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INDEXED IN (EBSCO)

Contents

Editorial

English Papers

Collision between supply vessels and offshore installations case cargo handling and personal transferring operation

Said Abdelkader - Hesham Helal - Khaled Abu Bakr



The Future of Coastal Navigation Safety in Egypt: Improving the Reliability of Electronic Charts

Samy Ismail A. M. Youssef, Mohamed Shendy



Implications of the Offshore Oil & Gas Working Environment on Mental Health and Performance of Workers

Hossam Eldin Gadalla, Hesham Helal, Ahmed Saad Nofal



Examining the influence of global terminal operators on the performance of container terminals via privatization strategies in the maritime sector

Mohamed Shendy



Reviewing experimental and theoretical efforts and key findings regarding hydrodynamic journal bearing geometry

Nader. S. Shokry



Developments and research directions for collision avoidance in mixed navigation environment for MASS: A systematic literature review with bibliometric analysis.

Mahmoud Basal, Alaa Ammar



Arabic Papers

The impact of applying customer relationship management strategies to improve institutional performance at the Benghazi Sea port

Wessam Hassan Bozaid El-kawafy



Determinants of supporting and enhancing the loyalty of shipping lines at Egyptian container terminals

Mohamed Abdullah Asal, Mostafa Abd El-Hafez, Amir El-Seman



Maritime Congestion and damage to sea ports (Case study Alexandria port)

Mohamed Ebrahim Korra, Hesham Helal, Eman Hadad



The Impact of local and regional challenges on the sustainable development goals in the Libyan maritime transport "A field study"

Nourya Farag Beshar El-Sanaany, Alaa Abd El-Wahed Abd El-Bary, Alaa Mahmoud Morsy



The impact of applying digital transformation requirements on the management and development of seaports and enhancing their competitiveness

"Case study on Aden Container Terminal - Republic of Yemen"

Nabil Abdullah Bn Efan, Mahmoud El-Sayed Al-bawab



The factors causing the congestion in marine ports

"Case study between Alexandria port and Los Angeles port"

Mohamed Ebrahim Korra, Hesham Helal, Eman Hadad



B.O.T and Its Impact on sustainable Development (An Empirical study on Yemen)

Ahmed Hady Ahmed Dek



The Impact of Technological Restructuring on The Competitiveness of Saudi Ports (Case Study: King Abdulaziz port in Dammam)

Saud Bn Hzal El-Sohaibi, Mohamed Ali Ibrahim, Hesham Helal



Effect of the arbitration award on third parties

Faleh Bn Abd El-Rahman Bn Mohamed El-Faleh, Hesham Helal, Fahima Ahmed El- Qomary



Available Online

Examining the influence of global terminal operators on the performance of container terminals via privatization strategies in the maritime sector

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المستخلص

يستعرض هذا البحث تطور التجارة العالمية من خلال استكشاف التطور الاستراتيجي لمحطات الحاويات، مع التركيز بشكل خاص على الدور المتكامل الذي يلعبه مشغلو المحطات العالمية (GTOs) وسط اتجاهات الخصخصة السائدة. إدراكًا لمحطات الحاويات باعتبارها عقداً مهمة ضمن سلسلة التوريد البحرية، تستخدم الدراسة نهجاً شاملاً يركز على تحليل SWOT للكشف عن العواقب الدقيقة للخصخصة، وإبراز التأثير التعاوني الذي تمارسه GTOs البحث مخصص لكشف الديناميكيات المعقدة التي تشكل أداء محطات الحاويات، مع التركيز بشكل خاص على الكفاءة التشغيلية، والاستدامة المالية، والعمليات الإدارية، وتطوير البنية التحتية. وفي عصر الترابط الاقتصادي العالمي المتزايد، تؤكد الدراسة على الأهمية القصوى لفهم الآثار المترتبة على استراتيجيات الخصخصة. من خلال تقديم رؤى دقيقة حول الدور الاستراتيجي لـGTOs، يتجاوز هذا البحث حدود المحطات الفردية، ويقدم وجهات نظر قيمة لواقعي السياسات وأصحاب المصلحة في الصناعة والأكاديميين الذين يتصارعون مع تعقيدات تطوير البنية التحتية البحرية في هذا العصر.

Abstract

This research navigates the evolving of global trade through an exploration of the strategic evolution of container terminals, with a specific focus on the integral role played by Global Terminal Operators (GTOs) amid prevailing privatization trends. Recognizing container terminals as critical nodes within the maritime supply chain, the study employs a comprehensive approach anchored in SWOT analysis to uncover the nuanced consequences of privatization, accentuating the collaborative influence exerted by GTOs. The research is dedicated to unraveling the intricate dynamics that shape container terminal performance, with a particular emphasis on operational efficiency, financial sustainability, administrative processes, and infrastructure development. In the era of heightened global economic interconnectivity, the study underscores the paramount importance of understanding the implications of privatization strategies. By providing nuanced insights into the strategic role of GTOs, this research transcends the boundaries of individual terminals, offering valuable perspectives for policymakers, industry stakeholders, and academics grappling with the intricacies of maritime infrastructure development in this transformative era.

1- Introduction

In the ever-evolving of global trade, the strategic transformation of container terminals stands as a linchpin influencing the efficiency and effectiveness of the maritime supply chain. At the forefront

of this evolutionary shift is the accelerating trend of privatization, wherein Global Terminal Operators (GTOs) play a pivotal role in reshaping the operational dynamics of container terminals. This research embarks on a comprehensive investigation, utilizing the robust SWOT analysis framework, to unravel the intricate dynamics surrounding the impact of GTOs on container terminal performance within the context of privatization strategies in the maritime sector. The significance of this study lies in its commitment to illuminating the multifaceted consequences of privatization, particularly focusing on the collaborative engagement of GTOs in container terminal operations. As the global economy becomes increasingly interconnected, comprehending the influence of these privatization initiatives on operational efficiency, financial sustainability, administrative processes, and infrastructure development becomes imperative. By delving into the nuanced intricacies of GTO participation, this research aspires to contribute insightful perspectives that transcend the boundaries of individual terminals. The anticipated findings are poised to offer valuable insights for policymakers, industry stakeholders, and academics navigating the intricate of maritime infrastructure development during this era of transformative change. This investigation aims to bridge existing knowledge gaps by not only examining the direct operational implications of Global Terminal Operators (GTOs) in privatized container terminals but also by shedding light on the broader socio-economic ramifications. By exploring the intricate interplay between GTOs and privatization, the study endeavors to uncover innovative solutions and best practices that can enhance the resilience of maritime supply chains. Additionally, the research seeks to provide a forward-looking perspective, anticipating future challenges and opportunities that may arise as a result of the evolving shaped by GTOs and privatization, thus offering a holistic understanding crucial for steering the maritime sector towards sustainable growth.

2- Literature review

The global trend toward container terminal privatization signifies a broader transformation within the maritime industry. Traditionally, governments have held control over port operations and property, considering them strategic national assets. However, evolving dynamics in world trade and the demand for environmentally sustainable and market-responsive port management have challenged this paradigm. Publicly owned ports, shielded from market competition, often struggle with efficient resource allocation and decision-making influenced by political considerations rather than operational efficiency or commercial viability (Baird, 2002).

In contrast, private port operators face rigorous market discipline, with stakeholders closely monitoring performance. Inefficiencies can lead to immediate financial repercussions, fostering a culture of continuous improvement and innovation. Private sector ownership structures are typically more concentrated, facilitating transparent accountability and agile decision-making without bureaucratic processes that may hinder public counterparts (Heng, 2003). The shift towards container terminal privatization responds not only to financial considerations but also to the changing of global trade. As ports aim to become central nodes in global supply chains, the agility, performance, and responsiveness offered by private ownership become increasingly valuable.

2.1 Drivers and Objectives of Container terminal privatization

The drive for privatization significantly influences the evolution of the global port industry, seeking enhanced operational and commercial flexibility. As the global trade becomes more dynamic, privatization provides a pathway for ports to adapt rapidly to changing demands, technological advancements, and competitive pressures. Publicly owned ports, often entangled in bureaucratic processes, may face inefficiencies in resource allocation and operational practices (de Langen, 2023). Private entities, driven by profit motives and competition, are incentivized to optimize operations, invest in modern infrastructure, and innovate in service delivery. Container terminal privatization is further propelled by a reduction in regulations within the port sector. As regulatory barriers decrease, private sector participation in port operations increases, attracting capital investment, introducing best practices, and implementing advanced technology globally. Additionally, port users, such as shippers and logistics providers, play a more influential role in shaping port direction, advocating for practices that enhance efficiency and reduce costs. Several countries, including Argentina, Brazil, Hong Kong, Malaysia, Mexico, New Zealand, Singapore, Venezuela, and the United Kingdom, have recognized the benefits of container terminal privatization. Moves toward privatization are often driven by the dual objectives of improving operational efficiency and generating revenue for the state (Sitharamaraju, 2020).

2.2 Challenges and Risks Associated with Container terminal privatization

While container terminal privatization offers expected benefits, it brings challenges that may counteract these advantages. A primary concern is the financial constraints faced by private investors post-acquisition, requiring additional funds for facility and equipment upgrades. This limitation may impede a port's capacity to modernize and meet evolving market requirements. Evidence from the UK suggests that privatized ports may not consistently surpass the efficiency levels of their public counterparts. Despite transitioning to private ownership, substantial improvements in operational infrastructure are yet to be realized, raising questions about the effectiveness of privatization in fostering operational excellence (Monios, 2016).

The impact of privatization on port performance, especially in management and operations, is significant. However, the influence on core port operations directly affecting output and efficiency is paramount. Success in different port categories often originates from added value through transitioning from wholly state-owned entities to public/private partnerships. Such collaborations typically involve infrastructure expansion and a more commercially oriented approach to operations. Nevertheless, questions persist about the depth of privatization and its broader implications for the maritime logistics chain (Quansah, 2008).

2.3 Strategies and Policies for Managing Container terminal privatization

Diverse global strategies and policies for container terminal privatization reflect each country's unique economic, political, and social conditions. For instance, Singapore's PSA underwent conversion into an independent commercial corporation in 1997, accompanied by the establishment of the Maritime and Port Authority (MPA) to oversee and regulate PSA

Corporation, ensuring the provision of essential port and marine services and facilities (Quansah, 2008). In contrast, Korea employs a leasing model where the Ministry of Maritime Affairs and Fisheries leases terminals to the Korea Container Terminal Association (KCTA), without financial transactions. Private terminal operators are then engaged to enhance operational efficiency while the government retains ownership (Cullinane, 2017).

China's strategy emphasizes collaboration, preferring joint ventures to introduce the private sector into terminal operations. Joint ventures like the Shanghai Container Terminals (SCT) and the Yantian International Container Terminal foster a synergy between public oversight and private sector efficiency. Container terminal privatization strategies often align with a country's broader economic goals and objectives. Some nations aim to attract foreign direct investment, while others focus on enhancing competitiveness in the global maritime industry. The decision to privatize, the extent of privatization, and the choice of private partners are influenced by various factors, including economic goals, the state of the maritime industry, and geopolitical considerations (Quansah, 2008). Effective regulations play a crucial role in the success of container terminal privatization, ensuring operational autonomy while upholding safety, security, and environmental standards. Transparent and predictable regulations provide clarity to both port operators and customers. Regardless of the approach—full privatization, joint ventures, or leasing models—the overarching objective is to enhance the efficiency, competitiveness, and sustainability of the port sector (Cullinane, 2017).

2.4 Strategies of Terminal Operators

The strategies employed by container terminal operators play a crucial role in their rapid expansion, reflecting the influence of economic forces (Strategies of Container Terminal Operators). Former terminal operators entering the global system engage in horizontal integration, applying their expertise in new markets and seeking additional income sources. Shipping lines entering terminal operations represent a form of vertical integration, extending control over various links in the transport chain. A third observed strategy involves portfolio diversification, with terminal assets playing a key role. These strategies contribute to the growth and influence of global terminal operating companies, emphasizing profitability, financial assets, managerial expertise, gateway access, leverage, traffic capture, and a global perspective. The typology of global port operators and the regional distribution of terminal assets add complexity to the understanding of the strategies employed (Parola, 2013).

2.5 Private Participation in Port Terminal Operations

The historical shift from public to private participation in port terminal operations has been a crucial aspect of the evolving maritime sector. Until the 1980s, public ownership and operation predominantly shaped the of port terminals. However, operational inefficiencies of public port authorities in adapting to increasing demands led to the rise of private involvement. This shift emerged from the need to foster competition in the entire transport industry through economic liberalization policies. Developing countries were recommended by the World Bank to grant concessions to organizations capable of modernizing and efficiently managing port operations,

leading to diverse forms of public-private partnerships, commonly referred to as port devolution. The surge in demands for investment, driven by global trade growth, played a significant role in governments becoming more receptive to port governance reform. This section provides a comprehensive overview of the evolution of the port, the strategies employed by terminal operators, and the historical shift towards private participation in port terminal operations. The discussion sets the stage for the examination of the impact of Global Terminal Operators on container terminal performance in the context of privatization strategies in the maritime sector (Heejung, 2015).

3- Largest container shipping lines and terminal operators.

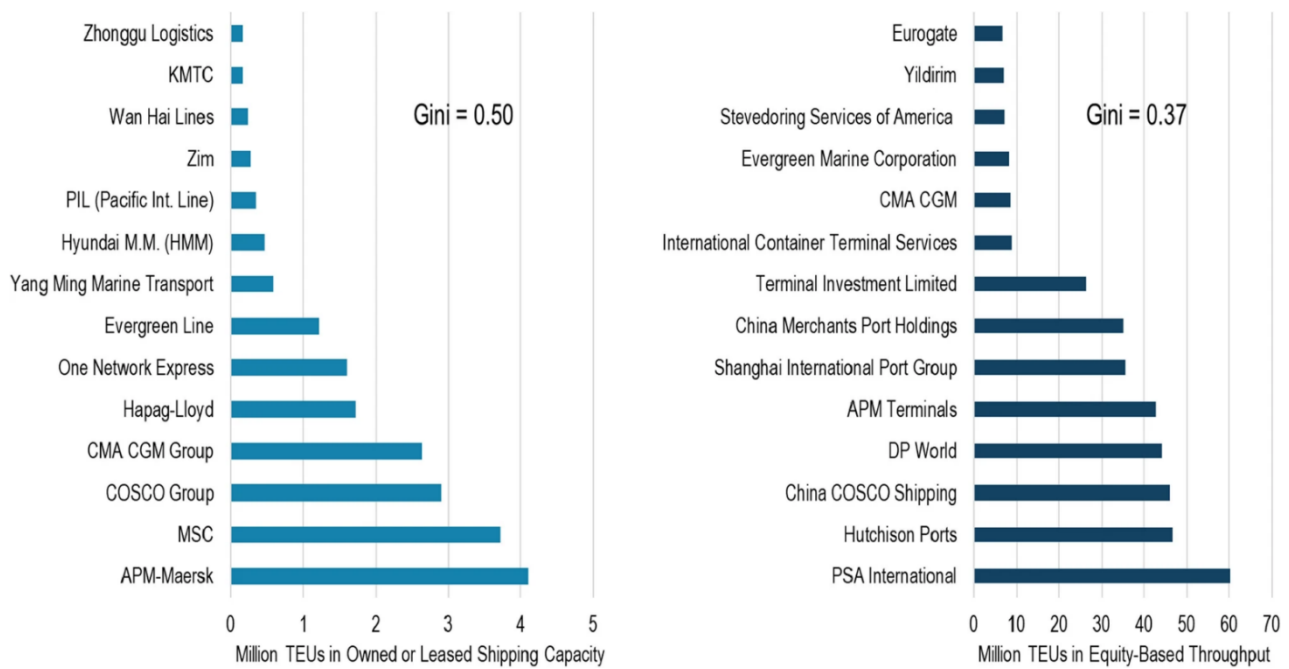


Figure (1): Largest container shipping lines and terminal operators.

Source: Notteboom, T., & Rodrigue, J. P. (2023). Maritime container terminal infrastructure, network corporatization, and global terminal operators: Implications for international business policy. *Journal of International Business Policy*, 6(1), 67-83.

Figure 1 presents an overview of the largest container shipping lines and terminal operators, providing a visual representation of their comparative scale and significance in the maritime industry. The size of each entity in the diagram reflects its market influence and global presence. This visual aid helps in understanding the hierarchical structure and dominance among container shipping lines and terminal operators. The figure captures the interconnectedness of shipping lines and terminal operations, emphasizing their collaborative roles in the international supply chain. Overall, this visual representation serves as a valuable snapshot of the key players shaping the container shipping and terminal.

4- Container terminal surface of the world's major terminal operators, 2019.

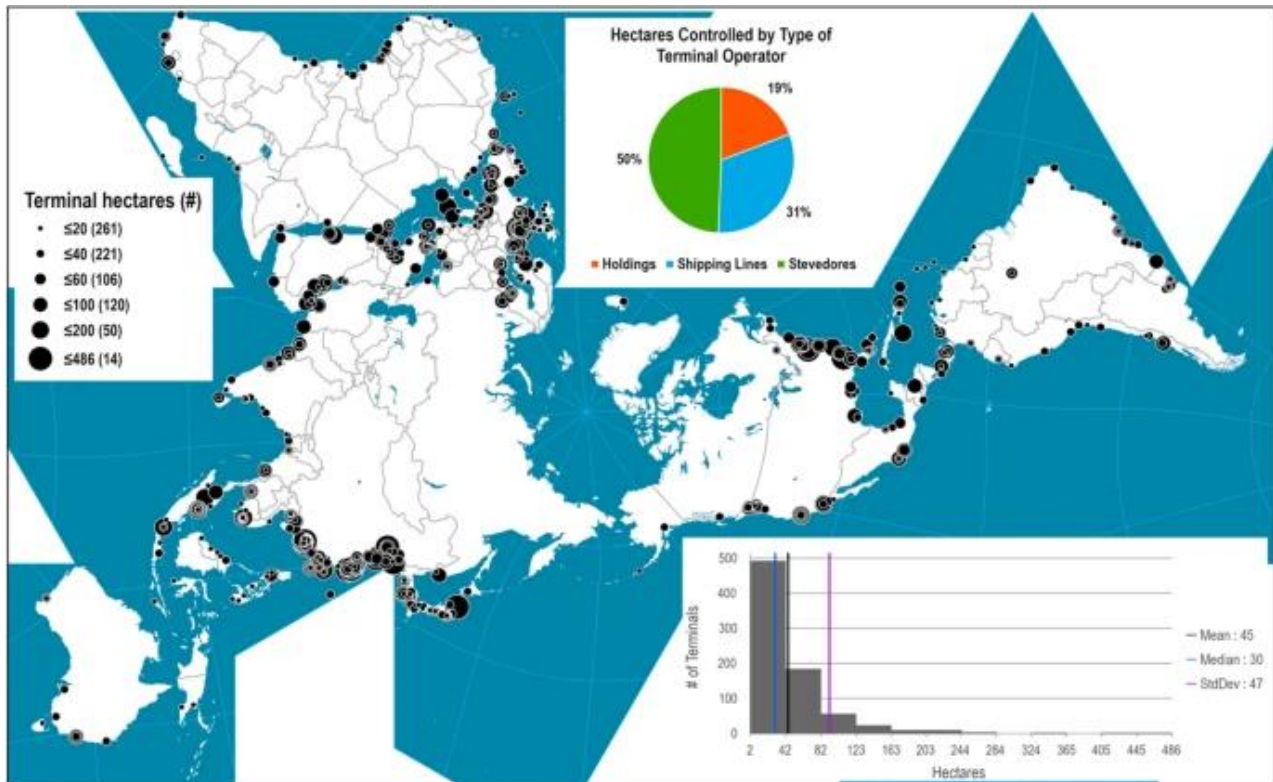


Figure (2): Container terminal surface of the world's major terminal operators, 2019.

Source: Notteboom, T., & Rodrigue, J. P. (2023). Maritime container terminal infrastructure, network corporatization, and global terminal operators: Implications for international business policy. *Journal of International Business Policy*, 6(1), 67-83.

The figure (Figure 2) illustrates the container terminal surface distribution of major global terminal operators in 2019. It provides a visual representation of the extensive reach and presence of these operators on a global scale. The varying sizes of the circles denote the relative surface area of container terminals operated by each major player. The data depicted in the figure reflects the competitive and market share among these terminal operators, showcasing the concentration of terminal assets and their strategic positioning. The visual representation aids in understanding the geographical distribution and significance of these major terminal operators in shaping the maritime container terminal infrastructure.

5- Research Methodology

The methodology employed in this study relies on the SWOT analysis framework to thoroughly assess the influence of Global Terminal Operators (GTOs) on container terminal performance. This approach is chosen for its efficacy in systematically exploring strengths, weaknesses, opportunities, and threats, leading to a comprehensive grasp of the dynamics at play. The structured nature of SWOT analysis is instrumental in revealing critical internal and external factors affecting container terminal performance, particularly within the context of privatization.

The decision to utilize SWOT analysis is grounded in its ability to uncover key factors that shape container terminal performance amidst privatization. The process involves a detailed examination of GTO strengths, such as operational expertise, identification of weaknesses like potential market dependence, and exploration of opportunities and threats within the broader maritime sector.

To gather a well-rounded perspective, the research employs a diverse data collection approach. This includes a quantitative analysis of operational metrics and financial reports, coupled with qualitative insights obtained through surveys and interviews conducted among terminal operators, staff, and stakeholders. The comparative analysis assesses GTO-operated terminals against publicly operated ones, evaluating aspects such as operational efficiencies, financial sustainability, administrative processes, and infrastructure development to discern patterns and variations. Ensuring the reliability of findings is paramount to the research's overall robustness. This is achieved through data triangulation, where information is cross-verified using multiple methods. Rigorous validation processes are implemented to enhance the credibility of both quantitative and qualitative data. For quantitative data, this involves comparisons with industry benchmarks and historical trends. Qualitative data undergoes scrutiny through member checking and cross-referencing with quantitative findings. Despite these measures, it is important to acknowledge potential limitations in the study. Factors such as the availability of historical data, the representativeness of the chosen sample in qualitative research, and the dynamic nature of the maritime industry may introduce constraints. These limitations are openly addressed in the study, providing transparency and context to the findings. Alternative explanations for observed patterns are also considered, contributing to a comprehensive and balanced presentation of research outcomes.

6- Research Problem

The core research problem revolves around evaluating the effectiveness and ramifications of privatization strategies within the maritime sector, particularly concerning the involvement of Global Terminal Operators (GTOs). Key inquiries aim to shed light on how GTO participation influences the efficiency and functionality of vital nodes in global trade, specifically container terminals. Essential issues to address include the extent to which GTO involvement enhances financial resources, optimizes administrative processes, and contributes to improved infrastructure development in problematic container terminals. Additionally, the research problem delves into the collaborative efforts between the public and private sectors, with a specific focus on GTOs, seeking to determine the success of these partnerships in alleviating financial burdens on governments and overcoming bureaucratic obstacles. The overarching goal is to comprehensively explore the impact of GTOs on container terminal performance, identifying challenges and opportunities associated with such collaborations and providing valuable insights for regions contemplating similar privatization strategies in their maritime operations.

7- Importance of the Research

Understanding the influence of Global Terminal Operators (GTOs) on the performance of container terminals holds significant importance for various reasons. This research seeks to uncover the impact of privatization strategies, specifically those involving GTOs, on the efficiency and effectiveness of critical global trade hubs, namely container terminals. Delving into the role of GTOs in these operations, the study aims to highlight potential advantages, including enhanced financial resources, streamlined administrative processes, and improved infrastructure development—all crucial elements for optimizing terminal performance. Moreover, the assessment of collaborative initiatives between the public and private sectors, with a focus on GTOs, is crucial in determining whether such partnerships can effectively relieve financial burdens on governments and eliminate bureaucratic obstacles.

Expanding the scope, this research aims to explore how the optimization of terminal performance through GTO involvement can translate into tangible benefits for international trade and economies. The findings may shed light on the broader economic impact, offering insights into how public-private partnerships, especially those involving GTOs, can positively influence the overall economy. This could potentially serve as a model for other regions contemplating similar privatization strategies in maritime infrastructure. This research is essential for unraveling the intricate dynamics of privatization in the maritime sector and evaluating the far-reaching implications of GTOs on container terminal performance. This encompasses not only efficiency, financial sustainability, and infrastructure development but also how these improvements can manifest as concrete advantages for international trade and economies on a global scale.

8- Research Aim and Objectives

The overarching aim of this research is pivotal in addressing pressing challenges and opportunities within the maritime sector's privatization strategies, particularly concerning the influence of Global Terminal Operators (GTOs) on container terminal performance. By systematically investigating and analyzing various facets such as operational efficiency, financial sustainability, administrative processes, and infrastructure development within privatized container terminals, this study directly addresses the broader challenges faced by regions contemplating or undergoing similar privatization strategies. Achieving the specified objectives holds paramount importance in this context. Firstly, by evaluating the influence of GTO involvement on operational efficiency, the research aims to provide insights into enhancing the overall effectiveness of container terminals, contributing directly to the optimization of global trade nodes.

Secondly, investigating the financial impact of GTO participation addresses the critical aspect of ensuring the economic viability and sustainability of privatized container terminals, thereby offering solutions to financial challenges faced by governments. Exploring the role of GTOs in streamlining administrative processes within container terminals directly contributes to addressing bureaucratic obstacles, which is a significant challenge in the privatization of maritime operations. Furthermore, assessing how GTOs promote infrastructure development within container terminals

not only contributes to the efficiency of trade operations but also addresses the broader need for robust and advanced infrastructure in maritime settings.

Finally, the research objectives aim to investigate the effectiveness of public-private collaboration, particularly involving GTOs, in managing container terminals. This directly aligns with the broader opportunities highlighted in the importance section, as successful collaborations can alleviate financial burdens on governments and pave the way for more streamlined and efficient operations. In essence, by accomplishing these objectives, the research aims to provide a comprehensive understanding of the impact of GTOs on container terminal performance. This understanding is crucial for regions considering or undergoing similar privatization strategies, offering them valuable insights into overcoming challenges and harnessing opportunities for the advancement of their maritime operations.

9- Research Questions

- How does the involvement of Global Terminal Operators (GTOs) impact operational metrics like turnaround times, vessel productivity, and container handling rates in container terminals that have undergone privatization?
- What is the quantifiable financial effect of GTO participation on revenue generation, cost reduction, and the overall financial stability within privatized container terminals, and how does this compare to terminals under public operation? Specifically, what is the assessment timeframe and the units of measurement for revenue and cost?
- What specific mechanisms underpin the observed alterations in operational efficiency, and how do the nature of partnerships and shared responsibilities contribute to the overall success of privatization initiatives?
- How do GTOs contribute to the simplification of administrative processes in container terminals, and what notable changes are evident in management practices, technological integration, and workforce efficiency?
- In what manners do GTOs contribute to infrastructure development within container terminals, and what particular investments in technology, equipment, and facilities influence the overall infrastructure of privatized terminals?

10- SWOT Analysis

The SWOT analysis highlights the positive aspects that GTOs bring to privatized container terminals, identifies potential challenges, and suggests strategic areas for further development and improvement. The results can guide decision-makers in leveraging strengths, addressing weaknesses, capitalizing on opportunities, and mitigating threats for successful privatization strategies in the maritime sector.

Strengths	Weaknesses
1.Operational Expertise: GTOs bring a wealth of operational knowledge and experience to privatized container terminals, contributing to improved	1.Market Dependency: GTOs may face challenges if they become overly dependent on specific markets, making them vulnerable to economic

<p>efficiency in cargo handling, vessel turnaround times, and overall terminal operations.</p> <p>2.Global Connectivity: GTOs often have a global network, enabling better integration of container terminals into international supply chains. This global connectivity can lead to increased market influence and diversified opportunities for trade.</p> <p>3.Financial Resources: The involvement of GTOs may lead to increased financial resources for privatized container terminals through investments, technology upgrades, and business expansion, enhancing the overall financial stability of these terminals.</p> <p>4.Technological Advancements: GTOs are likely to introduce and implement advanced technologies, automation, and best practices, leading to enhanced technological capabilities and modernization of infrastructure within privatized container terminals.</p>	<p>downturns or geopolitical shifts in those regions.</p> <p>2.Regulatory Challenges: GTOs may encounter regulatory challenges in different regions, potentially impacting their ability to implement standardized operational practices across various privatized container terminals.</p> <p>3.Cost Implications: Privatization strategies involving GTOs may come with increased costs, including concession fees, technology investments, and operational upgrades, which could strain the financial resources of the involved parties.</p>
<p>Opportunities</p>	<p>Threats</p>
<p>1.Technological Advancements: GTOs can capitalize on emerging technologies to further enhance operational efficiency, reduce costs, and provide innovative solutions for container terminal management.</p> <p>2.Infrastructure Development: GTOs may contribute to significant infrastructure development, including the introduction of state-of-the-art equipment, facilities, and technology, thereby positively impacting the overall efficiency and competitiveness of privatized container terminals.</p> <p>3.Market Expansion: GTOs, with their global reach, can facilitate market expansion for privatized container terminals by exploring new trade routes, forming strategic partnerships, and attracting a diverse range of shipping lines.</p>	<p>1.Geopolitical Instability: The involvement of GTOs in privatization strategies exposes container terminals to geopolitical risks, such as trade tensions, regulatory changes, or geopolitical instability in regions where GTOs operate.</p> <p>2.Competitive Pressure: The competitive nature of the maritime sector may lead to increased competition between privatized container terminals operated by GTOs and other terminals, potentially putting pressure on pricing and profit margins.</p> <p>3.Resistance to Change: Resistance from existing stakeholders or the workforce to changes brought about by GTOs, such as technological advancements or shifts in management practices, could pose a threat to the smooth implementation of privatization strategies.</p>

Table (1) : SWOT analysis
Source: designed by researcher

11- Discussion

The SWOT analysis of Global Terminal Operators (GTOs) in privatized container terminals uncovers a robust set of strengths, weaknesses, opportunities, and threats. GTOs' operational expertise, global connectivity, financial resources, and commitment to technological advancements emerge as key strengths, forming a solid foundation for enhanced efficiency and competitiveness. However, challenges such as market dependency, regulatory hurdles, and potential resistance to change highlight areas for improvement. The identified opportunities, including technological advancements, infrastructure development, and market expansion, provide a strategic roadmap for GTOs to navigate the evolving of the maritime sector.

To optimize their strengths and seize opportunities, GTOs should focus on strategic areas for development and improvement. These include continuous investment in operational expertise, proactive engagement with regulatory bodies, strategic financial planning, ongoing research and development, and collaborative efforts for infrastructure development and market expansion. Recognizing consistent patterns and tailoring strategies to variations based on regional and terminal-specific factors will be crucial for sustained success. In conclusion, the SWOT analysis equips decision-makers with valuable insights to shape effective strategies, emphasizing the importance of adaptability and continuous monitoring in the dynamic environment of privatized container terminals.

12- Recommendations

- **Optimization of Operational Excellence:** Utilize the operational expertise of GTOs to improve efficiency, cargo handling, and vessel turnaround times by implementing industry best practices.
- **Global Network Integration:** Actively incorporate GTOs' global networks into strategic planning, exploring new trade routes, fostering partnerships, and diversifying trade opportunities to decrease reliance on specific markets.
- **Financial Collaboration Strategy:** Collaborate with GTOs to develop and execute a strategic financial plan that effectively allocates resources, taking into account concession fees, technology investments, and operational upgrades.
- **Adoption of Technological Advancements:** Embrace and integrate technological innovations introduced by GTOs to boost operational efficiency, cut costs, and maintain a competitive edge in managing container terminals.
- **Diversification for Market Resilience:** Implement strategies for diversification to minimize risks associated with market dependency, ensuring that GTO-operated terminals remain resilient and adaptable to various regions and market conditions.

These recommendations are crafted to offer decision-makers clear and practical guidance for leveraging strengths, addressing weaknesses, capitalizing on opportunities, and mitigating threats associated with privatization strategies involving Global Terminal Operators in the maritime sector.

13- Conclusion

this research delves into the transformative impact of global trade, focusing on the strategic evolution of container terminals amid the trend of privatization and emphasizing the pivotal role of Global Terminal Operators (GTOs). Through a thorough SWOT analysis, the study provides a nuanced understanding of the outcomes of privatization strategies, revealing the collaborative influence exerted by GTOs. The research sheds light on the intricate dynamics shaping container terminal performance, emphasizing aspects such as operational efficiency, financial sustainability, administrative processes, and infrastructure development. As the global economy becomes more interconnected, the study highlights the crucial importance of comprehending the implications of privatization initiatives, offering valuable insights for policymakers, industry stakeholders, and academics navigating the complexities of maritime infrastructure development.

Navigating the multifaceted realm of GTO involvement in privatized container terminals, the research identifies strengths and opportunities, providing decision-makers with a strategic roadmap for development. Despite challenges like market dependency and regulatory hurdles, the study advocates for a proactive approach, urging GTOs to leverage operational expertise, global connectivity, and financial resources. Continuous investment in technology, collaborative infrastructure development, and a keen understanding of regional variations are crucial elements for sustained success. This study contributes novel insights into the collaborative influence of GTOs in privatized container terminals, emphasizing operational efficiency, financial sustainability, and infrastructure development. The research methodology, particularly the extensive SWOT analysis, sets this study apart by offering a comprehensive exploration of the subject. Acknowledging limitations, such as case study specificity and regional variations, enhances the study's transparency and credibility, encouraging future research to build upon and refine the presented insights.

14- References

- ARAUJO DE SOUZA JR., G., BERESFORD A., & PETTIT, S. (2003). Liner shipping companies and terminal operators: Internationalization or globalization? *Maritime Economics and Logistics*, 5, 393-412.
- Baird, A.J. (2002). 'Privatisation trends at the world's top-100 Container Ports', *Maritime Policy & Management*, 29(3), pp. 271–284. doi:10.1080/03088830210132579.
- Cullinane, K.P.B., Brooks, M.R. & Pallis, A. (2017). 'Revisiting port governance and port reform: A multi-country examination - Research in Transportation Business & Management', (Accessed: 24/12/2023).
- Heng, W. (2003) port privatisation, efficiency and competitiveness: & some empirical evidence from container; ports/terminals.
- Heejung, Y. E. O. (2015). Participation of private investors in container terminal operation: influence of global terminal operators. *The Asian Journal of Shipping and Logistics*, 31(3), 363-383.

- Monios, J. (2016). Port governance in the UK: Planning without policy, *Research in Transportation Business & Management*. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S2210539516300311> (Accessed: 24 December 2023).
- Notteboom, T., & Rodrigue, J. P. (2023). Maritime container terminal infrastructure, network corporatization, and global terminal operators: Implications for international business policy. *Journal of International Business Policy*, 6(1), 67-83.
- Parola, F., Notteboom, T., Satta, G., & Rodrigue, J. P. (2013). Analysis of factors underlying foreign entry strategies of terminal operators in container ports. *Journal of Transport Geography*, 33, 72-84.
- Quansah, N.E. (2008). 'Impact of privatisation in ports: measuring efficiency through data envelopment analysis and data envelopment analysis and key performance indicators.
- Sitharamaraju, K., Yelne, S. A., Kumar, B. S., & Narayanaswami, S. (2020). Public-private partnership (PPP) in Indian railways: models, framework, and policies. Indian Institute of Management, Ahmedabad.
- YIP, T., SUN, L., & LIU, J.J. (2011). Group and individual heterogeneity in a stochastic frontier model: Container terminal operators. *European Journal of Operational Research*, 213, 517-525.