methodology.

Moreover, Chasomeris and Gumede (2022) suggest that TNPA has an opportunity to implement a more transparent and justifiable tariff structure, one that could reduce port authority charges while simultaneously increasing investments in infrastructure and marine services. PRSA must ensure that the proposed tariff adjustment by TNPA provides for the recuperation of its investment in port infrastructure, recovery of its port operating costs as well as administration costs incurred in providing port services and port facilities, and that it generates revenue equal with the risk of managing, controlling, and providing marine services and facilities (TNPA, 2012:8-9).

According to Meyiwa (2020), these guidelines are considered to be drawn from the World Bank's Port Reform toolkit, which allows port authorities to generate revenue to develop and develop port infrastructure and buildings. Therefore, TNPA's pricing approach has financial sustainability measures that are familiar with international best practices for a port authority (Meyiwa, 2020). However, TNPA's pricing model also factors in the threat part of retaining, running, regulatory, and running the ports. Nevertheless, it faces no competition in the industry as it is a monopoly in South Africa (Bhuckhory, 2013; Fruit SA, 2013).

Also, TNPA determines the total income from port users and lessees using the port premises, which covers port operating costs for these port stakeholders (Meyiwa, 2020). The four core design principles that govern this tariff structure are cost based where each tariff should cover the costs for providing the related infrastructure and services, the user pays structure that ensures every port user must contribute for the right and access to port facilities that they use, the required revenue tariff methodology, as a mathematical function, can be applied to each tariff to cover operating costs, depreciation, taxation, and a fair return on TNPA's assets and, competitiveness that TNPA says where market expectations and best practices have been considered when developing tariffs (TNPA, 2012).

These fundamental design principles support the tariff structure by ensuring a balanced and impartial allocation of port dues among all user groups. Maintaining shareholder strategies requires an appropriately structured pricing system that aligns with top global standards and practices (TNPA, 2012:8). However, Meyiwa and Chasomeris (2016) argue that the port authority fails to uphold its principles by applying uniform tariffs across ports of varying sizes, structures, cargo types, and market segments. This contradicts the cost-based and user-pays

principles, ultimately hindering fair competition based on TNPA pricing (Meyiwa, 2020). Another issue is that managing a complementary port system directly conflicts with cost-reflective pricing and competition between ports. Additionally, intermodal, intra-port, and inter-port cross-subsidization further complicates this challenge (Meyiwa, 2020; Gumede and Chasomeris, 2018).

Globally, it is considered best practice for landlord ports to derive most of their revenue from port terminal operators through rental fees and infrastructure charges (Meyiwa, 2020). However, in South Africa, cargo owners have historically shouldered a disproportionate share of TNPA's revenue generation, while shipping lines have been charged lower tariffs than the global average (Meyiwa, 2020; Mthembu and Chasomeris, 2024)). TNPA has justified this by arguing that increasing shipping line costs would make South Africa a less attractive destination, ultimately shifting the financial burden onto cargo owners through higher tariffs (TNPA, 2012). PRSA (2015) rejected TNPA's reasoning and mandated the elimination of unfair cost distribution among port users. In response, TNPA proposed a long-term restructuring plan to reduce cost burdens on shipping lines and port tenants by 36% and 29%, respectively, while lowering cargo owner contributions from 60% to 35% (Ports Regulator, 2015).

The table below illustrates the gradual progress made since the 2012/2013 fiscal period toward a more balanced port cost distribution, although the shift—particularly in reducing cargo owners' financial burden—has been slow (Meyiwa, 2020).

Table 2.3: Distribution of Port Costs among Port User Groups

Port user groups	**Current realised (2012)**	**2021/22FY**	**2022/23FY**	**Proposed long-term end-state**	
	TNPA	**TNPA**	**TNPA**	**TNPA**	**Ports Regulator**
Cargo owners	61%	46%	46%	46%	35%
Tenants	19%	32%	30%	33%	32%
Shipping lines	20%	22%	24%	21%	41%

Source: Author compiled using information from Meyiwa 2019; Mthembu and Chasomeris, 2024; Gumede and Chasomeris 2018; and Ports Regulator, 2015.

The Ports Regulator of South Africa (PRSA) publishes an annual Global Pricing Comparator Study, which assesses proposed port tariffs (Meyiwa, 2020). This benchmarking report evaluates 25 container ports, focusing on cargo dues, terminal handling charges, and marine services (Grater & Chasomeris, 2022). Using a standardized container vessel model, the study calculates vessel call costs based on an average turnaround time of 32 hours and a parcel size of 1,853 twenty-foot equivalent units (TEUs). These findings provide insight into port authority pricing trends and help shape expectations for tariff direction in South Africa (Grater & Chasomeris, 2022).

In South African ports, terminal handling charges account for 66% of the cost of moving a TEU, cargo dues make up 29%, and marine service fees contribute 5% to the National Ports Authority's (TNPA) revenue (PRSA, 2021). According to PRSA (2021), marine service fees in South Africa are 44% lower than the average of the benchmarked sample, aligning with the regulatory goals of the Ports Act. However, terminal handling charges exceed the industry average by 55%, and cargo dues are 166% higher.

Transnet Port Terminals (TPT), a division of Transnet SOC Limited, operates 16 terminals across seven South African ports. Its operations span key market segments—containers, bulk, break bulk, and automotive—and are structured into three regional clusters: Eastern Cape, Western Cape, and KwaZulu-Natal. While the Ports Regulator oversees the pricing and operations of the port authority, it does not regulate TPT as a terminal operator (Meyiwa, 2019).

TNPA holds a dual mandate: to reduce the cost of marine operations in South Africa and to promote economic development (Meyiwa, 2020). Its role as a landlord aligns with certain global port governance standards, such as those outlined in the World Bank's Port Reform Toolkit. This includes the establishment of an independent regulator tasked with promoting fair competition, curbing monopolistic behavior, and addressing anticompetitive practices (Meyiwa, 2020). However, TNPA has faced accusations and is under investigation by the South African Competition Commission for allegedly abusing its dominant market position to suppress competition.

TPT, TNPA's unregulated sister company and the dominant terminal operator in the country, has been suspected of benefiting from favorable pricing arrangements with TNPA (Competition Commission, 2016). There have also been concerns about cross-subsidization within TNPA, where profitable sectors like container and automotive cargo trades appear to subsidize loss-making segments like dry bulk, keeping their tariffs artificially below global averages (Meyiwa, 2020).

As a result, the total pricing by the port authority stands at 69% above the benchmarked sample average. It's important to note that PRSA regulates only the National Ports Authority (NPA), not TPT, meaning only NPA related fees are within its jurisdiction (Grater & Chasomeris, 2022). On a positive note, the overall cost per vessel has dropped significantly from 360% above the global benchmark in 2012/13 to 65% above in 2020/21 (Grater & Chasomeris, 2022). Nonetheless, South Africa's port tariffs remain among the highest globally. Specifically, cargo dues are 166% above the benchmark average of $32,783.5, placing South African ports among the most expensive in the world (Grater & Chasomeris, 2022).

The Ports Regulator's inability to oversee TPT raises significant concerns about inefficiencies, conflicts of interest, and a lack of transparency within South Africa's port system (TIPS, 2014). This regulatory gap creates opportunities for TNPA, which dominates the port sector, to suppress competition and influence pricing structures (TIPS, 2014). Moreover, the absence of oversight may result in a disconnect between revenue generated by TNPA and actual capital expenditure, undermining infrastructure development. According to TIPS (2014), the key implications and consequences are as follows:

1. Unfair competition and stifled innovation

As a division of state-owned Transnet, TPT holds a dominant position in port operations. Without regulatory control, it may hinder private terminal operators from entering or competing fairly in the market. TPT could benefit from subsidies provided by other TNPA divisions, distorting pricing and disadvantaging private competitors. A lack of competition and regulatory checks may reduce incentives for adopting innovative technologies and improving efficiency (TIPS, 2014).

2. Financial and operational inefficiencies

Without pricing oversight, there's limited transparency around how revenues are allocated, which can lead to inefficient or misaligned infrastructure investment. The inability to regulate TPT may result in the TNPA submitting inflated revenue requirements, potentially increasing tariffs and harming trade. Unclear delineation of financial and operational risks between TNPA and Transnet can further contribute to inefficiencies and mismanagement (TIPS, 2014).

3. Negative impact on trade and economic growth

Inefficiencies and reduced competition often translate into increased logistics expenses, reducing South Africa's competitiveness in global trade. A non-transparent, unbalanced operating environment may deter both local and foreign investment in the port sector. Operational inefficiencies and lack of competitive pressure can lead to congestion and delays, weakening the broader supply chain and economic performance (TIPS, 2014).

4. Governance and regulatory challenges

TPT's integration within TNPA complicates regulatory accountability, making objective oversight difficult. Stronger collaboration is needed between the Department of Transport and the Ports Regulator of South Africa to ensure coherent oversight and strategic development. Parliamentary reports stress the need to strengthen the Ports Regulator with adequate authority, expertise, and resources to comprehensively oversee all port operators, including TPT (TIPS, 2014).

The Ports Regulator's limited mandate regarding TPT poses a serious challenge to the effectiveness, competitiveness, and future growth of South Africa's port system. Addressing these issues calls for a stronger regulatory framework, enhanced transparency, equitable competition, and improved interdepartmental coordination to support sustainable development in the sector (TIPS, 2014).

By the 2019/2020 fiscal year, tariffs based on product value were still in effect. The continued use of ad-valorem tariff determination means that bulk commodities are charged below the PRSA benchmark mean, while containerized and automotive cargo face significantly higher costs (Meyiwa, 2020). The benchmark mean represents the average port cost per cargo category in the sample used in the pricing comparator study (Meyiwa, 2020). Under this structure, containers and automotive cargo are likely cross-subsidizing bulk export tariffs,

with premium charges of 271% and 146% above the benchmark mean, respectively, while bulk cargo remains well below the benchmark (Meyiwa, 2020).

Gumede and Chasomeris (2018) argue that the excessively high cargo dues in South Africa can largely be traced back to the legacy of ad valorem wharfage, which, although abolished in 2002, continues to influence the current tariff structure. As a result, cross-subsidisation between cargo types persists, automotive and container cargoes appear to subsidise the handling of bulk and breakbulk goods. Additionally, there is cross-subsidisation between different user groups, with cargo owners effectively subsidising the costs of port tenants and shipping lines (Gumede & Chasomeris, 2018). This highlights both the ongoing need and the clear intention to lower port authority charges, especially cargo dues, which remain 166% above the benchmark average and to adopt a tariff strategy aligned with the PRSA's long-term goal of bringing cargo dues to 36% below the global benchmark.

High port charges in South Africa have a detrimental effect on the competitiveness of the country's ports and their ability to attract investment. These elevated fees increase the cost of importing and exporting goods, thereby reducing the global competitiveness of South African businesses (Ndlozi, 2016). Such high logistics costs can also discourage foreign companies from investing in the region, as they may prefer more cost-effective alternatives (Ndlozi, 2016). For importers, exporters, and ultimately consumers, these charges result in higher overall costs, inflating the price of South African goods on international markets.

Additionally, increased costs may contribute to operational inefficiencies, such as cargo delays and reduced shipping volumes, further compromising port performance (Ndlozi, 2016). Businesses might also avoid South African ports altogether in favour of more affordable options in neighbouring countries (Ndlozi, 2016). The high costs not only deter trade and investment but can also lead to underinvestment in port and logistics infrastructure. Port authorities may be hesitant to improve facilities if they are unable to offer competitive tariffs, and this hesitancy can extend to investments in supporting rail and road networks (Ndlozi, 2016). Furthermore, the elevated charges may hinder the ability of ports to accommodate larger vessels, limiting their capacity to compete with deep-water ports elsewhere (Ndlozi, 2016).

Although TNPA aims to set tariffs in accordance with international best practices and core design principles, practical implementation does not always reflect these standards. TNPA follows the Anglo-Saxon pricing doctrine, but due to the current port system and model,

competition is effectively nonexistent and further discouraged by the standardized tariff structure in place (Meyiwa, 2020). To reform pricing in South African ports, a shift towards a user-pays model underpinned by activity-based costing is essential (Mthembu and Chasomeris, 2024). Adopting a dual-till model could also improve cost allocation and pricing flexibility. This approach ensures that port users pay in proportion to the services they consume, promoting efficient use of resources (Mthembu and Chasomeris, 2024). Establishing an independent regulator and encouraging competition will further enhance transparency and operational efficiency.

2.7 Modern port governance reforms

The public sector has reshaped its role in the port and shipping industries through privatization and corporatization initiatives (Goss, 1990; Baird, 2000). As governments reassess their involvement, there is increasing focus on governance issues within ports and shipping (Wang and Olivier, 2004). Effective port governance is built on initiative, collaboration, and consultation—key principles that drive proactive management. This involves creating a framework where port authorities work closely with various stakeholders to identify and resolve challenges affecting port operations (Mthembu and Chasomeris, 2023a).

Port authorities, positioned as central hubs for international economic growth, have a crucial role in these initiatives. Their primary concern is improving overall trade efficiency and development rather than focusing on specific sectors. Even when their direct influence on cargo flows is limited, they can still act as catalysts for change. The European Seaport Organization (2010) and Pinto and Anunciação (2020) highlight that government controlled national port management models often result in isolated decision-making, slow intervention, and delayed responses to operational challenges.

De Langen (2004) and Verhoeven (2010a) advocate for regional or municipal port authorities over national public authorities. Unlike national models, regional or municipal port authorities are not driven by profit pressures and can exercise more effective control over regional seaports. In contrast, the national government model can hinder port service delivery, often prioritizing political interests over market-driven decisions (Competitiveness of Ports in Emerging Markets, 2014).

According to the World Bank (2007), implementing port governance models is a complex process that requires active participation and buy-in from both internal and external stakeholders, as such reforms typically occur only once in a generation. To aid in this transition, the World Bank introduced a port reform toolkit that classifies governance models and port structures into four distinct management approaches: the service port model, the tool port model, the landlord port model, and the fully privatized port model. This framework outlines each approach's characteristics, benefits, and associated risks, as detailed in the table below.

Table 2.4: Port Governance Models Description, Advantages, and Risks.

Governance model	Description	Advantage	Risk
Service port model	This is the public sector model in which the port authority owns the land and all the assets (infrastructure and superstructure) using these to perform all port functions to provide all port services. The port is controlled by the Minister of Transport	The development function and operations of the port lie with a single entity, eliminating challenges related to streamlining of activities	Difficulty with regulation, infrastructure development and delivery of services to port users
Tool-port model	In this model, the port authority owns, develops and maintains the port infrastructure, superstructure and cargo handling equipment. In terms of the division of responsibilities and operational activities, the operation of equipment is done by the private sector	In this model, duplication of investment in facilities is avoided and small companies get to operate in the port industry	The risk is the possibility of conflict between companies performing at the operational level doing loading and unloading. Underinvestment is a big factor in this model
Landlord port model	In the landlord model, the port authority maintains ownership of port infrastructure. The superstructure is leased to the private sector. The main responsibility of the port authority in this model is economic exploitation, development of road infrastructure leading to the port, and maintenance of quays/ berths/ breakwaters	The benefit of this model is that one company owns and operates the equipment and superstructure, resulting in improved planning and responsiveness to market conditions	The risk is that there may be duplication in communication between customer, port authority and private operators as both the authority and the operator tend to visit the same customers
Private port	The private sector exclusively owns the port: including land, infrastructure and superstructure. Operation of the port is done by the private sector. The government has less interest in port services	Flexible investment in the port. Port efficiencies and performance are high. Pricing of port services is market oriented	The risk is that of private monopoly. If regulation is left to the private sector, the scenario of the private sector being the referee as well as the player is created and long term policy regulating the ports tends to be inadequate

Source: Mthembu and Chasomeris (2023) from Baltazar and Brooks (2001), Brooks (2004), World Bank (2007).

Modern port governance reforms refer to contemporary changes in managing and operating ports. As international trade expands and technology advances, port governance models have evolved to enhance efficiency and competitiveness (Notteboom and Yang, 2017). Many developed countries have embraced port devolution, shifting management from central authorities to regional or private entities (Cullinane and Song, 2001). These reforms take various forms, including decentralization, corporatization, privatization, regionalization, and cooperation (O'Brien et al., 2019).

2.7.1 Decentralisation

Decentralisation involves transferring port operations, management, and decision-making from a centralized entity, such as TNPA, to local authorities or private stakeholders. This shift makes ports more responsive to market conditions by reducing bureaucracy and fostering

competition (Notteboom, et al., 2022). Globally, many ports have decentralized governance structures, with increasing responsibilities transferred to municipal or provincial authorities (Ferrari et al., 2004).

The primary objectives of decentralisation are to improve efficiency, streamline decision-making, and enhance service delivery. A decentralised governance model allows ports to adopt best practices from international counterparts, mitigating service delivery failures and congestion issues (Pallis and de Langen, 2010). This model also encourages public-private partnerships, where the national government relinquishes operational control to an independent entity while maintaining an oversight role (De Langen and Pallis, 2010).

For South Africa, decentralization would require reforms within Transnet and TNPA, including the establishment of independent port authorities. These changes aim to boost the efficiency and competitiveness of South African ports, ultimately fostering economic growth and trade expansion (Notteboom et al., 2022).

2.7.2 Corporatisation

Corporatisation involves restructuring ports into corporate entities, prioritizing commercial efficiency and profitability. Baltazar and Brooks (2008) propose a corporate governance model incorporating strategic management, organizational theory, and configuration theory. In this model, governance is influenced by three key factors:

1. **Corporate Strategy Objectives** – Set by the port authority to align with trade and economic goals.
2. **Organisational Structure** – Defined by government policies and the port authority's strategic approach.
3. **Operating Environment** – A mix of controllable and external factors impacting port operations (Brooks & Pallis, 2008).

Corporatisation enhances operational efficiency while maintaining public sector oversight. Many ports worldwide have adopted this model to balance commercial success with regulatory requirements.

2.7.3 Privatisation

Privatisation has become a key trend in port governance, transforming supply chain networks and improving operational efficiencies (Farrell & Brooks, 2019). This reform involves inviting private sector investment in port ownership, management, and operations. While privatisation fosters competition and enhances service delivery, its implementation varies across regions.

Historically, private sector involvement in ports gained momentum in the 1980s as bottlenecks and inefficiencies disrupted global supply chains (Lugt et al., 2015). Some countries fully privatised port services, while others retained partial government ownership. Zhang et al. (2018) highlight that private sector participation in port operations has become standard practice. However, the World Bank (2007) notes that many developing nations hesitate to fully privatise ports due to regulatory complexities and developmental priorities.

2.7.4 Regionalisation and cooperation

Regionalisation and cooperation involve fostering collaboration among ports within the same region to enhance efficiency and competitiveness. While regionalisation is primarily market-driven, government investment in infrastructure remains crucial to ensure accessibility by land and sea (Notteboom, 2005).

Structural changes in global logistics have reshaped port hierarchies and increased the pressure on port operations. As supply chains become more complex, ports must adapt to new governance models that integrate logistics and trade networks (Notteboom, 2005). This shift requires ports to extend their functional reach beyond traditional perimeters, improving connectivity and cargo distribution.

Effective regionalisation demands governance structures that accommodate evolving port relationships and stakeholder participation. A key governance challenge is ensuring that all stakeholders port authorities, logistics providers, and local governments collaborate to drive sustainable development (Brooks, 2001).

Port governance reforms aim to enhance efficiency, competitiveness, and sustainability, supporting economic growth and trade expansion. Cao (2020) emphasizes the need for countries to adopt governance models suited to their trade objectives. Many global ports have

embraced commercialisation, corporatisation, and public-private partnerships (PPPs) to attract private investment and improve infrastructure (Notteboom et al., 2022).

These reforms have led to innovative financing models, such as build-operate-transfer (BOT) schemes and concession agreements, allowing private entities to invest in port infrastructure. At the same time, governments retain ownership (Notteboom et al., 2022). In some cases, private investors have acquired share capital in port ownership, while central governments maintain majority control, ensuring a balance between public oversight and commercial efficiency (Notteboom et al., 2022).

As global trade evolves, modern port governance must continue to adapt, leveraging strategic partnerships and regulatory frameworks to foster long-term growth.

Table 2.5: Significant Types of Public-Private Partnerships

Type of PPP	Mode of Entry	Operations	Investments	Ownership	Duration (years)
Management contract	Contract	Private	Public	Public	3-5
Leasing	Contract	Private	Public	Public	8-15
Rehabilitate-operate-transfer (ROT)	Concession	Private	Private	Public	20-30
Rehabilitate-lease/rent-transfer (RLRT)	Concession	Private	Private	Public	20-30
Merchant	Greenfield	Private	Private	Public	20-30
Build-rehabilitate-operate-transfer	Concession	Private	Private	Public	20-30
Build-operate-transfer (BOT)	Greenfield	Private	Private	Semi-private	20-30
Build-own-operate-transfer (BOOT)	Greenfield	Private	Private	Semi-private	30+
Build-lease-own (BLO)	Greenfield	Private	Private	Private	30+
Build-own-operate (BOO)	Greenfield	Private	Private	Private	30+
Partial privatization	Divesture	Private	Private	Private	30+

The table above illustrates the roles and interactions between the public and private sectors within the public-private partnership governance model. While public ownership of ports remains the prevailing structure, partnership agreements typically last between 20 and 30 years (Notteboom et al., 2022).

2.8 Contemporary port governance reforms

The global financial crisis of 2007–2008 was one of the most severe economic downturns in history until the COVID-19 pandemic, which had devastating consequences on human life and posed unprecedented challenges to global supply chains (WHO, 2020). The financial impact of the crisis significantly affected economies worldwide, particularly in developing nations. This period also shifted toward a second wave of port governance reforms (Notteboom et al., 2022).

Over the past few decades, governance models have evolved in response to technological advancements and the expansion of international trade, which have driven changes in the maritime sector (Notteboom & Yang, 2017). As a result, several developed nations have implemented port devolution reforms (Cullinane & Song, 2001). These changes have taken various forms, including privatization, commercialization, and deregulation (O'Brien et al., 2019). Governments have increasingly turned to privatization and other contemporary reforms to attract investment in port infrastructure through public-private partnerships (PPPs). Government policies play a crucial role in determining the success of ports, as there is no universal governance model that applies to all ports. Port structure variations influence long-term sustainability and commercial viability (Meersman et al., 2006). The surge in global trade over the last decade, driven by technological progress and increasing cargo volumes, has further encouraged the devolution of port governance models (Brooks, 2004). The primary objective of these reforms is to transfer port operations to the private sector while reducing costs for governments, improving efficiency, increasing ship traffic, fostering competition, and boosting revenue (Notteboom et al., 2022).

However, Pallis (2006) notes that ports may struggle with operational inefficiencies, particularly when they fail to align with the demands of port users due to inadequate governance structures. In privatized ports, competition can sometimes lead to conflicts, potentially undermining accountability (Xie et al., 2016). Conversely, public-controlled ports may utilize national resources more effectively, but they may be slow to respond to market changes due to bureaucratic constraints (World Bank, 2007).

Before the recent wave of governance reforms, the first phase of port governance restructuring took place in the 1990s, with many developing economies increasing private sector participation in port management (Notteboom et al., 2022). Private sector investments in ports

have been considered a crucial step toward improving efficiency since the 1980s, even before some ports began experiencing bottlenecks in international trade (Van Der Lugt et al., 2015). Barros (2012) suggests that implementing market-driven government policies, decentralizing port management, and reducing government interference could enhance port efficiency.

Similarly, Simoes and Margues (2010) highlight the advantages of modern port governance models, which better align with port users' needs and infrastructure investment requirements. Veenstra (2004) observes that port structures worldwide have undergone decentralization, with management responsibilities being transferred to local authorities or privatized entities. Seaport Organization (2010) and Pinto and Anunciacao (2020) argue that national government-run ports often operate in isolation from on-the-ground realities, resulting in slow response times to operational issues. Meanwhile, De Langen (2004) and Verhoeven (2010a) advocate for regionalized governance models over centralized approaches, focusing on effective management rather than profit-driven targets.

Public port governance has been criticized for negatively impacting service delivery, as political interests often take precedence over economic and market-driven decisions (Competitiveness of Ports in Emerging Markets, 2014). Implementing port governance reforms is inherently complex, requiring buy-in from both internal and external stakeholders (World Bank, 2007). Gumede and Chamsomeris (2012) note that South African ports operate under a hybrid public and semi-public management model.

2.8.1 Public-private partnerships

Governments and port authorities worldwide have increasingly turned to private-sector participation in port services because full or partial privatization enhances efficiency, fosters competition, and allows greater flexibility in meeting port users' demands (Notteboom et al., 2022). Traditionally, ports have been managed by government authorities, but they are now leveraging private sector investments to drive productivity and reduce operational costs, ultimately benefiting port users. This transition involves delegating port service operations from public authorities to private enterprises (Notteboom et al., 2022).

This shift has led to the development of new governance models tailored to regional commercial needs. The following are five primary governance models, categorized by the level of public and private sector involvement (Notteboom et al., 2022):

- **Public Service Ports:** The port authority owns all infrastructure and is responsible for all services, though some functions may be outsourced to private firms. While this model ensures centralized control, it has been criticized for inefficiencies and slow decision-making (World Bank, 2007).

- **Tool Ports:** The port authority retains ownership of infrastructure but delegates cargo handling operations to private entities. This model reduces infrastructure duplication and encourages small and medium-sized enterprises (SMEs) to participate in port operations. However, it can lead to conflicts among private operators and insufficient private sector investment in infrastructure (World Bank, 2007).

- **Landlord Ports:** In this model, port terminals are leased to private companies responsible for operations, while the port authority maintains ownership of the land and infrastructure. This is one of the most widely used governance models in medium and large European and American ports, as it balances public oversight with private sector efficiency (Notteboom et al., 2022).

- **Corporatised Ports:** Ports under this model remain state-owned but operate as independent private entities, reducing political influence on port management (Notteboom et al., 2022).

- **Private Service Ports:** These ports are entirely owned and operated by the private sector, though regulatory oversight remains with public authorities. While this model encourages significant private investment and efficiency, it raises concerns about monopolization and regulatory conflicts (Notteboom et al., 2022).

2.8.2 Public ownership

Despite increased privatization, state-owned ports continue to dominate global port governance. There are four primary state-owned port models and one wholly private owned

model, ranging from fully centralized government control to complete private-sector ownership (Notteboom et al., 2022):

1. **Central Government-Owned:** The national government owns and operates the port.

2. **Decentralised Government-Owned:** Ports are state-owned but managed by regional or municipal authorities.

3. **Corporatised State-Owned:** Ports are state-owned but managed by government-backed corporations.

4. **Public-Private Partnerships:** Ports are publicly owned but leased to private operators.

5. **Wholly Private-Owned:** Ports are fully privatized and managed by private entities.

2.8.3 Extensive use of concessions

Many port authorities globally have embraced concession agreements, where port services are outsourced to private operators. This approach fosters competition, enhances service efficiency, and attracts significant private investment in port infrastructure (Notteboom et al., 2022). The most common model under this arrangement is Public Ownership and Private Operations (POPO), where public authorities retain port ownership while private firms handle operations. This structure requires a balanced risk-sharing agreement between public and private stakeholders (Notteboom et al., 2022).

2.9 Conclusion

The literature review highlights the critical role of South Africa's port governance and economic regulation in shaping the efficiency, competitiveness, and sustainability of the maritime industry. The Revenue Requirement (RR) model adopted by TNPA and PRSA has been widely debated, with concerns about its impact on port users and the broader economy.

Scholars such as Chasomeris, Gumede, and Meyiwa argue for a review of the current pricing methodology to enhance trade competitiveness and reduce excessive tariff burdens.

International best practices suggest that marginal cost pricing and the landlord port model, successfully implemented in major global ports, could provide a more effective regulatory framework. However, South Africa's ports continue to face challenges related to dual mandates, inefficient cross-subsidization, and poor service delivery, which hinder their potential economic contribution.

Despite the regulatory oversight of PRSA, gaps remain in balancing port infrastructure investments, service quality, and fair tariff structures. There is a need for a comprehensive reform strategy that aligns with global port governance standards while addressing South African ports' unique economic and policy constraints. Future research should explore alternative regulatory models that enhance efficiency, foster competition, and promote long-term sustainability in port operations.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction and background

This chapter explains the research methodology applied in this purposive qualitative study, outlining the procedures used to gather data that address key research questions concerning the potential restructuring of South Africa's port governance model and economic regulation. The previous chapter provided a literature review, examining existing research on port governance models, global and local port reforms, and the legal framework regulating ports.

According to Kothari (2004), research methodology is a systematic approach to solving research problems, describing it as the science of conducting research in an organized manner. Similarly, Schwardt (2007) defines research methodology as a framework guiding the inquiry process, including analyzing principles, assumptions, and procedures related to a specific research approach. McMillan and Schumacher (2010) further highlight that research methodology involves a structured and strategic process aimed at generating new knowledge on a given research problem.

This chapter is organized as follows: Section 3.2 discusses the research design, including the research philosophy, approach to theory development, methodological choice, and the qualitative research method, including the data collection method. Section 3.3 outlines the sampling technique, the sample synopsis, and the sample procedure. Section 3.4 details the data analysis on qualitative research and thematic analysis. Section 3.5 describes the validity, reliability, and trustworthiness of the data. Section 3.6 highlights the research limitations. Section 3.7 discusses the ethical considerations. Lastly, section 3.8 concludes the chapter.

3.2 Research design

Creswell and Creswell (2009) define research design as a strategic framework that shapes the research process, incorporating overarching assumptions and specific data collection and analysis methods. Similarly, Leedy and Ormrod (2015) describe research design as a systematic approach to addressing a research problem. It provides the study's overall

structure, guiding the researcher through data collection, organization, and analysis. O'Sullivan et al. (2016) further explain that research design is a comprehensive plan for a research project, outlining its purpose and the systematic steps taken to answer research questions.

Saunders, Lewis, and Thornhill (2016) describe research design as a structured blueprint for addressing research questions driven by clear objectives, data sources, and analytical methods. Maxwell (2012) stresses that design should be an adaptive and evolving process rather than a fixed structure in qualitative research. He notes that qualitative studies require a more flexible and open-ended framework than traditional research approaches. Saunders, Lewis, and Thornhill (2016) further highlight that research design comprises six key layers that shape the research process.

Table 3.1 Gives an overview of the six layers of the research

Layer 1	Research philosophy
Layer 2	Approach to theory development
Layer 3	Methodological choice
Layer 4	Strategies
Layer 5	Time prospects
Layer 6	Data collection

Source: Compiled from Saunders, Lewis and Thornhill, 2016, p. 164

3.2.1 Research philosophy

According to Saunders, Lewis, and Thornhill (2016), research philosophy focuses on developing frameworks for understanding. This approach is often described as realistic because it facilitates belief, participation, and access to values, leading to deeper insights. This study adopted an interpretive research philosophy to comprehensively understand port governance and economic regulation in South Africa.

3.2.2 Approach to theory development

Qualitative research begins with an inductive approach to theory development, utilizing realistic and emergent research designs to construct theoretical frameworks (Saunders, Lewis, and Thornhill, 2016). It also incorporates a deductive method to test existing theories through qualitative techniques. In practical terms, Saunders, Lewis, and Thornhill (2016, p. 168) explain that "qualitative research employs an abductive approach to philosophy development, where inductive interpretations are formed, and deductive ones are iteratively validated throughout the investigation."

3.2.3 Research method

Creswell (2014, p.12) identifies three primary research methodologies: qualitative, quantitative, and mixed methods. The choice of methodology depends on the research context and the specific questions the study aims to address (Marshall, 1996; Creswell, 2014). This study adopts a qualitative methodology to explore port governance and economic regulation in South Africa. Given its focus on evaluating the feasibility of restructuring the country's port governance and regulatory framework, a qualitative approach is most suitable for obtaining in-depth insights to fulfill the research objectives. Creswell (2014) notes that qualitative data collection is non-standardized, allowing researchers to engage with participants through face-to-face, telephone, or focus group interviews. These interactions are often semi-structured, designed to capture participants' interpretations and perspectives.

3.2.4 Qualitative research method

This study employs a qualitative research approach to examine port governance and economic regulation in South Africa. Given its focus on evaluating the feasibility of restructuring the country's port governance and regulatory framework, a qualitative approach is ideal for obtaining in-depth insights to meet the research objectives. Golafshani (2003) states that qualitative research generates findings that cannot be achieved through statistical or quantification techniques but through analysis of natural settings. Similarly, O'Reilly and Parker (2013) emphasize that qualitative research prioritizes rich, detailed information. Furthermore, Golafshani (2003) highlights that researchers in qualitative studies actively engage in the research process, while Priebe and Strang (2016) underscore the importance of participants' perspectives in qualitative investigations.

Creswell (2014) describes qualitative research as an exploratory approach often used to understand underlying reasons behind certain phenomena. This method provides deep insights into complex issues, allowing for a flexible, open-ended investigation. Unlike quantitative research, qualitative studies do not involve controlled variables, enabling participants to freely express their views. The data collected is not confined to predefined parameters, as respondents are encouraged to answer open-ended questions, fostering unrestricted expression. Additionally, qualitative research follows an inductive approach, which is inherently narrative and interpretive.

3.2.5 Time prospect

Given time constraints, most academic studies adopt a cross-sectional time horizon rather than a longitudinal one. Cross-sectional research typically employs survey strategies to collect data at a single point in time (Saunders, Lewis, and Thornhill, 2016). While longitudinal studies are valuable for analyzing change and development over an extended period, this study utilizes a cross-sectional approach to capture relevant insights within a limited timeframe.

3.2.6 Data collection

Creswell (2014) highlights that data collection protocols involve defining study boundaries, sourcing information through unstructured or semi-structured interviews, observations, and visuals, and determining appropriate recording methods. In qualitative research, interviews and observations are the primary data collection techniques, with interviews utilizing open-ended questions to allow for individual variations (Hoepfl, 1997). Saunders, Lewis, and Thornhill (2016, p. 390) categorize qualitative interviews into informal conversational, semi-structured, and standardized open-ended interviews.

For this study, semi-structured interviews were conducted online, utilizing technology to facilitate the data collection process. Each interview lasted between 45 minutes to an hour. Additionally, a snowball sampling technique was applied, allowing participants to refer other relevant individuals who were not initially part of the sample (Omona, 2013).

An interview guide was developed with key questions to structure the discussions while allowing flexibility for further exploration within the predefined topics (Hoepfl, 1997). The use of an interview guide ensures efficient use of limited interview time, maintains focus, and

enhances the consistency and completeness of the data collection process across multiple participants (Hoepfl, 1997).

The interviewees were asked the following questions based on the objectives of this study:

1) What are your views on the current governance structure at Transnet National Ports Authority (TNPA)?
2) In your opinion, does the current structure adequately address the needs of the port users?
3) What is your view on the port prices and the method followed to determine tariffs?
4) What governance and economic regulation strategic initiatives would you recommend to enhance the role and functioning of the National Ports Authority?
5) What is your perspective on the role of the private sector and the public-private partnerships in South Africa's ports?
6) What are your views on the regionalization of ports?
7) Do you have any other thoughts about port governance and economic regulation that you would like to share?

Pre-testing of the interview guide

The qualitative design of this study allowed for potential modifications to the interview guide to exclude ineffective elements that did not align with the research objectives. To assess its clarity and relevance, five participants were interviewed using the initial guide. All participants understood the research objectives, and the guide effectively facilitated the intended discussions. As a result, no modifications were made to the interview guide.

Data recording

The semi-structured interviews were audio-recorded, with written notes taken as a backup. Four out of five participants consented to both the interview and audio recording, while one participant chose to remain anonymous and declined to be recorded. The informed consent form can be found in Appendix C.

Other data sources

Additional data sources were examined, including reports from the Ports Regulator of South Africa (PRSA) on tariff applications submitted by the Ports Authority and existing literature on port governance and pricing.

3.3 Sampling technique

Saunders, Lewis, and Thornhill (2016) categorize sampling techniques into two primary types: probability and non-probability sampling. Probability sampling is used when the target population is known, allowing for a statistically measurable probability of answering research questions and achieving study objectives. In contrast, non-probability sampling is applied when the target population is unknown, making statistical generalization more challenging (Saunders, Lewis, and Thornhill, 2016). Within non-probability sampling, various methods exist, including quota, purposive, volunteer, and haphazard sampling (Saunders, Lewis, and Thornhill, 2016).

Purposive sampling was chosen for this study. Hoepfl (1997) highlights that purposeful sampling is the dominant strategy in qualitative research, allowing researchers to identify data-rich environments that can be studied in depth. Similarly, Creswell (2014, p. 189) states that "the idea behind qualitative research is to purposefully select participants that will best help the researcher understand the problem and the research questions."

To comprehensively explore stakeholder perspectives, participants were categorized into two groups: senior industry representatives and the broader stakeholder groups. These individuals were interviewed to provide insights into the potential impact of port governance and economic regulation reforms. Creswell and Poth (2016) emphasize that qualitative researchers should continue interviewing participants until data saturation is reached, when additional data no longer provide new insights.

3.3.1 Study participants

This study employed purposive sampling, where participants were selected based on the following:

- Alignment with the study objectives and research questions
- Practical knowledge of port governance and economic regulation
- Professional experience in the maritime industry

Saunders, Lewis, and Thornhill (2016, p. 301) state that "with purposive sampling, you need to use your judgment to select cases that will best enable you to answer research questions and meet objectives." Participants were chosen based on their industry experience and roles in port governance, operational management, and economic regulation in South Africa. Considering the study's research objectives and the qualitative research approach, a sample of six (6) industry representatives was identified, and only five (5) contributed to the study due to time constraints and resource limitations. The study participants included:

A university professor specializing in maritime studies, including port governance and economics. A representative from the South African Maritime Safety Authority (SAMSA), responsible for ensuring maritime safety, promoting maritime awareness, and enforcing marine regulations (SAMSA, 2015). A representative from the South African Association of Ship Agents (SAASOA), an organization focused on promoting and protecting the interests of ship owners and operators. This selection ensured diverse and knowledgeable perspectives on port governance and economic regulation in South Africa.

Table 3.2 below gives a synopsis of the study participants.

Institution	**Designation**	**Date interviewed**	**Duration**
Anonymous	Anonymous	23 October 2024	1:10
SAASOA	Director	29 October 2024	57:20
SAMSA	Director	1 November 2024	1:10
Independent Consultant	Director	5 November 2024	1:04
University Professor	Retired	9 December 2024	1:15

3.4 Data analysis

Malterud (2001) explains that qualitative research involves systematically collecting, organizing, and interpreting written material from discussions or observations. Creswell

(2014, p. 195) describes data analysis as the process of making sense of text and images, which involves breaking down, segmenting, and reassembling data to derive meaning. Graneheim and Lundman (2004) highlight two key aspects of qualitative data analysis:

- Manifest content analysis, which is descriptive and focuses on immediately recognizable elements within the data.
- Latent content analysis involves interpreting underlying meanings that emerge through more profound analysis.

Saunders, Lewis, and Thornhill (2016, p. 569) emphasize that qualitative data analysis typically follows either a deductive or inductive approach. Burnard et al. (2008) note that both approaches are integral to qualitative data analysis:

- Deductive analysis applies existing theories to interpret data.
- Inductive analysis allows themes to emerge from the data organically.

3.4.1 Thematic analysis

Braun and Clarke (2006) define thematic analysis as a structured method for identifying and interpreting themes within qualitative data. This approach allows researchers to uncover subjective meanings within a cultural or social context. Kothari (2004, p. 110) describes content analysis as a systematic technique for deriving meaning from verbal or written materials. Thematic analysis is a widely used qualitative research method due to its flexibility and ability to reveal patterns across data sets (Braun & Clarke, 2006). According to Creswell (2014) and Maguire and Delahunt (2017), thematic analysis typically follows these steps:

Table 3.3 Sequence of data analysis in qualitative research

Step 1	Data familiarization – reviewing transcripts, notes, and other material.
Step 2	Generating initial codes – identifying key patterns or recurring concepts.
Step 3	Searching for themes – grouping codes into broader themes.
Step 4	Reviewing themes – refining and validating emerging themes.

Step 5	Defining and naming themes – clearly articulating the key themes.
Step 6	Producing the report – presenting the findings in a coherent and meaningful way.

Source: Author compiled from Creswell, 2014; Maguire and Delahunt, 2017

The primary objectives of content analysis in qualitative research include recognizing recurring patterns, extending theoretical insights, identifying communication gaps, and synthesizing information (QuestionPro, 2023). Data was transcribed and analyzed using Turboscribe and ChatGPT, facilitating the identification of emerging themes related to port governance and economic regulation in South Africa.

3.5 Validity, reliability, and trustworthiness

In qualitative research, validity refers to the appropriateness of research methods, while reliability concerns consistency in data collection and analysis (Creswell, 2014). Trustworthiness encompasses credibility, dependability, confirmability, transferability, and authenticity (Graneheim, Lindgren, and Lundman, 2017).

To enhance trustworthiness, interviewees' direct quotations were included in data analysis to reflect participant perspectives. Purposive sampling ensured credibility, as participants were selected based on expertise and practical knowledge.

3.6 Research limitations

Due to participants' geographical locations and busy schedules, interviews were conducted online. Participants received interview questions in advance to allow for preparation. Ethical clearance was obtained, and consent forms were shared before interviews. For the study methodology, participants were targeted based on a purposive sampling technique to contribute meaningfully to the study. Due to resource restrictions and time constraints in obtaining the necessary permission (gatekeepers) and study limitations, none of the study participants are employees at TNPA. The study participants are industry representatives and a former University Professor.

3.7 Ethical considerations

Ethical considerations are essential to maintaining integrity in research (Maxwell, 2012). Privacy was prioritized, and participant confidentiality was maintained. Ethical research practices focus on maximizing benefits while minimizing risks and harm to participants (Saunders et al., 2016). Privacy played a key role in data collection, and participant consent was obtained before engagement in the study (Du Plooy, Davis, and Rose-Marie, 2014). The researcher's personal opinions were not expressed during the interviews, as the study prioritized participants' perspectives on port governance and economic regulation in South Africa.

All ethical protocols were followed, and the research proposal was submitted for review to the Graduate School of Business and Leadership at UKZN and the Human and Social Sciences Research Ethics Committee at UKZN. Ethical clearance was granted (Appendix 1).

3.8 Conclusion

This chapter outlined the research methodology used to explore port governance and economic regulation in South Africa. A qualitative, purposive sampling approach was employed, using semi-structured interviews with key industry representatives. Thematic analysis was used to analyze data, ensuring trustworthiness through credibility and authenticity. Ethical considerations and research limitations were discussed. The next chapter presents the study's findings.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the findings of the study based on data collected from interviews with participants. The primary objective of the research was to examine the potential restructuring of port governance and economic regulation in South Africa. Thematic analysis was employed to analyze and interpret the data, involving a systematic transcription, analysis, coding, and theme identification process. After transcription, the data was processed using a thematic analysis tool, where key themes were extracted, reviewed, defined, and named accordingly.

The study objectives—focused on restructuring port governance and refining economic regulation—guided the thematic analysis to ensure alignment with the research aims. The chapter is structured as follows: Section 4.2 presents themes related to the port governance structure. Section 4.3 discusses governance challenges. Section 4.4 explores economic regulation, specifically in port pricing and tariff determination. Section 4.5 examines the potential role of privatization and private sector involvement in enhancing operational efficiency. Section 4.6 outlines key initiatives that could improve port governance.

Participants were assigned coded identifiers based on the interview sequence to maintain confidentiality. These participant codes will be used for reference throughout the chapter.

1) SASSOA interviewee (1-5)
2) Independent Consultant (2-5)
3) SAMSA interviewee (3-5)
4) Independent Consultant (4-5)
5) Independent Consultant (5-5)

4.2 Key theme on port governance structure at South African ports

The study participants were requested to share their views on the current port governance structure and whether it adequately addressed the needs of the port users. They were also

allowed to share their views on the current pricing model employed to develop port user tariffs and their opinions on the possibility of decentralization of TNPA governance structures to improve the overall efficiency and effectiveness as established in terms of the provisions of the National Ports Act (RSA, 2005). As per the table below, the study findings were characterized by the following key codes identified during the data analysis. These themes are discussed further in detail in the next section.

Table 4.1: Theme on the port governance structure

Focus of themes	**Number of participants identifying with the themes**
1. Port Governance Structure • Structural issues • Oversight and accountability • Political interference • Stakeholder engagement	5

4.2.1 Port governance challenges in South Africa

The following summary points were identified as the contributing factors towards port governance structural challenges:

- **Structural issues**

Persistent governance issues stem from TNPA and TPT being part of the same organizational structure, leading to inefficiencies and monopolistic tendencies, causing a conflict of interest.

- **Oversight and accountability**

Inconsistent Oversight mechanisms prevent effective governance and allow inefficiencies to persist, with TNPA being criticized for failing to meet its landlord function effectively.

- **Political interference**

Ministerial appointments and decision-making have been driven by political motives rather than merit, further exacerbating inefficiencies.

- **Stakeholder engagement**

Stakeholder consultation is crucial for successful reforms, especially with labour unions and cargo owners.

The study participants highlighted that the National Ports Act 12 of 2005 establishes the National Ports Authority and the Ports Regulator, which oversee the governance of all ports in the country. However, the Ports Regulator authority is limited to only one division, the Trasnet Port Terminals (TPT) with governance oversight. The regulation and supervision of ports remained under the national government's jurisdiction.

As the primary shareholder, the state is crucial in driving regional economic growth policies, with ports essential to achieving these objectives. With restructuring state-owned entities (SOEs) following the 2024 national elections—such as TNPA transitioning from the now-defunct Department of Public Enterprises (DPE) to the Department of Transport—study participants anticipated reduced conflicts of interest among Transnet divisions and various government departments. This transition is expected to enhance policy development, economic direction, and oversight of port operations to align with national economic goals.
Independent Consultant interviewee 02 (2024, online communication, 23 October) stated the following:

"Port Governance first is a national government competence enshrined in the constitution. The government of our country is mandated to drive the policy and the direction our ports take to contribute towards our economic development as a nation. Moreover, the critical role of the ports is to ensure that policy development direction is achieved. However, considering the current transition from the election that the government is taking by moving SOEs from the now-defunct Department of Public Enterprises into the Transport Department, I fully support that move by the government, and I will tell you why. We will no longer have two centers of power, and no more conflicts of interest will exist. Moreover, you will only have

one minister responsible for driving our SOEs' policy and direction, who will be in charge of the Transport Department. Moreover, they will be responsible for the oversight if you know what I mean. Also, we will now have a minister who will be a shareholder for all our SOEs, especially Transnet. Only one minister will now be responsible for driving the policy and the direction our SOEs, TNPA, if you call it, will be taking. The minister will be responsible for the development and the growth of our ports, ensuring that investment is directed towards the infrastructure development of our ports to improve the current challenges, especially in the ports of Cape Town and Durban". "Also, you will have no more conflicts of interest between the different divisions at Transnet, especially with the port terminals, which is also a national competence, if I can put it that way. Remember, Transnet is a developmental arm of our country and our government, and it is responsible for our country's economic growth. So, I cannot remember when they announced that TNPA would no longer be a division but a subsidiary. That was a good move, but I am unsure whether it is enough. I am still concerned that there might be some conflict of interest that specifically relates to how TNPA's structure influences TPP".

4.3 Key theme on operational challenges

As the landlord, the state is responsible for port development and infrastructure investment to ensure optimum performance and output. Responses from the study participants revealed that some of their mandate is from the SAMSA Act of 1998, whose responsibilities include promoting the maritime sector's interest. The study showed that some of the contributing factors to the dire state of our ports are associated with their inefficient operational output because of the dilapidated state of the infrastructure and equipment at some of the ports and the lack of investment in infrastructure.

Table 4.2: Theme on governance operational challenges

Focus of themes	**Number of participants identifying with the themes**
1. Infrastructure and Modernization • Aging infrastructure	5

• Delayed projects • Weather resilience 2. Operational Inefficiencies • Performance Issues • Staff Productivity • High port costs	

4.3.1 Infrastructure and modernization

The following factors were considered to be contributing to the operational inefficiencies at our ports:

- **Aging infrastructure**

Essential equipment, such as cranes, has not been upgraded for decades, causing operational bottlenecks. Decades-old equipment and marine infrastructure hampers efficiency and contribute to long vessel turnaround times.

- **Delayed projects**

Large-scale projects, such as Durban's quay expansion and dig-out port, have been delayed for years due to mismanagement and lack of funding. Grand plans like Durban's master redevelopment were criticized as unrealistic and disruptive to existing functions. A lack of long-term planning and capital allocation for port infrastructure hampers competitiveness.

- **Weather resilience**:

Ports like Cape Town are frequently disrupted by wind, emphasizing the need for weather-resilient equipment.

4.3.2 Operational inefficiencies

- **Performance issues**

Ports like Durban and Cape Town face unique challenges, such as delays, under-maintained facilities, and environmental factors (e.g., wind in Cape Town). Efficiency, not just governance, is a primary concern, with the NPA failing to meet user needs effectively.

- **Staff productivity**

Low staff morale and insufficient training contribute to inefficiencies. Staff retention is a significant issue, with many skilled workers leaving for better opportunities.

- **High port costs**

South African ports remain expensive due to insufficient subsidies and inefficient practices by port authorities.

The study participants revealed several contributing factors to the poor state of the ports in South Africa. Lack of investment and implementation of master plans are some of the factors that have been identified. Responses from Participant 01 (2024, online communication, 29 October) stated,

"Today, I will be talking about the infrastructure of the Transat National Ports Authority. As you know, Transnet ows billions of rands and has to pay one billion a month to service this loan. So, money is not readily available, and it was made known to us by Hon. Minister Gricy in her visit to Denmark. With equipment not being replaced for over 10 years, the money generated through the ports was not used for its intended purpose, hence the dramatic slump in port working and productivity we are currently facing.

Most equipment is old, and locating the necessary spare parts is tough despite using the OEMs. Our gantry cranes are 28 to 29 years of age, and parts you cannot secure off the shelf must be manufactured from scratch. Moreover, that means obtaining the necessary technical drawings, the materials, and everything else, and it would take weeks before we get the

components. Okay. As such, vessels are now waiting days to berth at the anchorage. Moreover, once alongside, they spend additional days in port because of the equipment breakouts we experience daily. Furthermore, in our morning meeting just this morning, out of 15 cranes, only nine were working.

So, we will not get out of this quickly unless the government comes to the party and some money filters down. You know, we spoke about it a long time ago. It goes back to 2016 when it was pointed out that things were starting to slip and we were falling behind. It boils down to funding rather than anything else. Well, funding is first and foremost. However, we also know these machines and the equipment must be manufactured and shipped from wherever they are manufactured.

At one stage, the ports of South Africa, in particular Durban, were known as the gem of the African continent. However, no longer, because ports all around us are gearing up, they are modernizing, and we do not have the funds to keep pace.

4.4 Key theme on the port pricing and economic regulation

The study participants were requested to share their views and insights on the pricing methodology when determining port dues. The Ports Regulator of South Africa (PRSA) is mandated in terms of the National Ports Act 12 of 2005 for the economic regulation of ports in the country, which covers all aspects of regulating the ports industry, including tariffs, port access, economic transformation, efficiency, and planning.

The interviewees were asked to share their insights on the tariff determination process followed by PRSA and the pricing methodology adopted when determining tariffs. The responses revealed the following themes. The data was analyzed, and the table below shows the central theme with its associated sub-themes that were recorded frequently.

Table 4.3: Theme on port pricing and economic regulation

Focus of themes	**Number of participants identifying with the theme**
1. Economic and competitive insights	5

• Revenue-driven approach critique • Dynamic pricing • Cross-subsidization • Inadequate investment • Tariff structure • Tariff strategy • Cost transparency	

4.4.1 Economic and competitive insights

The factors below were identified as contributing to some of the critique and complaints towards the tariff methodology determination and the overall economic regulation:

- **Revenue-driven approach critique**

The "Required Revenue" (RR) methodology for tariff setting is criticised for being non-incentivizing and mechanically applied without fostering efficiency.

- **Dynamic pricing**

The study participants stress pricing flexibility's importance in attracting cargo traffic and increasing trade competitiveness.

- **Cross-subsidization**

Revenue generated from profitable port divisions subsidises loss-making divisions, creating financial strain, imbalances, and inefficiencies.

- **Inadequate investment**

Lack of long-term planning and infrastructure investment has limited competitiveness, severely affecting operational output. Limited funding has delayed modernisation and deepening projects.

- **Tariff structure**

Calls for more cost-related tariffs to attract business while maintaining financial sustainability.

- **Tariff strategy**

Improvements have been made to rebalance charges, with shipping lines paying more relative to cargo owners, which aligns with global practices. Although tariffs have become more transparent, their alignment with international standards remains inconsistent.

- **Cost transparency**

Concerns persist about the calculation of asset values and tariff methodologies.

Interviewees indicated some improvement in the tariff determination process, which is now considered fair and transparent. However, there were concerns within the industry as some port users felt they were being charged higher rates for port use than others. There were also concerns about the profit-making divisions within TNPA, such as cross-subsidizing loss-making divisions, hence the delay in the corporatization of NPA.

Participants were asked to share their views on economic regulation and port pricing. Responses from Participants 02 (2024, online communication, 29 October) revealed the transparency in the tariff process determination and the concerns with possible cross-subsidization stated,

"Well, before responding to that question, you must keep in mind the pricing methodology versus the tariff strategy. Moreover, you must look at the current asset valuation method when determining our port tariffs. I think port users and people must be aware of these methods that are considered when the tariffs are being defined and sent to the port regulator for consideration, public participation, and the entire process before these tariffs are approved. Much work is being put in place, and unlike before, tariffs are no longer just being decided by one person and being dumped on everyone without being allowed to comment on them. So, an open process is being followed when these tariffs are being determined, unlike in the past.

So yeah, one must remember the process and the frame through which these tariffs are being determined. To answer your question, the current tariff strategy is a multi-year, 10-year structure, if I am not mistaken, if I can put it that way. That was considered the imbalances of the previous tariffs or prices imposed on port users in isolation by the different divisions within Transnet.

Moreover, it is essential not to look at the port regulators; they have yearly studies on tariffs and pricing. Your big issue is almost not, in my opinion, not necessarily TNPA; it is more TPP". Moreover, their critical role is the development of port tariffs, which port users must pay to utilize our ports. Part of that process also lies, or that responsibility rather, with TNPA. So you will have one person responsible for developing all those prices. Also, there seems to be some confusion and conflict between the different divisions with people making, how can I put it, rumors and suspicions that the transport port terminals, which are making enormous profits for Transnet, are subsidizing the other divisions within Transnet that are making huge, huge, immense losses".

4.5 Key themes on the strategic interventions - Regionalisation debate

Regionalization is a market-driven process that refers to neighbouring ports in the same region fostering collaboration to enhance competitiveness and efficiency (Notteboom et al., 2022). Ports still rely on shareholder investment for infrastructure development (Notteboom et al., 2022). The study participants were asked to share their insights on the possibility of the regionalization concept, and the study revealed the following theme. The data was analyzed, and the table below shows the central theme with its associated sub-themes that were recorded frequently.

Table 4.4: Theme on strategic interventions – Regionalisation debate

Focus of themes	**Number of participants identifying with the theme**
1. Regionalisation debate • Scepticism • Mixed Opinions • Regional Competition	5

4.5.1 Regionalisation debate

One of the research objectives was to test the possibility of restructuring the current port governance structure through regionalisation due to the emerging global supply chains that have put infrastructure pressure on logistical organizations. This emergence has necessitated new approaches to port hierarchy, improving the current port efficiency and responding to port user needs. Changes to operational approaches and governance statutes require proper structures and capabilities to be in place to respond to these changes.

The study, however, revealed scepticism through mixed opinions regarding the regionalization debate, arguing that investment in equipment and infrastructure is more critical. However, the study participants felt that global benchmarking against ports with similar constraints should be conducted if South Africa competed regionally.

- **Scepticism**

Many interviewees oppose the regionalization of ports, citing a lack of provincial capability and the risk of further inefficiency.

- **Mixed opinions**

While regionalization may bring accountability closer to operations, provincial governments are seen as ill-equipped to handle the complexities of port management.

- **Regional competition**

Ports like Maputo, Dar es Salaam, and Mundra outperform South African ports due to better governance, private sector involvement, and infrastructure investment.

Responses from Participant 02 on the 29th of October 2024 and Participant 05 on the 9th of December 2024 revealed scepticism regarding regionalization (2024, online communication, 29 October), which stated,

"You would recall when we started this conversation that I indicated that ports belong to the national government. It is in the constitution. It is a national competence. Our constitution would require amending to regionalize ports or group them into regions. I am unsure how plausible that would be and how long it would take. I am entirely against the regionalization of our ports as it is a constitutional mandate for Transnet. It is a national authority responsible for the policy direction and the development of our economy. I do not see where the competence and expertise will come from at the regional or provincial level in managing or being operational in our ports. It has never happened before, and I do not think it is possible. While taking aside the national competence of our ports and trying to see if or rather to answer your question, regionalizing our port will require massive costs.

What pricing methodology will be followed? Will ports now determine their prices in isolation, or will they be responsible? Or will they be submitting those prices to the port regulator for consideration? Also, developing new ports will dilute the existing ports, which will be a disaster for the economic development of a country. The port charges that will be implemented will be astronomical for port users. Those already complaining of high port use will be up in arms. Remember, whatever our port users pay will be passed on directly to our consumers. What will that do to our GDP? What impact will it have on our GDP as a country? What is going to happen to our inflation rate? So, setting up new ports comes with extremely high costs, and where will the land to develop those new ports come from."

4.6 Key theme on strategic interventions – Public-private partnerships (PPPs)

The study intended to source and reveal additional strategic initiatives to improve operational efficiency in our ports, and the study participants indicated that ports should not work in isolation in managing and improving the situation. Interviewees suggested a need to partner with the private sector and the involvement of local authorities such as municipalities. The study participants were requested to outline measures that could positively impact and positively contribute to and influence the role of the private sector in port governance and operational efficiency. Moreover, their responses were analyzed, and Table 4.5 indicates the key theme that was frequently recorded:

Table 4.5: Theme on strategic interventions – Public-private partnership (PPPs)

Focus of themes	Number of participants identifying with the theme
1. Private Public Partnerships • Opportunities for collaboration • Success stories • Privatization 2. Global Competitiveness • Global benchmarking	5

4.6.1 Public-private partnerships - PPPs

The study participants were asked to share their ideas on strategic initiatives to improve operational efficiency at our ports. Suggestions included opportunities for collaboration with the private sector and the private sector's role in turning the current situation around. However, shared ownership of the ports with the private sector is viewed skeptically, considering the country's political past and the current economic climate realities.

However, private-public partnerships (PPPs) are seen as a vital solution for addressing funding and operational challenges, and suggestions included incentivizing private investment in port infrastructure through concessions. Below are sub-themes that were frequently recorded under the central theme:

- **Opportunities for collaboration**

PPPs are considered viable strategies for infrastructure upgrades and operational efficiency, but bureaucratic challenges need resolution.

- **Success stories**

Case studies, such as the Port of Maputo, highlight the benefits of PPPs in improving efficiency and funding infrastructure projects.

- **Privatisation**

Private sector involvement, mainly through concession agreements, is viewed as a potential solution to inefficiencies, but it requires robust regulation to prevent monopolistic practices. Most interviewees agree that the landlord role of TNPA should remain public, while operations can be privatised under-regulated concessions.

Responses from Participant 05 on the 9th of December 2024, a University Professor, revealed that there are opportunities for exploration when it comes to collaboration with the private sector (2024, online communication, 29 October), stated,

"I think what would be good is to explore better models of working with the private sector. That does not necessarily mean just a concession or something like that, but it is these different things that we can work on within the private sector as well. For instance, you get some of the private sector shipping lines to finance some of the cranes and then have them have a discounted rate on their port fees for, let us say, 20 years. Things like that where from what I have heard, some of the private sector operators and shipping lines are very open to suggestions like that because sometimes you can bypass the port, but ultimately, if the port is not working, it is hurting their profitability as well, and it is hurting Transnet profitability.

So, there is an apparent mutual gain to be had with arrangements like that. So, I am not talking about this program specifically. However, there are other programs in which Transnet could work with the private sector in a more collaborative way that will not hurt Transnet's profit and would make them more sustainable. Because in the past, the notion that I picked up was a fear of commercial interest being hurt. However, the thing is, if a vessel bypasses the port, you are anyway getting hurt. So that is the biggest thing, and it is a comprehensive proposal. However, that relationship with the private sector needs to be improved".

4.6.2 Global competitiveness

The study participants indicated global benchmarking as an additional initiative to improve our ports' current state and operational efficiency, as they believe ports with similar constraints are best to benchmark against. The general feeling is that challenges in maintaining global competitiveness are due to inefficiencies and high costs.

- **Global benchmarking**

The study participants felt South Africa lags behind global first world ports like Rotterdam and Singapore due to a lack of international competitiveness. However, the study participants suggest benchmarking against ports with similar constraints, such as Santos in Brazil and Colombo in Sri Lanka.

Responses from Participant 03 an independent consultant on the 1st of November 2024 revealed that the consensus is that high port costs militate against capturing extra business, thus reducing port competitiveness (2024, online communication, 09 December), which stated,

"*I think our ports are tragically deficient. They are not functioning at levels that would be acceptable in other contexts, not just in first-world contexts like Rotterdam or Barcelona. I spent some time in Barcelona a couple of years ago and looked at them; they have two container terminals there, so there is some intra-port competition between them. It is not a vast, colossal port. It has got a little bit, maybe it handles, sorry, perhaps it handles about three and a half million TEUs a year or something like that, maybe more now, not much more, so it is more than Durban, but not more than about maybe 15 or 20 percent more than Durban. They've got two terminals, the one is, I think, is absolutely brilliant, the other one, that's the Hutchison based terminal, the other one, the AP Moller terminal, is kind of okay, but it's much older, it's stuck in a bit like we are, stuck in a relatively thin, saturated area of the port, where it's pretty tricky to get cargo in and out, and the other one isn't, it's away from the rest, but I'm not, I mean, I'm not trying to say we have to line ourselves up against a kind of a Rotterdam, or a Singapore, or a Barcelona, or a Shanghai, or whatever, but if you lined us up against a Santos in Brazil, or even maybe Colombo, or whatever, certainly against Tangier Med, although that's an entirely different kind of port, and I don't know that we should be*

comparing ourselves with that, although I think we were in some of the, yeah, in some of the, I've been to a couple of presentations where I was, I must honestly say, stopped in my tracks by the opening comment that was made by the presenter of saying, well, you know, we were looking at the performance of Durban against Tangier Med in Morocco, oh my goodness, you know, we're lagging behind them, we can't have this, you know, Durban capture its hub role. Now, I thought that was just imprudent as a comment.

Competing with Tangier Med, to comment on that, you have to look at ship sailing data and say, well, what vessels are calling at the respective ports, where are they going? If they are going across the Atlantic and they want a hub port so they do not have to go into the Mediterranean, and of course, they can't at the moment because the Suez Canal is effectively closed, and that has been very beneficial to places like Tangier Med or Paris or whatever. However, those are not the kinds of ships that will be moving through the Southern Hemisphere. So, that was a rash comment to make as an opening point. We are not competing with those ports and should not necessarily compare ourselves with them. However, we could compare ourselves with places like Santos in Brazil or maybe Colombo, and I think we are doing poorly".

4.7 Thematic code summary

Below, we present the thematic code summary deduced from the findings of the data collected and analyzed from the study participants. This section is followed by the thematic map for port governance and opportunities in South Africa based on the summary of the study findings in a figure format drawn from the findings using a thematic code analysis on the data analysis tool. This summary presents the main themes with related sub-themes for amplification purposes.

4.7.1 Governance

- There is a need to separate TNPA's landlord and regulatory functions.
- Stakeholder engagement, including labour unions and cargo owners, is critical for reforms.

4.7.2 Privatisation

- Private sector involvement should focus on operations through regulated concessions.
- Full privatization of landlord roles is discouraged, emphasizing state ownership of critical infrastructure.

4.7.3 Infrastructure

- Outdated equipment and long-delayed projects hamper port efficiency.
- Weather resilience and phased modernization plans are essential.

4.7.4 Funding and Tariffs

- Address cross-subsidization and adopt transparent, cost-related tariff models.
- Leverage PPPs for infrastructure funding and operational improvements.

4.7.5 Competitiveness

- Benchmark against regional and global peers to improve service delivery.
- Focus on attracting traffic lost to competitors like Maputo.

4.7.6 Operational Issues

- Incentivize staff performance and address low morale through training and retention strategies.
- Improve equipment availability and reduce vessel turnaround times.

4.7.7 Public-Private Partnerships (PPPs)

- Highlighted as a key driver for funding and operational expertise.
- Requires strong regulatory oversight to ensure sustainability.

4.7.8 Benchmarking

- Adopt practices from ports with similar challenges, like Santos, Colombo, and Mundra.

4.8 Thematic map of port governance and opportunities in South Africa

The thematic map below was generated using the thematic codes generated by the data analysis tool. It reflects the relationship between the main themes of port governance and the opportunities that exist in the port industry in South Africa. This thematic map helps identify the trends in modern port governance models adopted by ports globally and the opportunities in South Africa.

It illustrates the port governance structure and the opportunities and initiatives that can be adopted to enhance operational efficiency and improve overall governance. The map also reflects the inter-relationship among these opportunities through dotted lines and how they are interrelated with the infrastructure linked with the public sector partnership and the funding through investments that come with the participation of the private sector. The adopted port pricing model that determines the port tariffs directly relates to the ports' competitiveness, improving overall efficiency and turnaround times.

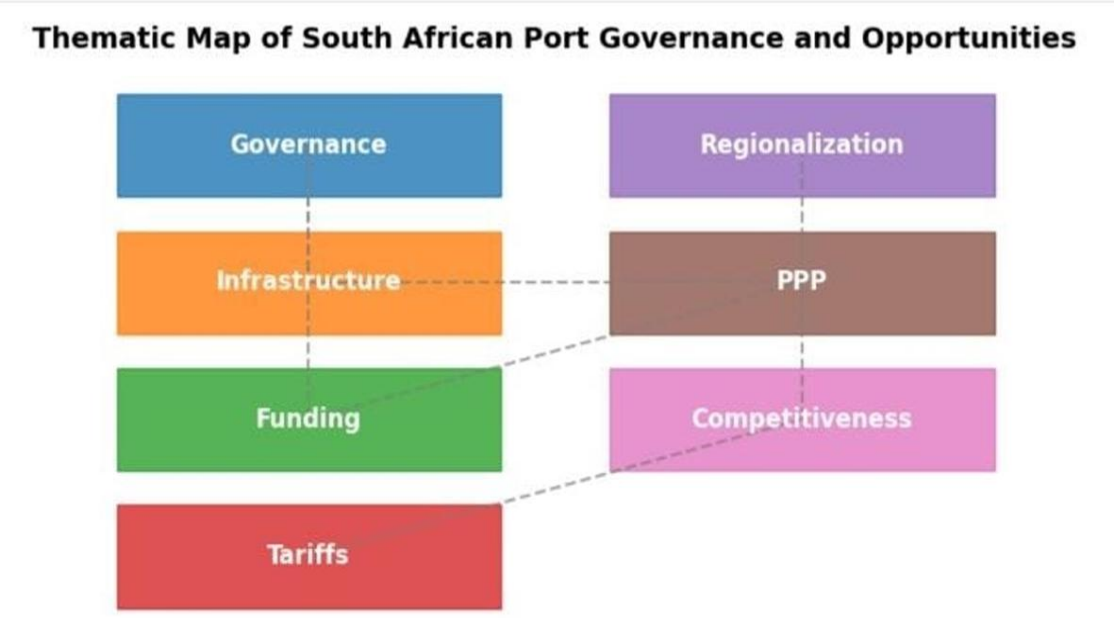

Figure 4.1 Thematic Map of Port Governance and Opportunities in South Africa

Source: Generated using ChatGPT Data Analysis

4.9 Conclusion

This chapter presented the key themes and codes that emerged from analyzing the data collected from the study participants during the interview process. Governance structural challenges with the centralisation of decision-making seem to be severely affecting service delivery and investment in port development. The study findings discussion and the thematic map of port governance and opportunities in South Africa are discussed in the subsequent chapter.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the study's findings relevant to port governance, its contributing factors in South Africa, and findings and recommendations relative to existing literature. The study aimed to explore the restructuring of port governance and economic regulation in South Africa. The research was conducted using secondary data and interviewing industry representatives within the South African ports industry. The data collected was analyzed, and the findings were presented in the previous chapter to provide input on the port operation performance in South Africa.

The research objectives were to explore the current port governance structure in South Africa, the stakeholder's perspective on port governance challenges affecting TNPA, the stakeholder's perspectives on the port pricing and economic regulation of TNPA, and to identify vital strategic interventions required to improve port governance and economic regulation at TNPA. The study employed a purposive qualitative research method and conducted five online semi-structured interviews. The data collected was recorded and analysed using an online tool, and this chapter connects and discusses the study's main objectives to the findings, offering, conclusions, recommendations, and possible areas for future research. It reinforces the study objectives with the findings and provides actionable recommendations.

The structure of this chapter is as follows: Section 5.2 presents the study findings relative to the port governance structure. Section 5.3 presents the conclusions on the study objectives and findings. Section 5.4 presents the recommendations drawn from the study. Section 5.5 presents the areas for future research, and section 5.6 concludes.

5.2 Findings on the research objectives

The study aimed to identify vital strategic interventions that can be implemented at TNPA amid current governance and operational challenges. Port governance restructuring is a possible solution to the current state of the state-owned entity through a port governance reform. The research also aimed to establish the impact decentralization will have on the entity's overall performance with the involvement of the private sector through public-private partnerships while soliciting opinions from industry representatives.

5.2.1 Findings on the port governance structure in South Africa

South African ports have unique port management models that crisscross public and semipublic port management models. The National Ports Act (RSA, 2005) provides a legal, regulatory framework within which TNPA controls marine services by issuing licenses to port users and entering into service-level agreements with private service providers (Meyiwa & Chasomeris, 2020). The mandate for the TNPA is to act as the landlord and own, manage, control, and administer all nine commercial ports along South Africa's coastline (RSA, 2005).

Port governance can be defined as the adoption and implementation of rules governing port conduct, exercising authority and institutional resources to develop and manage port activities for the benefit of society and the economy (Notteboom et al., 2022). Ports facilitate global trade and provide a gateway for maritime transport by connecting global supply chains (UNCTAD, 2021). Globally, governments impose port governance structures with government policy objectives in mind, and these objectives vary across the world as ports are focused on economic development and trading interests (Notteboom et al., 2022).

Port governance tasks refer to the various activities and responsibilities involved in managing and overseeing port operations, ensuring their efficiency, safety, and sustainability. In South Africa, it relates to the oversight role played by the NPA, the Ports Regulator, and various other stakeholders, including the shareholders, the terminal operators, and the private sector (Meyiwa and Chasomeris, 2016). This oversight role includes managing and regulating port activities within the industry framework to ensure port efficiency and compliance with the regulations (Mthembu and Chasomeris, 2023a).

Regarding the port governance structure and the model adopted at TNPA, the study participants representing the industry highlighted the need for a clear separation of functions between TNPA and Transnet. The SAMSA interviewee indicated the need for Transnet's independence as mandated by the National Ports Act. TNPA has a dual mandate to act as the landlord, to own, manage, and control all nine commercial ports in the country, and to contribute towards the region's economic development by ensuring affordable, fair, and equitable logistics trade costs.

The Competition Commission was investigating TNPA amid accusations by port users of abuse of power in preventing competition in the sector and its unregulated sister company, TPT, benefiting from preferential treatment in pricing arrangements and treatment (Competition Commission, 2016). According to Meyiwa and Chasomeris (2020), a conflict of interest exists between the NPA and TPT as the authority and the public operator are both sister companies. This has resulted in calls for the corporatisation of the NPA and separating its regulatory and operational functions. The current set-up has resulted in a lack of accountability, weak control mechanisms, and TNPA being criticised for failing to meet its landlord function effectively (Meyiwa and Chasomeris, 2020; Chasomeris and Gumede, 2022).

In support of the separation of governance and operational functions, there have been calls from the Presidency that TNPA cannot be a referee and player, and a split in the rail sector is desirable. Speaking at the Investment Summit in Cape Town, Rudi Dicks, Head of the Presidency's project management office, indicated that a new independent entity would be formed that will manage Transnet Freight Rail (TFR) as the state wanted more private rail operators with the aim of attracting investment and improving competition and operational efficiency (News24, 2024). These calls come amid operational challenges at TFR due to a lack of key rail infrastructure maintenance, especially at the port of Cape Town, where there is no signalling system to coordinate trains (News24, 2024). Decades of underinvestment in the rail infrastructure have led to outdated tracks, signalling systems, and complex operational challenges hampering economic growth.

TNPA has had issues with its corporate governance structures, including a qualified audit opinion in the 2018 to 2021 fiscal periods, due to a lack of control over the procurement processes and contract management, resulting in long, drawn-out civil matters (Mybroadband, 2024). Until recently, with the appointment of the current Group CEO, Michelle Philips, there has been a leadership crisis with key executives resigning, leading to a lack of authority oversight, undermining operational output and stakeholder trust (Dailymaverick, 2024).

Governance at TNPA has suffered due to political interference and politically motivated appointments as opposed to performance-based criteria (Dailyinvestor, 2024). Some of these appointees have been accused of fraud and corruption, leading to arrests and exposing the entity to a lack of authority (Dailyinvestor, 2024). This has resulted in a leadership crisis leading to low staff morale, poor performance and operational output, and a negative effect on the authority's image and integrity. All study participants alluded to poor performance due to a lack of oversight, weak control measures, and the corporate structure in place. The legislative mandate for TNPA came out very strongly, and the study participants emphasized the need to separate the regulatory and operational functions.

The National Ports Act intended for TNPA to become a subsidiary of Transnet, and to date, that has not transpired, causing conflicts of interest (Chasomeris & Gumede, 2022). The latest plan is for TNPA to become a subsidiary by the 1st of April 2025 (PRSA, 2024). These are some of the sentiments and perspectives of the interviewees that TNPA should ultimately become an independent SOE. While some are of the opinion that it would combat the conflicts of interest, it is a first step in the right direction in tackling governance challenges at TNPA (Meyiwa & Chasomeris, 2020).

5.2.2 Findings on the operational challenges at TNPA

This study highlights the challenges and inefficiencies in South Africa’s port governance, infrastructure, and operational performance. As the landlord, the state is responsible for developing ports and investing in infrastructure to enhance efficiency and service delivery. However, persistent issues such as ageing equipment, inadequate maintenance, and poor

investment in modern port technology have significantly affected port productivity and efficiency (Mthembu & Chasomeris, 2023).

The KZN Port Master Plan, developed by TNPA, aims to increase capacity, reduce congestion, and modernise port operations. However, funding constraints, mismanagement, and unrealistic expectations have delayed implementation, contributing to TNPA's growing debt burden (IOL, 2021; MyBroadband, 2024). To improve efficiency, TNPA has introduced initiatives such as the Rapid 100 program, designed to upskill employees and enhance turnaround times (Freight News, 2024). Despite these efforts, challenges such as theft, vandalism, and poor leadership continue to hinder progress.

Weather conditions further impact port operations, particularly in Cape Town, where inadequate equipment leads to frequent disruptions during peak trading seasons (Hypertext, 2024). A decline in ship working hours, equipment shortages, and inefficient management oversight have raised concerns about economic losses and declining service standards (Turnaroundtalk, 2024).

Additionally, staff productivity is negatively impacted by low morale, insufficient training, and the loss of skilled professionals due to poor leadership and ineffective retention strategies (Mthembu & Chasomeris, 2023). This study emphasises the urgent need for strategic planning, investment in modern equipment, and effective leadership to address inefficiencies and restore South African ports' global competitiveness.

5.2.3 Findings on the port pricing and tariff model

Study participants were asked about the pricing model used to determine tariffs, and their feedback was largely critical of the revenue-driven approach. They argued that this RR model lacks incentives and is applied without promoting efficiency. The tariff model is governed by the government's Maritime Policy and the National Ports Act (RSA, 2005), which establishes the legal framework for managing maritime stakeholders. These legal provisions ensure that the tariff determination process aligns with regulatory guidelines.

The Act also provides for the establishment of the Ports Regulator of South Africa (PRSA), whose primary role is to oversee the economic regulation of the port system in accordance with the government's strategic objectives. The PRSA is responsible for reviewing proposed tariffs set by the National Ports Authority, ensuring that port services and facilities remain adequate, affordable, and efficient. Additionally, the Act mandates the Regulator to oversee TNPA's compliance, address complaints and appeals as outlined in Sections 46 and 47, and investigate any grievances related to port operations.

The revenue-driven approach and the "Required Revenue" (RR) methodology for tariff determination are criticised for being non-incentivising and mechanically applied without fostering efficiency. Calls for more cost-related tariffs to attract business while maintaining financial sustainability emerged strongly from the interviewees. Even though tariff adjustments have recently been made and improvements have been made to rebalance charges, with shipping lines paying more relative to cargo owners, which aligns with global practices, interviewees revealed unhappiness about the tariff structure in place with concerns persisting about calculating asset values and tariff methodologies (Chasomeris & Gumede, 2022).

Despite the legal framework governing and managing maritime stakeholders, there are still prevailing issues. TNPA has been accused of cross-subsidisation, using profitable divisions to support loss-making entities. This has created a financial constraint on the SOE, hampering investment in essential equipment and port development, and this was strongly reflected in the study. This has limited funding to invest in port infrastructure and delays in modernisation and implementing critical projects like the port master plan (Meyiwa and Chasomeris, 2020; Gumede and Chasomeris, 2022; Fakir and Chasomeris, 2022; Grater and Chasomeris, 2022).

5.2.4 Findings on the strategic initiatives

5.2.4.1 Regionalisation debate

Regionalisation is a market-driven strategy encouraging cooperation among neighbouring ports within the same region to enhance competitiveness and efficiency. However, political

policy direction significantly influences port regionalisation rather than purely market-driven efficiency demands (Notteboom, 2005). Structural shifts in logistics have reshaped port hierarchies, with the expansion of global supply chains increasing pressure on port operations. As international supply chains grow more complex, port governance models continuously evolve due to globalization and the need to access new markets (Pallis et al., 2005).

Major ports encounter various challenges that hinder efficiency, including rising port traffic and delayed shareholder interventions. Regionalisation requires new governance approaches, emphasising a broader functional focus beyond traditional port boundaries (Notteboom, 2005). Effective port governance structures must adapt to these evolving relationships, acknowledging stakeholder roles and contributions in shaping regionalisation strategies. These governance reforms are essential to improving port efficiency, competitiveness, and sustainability, ultimately driving economic growth and trade development.

Interviewees were asked to share their perspectives on potential structural changes to port governance in response to evolving global supply chain networks. These shifts have necessitated new logistics patterns and port hierarchies as port users increasingly prioritise cost efficiency and timely delivery of goods. This inquiry aimed to gather insights on restructuring the current port governance framework to establish a sustainable, long-term strategy in a rapidly changing market landscape.

At this point, it is essential to state that the regionalisation approach refers to the unbundling of TNPA from a national government SOE into provincial SOEs. Interviewees had mixed opinions on the matter. While most interviewees indicated that regionalisation may bring accountability closer to operations, provincial governments are seen as ill-equipped to handle the complexities of port management. Many felt that ports are a national competency as mandated in the Act. Provincial and local governments are in shambles, and some are under administration due to maladministration, poor performance, fraud and corruption, and failure to deliver essential services to their communities. This notion is supported by several articles on local government in shambles and specific provincial departments being accused of maladministration, with the City of Johannesburg and eThekwini Metro coming under the

spotlight on operational and service delivery challenges in the last fiscal period (Politicsweb, 2024).

Also, the study participants are of the view that the necessary skills and expertise required for port management may be lacking at this level. Interviewees opine that port governance is a national government competence as enshrined in the Constitution (1996) and the National Ports Act, and no other government department is capable of managing and operating ports. However, this notion is against the backdrop of a poorly managed SOE that has led to inefficient performance in the past couple of decades, with an ever-growing debt of well over R137 billion.

Interviewees alluded to countless accusations of fraud and corruption against some former senior officials at TNPA who are currently facing serious charges of fraud and corruption (Dailyinvestor, 2024). Port infrastructure is in a bad state, and essential port equipment is not maintained, leading to longer ship turnaround times. There has been little investment in essential port equipment, and some port equipment is still in operation even though it is past its useful lifespan. Poor leadership and port management due to a lack of effective oversight mechanisms are partly to blame for the current state of TNPA. The study also revealed the need for a global benchmark against successful municipal port authorities (e.g., Rotterdam, Antwerp), and national port societies are cited as better models. Notably, benchmarking is mooted against ports in Europe that are owned and managed by local authorities.

The infrastructure at these ports is world-class, and significant investment has been pumped into the port's development by the private sector involved in managing and controlling operations at these ports. The regionalisation concept drew much scepticism from the interviewees amid concerns about the current poor state of affairs at TNPA.

5.2.4.2 Findings on public-private partnerships

The maritime sector is evolving to accommodate growing technological advancements in international trade. Changes in the marine market have generated new approaches to port

structures, which have increased the pressure on port efficiency as the driving force behind these changes (Notteboom & Yang, 2017). Ports have embarked on port devolution changes through several forms, like privatisation. Public-private partnerships (PPPs) have become instrumental in port infrastructure investment, fostering collaboration and providing opportunities for competition among ports. PPPs are considered essential for infrastructure upgrades and operational efficiency due to the lack of oversight mechanisms and funding from the government. Bureaucratic challenges and legal action often affect attempts to adopt these initiatives and urgently require resolutions. Interviewees were asked to share their views on these reforms. The reference was made to the Port of Maputo in Mozambique, which is giving significant ports in South Africa serious competition as a success story behind PPPs, highlighting the benefits of improving efficiency and funding infrastructure projects.

There is consensus among the interviewees that private sector involvement, mainly through concession agreements, is viewed as a potential solution to current inefficiencies. Still, robust regulation is required to prevent monopolistic practices, and interviewees caution against full privatisation and that the landlord's role of TNPA should remain public. At the same time, operations can be privatised under regulated concessions, and these views are articulated in reviewed literature (Gumede and Chasomeris, 2022; Havenga et al., 2017).

5.3 Conclusions on the study findings

The data collected was analysed and evaluated, and the findings were discussed in the preceding chapter to provide an understanding of the exploration of the restructuring of the port governance structure and economic regulation in South Africa. The study contributed to the objectives and provided the findings.

5.3.1 Restructuring of port governance in South Africa

The study explored the restructuring of port governance in South Africa, revealing that the National Ports Act (2005) provides the legal framework for the Transnet National Ports Authority (TNPA) to manage and administer the country's nine commercial ports. The Act

also mandates the Ports Regulator of South Africa (PRSA) to oversee economic regulation and ensure compliance with the Act.

Despite these regulations, the literature reviewed, as well as comments from several of the port stakeholder interviewees, explain that TNPA has been accused of anti-competitive practices, particularly favouring its sister company, Transnet Port Terminals (TPT), through preferential pricing and cross-subsidisation of loss-making divisions. The National Ports Act mandates that TNPA operate as a subsidiary of Transnet, yet it remains a division, creating inefficiencies and perpetuating conflicts of interest. The oversight role of PRSA appears only partially effective, further exacerbating governance challenges.

5.3.2 Port governance operational challenges

The interviewees identified poor leadership, lack of oversight, outdated infrastructure, and insufficient investment as significant governance challenges at TNPA. The Ports of Durban and Cape Town have suffered from prolonged vessel turnaround times due to equipment shortages and mismanagement.

- Port of Durban: Delays of up to 189 hours due to equipment shortages and system inefficiencies.

- Port of Cape Town: Extended vessel waiting times, particularly during peak export seasons, negatively impacting trade.

These inefficiencies have resulted in financial losses and rerouted cargo traffic to more efficient neighbouring ports in Africa.

5.3.3 Port pricing and tariff model

TNPA uses a rate of return (RR) model for tariff determination. The study revealed dissatisfaction among port users regarding the revenue-driven approach, which fails to incentivise efficiency.

Concerns were raised over cross-subsidising loss-making divisions and TNPA's financial burden, with a reported R137 billion debt affecting investment in critical infrastructure projects. This financial strain has delayed the implementation of modernisation plans, including the KZN Port Master Plan.

5.3.4 Strategic initiatives

The study examined potential strategic initiatives to improve TNPA's efficiency, focusing on regionalisation and private-sector participation.

- Regionalisation: While there was minor support for a decentralised governance model like in the People's Republic of China, most interviewees raised concerns about the regional-level lack of skills and expertise.

- Private Sector Involvement: There was strong support for public-private partnerships (PPPs) to enhance port operations. However, caution was advised against full privatisation, emphasising that the state should remain the majority shareholder. Furthermore, a distinction was drawn – The National Ports Authority (as a port landlord function) should remain publicly owned, but port operations should consider PPPs.

The study highlighted that TNPA has struggled with operational inefficiencies, leadership failures, and a lack of regulatory oversight. Historically, the absence of clear governance structures and accountability measures has allowed allegations of fraud, corruption, and mismanagement to persist. Despite establishing PRSA to oversee TNPA, the oversight mechanism remains weak, and the government has been slow to intervene. While recent executive appointments have brought stability, further structural reforms are necessary. PRSA

should focus on regulatory matters, infrastructure investment, and private-sector engagement to drive port modernisation and efficiency.

5.4 Recommendations

Based on the study findings, the following recommendations are proposed:

5.4.1 Structural Reforms

- TNPA should be corporatised as a subsidiary under Transnet as per the National Ports Act. A study by Meyiwa and Chasomeris (2020) states that NPA should be separated from Transnet to avoid a conflict of interest between NPA and its sister companies.
- PRSA should be given stronger enforcement powers to hold TNPA accountable for port inefficiencies and anti-competitive behaviour.

5.4.2 Improved Governance and Oversight

- Establish clear guidelines on the role of PRSA and relevant government departments in overseeing TNPA.
- Implement performance-based accountability measures for port leadership to ensure effective management.

5.4.3 Infrastructure investment and modernisation

- Prioritize investment in port equipment and infrastructure to enhance operational efficiency.
- Accelerate the implementation of the KZN Port Master Plan, including railway network upgrades and congestion reduction measures.

5.4.4 Tariff model revision

- Review the NPA pricing practices and the rate of return (RR) model to align with global best practices and introduce incentive-based pricing to enhance efficiency.
- Increase transparency in tariff determination and reduce cross-subsidisation of loss-making divisions.
- Transition to a User-Pays and Activity-Based Costing Model for marine services (Mthembu and Chasomeris, 2024):
- User-Pays Principle - Charges should reflect actual usage, ensuring those who benefit from services cover the associated costs.
- Activity-Based Costing - This international best practice enables precise cost allocation per service, making tariffs more equitable and transparent.
- Dual-Till Approach - By separating infrastructure and service-related charges, this model allows more flexible pricing and targeted investment.

5.4.5 Promote competition and regulatory oversight -

- Independent Regulation - An impartial regulatory body is crucial to ensure fair pricing, encourage competition, and safeguard against abuse.
- Intra-port and Inter-port Competition - Enhancing competition within and between ports can improve service efficiency and reduce costs for users.

5.4.6 Additional considerations:

- Cost Recovery - Tariffs should cover the full cost of service delivery, including capital investment and maintenance.
- Transparency and Accountability - Clear and understandable pricing mechanisms are vital for building trust and ensuring accountability.
- Stakeholder Engagement - Ongoing consultation with users and other stakeholders is necessary to ensure the pricing framework remains fair, practical, and effective.
- Public-private partnerships (PPPs) - Encourage private-sector participation in port operations through targeted partnerships while maintaining state control over strategic assets.

- Establish a PPP framework to attract private investment in infrastructure development.

5.4.7 Regionalisation considerations

- Conduct feasibility studies to determine the potential benefits and risks of regionalising port governance.
- Establish regional advisory councils to improve coordination between ports, municipalities, and provincial governments.

The study underscores the urgent need for structural reforms, governance improvements, and infrastructure investment to enhance South African ports' efficiency and competitiveness. By implementing these recommendations, TNPA can restore operational efficiency, improve trade competitiveness, and drive regional economic growth.

5.5 Areas for future research

The study highlights several areas for further investigation, a comparative analysis of global port governance models, and their applicability to South Africa. An impact assessment of private-sector participation in South African port operations and feasibility of regionalised port governance and its potential economic benefits. There is a need to review PRSA's regulatory oversight effectiveness and potential policy enhancements, and investigate allegations of corruption and governance failures in port management and their impact on economic growth. Due to resource restrictions and study limitations in obtaining the necessary permissions, future study sample to incorporate policy makers, port employees, independent analysts, and trade unions to provide a more comprehensive perspective.

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APPENDICES

APPENDIX A: INFORMATION LETTER

UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE (HSSREC)

APPLICATION FOR ETHICS APPROVAL
For research with human participants

Information Sheet and Consent to Participate in Research

Researcher: Moeletsi W. Tsautse Contact Details [redacted]
Email address 9805866@stu.ukzn.ac.za

Supervisor: Professor Mihalis Chasomeris Contact Details: 031 2602575
Email address: chasomerism1@ukzn.ac.za

Date: 21 October 2024

Dear Respondent

My name is Moeletsi Tsautse (9805866). I am an MBA student studying at the University of KwaZulu-Natal. You are invited to participate in a study involving research on port governance at Transnet National Port Authority. The title of my research is An Exploration of the Restructuring **of Port Governance and Economic Regulation in South Africa.** This study explores the possibility of a new Port Governance model that decentralizes Transnet into Regional State Owned Entities (SOEs) to improve service delivery and overall port operations. Poor leadership and stringent governance structures are some of the causes alluded to in the operational challenges facing Transnet. It will involve online interviews. If you choose to enroll and remain in the study, the duration of your participation is expected to be at most 45 minutes.

The study will not involve risks and discomforts and will provide no direct benefits to participants. This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (approval number 00007781/2024).

In the event of any problems or concerns/questions, you may contact the researcher at [redacted] email 9805866@stu.ukzn.ac.za alternatively, the supervisor as per the contact details mentioned above or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION
Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000

KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557- Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

There is no compulsion that you respond to any questions during this interview; participation is wholly optional. You are free to choose not to participate or to withdraw from the project at any time without any negative consequences. There will be no monetary compensation for participating in this study. Your confidentiality and anonymity will be protected by myself and the Supervisor through strict data access controls, including the use of an encrypted database and password-protected files. The information gathered from this interview will only be used for the study. Personal identifiers such as names, addresses, and contact information will not be published to protect your privacy.

APPENDIX B: OFFICIAL CONSENT FORM

UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE (HSSREC)

APPLICATION FOR ETHICS APPROVAL
For research with human participants

CONSENT DECLARATION

I, the participant, have been informed about the study entitled An Exploration of the Restructuring of Port Governance and Economic Regulation in South Africa by Moeletsi Tsautse.

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

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

If I have any further questions/concerns or queries related to the study, I understand that I may contact the researcher at [redacted] or 9805866@stu.ukzn.ac.za.

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

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

Additional consent, I hereby provide consent to:

Audio-record my interview **Y/N**

_____
Signature of Participant **Date**

APPENDICE C: INTERVIEW GUIDE

INTERVIEW QUESTIONS

BACKGROUND INFORMATION

1. What is your nationality?
2. How long have you been in the maritime sector?
3. What attracted you to the maritime industry?
4. Is the maritime sector in South Africa diverse?

PORT GOVERNANCE IN SOUTH AFRICA

1. What are your views on the current governance structure at Transnet National Ports Authority (TNPA)?
2. In your opinion, does the current structure adequately address the needs of the port users?
3. What is your view on the port prices and the method followed to determine tariffs?
4. What governance and economic regulation strategic initiatives would you recommend to enhance the role and functioning of the National Ports Authority?
5. What is your perspective on the role of the private sector and the public-private partnerships in South Africa's ports?
6. What are your views on the regionalization of ports?
7. Do you have any other thoughts about port governance and economic regulation that you would like to share?

Name of researcher: Moeletsi Wiseman Tsautse

Student Number: 9805866

APPENDIX D: ETHICAL CLEARANCE

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

16 October 2024

Moeletsi Wiseman Tsautse (9805866)
Grad School of Bus & Leadership
Westville Campus

Dear MW Tsautse,

Protocol reference number: HSSREC/00007781/2024
Project title: An exploration of the restructuring of port governance and economic regulation in South Africa
Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 01 October 2024 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

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

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

Incidents of adverse events and serious adverse events (AEs and SAEs) should be reported in writing to HSSREC, the study sponsors, and any regulatory authority (where appropriate), within 7 working days of the occurrence for local sites and 14 days for all other South African sites.

This approval is valid until 16 October 2025.
To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

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

Yours sincerely,

[redacted]

Professor Dipane Hlalele (Chair)
/nng

Humanities and Social Sciences Research Ethics Committee