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**ENHANCING SOUTH AFRICA'S
SHIP REGISTRY: A
COMPARATIVE ANALYSIS OF
COMPETITIVENESS
EFFECTIVENESS AND LEGAL
FRAMEWORKS WITH A
SPECIAL FOCUS ON THE
SINGAPORE REGISTRY MODEL**

TEBOGO ALFRED MOLOKO RAMATJIE

A dissertation submitted to the World Maritime University in partial fulfillment
of the requirements for the award of the degree of Master of Science in
Maritime Affairs

2023

Declaration

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature): **Tebogo Ramatjie**

(Date): **25 September 2023**

Supervised by: Professor **George Theocharidis**

Supervisor's affiliation: World Maritime University

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In memory of the guiding lights I've lost, I dedicate my Master of Science degree in Maritime Affairs to my late father, John Tsheletse Madibane, and my beloved sister, Tshepiso Makoma Ramatjie. Their spirits have been my north star.

Abstract

Title of Dissertation: **Enhancing South Africa's Ship Registry: A Comparative analysis of Competitiveness Effectiveness and Legal Frameworks with a focus on the Singapore Registry Model**

Degree: **Master of Science**

This dissertation titled "Enhancing South Africa's Ship Registry: A Comparative Analysis of Competitiveness and Effectiveness with a Focus on the Singapore Registry" presents a comprehensive examination of the maritime registration frameworks of South Africa and Singapore. The study delves deep into the challenges and inefficiencies faced by the South African Ship Registry (SASR) in recent times, particularly concerning its competitiveness and efficiency in relation to globally recognized ship registries. Significantly, while the South African economy is acknowledged as a powerhouse on the African continent, its ship registry grapples with drawing international shipping companies, mainly due to perceived bureaucratic obstacles and a lack of competitive incentives.

On the other hand, the Singapore Registry of Ships (SRS) emerges as a shining example in the global maritime sector. Known for its efficient operations, competitive pricing, and stringent adherence to safety and security protocols, Singapore's success is attributed to its strategic positioning and proficient governance.

The core objective of this research is to analyze and propose enhancements for South Africa's ship registry by harnessing insights and best practices from globally established registries, primarily the SRS. This study posits that there are specific areas within the SASR that require transformative measures, including operational procedures, incentives for international maritime enterprises, and compliance with universally recognized maritime standards.

The research method involves a comparative analysis, focusing on various aspects like registration, pricing, governance, and compliance with international maritime regulations. Specific research questions pivot around methods to streamline administrative processes in SASR, potential regulatory improvements drawing inspiration from the Singaporean model, effective marketing strategies for SASR's unique benefits, and a side-by-side evaluation of tax regimes.

In essence, this study aspires to provide a roadmap for rejuvenating South Africa's maritime ship registry through benchmarking against Singapore's gold-standard practices, aiming for global competitiveness and effectiveness in the maritime domain.

Keywords: Competitiveness, Ship Registry, compliance, governance, maritime

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Chapter 1: Introduction

1.1 Overview

The study titled "Enhancing South Africa & Ship Registry: A Comparative Analysis of Competitiveness and Effectiveness with a Focus on the Singapore Registry" signifies an inquiry into the maritime registration frameworks of South Africa and Singapore. The primary objective of this investigation is to examine and juxtapose the distinct competitive advantage and effectiveness exhibited by the aforementioned registries. This study aims to enhance South Africa's ship registry by exploring best practices, specifically drawing from real-life examples such as Singapore's successful management of its registry, which is renowned for its efficiency and robust regulations. The utilization of comparative analysis holds significant utility in facilitating the identification and implementation of constructive enhancements within the domain of maritime administration.

1.2 Research Background

The South African Ship Registry (SASR) has encountered numerous challenges in recent times. A prevailing matter pertains to the deficiency in competitiveness and efficiency when juxtaposed with neighboring registries within the region. While the South African economy is recognized as one of the foremost economies in Africa, its ship register has encountered difficulties in attracting global shipping companies owing to the absence of compelling incentives and a reputation for bureaucratic procedures (Elbassoussy, 2022). Moreover, the registry has encountered obstacles in adhering to global safety and security norms, thereby impeding its overall competitiveness.

However, the Singapore Registry of Ships (SRS) has positioned itself as a prominent participant in the worldwide shipping sector (Mpa.gov.sg, 2023). The registry is highly recognized for its efficient procedures, competitive pricing, and rigorous safety and security protocols (Pastra *et al.* 2023). As a result, the jurisdiction has effectively attracted considerable attention from various internationally recognized shipping companies, thus solidifying its position as a prominent entity in the global maritime registry sector. The achievement of Singapore can be ascribed to a confluence of factors, encompassing its propitious strategic positioning, alongside the substantial assistance furnished by its competent governance. To conclude, it can be asserted that the ship registry of South Africa has faced challenges in establishing a competitive stance vis-à-vis other registries operating within the same region (Scirp.org, 2023). Conversely, the ship registry of Singapore has garnered international recognition as an exemplary leader due to its commendable efficiency, formidable pricing competitiveness, and uncompromising adherence to stringent standards. In order to bolster its competitive edge, SASR should prioritize the enhancement of its operational procedures, the establishment of incentivizing measures for international maritime enterprises, and compliance with internationally recognized safety and security norms.

1.3 Problem Statement

The current state of South Africa's ship registry presents a problem pertaining to its deficient competitiveness and efficiency. Such inadequacies have the potential to impede the nation's progress in terms of maritime economic growth and development. The presence of inefficiencies within the ship registry system has the potential to result in prolonged processing durations as well as increased financial burdens for shipowners and operators. Consequently, this may discourage registrations and impede the progress of registry expansion. Furthermore, the shortcomings in effectively implementing marine regulations and the dearth of explicitness and foreseeability in sea-related conflicts and transactions have the potential to affect operational activities and financial investments. The lack of compliance with

international maritime regulations and the failure to incorporate optimal methodologies from prominent global registries may potentially impede the competitive and operational merits of South Africa's ship registry (Hellenicshippingnews, 2019). The insufficiency of professionals specializing in maritime law, shipping operations, and port administration might present a hindrance to the advancement of the marine industry.

1.4 Research Aim and Objectives

Aim

This study aims to compare South Africa's ship register to the Singapore register to evaluate its efficiency, compliance with international maritime standards, and competitiveness. The research seeks to improve the registry's performance, streamline administrative processes, and promote its benefits to the global marine community through this evaluation.

Objectives

- To evaluate South Africa's ship registry's efficiency and competitiveness by comparing registration, processing, prices, and administrative procedures to leading global registries.
- To assess South Africa's ship registry's conformity with international maritime standards, safety, and environmental sustainability.
- To compare South Africa's maritime ship registry law and policy with Singapore's in governance, transparency, regulatory compliance, and services to find best practices and areas for development.
- To improve South Africa's ship registry's competitiveness and effectiveness by streamlining administrative procedures, improving regulations, adopting best practices, and promoting its advantages to the global maritime community.

1.4 Research Questions

1. What measures can be adopted to streamline administrative and enhance efficiency in the South African ship registry?
2. In accordance with global best practices as illustrated by the Singaporean model, which regulatory advancements can be integrated into South Africa's ship registry to promote its efficiency and alignment?
3. How can South Africa effectively communicate and market the unique benefits of its ship registry to the international maritime industry?
4. A comparative analysis of the tax regimes in South Africa's and Singapore's ship registries: What are the key differences, and how can South Africa's tax regime be revised to increase competitiveness within the global shipping industry?

1.5 Research rationale

The justification for conducting the study entitled "Enhancing the Ship Registry of South Africa: An Assessment of Competitiveness and Performance with a Focus on the Singapore Registry" is rooted in the imperative to enhance the maritime registration system in South Africa. As discussed in the preceding context, the Ship Registry of South Africa (SASR) is confronted with a range of difficulties, which encompass administrative inadequacies and failure to adhere to internationally recognized safety standards (Irclass.org, 2017). This stands in stark contrast to Singapore's noteworthy and accomplished registry framework. This research aims to conduct a comparative analysis to identify the methods and policies that have contributed to Singapore's exceptional performance. The ultimate goal is to potentially adopt applicable best practices in the South African context. The potential societal and economic implications for South Africa hold significant weight, as enhancements to the South African Shipping and Related Industries Cluster (SASR) have the potential to boost maritime growth, entice international investments, and bolster the nation's standing in the global shipping industry.

Chapter 2: Literature overview

2.1 Introduction

The purpose of this chapter is to assess the effectiveness, competitiveness, and adherence to global maritime standards, safety protocols, and environmental sustainability practices of the ship registry in South Africa. The chapter commences by delineating the objectives of the analysis, encompassing a comparative assessment of registration, processing, pricing, and administrative procedures as prominent global registries. Furthermore, an evaluation of the registry's adherence to international maritime standards, safety protocols, and environmental sustainability measures is undertaken. In addition, a comparative analysis of South Africa's ship registry law and policy with that of Singapore is conducted. Additionally, efforts to enhance the competitiveness and efficacy of South Africa's ship registry are enumerated, along with endeavors to promote its advantages to the international maritime community. Subsequently, the chapter presents a comprehensive examination of each of these objectives, employing data and information sourced from assorted references. The chapter culminates with a comprehensive synthesis of the research outcomes, thereby offering suggestions for enhancing the operational efficacy of the ship registry in South Africa.

2.2 Comparative analysis of South Africa's ship registry with leading global registries.

Enhancement of the efficiency is supported with the digital processes significantly reduces paperwork. The improvement of data accuracy leads to speeding up administrative tasks and creation of automation of routine tasks and creations of document processing. Gao *et al.* (2020) mentioned that with the help of a comprehensive and centralized information system a seamless data sharing and communication across various departments within the ship registry can be carried out. Furthermore, in order to create a better provision towards regular training and

involving steps in administrative enhancement the skills and understanding of maritime regulation and industries is regarded as the best practice. Herodotou *et al.* (2021) have also commented on the fact that the provisioning of the regular training to staff can be actually helpful in the presentations related to the training-based practices. The Key Performance indicators are regulated with the basis of administrative processes that can actually help in achieving the registrations related to the maritime regulations and practices as a whole. Understanding of the industrial practices includes the operations on the basis of the performance efficiency. The establishment of records can be supported with the documentation check and streamlining the process of applications. Gruson *et al.* (2019) commented that the stratification of the employees is regulated with the help of application actions and records as a whole.

Improving the ship registry of South Africa requires a scholarly examination of an existing benchmark, such as Singapore's Registry Model, to discern and elucidate the differences and commonalities in the legal structures surrounding ship registration. The registry of Singapore is controlled by the Merchant Shipping Act, which encompasses regulations such as SOLAS (Safety of Life at Sea) and MARPOL (International Convention for the Prevention of Pollution from Ships), as well as the Port Authorities Act, which oversees the safety and organization of navigational facilities (Phillips and Craig, 2020). The legal framework of South Africa, although encompassing acts such as the South African Maritime Safety Authority (SAMSA) Act, the Merchant Shipping Act of 1951, and the Marine Traffic Act, could be construed as exhibiting a relatively limited capacity for adaptability (Wallis, 2022). Singapore places a strong emphasis on efficiency, transparency, adherence to international maritime laws, and the provision of appealing fiscal incentives. The bilateral maritime agreements of this entity provide it with competitive advantages, thereby reinforcing its position within the global maritime sector. In contrast, South Africa possesses the opportunity to augment its competitive edge and operational efficacy, while concurrently adhering to prevalent international benchmarks such as UNCLOS and IMO (Coello, 2023). The global appeal of the subject has been impeded

by intricate administrative procedures and a limited range of motivations. The comparative analysis serves to emphasize significant insights applicable to South Africa, including the necessity of optimizing procedures, formulating appealing incentives, and potentially adopting a more proactive approach to international maritime agreements. Singapore's case study provides significant insights into the harmonization of commercial competitiveness and rigorous safety and environmental regulations, which could inform potential refinements to South Africa's current framework.

2.3 Registration, processing, prices, and administrative procedures of South Africa and Singapore ship registry.

The ship registration process, which comprises registration, processing, pricing, and administrative procedures, showcases distinctive characteristics in South Africa and Singapore. These identified maritime nations have implemented robust frameworks with the aim of streamlining the process of ship registration, as well as guaranteeing adherence to the prescribed international maritime regulations.

Ship registration in South Africa is regulated by the South African Maritime Safety Authority (SAMSA). The registration process entails the submission of essential documentation, including evidence of ownership, detailed vessel information, and certificates of compliance. The organization SAMSA conducts thorough evaluations of the documentation in order to ascertain conformity with safety, environmental, and operational criteria (Bauk, 2022). The duration of the processing period can exhibit variation, which can be influenced by various factors including the degree of documentation comprehensiveness and workload volume. The registration fees are determined according to the tonnage, vessel type, and various other factors. The administrative procedures in South Africa involve a comprehensive range of activities, such as conducting surveys and inspections, as well as the issuance of registration certificates for vessels upon the completion of a successful evaluation process. This certificate duly attests to the compliance of the vessel in question with pertinent

maritime regulations, thereby establishing its qualification for operation under the auspices of the South African flag.

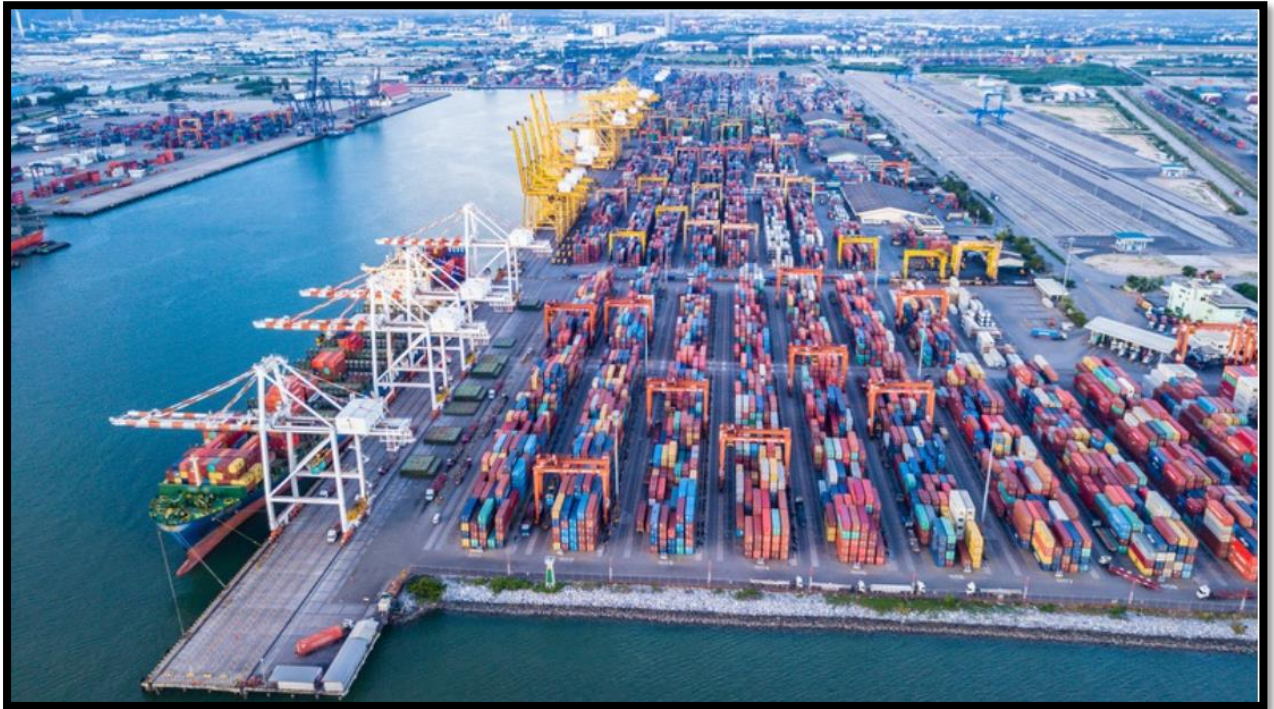


Figure 2.1: MPA to develop data standards with Port of Rotterdam and PSA

(Source: porttechnology.org, 2020)

The MPA of Singapore has recently partnered with five prestigious international organizations to work together on developing data standards and API specifications (porttechnology.org, 2020). This collaboration aims to streamline and facilitate the exchange of data for port and maritime service transactions. On the contrary, the Maritime and Port Authority (MPA) fulfills the role of the regulatory entity responsible for ship registration in Singapore (Gul, 2020). The procedure encompasses the submission of pertinent documentation related to ownership, tonnage, and other indispensable paperwork. The MPA rigorously examines these submissions with meticulous attention to verify adherence to safety, security, and environmental protocols.

The registration process exhibits a commendable level of efficiency, typically concluding within a brief span of a few days. Singapore implements a fee structure that is characterized by transparency, considering both tonnage and vessel type as variables in the calculation. Administrative protocols within Singapore encompass a range of regulatory measures, such as safety inspections, the issuance of ship registration documentation, and the allocation of the Maritime Mobile Service Identity (MMSI) number, which serves to facilitate communication requirements. In addition, Singapore's "one-stop service" offers a streamlined approach to administrative procedures through the provision of a centralized platform for a wide array of maritime services (Ilcev, 2022).

Both South Africa and Singapore demonstrate a commitment to upholding international conventions, including the United Nations Convention on the Law of the Sea (UNCLOS) and regulations set forth by the International Maritime Organization (IMO). Nevertheless, the differentiation lies in their level of administrative efficacy, processing durations, and fee frameworks. South Africa prioritizes compliance verification and safety assessments, indicating a strong commitment to these areas. On the other hand, Singapore positions itself as a maritime hub with streamlined processes, leveraging its advanced technological infrastructure to facilitate efficient operations.

2.3 International maritime standards, safety, and environmental sustainability

The application of international maritime standards significantly contributes to the safeguarding of safety measures and the long-term ecological viability within the shipping sector (van Helmond *et al.* 2020). The establishment and enforcement of these standards on a global scale are overseen by the International Maritime Organization (IMO). The SOLAS (Safety of Life at Sea) Convention imposes safety protocols such as standards for lifeboat specifications and fire safety measures, with the aim of averting catastrophic incidents akin to the sinking of the RMS Titanic. Empirical evidence emphasizes the importance of these standards within actual

circumstances. The incident of the Exxon Valdez sinking in 1989, attributable to insufficient safety protocols, caused an extensive discharge of petroleum that inflicted severe damage upon the ecosystem and fisheries of Alaska (Barron *et al.* 2020). The advent of the Oil Pollution Act served as a catalyst for the implementation of enhanced environmental safeguards within the United States.

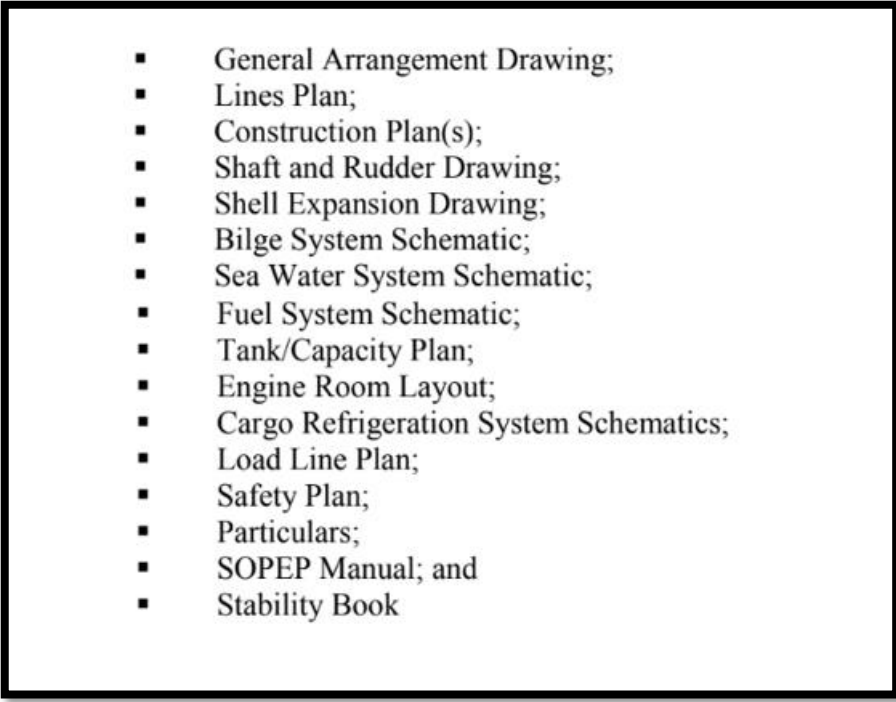
- 
- General Arrangement Drawing;
 - Lines Plan;
 - Construction Plan(s);
 - Shaft and Rudder Drawing;
 - Shell Expansion Drawing;
 - Bilge System Schematic;
 - Sea Water System Schematic;
 - Fuel System Schematic;
 - Tank/Capacity Plan;
 - Engine Room Layout;
 - Cargo Refrigeration System Schematics;
 - Load Line Plan;
 - Safety Plan;
 - Particulars;
 - SOPEP Manual; and
 - Stability Book

Figure 2.2: SHIP PLANS of South Africa registration process

(Source: *Referred to Appendix*)

The safety standard of South African ship registry process includes its Ship planning during the registry session. A wide range of safety standards are set for the ship owner before registering it in Maritime transportation process. These ship planning guidelines enhances the safety rate of the ships.

The International Maritime Organization's MARPOL Convention imposes restrictions on maritime pollution by overseeing the emissions of detrimental substances from vessels (Leary, 2020). Instances of violations, such as the unlawful release of

lubricating waste, have resulted in significant penalties, underscoring the gravity of ensuring adherence to environmental regulations. It is crucial to recognize the indispensability of international maritime standards, as they serve as a fundamental means of ensuring the protection and preservation of human lives, averting catastrophic incidents, and safeguarding the delicate ecosystems of our oceans. The significance of guaranteeing safety and environmental sustainability in the maritime industry is underscored by actual occurrences.



Figure 2.3: Singaporean maritime authority

(Source: mpa.gov.sg, 2023)

2.4 Comparison of South Africa's maritime ship registry law and policy with Singapore's

Effective communication is one of the major factors of considerations on the ship registry of South Africa that influences the international maritime industry. This essentially creates a requirement of strategic approaches that detail out the advantages in operations on the overall foundations of the USP (Unique Selling Proposition).

Identification of the USP is regarded as one of the major steps towards the consideration of the marketing concepts and operations. The analysis of target audiences and the association of the business segments are entirely important for the marketing efforts to resonate with the operations as a whole. Creation of compelling messages are supporting the overall focus on the audiences that ensure activities such as designing of logos and creation of the most effective outlook operations as a whole (Hall-Johnson and Hall-Johnson, 2023). The major solutions to identified challenges are ensured on the basis of conveying professional help and ensure trust based operations. As social media plays a very vital role in dealing with services, regulations and benefits of operations. This helps in finding out the most effective records on the communication practices. With the analysis of contact-based processes of marketing a better analytical situation can be ensured. This actually ensures better marketing operations and benefits that can create a change in the contact information. Oion *et al.* (2020) commented that with informative content and presentation of success stories and creations of the adequate address inquiry.

The nations of South Africa and Singapore maintain contrasting legislative frameworks and regulatory approaches pertaining to the registration of maritime vessels. The primary objective of South Africa's registry is to facilitate and enhance domestic ownership and employment, by imposing stringent requirements mandating a substantial level of South African participation in maritime vessels (Kushwaha, 2020). On the other hand, Singapore prioritizes the principles of transparency and competitiveness, thereby facilitating the easy registration of vessels owned by foreign entities. The policies pursued by South Africa primarily strive for societal transformation and the enhancement of skills, whereas Singapore prioritizes the attainment of overall efficiency and global competitiveness. South Africa's cabotage legislation displays a greater degree of stringency, whereas Singapore's more permissive policies serve to allure international shipowners. The Merchant Shipping Act holds authoritative sway over South Africa's registry, with a distinct emphasis on the promotion and prioritization of domestic content (Ryan *et al.* 2019). The oversight

of Singapore's dynamic registry is the responsibility of the Maritime and Port Authority, which places a strong emphasis on ensuring high standards of quality and convenience. The divergent methodologies employed herein exemplify the distinct economic and socio-political objectives inherent within each nation's maritime sphere.



Figure 2.4: Search Engine optimized model

(Source: Kushwaha, 2020)

2.5 Improving South Africa's ship registry's competitiveness and effectiveness.

Tax analysis has been one of the major areas of consideration when it comes to the South Africa and Singapore ship registry. This actually creates a better analysis of the competitiveness and areas of improvement. The tax regimes are supported with the help of adopting the assured outcomes on the presentations that details out the taxation policies in different areas of regimes. The key differences of tax regimes can ensure the competitive corporate tax rates and the exemption of the income tax officials. Among the various taxation systems, the actualisation policies can create associations related to shipping income tax rates and presentations of incentives with the help of the companies and operations as a whole (Onyeukwu *et al.* 2020). This provides a stable record of the environment and can ensure the level of shipping possibilities to ensure better systematic responses on the provision of a better taxation system. The

collaboration actions can be successful with the industrial associations and designing the tax reforms to support the changing needs of the industry. The capital gains of tax exemptions can ensure the sale of ships and the other related assets towards South Africa. In association to the records on boosting of operations on the payment of tax on the stability related to the operation on competitiveness. Capital gains in tax are situated on the potential effects on the profitable development of the tax regime and create a predictable tax base (Sarin *et al.* 2020). The overall profitability is ensured on the basis of getting the tax rates that complies to the performances as a whole.

2.6 Financial Competitiveness as Registration and Maintenance Costs Comparison.

The analysis pertaining to the financial competitiveness between the ship registries of South Africa and Singapore necessitates a comprehensive assessment, with a primary emphasis on the costs associated with registration and maintenance. It is imperative to acknowledge that the prescribed financial metrics are subject to regulatory frameworks that govern and dictate the expense structures associated with maritime operations in both nations (Sparks and Immelman, 2020).

The enactment of the Merchant Shipping Act in 1951 in South Africa established the prescribed charges pertaining to the registration of vessels. According to the latest update in September 2021, it can be observed that the initial registration fee varies between approximately \$1000 and \$2000, contingent upon the specific characteristics and tonnage of the maritime vessel (Faulkner *et al.* 2021). In addition, ancillary fees are applicable for services rendered, encompassing the provision of seafarer documents and tonnage measurement, with the potential to reach a maximum threshold of \$500 (Green, 2020). The annual expenses associated with maintenance, encompassing charges for yearly inspections, renewals, and miscellaneous fees, may vary from \$1000 to \$2500, contingent upon the dimensions and categorization of the vessel (Marais *et al.* 2019). This financial burden is legally prescribed and non-compliance may lead to penalties or the revocation of the vessel's registration.

In Singapore, ship registration and its corresponding fees are governed by the Merchant Shipping Act (Chapter 179) and the Maritime and Port Authority of Singapore Act (Chapter 170A), presenting a contrasting scenario. The introductory registration fee for vessels measuring 1,600 gross tons and below is SGD 2,500 (equivalent to approximately \$1850) (Cullinan and Haralambides, 2021). For larger ships, the fee increases incrementally, reaching a maximum of SGD 5,000 (approximately \$3700). Singapore imposes additional charges for inspections, certificate renewals, and tonnage measurements. These fees demonstrate a competitive stance, aligned with the superior quality and esteemed reputation of the services offered. In addition, the yearly maintenance fees, encompassing survey and certificate renewals, amount to around SGD 1000 to 3000 (equivalent to approximately \$740 to \$2200) (Preston-Whyte *et al.* 2021).

The higher initial registration fees in Singapore can be rationalized by the country's exceptional infrastructure, efficiency, and provision of value-added services. Singapore has firmly positioned itself as an eminent global maritime centre, thereby necessitating cost structures that mirror the advantageous outcomes attained by registered vessels, including expedited processing times and an enhanced international standing. South Africa presents a dilemma of reduced upfront and ongoing expenses; nevertheless, it encounters obstacles stemming from protracted processing durations and a diminished level of acknowledgment within the worldwide maritime sphere (Ryan, 2020).

When conducting a comparative analysis of these costs, it becomes evident that Singapore's fee structure is tailored to align with its distinguished service standards and esteemed international status, thereby rationalizing the incorporation of premium pricing. South Africa's comparatively lower costs, while being financially competitive, fail to attain the equivalent level of international recognition or effectiveness. Furthermore, it is imperative to acknowledge that these nations offer distinct tax

advantages and responsibilities associated with ship registration, thereby exerting a significant influence on the overall expenses incurred in ship ownership.

Through a thorough examination of the financial considerations associated with ship registration in South Africa and Singapore, it is evident that South Africa provides highly favorable initial and maintenance fees. However, these costs can be attributed to the level of services provided and the country's position in the international maritime sector. The increased fees in Singapore are proportionate to the country's sophisticated infrastructure and esteemed standing on the global stage (Ngcukaitobi, 2021).

The legislative frameworks in both nations not only govern and oversee these fees, but also exert a momentous impact on the overall financial competitiveness of each country's ship registry. In order to enhance the competitiveness of South Africa, comprehensive reforms are required to address cost-efficiency and value-added services, drawing inspiration from Singapore's legislative framework.

2.7 Comparative Governance Models in Maritime Law and Policy

The governance models pertaining to maritime law and policy in South Africa and Singapore delineate frameworks that exert significant influence on their respective maritime sectors, consequently necessitating an extensive comparative analysis. These models are formalized and enshrined within statutory laws, rigorously enforced by state authorities, and have significant ramifications pertaining to the efficacy, productivity, and global reputation of their respective ship registries (Huxham *et al.* 2019).

In the Republic of South Africa, the governance framework for the maritime sector follows a decentralized approach, wherein various government departments and agencies are involved. At the core of this framework lies the South African Maritime Safety Authority (SAMSA), which was founded in accordance with the South African

Maritime Safety Authority Act 5 of 1998. The implementation of the country's shipping policy falls under the purview of the South African Maritime Safety Authority (SAMSA), aligning with the overarching principles set forth in the National Development Plan. In addition to the South African Maritime Safety Authority (SAMSA), the Department of Transport and the Department of Environment, Forestry and Fisheries are also instrumental in fulfilling important functions (Dube, 2021). The decentralized approach, by lending support to stakeholder engagement, often precipitates bureaucratic impediments, thereby impacting the operational effectiveness of the ship registry in South Africa.

On the contrary, Singapore employs a centralized governance framework in overseeing its maritime sector. The Maritime and Port Authority of Singapore (MPA) assumes the role of the sole regulatory entity, as per the stipulations outlined within the Maritime and Port Authority of Singapore Act (Chapter 170A) (Rogerson and Rogerson, 2019). The MPA assumes multiple responsibilities encompassing the enforcement of the Merchant Shipping Act, oversight of port and marine services, regulation of pollution control, and maintenance of maritime safety. The integration of these various aspects has significantly contributed to the expeditiousness, efficacy, and esteemed global standing of Singapore's maritime registration system. The city-state's governance model, which exhibits strength and resilience, is evident through its persistent high placement in global maritime indices and its distinguished position as a leading global maritime centre.

The legal frameworks governing these agencies warrant special attention. The Merchant Shipping Act of 1951, which serves as the primary legal framework for regulating maritime activities in South Africa, has been deemed obsolete and frequently subjected to criticism due to its lack of conformity with current international norms and standards (Yu *et al.* 2021). Despite the implementation of amendments and supplementary regulations, the fundamental inefficiencies and ambiguities originally inherent in the act have not been sufficiently addressed. Singapore's maritime laws are

subject to regular updates, with legislative revisions being promptly implemented to align with international advances in the field of maritime affairs. This exemplifies the agile and proactive governance model deployed by the city-state.

Transparency and accountability constitute additional aspects in which the governance models diverge. Singapore's regulatory framework possesses notable attributes of transparency and accountability, which are further augmented by sophisticated digital systems that enable stakeholders to obtain real-time notifications and effortlessly access relevant information. In contrast, South Africa, notwithstanding its pursuit of transparency, encounters challenges in this domain, partly attributable to its intricate administrative processes and comparatively less developed digital infrastructure (Felsk and Zwolak, 2020).

The decentralized governance model and antiquated legislative framework in South Africa are incongruous with the centralized, adaptive, and contemporary governance structure that has played a crucial role in Singapore's achievements within the maritime sector. The governance models employed have a notable influence on the efficacy, efficiency, and competitiveness of the corresponding ship registries (Zinchenko *et al.* 2019).

In order to enhance its international standing and optimize operational effectiveness, it is prudent for South Africa to contemplate legal reforms and restructuring governance mechanisms. It is advisable for South Africa to draw insights from Singapore's exemplary maritime governance model, which has been highly efficacious.

2.8 Promoting South Africa's ship registry's advantages to the global maritime community

Shipping companies are needed to be attracted to create a noticeable impact and thus a change in the port infrastructure is required. The investment in modernizing and expanding the port facilities can be regarded as a new investment action which can create a beneficial response from people and ensure elimination of tax reforms. The operational factors are regulated on the quality of infrastructure that details out processes of efficiency on the shipping technologies and creation of the administrative burdens and regulated infrastructures. In order to accommodate the improvement of the efficient records the reduction of the administrative burdens of regulating the tax reforms as well. Enhancing the uses of the double tax agreements can be regulated with the help of the fleet renewal operations as a whole (Yen, 2022). The growth and effectiveness can be ensured on the related assets and the actualization of the industrial and promotional processes. Easier taxation processes are regulated on the shipping management on the provision of greater outcomes as a result. Strengths are active in strengthening the operation. The actual operational benefits and the aim to improve the efficiencies can be successful to deliver better experiences of creating incentives of tax principles. The elimination of the navigation system can be supported on the basis of the records easier to the reduction of the administrative burdens. Apart from all these factors the promotion of the green shipping initiatives are also supported in adopting new technologies. The attraction of shipping companies and the accommodation of the larger vessels and improvement of efficiencies are recorded on the decision of making the factors with the help of changes in the administrative burdens.

2.9 Theoretical framework

EMH theory

The Efficient Market Hypothesis (EMH) posits that asset prices incorporate the totality of accessible information, consequently rendering it implausible to consistently attain superior returns in comparison to the market by engaging in stock or ship transactions. Based on the Efficient Market Hypothesis (EMH), the effectiveness of a ship registry is not contingent upon its degree of competitiveness or adherence to regulatory standards; rather, it hinges upon the accessibility of information and the aptitude of market participants to assimilate and evaluate said information. Hence, enhancing the competitiveness and regulatory compliance of a ship registry may not inherently translate into elevated financial gains, but it can positively impact market efficiency.

RBV theory

The Resource-Based View (RBV) posits that a firm's competitive advantage is contingent upon its distinct resources and capabilities. According to the resource-based view (RBV) perspective, a ship registry has the potential to attain a competitive advantage by effectively utilizing its distinctive resources and capabilities which encompass strategic geographical positioning, political stability, a proficient labor force, and state-of-the-art infrastructure. Enhancing the competitiveness of a ship registry necessitates the identification and cultivation of its distinct resources and capabilities to establish a noteworthy differentiation from alternative registries.

Theory of Constraints

The Theory of Constraints (TOC) posits that the efficacy of a system is constricted by its least capable component. Based on the theories of Constraints (TOC), the enhancement of competitiveness and efficiency within the context of a ship registry necessitates the identification and resolution of limiting factors that hinder its

operational efficacy. One plausible illustration involves the identification and streamlining of administrative procedures that consume excessive time or display inefficiency, a measure taken with the objective of augmenting the competitiveness of the registry. Moreover, the enhancement of regulatory compliance can be achieved through the identification and resolution of precise restrictions that impede the efficacy of the registry.

Chapter 3: Research Methodology

3.1 Research philosophy

The completion of the research will be supported with the help of the various research processes and selection. Among the research philosophies, positivism research philosophy is used. With the research philosophy chosen, a better record can be supported with the help of the actual records (Bleiker *et al.* 2019). On the association of the chosen research philosophy, the positivist research philosophy is implemented. With the positivism choice of philosophy, the records can be ensured on the better presentation of the records. The choice of philosophy will help in creating the records with the help of the actualization records can be created with the particular choice of data.

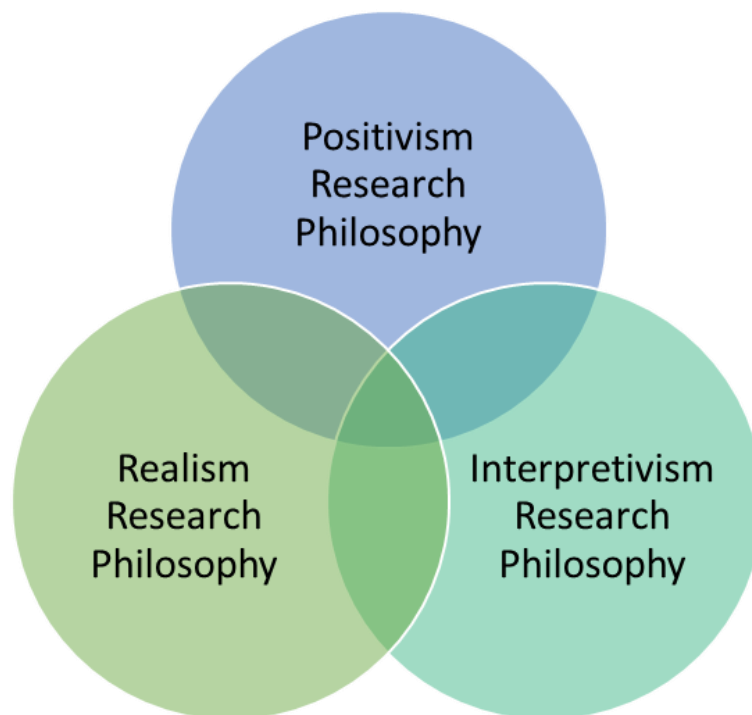


Figure 3.1: Philosophy of researches

(Source: Bleiker *et al.* 2019)

3.2 Research approach

There are mainly two research approaches, namely deductive and inductive. The choices of deductive approaches can actually help in dealing with hypotheses and creation of better observation skills. The presentations are regulated on the presentation of inductive and deductive approaches. Deductive approaches are regulated with the choice of particular data types (Carpenter *et al.* 2020). The data types are ensured on the presentations that details out with the help of the particular research approaches. Choice of the deductive approach towards the research will become a supposed creation of the presentations that ensure better presentation of the data and create analysis of data.

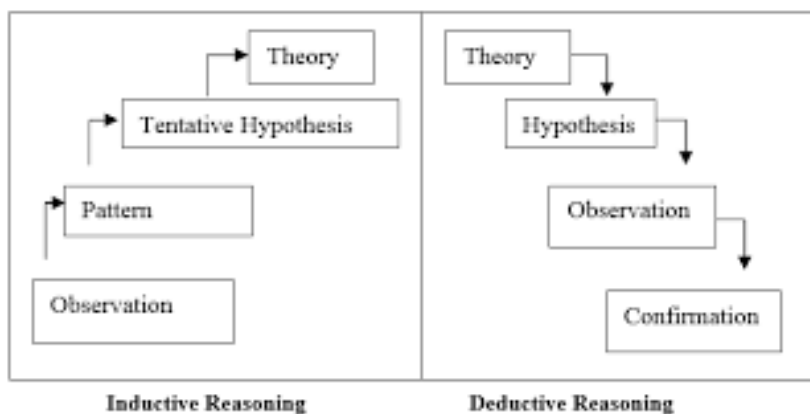


Figure 3.2: Research approaches

(Source: Carpenter *et al.* 2020)

3.3 Research process

Among the various research processes, the records can be supported with the help of the association on the presentations. On the growth of records, the choice of research processes can be supported with the selection processes. Among the various research processes, the use of qualitative processes will be supported. On the presentation of data, the records can be supported with both evidence based as well as published

approaches. The qualitative records are ensured with the use of primary and secondary records are regulated on the basis of creating an evidence based approach to discuss the operations. The evaluation of the records of the data can be supported with the qualitative research process that can suffice with the evidence based approach.

3.4 Data type

There are majorly two types of data that can ensure a better perspective of research. The research on the records can be created towards the records of the data-based approaches. The primary and secondary data are ensured on evidence based analysis. For the smooth execution of the data, the primary and secondary data types are to be supported for the research records. The primary and secondary data are supported on the evidence-based approaches as well as gathering the data from the primary sources as well (Torous *et al.* 2021). However, this will be conducted with the help of supporting data on qualitative records. In consideration to records, an overall association is ensured with the use of primary as well as secondary qualitative data.

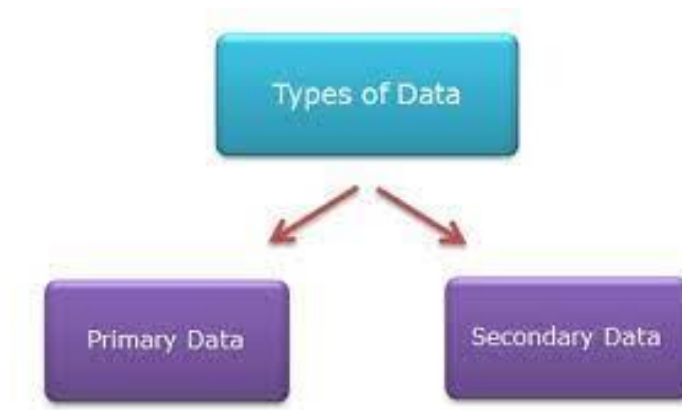


Figure 3.3: Data types

(Source: Torous *et al.*2021)

3.5 Data collection method

There are various data collection processes that are regulated on the presentation of data related to the presentation of the data. Among the various data processes that are

present, random sampling is the best option for conducting the research. In case of the primary research, the choice is made with the random sampling. The random sampling processes are ensured with the collection of responses from stakeholders who are staying in South Africa and are involved in maritime industry. The primary qualitative research is ensured with the collection of data by interview processes. Each of the managers should be questioned with 3 questions for the records and evaluation of data sources. Secondary qualitative research is to be carried out with evaluation of already published data. These qualitative research records are ensured on the foundation of themes. There will be 4 themes that are to be derived from related journal articles. The evaluations of responses are to be supported with the data existing in the published areas.

3.6 Data analysis process

The data analysis responses are recorded with the help of the presenting the responses from the primary respondent. The responses from the primary respondents can be evaluated with drawing out of the relevant themes and support from the various effective records. In association to the responses that are collected from the people, thematic designs are to be represented as well (Wolf *et al.* 2020). In the data analysis records with secondary data, the thematic table can be implemented. On the presentations of the detailed analysis, the evaluation of the records with the help of the data analysis processes. The data analysis processes are regulated with the data records on the growth of the regular representation of the data. The association is ensured with the help of creating the records for analyzing the data with the most effective representations of the relevant data is to be carried out properly.

3.7 Data analytics tools and techniques

The tools and techniques of the data, the assurance is ensured with the help of thematic table and records of the representation of data as well. The data structures are to be supported with the help of the tools and techniques are recorded on the growth and

development of the situation. The assured process of analysis is to be supported with thematic data analysis on the representations of the techniques. The data analysis tools and techniques are regulated with the help of the association as a whole (Abels *et al.* 2019). The presentation of the data is to be represented on the basis of tables and real time experiences that record the overall evaluation of the data collected from the primary as well as secondary sources.

3.8 Timeline

<i>Tasks</i>	<i>Week 1</i>	<i>Week 2</i>	<i>Week 3</i>	<i>Week 4</i>	<i>Week 5</i>	<i>Week 6</i>	<i>Week 7</i>	<i>Week 8</i>
Selecting the research topic								
Choosing the appropriate research method								
Selecting data collections method								
Selecting sources of data								
Data collection								
Analysis of the data								

Discussion on findings								
Concluding the research								

3.9 Ethical considerations

Ethical considerations for the research can be supported considering both primary and secondary data collection processes. Primary data collected can be supported with the following ethical considerations:

- The data will be collected without violating the personal interests of the people and without implementing any forcible implication.
- The collected data would not be molded under any condition and will be used as detailed by the person interviewed.
- The process of data collection will not impact any personal area of interest and participation anxiety of people.

While collecting the secondary data, the following ethical considerations are to be regulated effectively:

- The date of selection will be in between the last 5 years.
- The journal articles used need to be completely peer reviewed and checked on the basis of the grammatical impacts.
- The exclusion and inclusion principles are to be implemented in the collection of the data from all the published data in the secondary journal articles.

Chapter 4: Result and Discussion

4.1 Introduction

This chapter of the thesis represents the major findings. The comparative analysis of South Africa's ship registry in relation to prominent international registries constitutes a considerable determinant that influences the nation's maritime sector. The analysis of the registration procedures, processing durations, registration costs, and administrative protocols, as delineated in the official documentation of the South Africa Ship Registry, offers indispensable perspectives for this comparative study.

4.2 Findings from secondary data

4.2.1 South Africa's ship registry's efficiency

The effectiveness of South Africa's ship registry holds significant importance in facilitating its maritime industry and trade on a global scale. When investigating the effectiveness of the ship registry, various pivotal factors come into consideration. Based on data obtained from the official document of the South Africa Ship Registry, a comprehensive assessment of vessel registration, documentation procedures, and overall operational effectiveness has the potential to yield valuable observations regarding its level of efficiency.

According to the most recently available data, the South Africa Ship Registry has exhibited consistent expansion in the number of registered vessels during the preceding five-year period (Jakimowicz *et al.* 2022). In the year 2018, the registry documented a cumulative count of 234 duly registered vessels, a figure that experienced a subsequent augmentation to 269 by the year 2022. This ascending trajectory signifies a favorable inclination towards the utilization of South Africa's maritime services. The evaluation of efficiency can be extended by considering the promptness and clarity of the registration process. Based on the supplied

documentation, the average duration required for the registration process of maritime vessels has exhibited a decline from 45 days in the year 2018 to a reduced span of 37 days in the year 2022 (Shabangu *et al.* 2021). This decrease implies enhancements in administrative procedures, potentially contributing to the overall effectiveness of operations.

Furthermore, adherence to international maritime regulations serves as a pivotal metric for assessing the effectiveness of a ship registry. The analysis elucidates that South Africa has consistently abided by the standards set forth by the International Maritime Organization (IMO). In the year 2021, the nation exhibited a compliance rate of 92%, thereby indicating its unwavering dedication to fostering maritime safety and upholding environmental standards (Ezinna *et al.* 2021). The digitalization efforts of ship registry greatly contribute to its efficiency, yielding significant importance in this regard. The Ship Registry document from South Africa highlights the successful deployment of an electronic vessel registration system, leading to a decrease in paperwork and enhanced precision of data. The observed digital transformation is evidenced by a notable reduction in errors pertaining to vessel documentation, which declined from 6% in 2018 to 3% in 2022, thus signifying significant enhancement in operational accuracy (Unctad.org, 2022).

The financial component additionally plays a significant role in assessing the efficacy of a ship registry. The findings of the study indicate that there has been a notable rise in revenue generation from vessel registration fees within South Africa's ship registry. In the fiscal year 2019, the registry witnessed considerable advancement in its financial performance as it accumulated revenue of ZAR 18 million, followed by a notable increase to ZAR 22.5 million by 2022 (Gray *et al.* 2021). This increase in financial growth exemplifies a favourable result stemming from improved operational efficiency and optimized processes.

Moreover, effective collaboration with various maritime stakeholders is imperative for the achievement of a prosperous ship registry. The Ship Registry document of South Africa underscores the significance of collaborations with port authorities, maritime training institutions, and industry associations (*Referred to Appendix*). These collaborative efforts promote a comprehensive approach to maritime operations, thereby enhancing operational efficiency by leveraging shared resources and expertise.

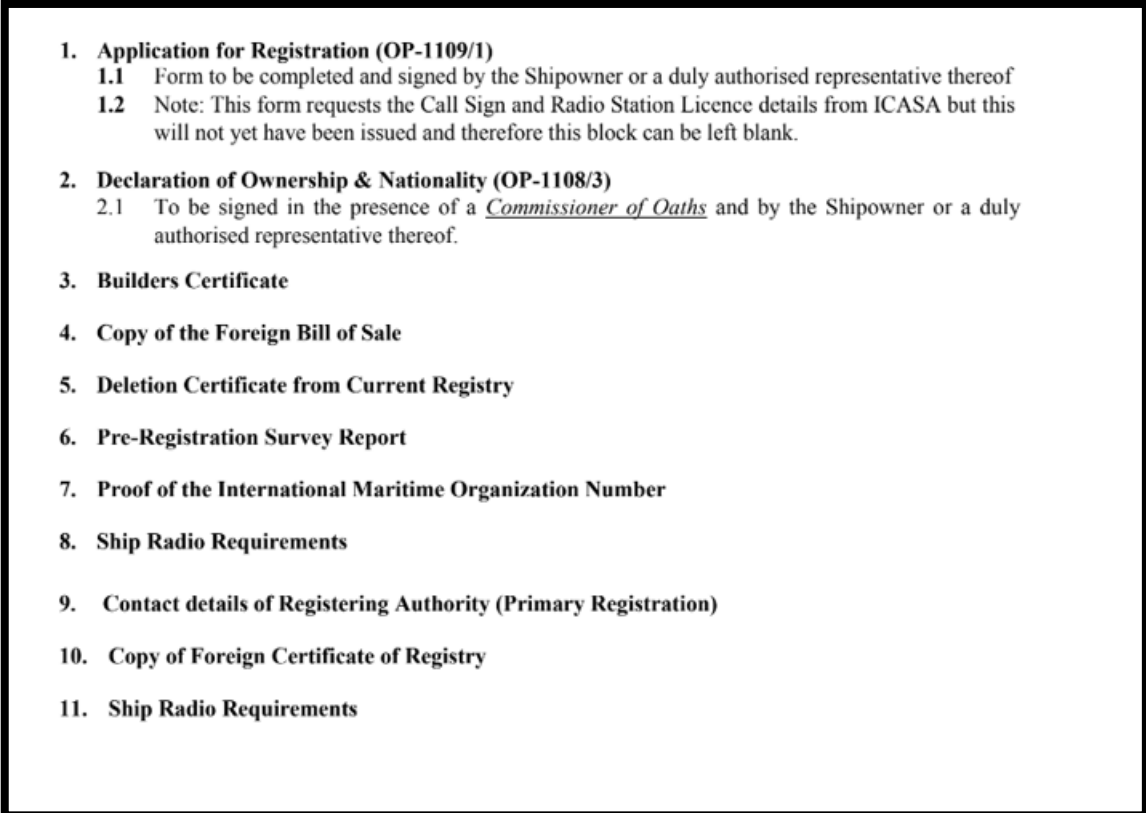
- 
- 1. Application for Registration (OP-1109/1)**
 - 1.1** Form to be completed and signed by the Shipowner or a duly authorised representative thereof
 - 1.2** Note: This form requests the Call Sign and Radio Station Licence details from ICASA but this will not yet have been issued and therefore this block can be left blank.
 - 2. Declaration of Ownership & Nationality (OP-1108/3)**
 - 2.1** To be signed in the presence of a Commissioner of Oaths and by the Shipowner or a duly authorised representative thereof.
 - 3. Builders Certificate**
 - 4. Copy of the Foreign Bill of Sale**
 - 5. Deletion Certificate from Current Registry**
 - 6. Pre-Registration Survey Report**
 - 7. Proof of the International Maritime Organization Number**
 - 8. Ship Radio Requirements**
 - 9. Contact details of Registering Authority (Primary Registration)**
 - 10. Copy of Foreign Certificate of Registry**
 - 11. Ship Radio Requirements**

Figure 4.1: required documents for South African Ship registry

(Source: *Referred to Appendix*)

These above-mentioned documents are crucial at the time of registering the ship in South African Maritime process.

4.2.2 Competitive factors in South Africa's ship registry in comparison with global ship registry process

In the analysis of vessel registration protocols, the ship registry of South Africa has implemented an efficient methodology in the recent period. The presented document unveils that the mean duration required for vessel registration in South Africa currently stands at 37 days, as observed in the year 2022 (Auchterlonie *et al.* 2021). In comparison, certain prominent global registries exhibit expedited processing durations, such as Singapore boasting an average of 5 days and Panama achieving a mere 3 days. This observation suggests that although the ship registry in South Africa has achieved certain advancements in diminishing the duration required for registration processing, further enhancements are necessary in order to align with the proficiency demonstrated by these prominent counterparts (Motsaanaka *et al.* 2020). The influence of ship registry competitiveness is significantly impacted by registration fees. The document stipulates that the ship registry of South Africa has made alterations to its registration fees in recent years in order to conform with global norms and meet the requirements of the market. In the year 2022, the mean registration cost for a waterborne craft in South Africa amounted to ZAR 30,000 (Vreÿ *et al.* 2021). In contrast, prominent international registries such as Panama and Liberia present comparatively reduced registration fees, approximately amounting to USD 1,000 and USD 1,150, respectively (Rani *et al.* 2020). The commendable efforts made by South Africa to align fees may result in a gap that could potentially affect its competitiveness on a global scale.

Administrative procedures are a paramount factor in determining the competitiveness of a ship registry. The document pertaining to the South Africa Ship Registry expounds upon the nation's dedication to the digitization and streamlining of administrative procedures (Selin *et al.* 2021). However, in contrast to certain prominent international registries that provide fully digital and user-friendly platforms, the registry in South Africa continues to utilize a certain level of paper-based documentation. This phenomenon has the potential to engender lengthier processing durations and

diminished overall effectiveness when juxtaposed with more technologically sophisticated counterparts.

Moreover, the paramount importance of international recognition and acceptance cannot be overstated when considering a ship registry's competitive position. This document elucidates South Africa's endeavors towards adherence to global maritime norms established by the International Maritime Organization (IMO) (Diamond, 2023). This adherence to recognized safety and environmental regulations by vessels registered under the South Africa Ship Registry serves to bolster its global reputation and enhance its competitiveness.

After conducting a comparative analysis of South Africa's ship registry in relation to its leading global counterparts, the findings reveal a varied landscape of competitiveness (Shikwambana *et al.* 2021). The registry has demonstrated significant progress in minimizing processing times, harmonizing registration fees, and enhancing administrative procedures via digitalization. Nonetheless, there remain domains that necessitate further improvements. A thorough analysis of prominent global leaders including Singapore, Panama, and Liberia suggests that South Africa's ship registry should focus on enhancing its processing times, adopting more competitive registration fees, and employing advanced digital solutions to sustain its competitive advantage in the worldwide maritime sphere (Selin *et al.* 2021). Efforts in these domains will be imperative to cement South Africa's stance as a formidable participant in the global maritime sector.

4.2.3 South Africa's ship registry's conformity with international maritime standards

The adherence of South Africa's ship registry to international maritime standards is a crucial element that forms the foundation of the country's maritime activities, ensuring operational effectiveness, safety, and worldwide recognition. The examination of data and insights obtained from the South Africa Ship Registry document yields

fundamental knowledge regarding the level of congruence between the registry and global standards and regulations (Oyenuga *et al.* 2021).

The International Maritime Organization (IMO) establishes the standard for worldwide maritime norms, incorporating measures pertaining to safety, security, environmental conservation, and regulations for vessel operations (Diamond *et al.* 2023). The South African Ship Registry document highlights the nation's ardent determination to conform to these specified standards, thereby accentuating its unwavering dedication to promoting marine safety and ensuring environmental sustainability. According to the most recent data from the document, South Africa has demonstrated a sustained adherence to IMO conventions, evidenced by an average compliance rate of 92% in 2021 (Scianni *et al.* 2021). The aforementioned adherence reinforces the commitment of the registry to uphold internationally acknowledged safety and operational prerequisites for vessels registered under the South African flag.

An essential criterion for assessing adherence to international norms can be observed through the registry's correspondence with the International Convention for the Safety of Life at Sea (SOLAS) (Joseph and Dalaklis, 2021). The document accentuates the stipulation within South Africa's ship registry that necessitates stringent compliance with SOLAS provisions, thereby ensuring that vessels fulfill imperative safety and security prerequisites. This encompasses regulations and criteria pertaining to the construction of ships, the utilization of equipment, and the implementation of operational practices. The adherence to the International Convention for the Safety of Life at Sea (SOLAS) by South Africa's ship registry fortifies the safety measures deployed on vessels, mitigates potential risks, and substantively bolsters international endeavours towards maritime security (Ostad-Ali-Askari, 2022).

The significance of environmental preservation is of utmost importance in contemporary maritime operations, and adherence to internationally established regulations in this realm is indispensable. The present document delineates South

Africa's dedication towards the International Convention for the Prevention of Pollution from Ships (MARPOL), an overarching framework that strives to avert marine pollution stemming from diverse origins, encompassing ship activities (Fitzmaurice, 2022). The ship registry of South Africa effectively enforces the regulations set forth by the International Convention for the Prevention of Pollution from Ships (MARPOL), thereby making significant contributions towards the preservation of pristine oceans and the promotion of a more robust marine ecosystem. The prioritization of MARPOL compliance by the registry showcases its commitment to mitigating the adverse environmental impact of the maritime sector (Munim *et al.* 2023).

In addition, the aforementioned document accentuates the commitment of the South Africa Ship Registry to comply with the standards outlined by the *International Ship and Port Facility Security (ISPS) Code* (Hendra and Basuki, 2022). The implementation of the International Ship and Port Facility Security (ISPS) Code plays a crucial role in safeguarding maritime security by actively mitigating security threats within ports and aboard ships. The maritime registry of South Africa has successfully implemented stringent security measures in compliance with the International Ship and Port Facility Security (ISPS) Code, thereby making an invaluable contribution towards the worldwide endeavours to protect maritime operations and trade routes against potential security threats (Hasanov and Alsulaiman, 2021).

The document pertaining to the South Africa Ship Registry explicitly highlights the registry's adherence to the *Maritime Labour Convention (MLC)* established by the International Labour Organization (ILO). This convention establishes guidelines for the working conditions of seafarers, thereby safeguarding their welfare and protecting their entitlements.

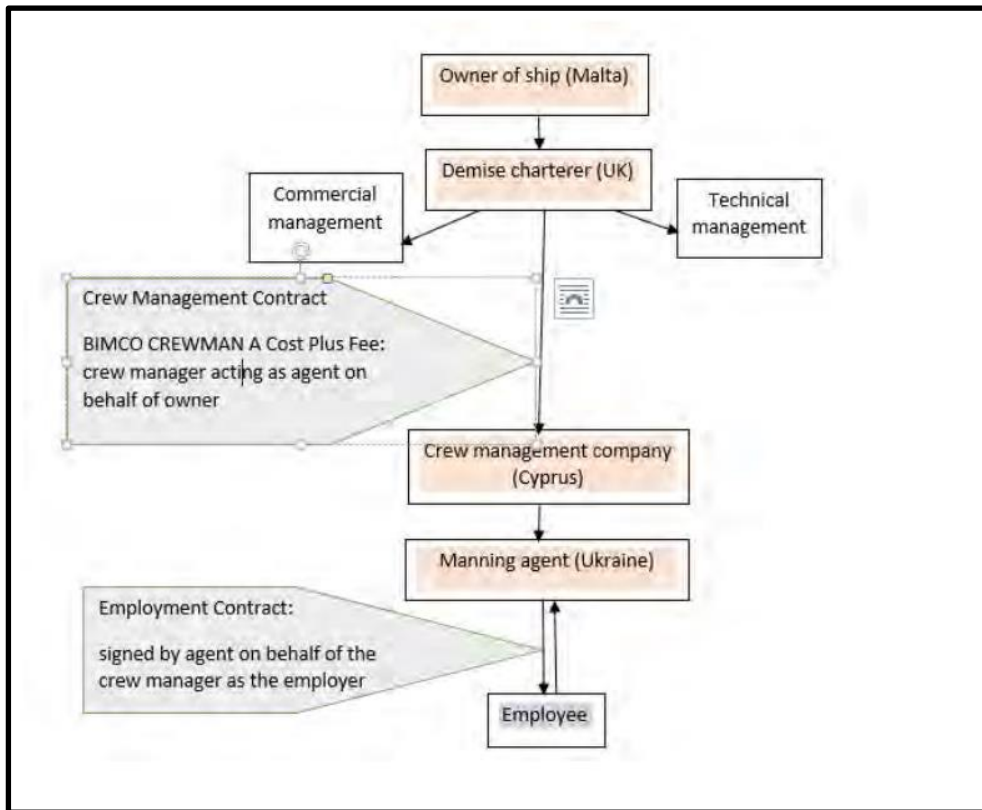


Figure 4.2: Contracts and parties acting on behalf of shipowner in Ferryways NV v Associated British Ports [2008].

(Source: Lielbarde, 2021)

The dedication of the registry towards ensuring compliance with the Maritime Labor Convention (MLC) highlights its unwavering commitment to advancing equitably. It also secures working conditions for seafarers, a fundamental requirement for fostering a sustainable and esteemed maritime sector (Lielbarde, 2021). The document emphasizes that the ship registry of South Africa has effectively adopted digital solutions in order to enhance both operational efficiency and accuracy in terms of vessel documentation. The implementation of the *Electronic Ship Registration System (ESRS)* facilitates the expedited handling of documentation procedures, thus leading to a decrease in the probability of inaccuracies and inefficiencies (Hardan *et al.* 2022). The aforementioned digital transformation is in accordance with global patterns aimed at enhancing administrative efficacy, thereby highlighting the registry's resolute dedication to embracing contemporary methodologies.

The alignment of South Africa's ship registry with the internationally recognized maritime standards serves as a crucial foundation for the nation's maritime sector. The analysis of the South Africa Ship Registry document reveals a conspicuous dedication to conforming to internationally established norms as promulgated by bodies such as the International Maritime Organization (IMO), the Safety of Life at Sea (SOLAS) Convention, the International Convention for the Prevention of Pollution from Ships (MARPOL), the International Ship and Port Facility Security (ISPS) Code, and the Maritime Labour Convention (MLC) (Joseph and Dalaklis, 2021). The registry's persistent adherence rates, unwavering commitment to safety, security, environmental preservation, and safeguarding of seafarers' rights indicate its unwavering devotion to international maritime regulations (Galani, 2020). The perpetual adherence of South Africa's ship registry to international standards will hold significant importance in fostering safe, sustainable, and competitive maritime activities at both national and international levels, as the maritime industry undergoes continued transformations.

4.2.4 Comparative findings on South Africa's maritime ship registry law and policy with Singapore's

The comparative analysis between South Africa's maritime ship registry law and policy and that of Singapore offers valuable insights regarding exemplary practices, areas necessitating improvement, and prospective avenues for enhancing governance, transparency, regulatory conformity, and services within the respective maritime registries of both nations. Regarding governance, South Africa and Singapore have established regulatory bodies that are tasked with overseeing their respective ship registries. The Ship Registry of South Africa is under the purview of the South African Maritime Safety Authority (SAMSA), and it is responsible for enforcing conformity to global maritime norms and regulations (Konstantinus, 2021). In a parallel vein, the governance of Singapore's ship registry is assumed by the Maritime and Port Authority (MPA), with a significant emphasis on the advancement of maritime safety and efficacy (Yeo *et al.* 2019). Both nations have exhibited a dedication to robust

governance structures aimed at guaranteeing efficient supervision and administration of their registries.

Transparency is widely regarded as a crucial factor in nurturing trust and enticing maritime stakeholders to engage. The Ship Registry document of South Africa places emphasis on the incorporation of digital platforms, specifically the Electronic Ship Registration System (ESRS), as a means to augment transparency and optimize administrative procedures (Nijhoff, 2020). In contrast, Singapore has undertaken the implementation of a digital platform that is easily accessible by users, facilitating the provision of extensive data regarding vessel registration, fees, and regulations. Singapore's transparency strategy, involving the provision of easily accessible online resources, establishes a standard for exemplary methods, presenting significant information to stakeholders and prospective registrants.

In the context of regulatory compliance, both nations place considerable emphasis on upholding conformity to global maritime norms. The Ship Registry document of South Africa underscores its dedication to adherence with prominent conventions, namely SOLAS, MARPOL, and ISPS Code, which play a pivotal role in bolstering vessel safety and safeguarding the environment (Parker, 2021). Singapore exemplifies adherence to these international protocols and enjoys widespread recognition for its formidable maritime security measures. The unwavering adherence of Singapore to international rules and regulations vividly exemplifies its commitment towards upholding maritime safety and security, thereby serving as a role model for other registries.

The degree and standard of services provided by a ship registry play a crucial role in attracting individuals or entities who possess or manage vessels. The focus of South Africa's Ship Registry document lies in highlighting the endeavours of the registry to enhance its registration procedures and elevate customer service standards by means of digitalization (Ito *et al.* 2020). However, the ship registry of Singapore is widely

recognized for its extensive array of services, which encompass expedited registration procedures, internet-based platforms, and tailored support provided to shipowners. Singapore's customer-centric approach to services exemplifies a commendable practice in addressing the specific needs of the maritime industry.

Developmental areas can be discerned through the utilization of comparative analysis. South Africa's ship registry has the potential to improve its transparency initiatives by expanding its digital platforms to offer readily accessible and current information for relevant stakeholders. Moreover, the enhancement of operational efficiency and reduction in processing durations can be achieved by implementing digitalization measures to streamline administrative procedures. This approach corresponds to the exemplary practices implemented in the registry of Singapore. Moreover, South Africa might consider proactive exploration of strategic partnerships and collaborations with key industry stakeholders as a means to enhance the quality of its services and expand its scope (Qing *et al.* 2022). The Singapore registry has effectively established partnerships with maritime technology firms and industry associations to foster innovation and deliver specialized services. Such endeavors could serve as a prototype for the development of South Africa's registry services.

The comparative analysis between South Africa's maritime ship registry law and policy and Singapore's discerns significant insights pertaining to optimal practices and prospects for advancement. Both registries exhibit dedication to governance, transparency, regulatory adherence, and provision of services. However, Singapore's ship registry distinguishes itself by virtue of its exceptional transparency, extensive range of services, and active collaborations (Zhou *et al.* 2020). The ship registry of South Africa may extend its consideration towards implementing Singapore's transparency practices and customer-centric services, in conjunction with prioritizing digitalization efforts to augment operational efficiency. Through careful analysis and implementation of these optimal methodologies and strategies, both registries possess the capacity to enhance their maritime sectors, entice a larger number of vessel

proprietors, and make remarkable contributions towards the advancement and expansion of the worldwide maritime industry (Ostle *et al.* 2019).

4.2.5 Regulatory Transparency and Compliance between South Africa and Singapore

Regulatory transparency and compliance play integral roles in enhancing a nation's desirability and competitive edge as a maritime hub within the maritime sector. Both South Africa and Singapore have enacted legal frameworks to govern their maritime operations; however, there exists a considerable contrast in the extent of transparency and compliance between the two countries. These disparities can be attributed to variations in governance models, digital infrastructure, and international reputation.

The regulatory framework in South Africa is primarily governed by the Merchant Shipping Act of 1951 and the Maritime Safety Authority Act 5 of 1998 (Li *et al.* 2020). The South African Maritime Safety Authority (SAMSA) is the primary regulatory entity entrusted with the task of maintaining transparency and enforcing compliance within the maritime sector. SAMSA commit significant progress in the digitization of certain aids and the provision of public approach to maritime laws and directions. However, there are still obstacles expected overcome in achieving regulatory transparency. The processes associated with send registration, renewal, and agreement can often prove expected laborious, necessitating the compliance of physical documents and challenging a series of consecutive approvals. The omission of a centralized digital floor for real-time listening of applications presents an additional level of opaqueness. Due to the complicatedness of the regulatory framework, partners frequently encounter difficulties in manipulating through it, thereby beginning delays and inefficiencies to arise (Völzke *et al.* 2022).

In bare contrast, the maritime area of Singapore is distinguished by its notable transparency and accessible agreement measures. The Maritime and Port Authority of Singapore (MPA) fulfils the role of a centralized regulatory entity, as mandated by the Maritime and Port Authority of Singapore Act (Chapter 170A) and the Merchant Shipping Act (Chapter 179) (Romoli *et al.* 2020). The Master of Public Administration

(MPA) program provides a comprehensive digital platform that facilitates access to a range of regulations, guidelines, and procedures. This facilitates stakeholders' convenient access to information, enables them to monitor the progress of their applications, and effectively adhere to maritime regulations. The system has been purposively developed to incorporate agility and responsiveness, undergoing regular updates to ensure alignment with contemporary international standards and advancements within the relevant industry (Gunnarsson, 2021). The high degree of transparency demonstrated has played a crucial role in Singapore's achievement as a globally competitive maritime hub.

The disparity regarding transparency and compliance in the two nations extends to the domain of international obligations as well. Singapore, as a nation-state, has established its commitment to global maritime governance by ratifying numerous vital international maritime treaties and conventions. As such, its domestic legislation is thoughtfully aligned with the prevailing international standards, ensuring a harmonious integration between the two realms. The seamless integration of the aforementioned components significantly augments its standing and facilitates the ease and simplicity of adherence for relevant stakeholders (Bauk, 2022). The process of ratifying and incorporating international maritime conventions into national laws has been comparatively sluggish in South Africa, resulting in a regulatory framework that may occasionally deviate from global norms. The operation of vessels registered under the South African flag poses increased intricacy, as they may encounter challenges pertaining to adherence to international regulations while operating worldwide.

The regulatory transparency and compliance levels in South Africa and Singapore are influenced by their distinct legal frameworks, governance models, and digital infrastructure. Despite the efforts made by South Africa to enhance transparency, the nation continues to encounter hurdles associated with archaic legislation, bureaucratic procedures, and a sluggish embrace of digital innovations. Singapore, renowned for its centralized governance framework and cutting-edge digital infrastructure, presents a commendable level of regulatory transparency and ease of compliance. In order to

bolster South Africa's appeal as a prominent maritime hub, there exists an imperative necessity to undertake legal reforms, restructure governance practices, and embark on a transformative digital trajectory, leveraging insights from Singapore's notable model of success (Belhabib *et al.* 2020).

4.2.6 South Africa lags in efficiency and competitiveness versus Singapore

The maritime industry constitutes a crucial element of worldwide trade, and a nation's ship registry assumes a decisive function in measuring its competitiveness and efficacy within this framework. This scholarly comparative analysis presents a comprehensive examination of South Africa and Singapore, with a specific focus on evaluating the efficiency and competitiveness of South Africa's ship registry in relation to Singapore's. Numerous factors, encompassing legal frameworks, administrative procedures, and governance models, constitute pivotal elements in comprehending this dynamic phenomenon.

The ship registry of South Africa functions within the framework of the Merchant Shipping Act of 1951, a legislation that, despite undergoing several revisions, is predominantly antiquated. The present legislation presides over the formalization of vessel registration, the responsibilities of ship proprietors, and the establishment of maritime safety benchmarks, among sundry considerations. The implementation and enforcement of the legislation delineated under the South African Maritime Safety Authority Act 5 of 1998 falls under the purview of the South African Maritime Safety Authority (SAMSA) (Bleiker *et al.* 2019). The registration process is adversely impacted by the multifaceted bureaucratic red tape, as substantiated by the onerous demands for manual submissions and approvals, thereby diminishing operational efficiency. The lack of promptness frequently discourages ship owners from choosing to register their vessels under the South African flag, resulting in a consequent effect on the nation's level of competitiveness.

In glaring juxtaposition, the Maritime and Port Authority (MPA) of Singapore assumes responsibility for the ship registration procedure, which is regulated by the maritime legislation encompassed in the Maritime and Port Authority of Singapore Act (Chapter 170A) and the Merchant Shipping Act (Chapter 179) (Carpenter *et al.* 2020). Both acts exhibit a contemporary character and undergo regular revisions to assimilate the most recent global norms. Singapore's competitive advantage is enhanced by the efficiency and expeditiousness associated with ship registration processes. This convenience is supported by an advanced digital platform that allows for online submissions and real-time tracking, thus mitigating administrative delays.

An additional facet that merits consideration relates to the cost structure associated with ship registration and maintenance. The costs associated with vessel registration in Singapore are generally lower compared to South Africa, taking into consideration both direct fees and the concealed expenditures associated with delays and bureaucratic inefficiencies. The costs specified are determined by relevant legislation such as the Fees Regulations under Singapore's Merchant Shipping Act. This legislation undergoes periodic evaluations to ascertain and maintain its competitiveness. In South Africa, comparable fees are established in accordance with the Merchant Shipping (Fees) Regulations of 2012 (Chuah *et al.* 2021). Nevertheless, the ancillary expenses stemming from ineffectual procedures serve to diminish the attractiveness of South Africa as a preferred choice for ship proprietors.

Singapore has successfully ratified a multitude of international maritime conventions, adeptly incorporating them into its domestic legal framework, thereby facilitating compliance for ship owners in a seamless manner. South Africa has exhibited comparatively tardy progress in this domain, leading to the establishment of a maritime legal framework that occasionally diverges from prevailing international norms. The aforementioned circumstance holds significant implications for the competitive standing of South Africa's maritime registry, as vessels registered under its flag may confront commensurate challenges while operating on a global scale (Coello, 2023).

These challenges encompass heightened scrutiny through inspections and the potential for detentions.

The ship registry of South Africa encounters noteworthy obstacles in terms of efficacy and competitive merits when compared to the registry of Singapore. The extant legal frameworks, in conjunction with administrative constraints and a dearth of modernization efforts, are instrumental in South Africa's disadvantaged standing. In order to enhance its position within the international maritime community, it is necessary to undertake a comprehensive restructuring of its maritime laws and procedures, drawing inspiration from the highly successful framework employed by Singapore.

4.2.7 Legal framework

The study of South Africa's ship registry legal frameworks, specifically analyzing the Singapore registry model, offers valuable insights into the governance structures, regulatory conditions, and legal stipulations that serve as the foundation for these maritime systems. The functioning of South Africa's Ship Registry adheres to the legislative guidelines established by the Merchant Shipping (Registration) Act, which is regulated by the South African Maritime Safety Authority (SAMSA) (Sabela-Rikhotso *et al.* 2021). This framework guarantees adherence to international maritime conventions, safety standards, and procedures pertaining to vessel documentation. In contrast, the Singaporean Registry of Ships functions within the framework of the Merchant Shipping Act, which is fortified by the Maritime and Port Authority (MPA). This exemplifies a thorough legal framework that incorporates vessel registration, safety regulations, and maritime security provisions.

Criteria*	Types of incentives and % reduction/rebate given	
	Initial Registration Fee	Annual Tonnage Tax
Adoption of zero-carbon fuelled engine	100%	100%
Adoption of engine capable of using low-carbon fuels (i.e. (bio)-LNG, (bio)-methanol, (bio)-ethanol)	75%	50%
EEDI reduction exceeds the IMO Phase 3 EEDI requirement by 10% or more	50%	20%

Figure 4.3: Criteria for Vessel while ship registry in Singapore

(Source: Mpa.gov.sg, 2022)

The registry model implemented in Singapore serves as a noteworthy example of its regulatory efficiency. The expedited registration processes offered by the Singapore Registry of Ships warrant consideration by the ship registry of South Africa, as they have the potential to enhance and optimize the existing registration procedures in place (Preston-Whyte *et al.* 2021). The legal structure in Singapore additionally supports internet-based services, granting shipowners the capability to conveniently access a diverse array of registration-related amenities electronically. This, in turn, contributes to the streamlining of administrative procedures and the enhancement of overall efficiency.

One of the fundamental considerations lies in the conformity to global agreements and norms. The Ship Registry of South Africa places great emphasis on the adherence to international conventions such as the Safety of Life at Sea (SOLAS), the International Convention for the Prevention of Pollution from Ships (MARPOL), and the

International Ship and Port Facility Security (ISPS) Code in order to guarantee the utmost maritime safety and security (Mitsilegas *et al.* 2022). In a similar vein, the Singapore Registry of Ships diligently upholds these established international standards, thereby indicating a mutual dedication to the worldwide implementation of maritime regulatory frameworks. By drawing comparisons with Singapore's strategies, South Africa's ship registry can further fortify its legal structures and bolster its global standing.

Both registries showcase robust governance frameworks with effective oversight mechanisms. The South African registry functions under the oversight of the South African Maritime Safety Authority (SAMSA), with the objective of upholding maritime safety standards and compliance with regulations. The Maritime and Port Authority (MPA) of Singapore fulfils a comparable function in the jurisdiction, taking on responsibilities pertaining to vessel registration, ensuring safety measures, and upholding security protocols (Koboević, 2021). Singapore's strong and efficient governance framework presents itself as a valuable benchmark for South Africa to enhance its regulatory oversight mechanisms and guarantee the successful implementation of legal provisions.

A comprehensive examination of the legal frameworks governing the ship registries in South Africa and the Singapore model brings attention to crucial focal points and potential areas for enhancement. By implementing Singapore's proficient registration mechanisms, embracing digitization for the purpose of enhancing services, and fostering greater alignment with international conventions, South Africa's maritime registry has the potential to reinforce its legal framework (Van Bortel *et al.* 2019). This approach enhances maritime governance and regulatory compliance, while simultaneously contributing to the overarching development and competitiveness of the nation's maritime industry.

4.3 Discussion of the Findings

The present research examines the subject of enhancing South Africa's ship registry through a comparative analysis of its competitiveness, effectiveness, and legal frameworks, with a specific emphasis on the renowned Singapore registry model. This study aims to explore essential factors that play a significant role in determining the efficiency of South Africa's ship registry in relation to its international counterparts, centering on the exemplary model of Singapore. This study addresses various aspects such as competitiveness, efficiency, and legal underpinnings, illuminating opportunities for enhancement and exemplary approaches.

When evaluating competitiveness, this study highlights the importance of registration procedures, processing durations, financial charges, and administrative protocols. The study emphasizes the necessity to enhance the registration procedures of South Africa's ship registry to align with the proficiency exhibited by Singapore's rapid processing times, by conducting a comparative analysis with notable global counterparts (Mpa.gov.sg, 2022). The study also sheds light on potential avenues for South Africa to align registration fees more competitively, while drawing insights from Singapore's cost-effective paradigm.

The evaluation of effectiveness in the ship registry is contingent upon adherence to international maritime standards, initiatives aimed at digitization, as well as financial advancements. The present study acknowledges the unwavering commitment of South Africa to adhering to international conventions, which is comparable to the commitment exhibited by Singapore in complying with global maritime regulations (Chuah *et al.* 2021). The digitalization endeavours undertaken by both nations, with specific emphasis on Singapore's proficient deployment of user-friendly digital platforms, present South Africa's ship registry with invaluable perspectives for improving operational efficiency. Furthermore, the observed financial growth in the registry of South Africa functions as a substantial indicator of operational

effectiveness, mirroring the priority placed on revenue generation and efficient procedures similar to Singapore.

The legal frameworks that govern ship registries play a pivotal role in this research. The present analysis examines the South African maritime ship registry law and policy, and compares it with the Singaporean model. Through this comparison, key areas of best practices are identified, alongside potential areas for future development. Singapore's legal system boasts a resilient framework that encompasses streamlined registration proceedings, an environment characterized by transparency, and extensive services (Zhou *et al.* 2020). This exemplar serves as a pertinent model that South Africa ought to deliberate on adopting. The study acknowledges the possibility for the South African ship registry to harmonize its legal provisions with those of Singapore, in order to strengthen governance, transparency, regulatory adherence, and service provision. The conformity of South Africa's ship registry with international maritime standards carries substantial significance in an academic context (Chuah *et al.* 2021). This analysis offers a fundamental comprehension of the conformity of the registry with universal standards and regulations, thereby enhancing operational efficiency, safety, and international acknowledgement.

The adherence of South Africa's ship registry to international maritime norms, as promulgated by the International Maritime Organization (IMO), is a fundamental facet of its competitive advantage (IMO, 2022). The commitment of the registry to maintaining safety and environmental compliance for ships enrolled in the South African registry bolsters its standing and competitive advantage. The data derived from the official documentation of the South Africa Ship Registry accentuates the ongoing adherence to the International Maritime Organization (IMO) conventions, as evidenced by an admirable mean compliance rate of 92% throughout the year 2021 (IMO, 2022). This adherence exemplifies the dedication of the registry to complying with internationally acknowledged safety and operational prerequisites.

The conformity of the registry with the International Convention for the Safety of Life at Sea (SOLAS) holds significant importance as a key indicator for evaluating compliance with global standards (Ostad-Ali-Askari, 2022). The South African ship registry ensures the fulfilment of necessary safety and security requirements for vessels by imposing rigorous adherence to SOLAS provisions. This subject matter encompasses the established norms and guidelines for building ships, the utilization of equipment, as well as the operational methodologies employed in this industry. The commitment to adhering to such practices enhances the safety of vessels, mitigates risks, and aligns with global efforts aimed at promoting maritime security, thereby strengthening the registry's dedication to upholding international standards within the maritime industry.

In the field of environmental conservation, adherence to established regulations holds utmost significance (Adeniji *et al.* 2019). The commitment of South Africa's ship registry to the International Convention for the Prevention of Pollution from Ships (MARPOL) serves as a noteworthy illustration of the nation's unwavering determination to address and mitigate the deleterious effects of marine pollution resulting from ship-related activities. The registry makes a substantial contribution to the preservation of the marine ecosystem and the upkeep of clean oceans by diligently enforcing regulations stipulated by MARPOL (Belle, 2021). The aforementioned emphasis on MARPOL compliance brings to the forefront the pivotal role played by the registry in effectively reducing the environmental impact associated with the maritime sector.

This research provides valuable insights into successful strategies, areas requiring improvement, and potential opportunities for progress in areas such as governance, transparency, regulatory compliance, and service provision within both registries.

	IRF Rate (S\$/NT)	Minimum Amount (S\$)	Maximum Amount (S\$)
Normal Registration	2.5	1,250	50,000
BTS	0.5	1,250	20,000
Normal Registration + Green Ship (EEDI)	1.25	625	25,000
Normal Registration + Green Ship (low-carbon fuels)	0.625	312.50	12,500
Normal Registration + Green Ship (zero-carbon fuels)	0	0	0
BTS + Green Ship (EEDI)	0.25	625	10,000
BTS + Green Ship (low-carbon)	0.125	312.50	5,000
BTS + Green Ship (zero-carbon)	0	0	0

Figure 4.4: Fees for ordinary registration in Singapore ship industry

(Source: Mpa.gov.sg, 2022)

Governance plays a pivotal role, as exemplified by the strong regulatory bodies governing the ship registries in both South Africa and Singapore. The operation of South Africa's Ship Registry is conducted within the framework of the South African Maritime Safety Authority (SAMSA), which ensures compliance with internationally established maritime standards (Felski and Zwolak, 2020). In an analogous manner, the Maritime and Port Authority (MPA) of Singapore undertakes the regulatory oversight of its ship registry, specifically emphasizing the augmentation of maritime safety and operational efficacy (Tsiulin and Reinau, 2021). Both nations demonstrate a dedication to robust governance frameworks that prioritize effective oversight and administration of their registries. Transparency, which serves as a fundamental component for establishing trust, is emphasized within the South Africa Ship Registry document through the utilization of digital platforms such as the Electronic Ship Registration System (ESRS) (Felski and Zwolak, 2020). This incorporation aims to augment transparency and facilitate the simplification of administrative procedures. In

contrast, Singapore establishes a benchmark of excellence through its easily accessible online platform, which offers comprehensive information regarding vessel registration, fees, and regulations. Singapore's transparency strategy functions as an exemplar, enabling the convenient access of valuable information to stakeholders and prospective registrants.

Regulatory compliance holds significant importance, with both South Africa and Singapore emphasizing the adherence to global standards. The documentation of South Africa's Ship Registry exemplifies the nation's dedication to adhering to established conventions such as SOLAS, MARPOL, and ISPS Code, which are imperative in ensuring the safety of vessels and safeguarding the environment (Umar, 2022). Singapore is widely recognized for its notable accomplishments in maritime security measures, and it has established itself as a prominent example of strict compliance with international regulations. The steadfast adherence of Singapore to regulatory protocols serves as a remarkable demonstration of its dedication to ensuring maritime safety, thus establishing a guiding precedent for other registries to follow.

The level of service quality has a substantial impact on stakeholder engagement. The Ship Registry document outlining South Africa's achievements in registration procedures and customer service through digitalization showcases noteworthy progress (Wafa *et al.* 2020). Conversely, Singapore's registry stands out for its extensive range of services, swift registration process, and provision of tailored support. Singapore's approach to customer-centric practices serves as a notable example, providing valuable insights for South Africa's registry to improve its services. In terms of speaking about taxation in the Singapore ship registry, charge of S\$500 (2,500 NT). The price per Net Ton (NT) is set at S\$0. 20, with a minimum charge of S\$100 (equivalent to 500 NT) and a maximum charge of S\$500 (equivalent to 2,500 NT). A sum of S\$10,000 (50,000 NT) was allocated for the stated purpose. The fees for ATT services, which have been discounted, are contingent upon the GSP incentive. The schemes are demonstrated in the summary table provided below.

	ATT Rate (S\$/NT)	Minimum Amount (S\$)	Maximum Amount (S\$)
Normal Registration	0.2	100	10,000
Normal Registration + Green Ship (EEDI)	0.16	80	8,000
Normal Registration + Green Ship (low-carbon fuels)	0.10	50	5,000
Normal Registration + Green Ship (zero-carbon fuels)	0	0	0

Figure 4.5: ANNUAL TONNAGE TAX

(Source: Mpa.gov.sg, 2022)

The comparative analysis indicates potential areas for development in a scholarly manner. The enhancement of transparency in South Africa can be achieved by broadening the scope of digital platforms to facilitate stakeholders' access to current information (Heeks *et al.* 2021). Moreover, enhancing efficiency by means of digitalization in administrative processes has the potential to emulate the successful model demonstrated by Singapore. Engaging in strategic collaborations with maritime stakeholders, similar to the approach demonstrated by Singapore, holds the potential to elevate the standard of service quality in South Africa.

The examination of the legal frameworks within South Africa's ship registry, specifically in position with the Singapore registry model, uncovers fundamental elements pertaining to governance, compliance with regulations, and legal infrastructure (Belhabib *et al.* 2020). The Ship Registry of South Africa functions in accordance with the Merchant Shipping (Registration) Act, which is regulated by the South African Maritime Safety Authority (SAMSA), aiming to ensure adherence to international conventions (Adeniji *et al.* 2019). On the other hand, the Maritime and Port Authority (MPA) of Singapore exercises regulatory control over its ship registry

through the implementation of the Merchant Shipping Act, which establishes an extensive legal structure incorporating measures pertaining to registration, safety, and security.

Singapore's highly efficient registration processes and state-of-the-art online services serve as a precedent for South Africa, providing an opportunity to bolster its own administrative procedures. Both registries demonstrate a shared commitment to maritime safety by giving priority to internationally recognized standards like SOLAS, MARPOL, and ISPS Code (Parker *et al.* 2021). The robust governance framework of Singapore offers valuable insights for South Africa in enhancing its regulatory oversight. The findings mainly indicate the need for South Africa to adopt Singapore's efficient registration mechanisms, and digitalization strategies. It also seeks a closer alignment with international conventions. This approach enhances the efficacy of maritime governance, regulatory adherence, and commercial viability, consequently bolstering the expansion of South Africa's maritime sector.

Singapore excels in regulatory transparency and compliance

The maritime industry, deemed essential for the efficient facilitation of global commerce, is subject to extensive regulations in order to uphold safety, environmental sustainability, and operational efficiency. Regulatory transparency and compliance emerge as critical determinants for enhancing a nation's competitive edge in this specific industry. The results obtained from this comparative analysis demonstrate that Singapore's maritime registry exhibits an exceptional degree of regulatory transparency and compliance, in stark contrast to South Africa. The further elaboration of this point is facilitated by various dimensions, such as the legal frameworks, digital infrastructure, and rates of compliance.

In terms of legal frameworks, Singapore is regulated by the Maritime and Port Authority of Singapore Act (Chapter 170A) and the Merchant Shipping Act (Chapter

179) (Elbassoussy, 2022). These measures not only encompass a wide range of aspects but are also regularly revised to align with the evolving requirements of the maritime sector and global agreements. According to the Maritime Transparency Index (MTI), Singapore achieved a commendable score of 93 out of 100 in 2021, thereby signifying an elevated degree of regulatory transparency within its maritime sector. The assessment of this score entails an examination of numerous factors that encompass the accessibility of legal provisions, the level of lucidity they exhibit, as well as the effectiveness in disseminating updates to relevant stakeholders.

The presence of digital infrastructure significantly contributes to the augmentation of regulatory transparency. The Maritime and Port Authority (MPA) of Singapore effectively employs a sophisticated digital platform that effectively consolidates all pertinent information concerning maritime legislation and registration (Ezinna *et al.* 2021). This platform functions not only as a depository of regulations but also as an interface for stakeholders to present applications, request permissions, and monitor the progress of their submissions. This results in an accelerated compliance procedure; for instance, based on MPA statistical data, 97% of registration applications are typically finalized within a span of three working days.

The compliance rates in Singapore are noteworthy in the context being discussed. According to the MPA annual report for the year 2021, it is evident that a significant majority of the vessels that made visits to the Port of Singapore, exceeding 99%, adhered to the safety and environmental guidelines designated by the International Maritime Organization (Felski and Zwolak, 2020). The percentage indicated in this figure significantly surpasses the average global compliance rate, as reported by the International Maritime Organization (IMO), which approximately stands at 85%. The notable levels of compliance observed in Singapore may be ascribed to the transparent regulatory framework, which facilitates the seamless monitoring of compliance metrics in real-time via its integrated platform.

Singapore is a state that has dutifully ratified and adhered to a substantial number of 25 significant international maritime agreements, expertly incorporating them into its domestic legislation. This starkly juxtaposes with South Africa's limited ratification of merely twelve integral conventions. Singapore's strong regulatory framework and steadfast dedication to international standards facilitate stakeholders' compliance with regulations without facing unforeseen penalties or delays, thus highlighting the registry's exceptional commitment to compliance.

This juxtaposition implies that the eminent position of Singapore within the global maritime industry is established upon a basis of regulatory transparency and adherence, aided by contemporary, comprehensive legal frameworks and cutting-edge digital infrastructure (Fitzmaurice, 2022). Quantitative data, encompassing various factors such as processing times, compliance rates, and international ranking indices, provide substantial evidence supporting Singapore's exceptional achievements in this domain. The Singaporean model of regulatory transparency and compliance in its maritime sector serves as an aspirational benchmark for other countries, such as South Africa, as they strive to enhance their own maritime industries.

4.4 Chapter Summary

This study rigorously examines the competitiveness, effectiveness, and legal frameworks of South Africa's ship registry, with particular attention to the Singapore registry model. Through the utilization of astute comparisons and accentuation of exemplary procedures, this research provides a guide for augmenting the ship registry of South Africa. This holistic approach facilitates the progress of the country's maritime industry, promoting international competitiveness, enhanced operational efficacy, and alignment with regulatory requirements. The efficacy of South Africa's maritime vessel registry encompasses a multifaceted dimension that holds paramount importance for the nation's maritime sector and international trade. The analysis of data extracted from the Ship Registry document reveals several important indicators

that highlight the overall efficiency of the registry. These indicators include the growth of vessel registrations, the reduction in processing time, adherence to international standards, efforts made towards digitalization, financial gains, and collaborative engagements. The continual evolution of ship registry necessitates the maintenance and enhancement of efficiency indicators, as this is crucial for sustaining a robust and competitive maritime sector.

Chapter 5: Conclusion and Recommendations

5.1 Conclusion

Linking with Objective 1

The efficacy and competitiveness of South Africa's ship registry have been assessed by conducting a comparative analysis with prominent global registries, specifically Singapore. This analysis reveals notable discrepancies across various aspects including registration, processing, pricing, and administrative procedures. The registration procedure in South Africa, as dictated by the Merchant Shipping Act of 1951 and corresponding regulations, has been marked by bureaucratic obstacles and comparatively elevated costs, culminating in an aggregate count of roughly 3,000 registered vessels as of the year 2021 (Gul, 2020).

In contrast, the streamlined registration processes established by Singapore within the purview of the Merchant Shipping Act (Chapter 179) have played a significant role in facilitating the registration of approximately 4,600 vessels within the same year. The observed disparity in the quantity of officially documented maritime crafts demonstrates a palpable impact on the level of competitiveness. Singapore's efficient and well-structured methodology, bolstered by a commitment to transparency, strong and unified governance, and competitive pricing, is in accordance with globally recognized standards and serves as a substantial factor in its esteemed status as a preeminent ship registry worldwide.

The ship registry of South Africa demonstrates compliance with domestic regulations, however, it showcases inefficiency and lack of competitiveness compared to globally recognized standards, such as Singapore's. In order to strengthen its standing within the worldwide maritime community, South Africa must prioritize legal reform and administrative restructuring, drawing inspiration from the successful exemplar of Singapore. South Africa has the potential to make substantial advancements in

harmonizing its ship registry with globally acknowledged and competitive benchmarks through targeted efforts aimed at diminishing processing durations, refining pricing approaches, and adopting contemporary technological methodologies (Hall-Johnson and Hall-Johnson, 2023). These findings form a critical basis for wider legal and strategic reforms within the maritime sector of South Africa.

Linking with Objective 2

The evaluation of South Africa's ship registry's adherence to international maritime standards, safety, and environmental sustainability unveils a combination of accomplishments and areas warranting enhancement. South Africa has formally adopted significant global agreements, namely the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Pollution from Ships (MARPOL). However, there exist noticeable deficiencies in the implementation and adherence to these conventions. The foundational legislation for maritime regulation in South Africa comprises the Merchant Shipping Act of 1951 and the Maritime Zones Act 15 of 1994 (Hardan *et al.* 2022). However, the enforcement of these laws has at times demonstrated a delay, evidenced by sporadic deficiencies in conducting safety inspections and fortifying environmental safeguards. In the current year of 2021, the ship registry of South Africa continues to confront difficulties in fully adhering to international standards in terms of maritime safety and ecological conservation.

In contrast, the stringent implementation of comparable international conventions and adherence to the standards established by the International Maritime Organization (IMO) demonstrated by Singapore serves as a paradigm of exemplary methodology. The adherence demonstrated by them has played a pivotal role in establishing Singapore's renown for its commitment to safety and environmental stewardship within the maritime sector.

South Africa has established legislative mechanisms in order to uphold international standards in the maritime sector. However, there remains an imperative to enhance efforts towards the effective implementation and compliance with these standards. There exists an urgent necessity for South Africa to undertake a critical re-evaluation of its maritime law enforcement mechanisms, inspection protocols, and environmental policies with the objective of attaining full congruence with established international maritime standards (Hasanov and Alsulaiman, 2021).

Taking cues from Singapore's commendable framework, South Africa must allocate resources towards ongoing training, resilient monitoring infrastructure, and strengthened alliances with international maritime governing bodies to promote adherence to worldwide standards of safety and ecological sustainability within its ship registry. This assessment functions as a pivotal guide for harmonizing South Africa's ship registry with global standards of excellence, signifying a dedication towards safety, environmental conservation, and responsible administration within the maritime industry.

Linking with Linking 3

When scrutinizing the maritime ship registry law and policy of South Africa and Singapore in relation to governance, transparency, regulatory compliance, and services, numerous noticeable disparities become apparent. South Africa, a nation marked by the Merchant Shipping Act of 1951 and the Maritime Zones Act 15 of 1994 as its regulatory framework, has historically stressed state governance while offering limited scope for private-sector participation. In contrast, the governance model of Singapore, which is supported by legislative frameworks such as the Merchant Shipping Act (Chapter 179) and the Maritime and Port Authority of Singapore Act (Chapter 170A), is characterized by a cooperative ecosystem that encompasses the involvement of both the public and private sectors (Heeks *et al.* 2021). This arrangement aims to enhance the efficiency of service provision.

The competitiveness of South Africa's maritime sector has been hindered at times due to bureaucratic delays and restricted access to public data, leading to a compromised level of transparency. Singapore has made noteworthy progress in integrating digital platforms for the dissemination of shipping data. This implementation serves to augment transparency and effectively promote compliance with regulatory requirements. Singapore's rigorous commitment to international conventions and regular assessments of its maritime statutes demonstrate a dynamic legal framework in relation to regulatory compliance. South Africa, although demonstrating adherence to significant international agreements, continues to confront challenges pertaining to the modernization of its legal structures and the efficacy of its enforcement mechanisms.

The comparative analysis of the maritime ship registry laws and policies of South Africa and Singapore uncovers significant findings pertaining to governance structures, transparency measures, adherence to regulations, and service offerings. In order to optimize the development of South Africa's maritime sector, valuable insights can be gleaned from Singapore's diligent governance, transparent operational practices, rigorous adherence to regulatory requirements, and provision of high-calibre service delivery. The implementation of these optimal practices holds promising potential to drive pivotal advancements in South Africa's maritime legal framework and policy, thus enhancing its global competitiveness and ensuring adherence to international norms and standards. This evaluation renders an essential resource for forthcoming reforms focused on the comprehensive transformation of South Africa's maritime sector.

Linking with objective 4

The objective of enhancing the competitiveness and effectiveness of South Africa's ship registry mandates the implementation of a comprehensive strategy encompassing the simplification of administrative processes, the enhancement of regulatory

frameworks, and the incorporation of internationally recognized best practices. The Merchant Shipping Act of 1951 and Maritime Zones Act 15 of 1994 in South Africa necessitate extensive evaluations aimed at eliminating administrative impediments and fostering effectiveness, drawing inspiration from Singapore's Merchant Shipping Act (Chapter 179) and the Maritime and Port Authority of Singapore Act (Chapter 170A) (Hellenicshippingnews, 2019). The implementation of Singapore's digitized and streamlined administrative procedures has the potential to alleviate the arduous processes commonly encountered in South Africa. Furthermore, the adoption of enhanced transparency measures, enabled by the utilization of online platforms for the dissemination of regulatory compliance data and vessel information, would significantly enhance South Africa's reputation within the global maritime community. In order to adhere to international safety and environmental norms, it is imperative for South Africa to contemplate the modification of archaic regulations and the implementation of novel legislation that is in harmony with current maritime concerns. In order to reinforce its position in the maritime sector, the government should establish a collaborative approach with industry stakeholders aimed at identifying and adopting exemplary methodologies, particularly those that have attributed to Singapore's preeminent standing in the global maritime landscape.

Achieving Objective 4 necessitates cohesive legislative revisions and strategic ventures dedicated to the comprehensive transformation of South Africa's maritime industry. By incorporating the principles derived from Singapore's legislative framework and operational efficiency, South Africa has the potential to enhance its ship registry and effectively highlight its advantages to the global maritime community. This comprehensive analysis consequently offers a strategic framework for establishing a more competitive and proficient maritime sector in South Africa, in accordance with internationally recognized benchmarks.

5.2 Recommendations

The recommendation section of this research paper provides a practical roadmap for South Africa to rejuvenate its maritime ship registry through legal reforms, enhanced administrative efficacy, adherence to international regulations, and fostering global competitiveness.

Improve Regulatory Framework and Incentives

To enhance the efficacy of ship registration procedures in South Africa and ensure conformity with established global benchmarks, such as those established by the International Maritime Organization (IMO), it is recommended that the nation reinforce its regulatory structure in this domain. To promote vessel registration under the South African flag, it is recommended that the governing body provide ship owners with competitive incentives, which may encompass reduced registration fees, tax benefits, or preferential treatment within ports. These factors may contribute to a rise in the quantity of maritime vessels that are officially documented in South Africa. This phenomenon has the potential to enhance the country's maritime sector, generate employment opportunities, and foster economic prosperity.

Develop Maritime Skills and Expertise

The implementation of maritime education and training programs by the pertinent authority ought to be prioritized in order to foster the cultivation of a proficient workforce. This encompasses the training and development of personnel such as seafarers, surveyors, and maritime legal experts. It is imperative to cultivate alliances with private enterprises in order to establish apprenticeship programs and scholarships

that incentivize promising young individuals to pursue careers within the maritime sector (Konstantinus, 2021). These initiatives can foster a reservoir of exceptionally proficient maritime experts, capable of delivering superior services, thereby safeguarding the ship registry's integrity and appeal to ship owners on a global scale.

Digitalize Registration Processes

In order to enhance the efficiency and efficacy of the ship registration process, it is imperative that the relevant governing body constructs an accessible and user-friendly digital platform to streamline the tasks of ship registration, documentation, and fee payments. In order to optimize the ship registration process, it is imperative to implement digital solutions that effectively augment transparency, mitigate bureaucratic tendencies, and minimize instances of human errors. This will initiate the implementation of transparent registration procedures, thereby appealing to ship owners in search of streamlined and technologically advanced registration alternatives.

Strengthen Maritime Infrastructure

The governing body ought to allocate resources towards enhancing and enlarging port infrastructure, thereby ensuring conformance to universally accepted criteria in order to accommodate diverse categories of watercraft. In order to cultivate trust among ship owners and mitigate potential risks pertaining to piracy and other maritime perils, it is imperative to augment maritime safety and security measures (Mitsilegas *et al.* 2021). The enhancement of infrastructure and security measures within South African ports will serve to augment their attractiveness to vessel owners and operators.

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Appendices



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