

# Impact Assessment of Maritime Transportation Infrastructure on Nigeria's Economic Growth and Development

<sup>1</sup>Gabriel M. Eto and <sup>2</sup>Nse B. Okon  
Maritime Academy of Nigeria

doi: <https://doi.org/10.37745/gjahss.2013/vol13n3126>

Published March 03, 2025

---

**Citation:** Eto G.M. and Okon N.B. (2025) Impact Assessment of Maritime Transportation Infrastructure on Nigeria's Economic Growth and Development, *Global Journal of Arts, Humanities and Social Sciences*, Vol.13, No.3, pp.1-26

---

**Abstract:** *The study examines the impact of maritime transportation infrastructure on Nigeria's economic growth and development. Amongst others, the objectives were to assess the impact of port infrastructure on trade facilitation and economic development in Nigeria; investigate the effect of maritime transportation costs on Nigeria's international trade and economic growth; evaluate the role of maritime transportation infrastructure in promoting regional development and economic growth in Nigeria, and develop a framework for optimizing maritime transportation infrastructure in promoting sustainable economic growth in Nigeria. The study adopted the Taro Yamane formula to determine the sample size of 225 out of 423 and there was 100% response rate. Observation and structured questionnaire were used for the collection of data. Quantitative data was analyzed using descriptive statistics, while qualitative data was coded and analyzed using the 4-point Likert Scale. The study finds, amongst others that Nigeria's maritime transportation infrastructure is essential for the country's economic development; Nigeria's port infrastructure does not make the country competitive in the global market and it is important to develop a comprehensive framework for optimizing maritime transportation infrastructure in Nigeria, considering factors such as infrastructure development, sustainability, and stakeholder engagement. Accordingly, among others, the study recommends that Nigerian ports should be upgraded with modern facilities, equipment, and technology to increase efficiency, reduce congestion, and improve cargo handling capacity and Government can promote public-private partnerships (PPPs) to finance, develop, and operate maritime infrastructure projects, such as ports, terminals, and logistics facilities. PPPs can attract foreign investment, transfer technology and expertise, and improve the efficiency and sustainability of maritime infrastructure development.*

**Keywords:** Intermodal, port hinterland connectivity, infrastructure, congestion, public-private-partnerships

---

## INTRODUCTION

Functional maritime transport infrastructure is the framework that supports the maritime transport system and it is a vital component of the general transport system, being an essential requirement for efficient maritime logistics and maritime transportation (The Draft National Transport Policy, 2021). Significant changes are taking place in the shipping industry, which influence the way ports (which are the main drivers of economic activities) conduct their business. This is so because most maritime nations depend on functional seaports operations and infrastructure for integration into the global economy. According to the International Centre for Trade and Sustainable Development (ICTSD) (cited in Dennie, 2018), about 90% (by volume) and 70% (by value) of world trade is carried by maritime transport. Global economic integration is a crucial factor responsible for increasing the significance of international trade, 90% of which is carried through the oceans. In agreement with this observation, Organization for Economic Co-operation and Development, (2022) affirms that approximately 90% import and export goods are seaborne. The seaports are the gateways that make this possible.

This buttresses the fact that maritime transportation and associated infrastructure are the major means for global logistics and these consists of port operations, shipping services, ship building, and ship repairs and inland waterways transport services (Eto, 2023). Global shipping of export and import cargoes is dependent on functional maritime transportation infrastructure, which determines the reliability of shipping network and predictability of maritime logistics management. The efficiency of maritime transportation infrastructure has generally resulted in shrinking of the transportation gap with the result of facilitating the transportation of goods sold across the world in different countries (Dennie, 2018).

Accordingly, maritime transportation infrastructure facilitates various port services such as: pilotage, marine salvage (towing and tug assistance), emergency repairs, anchorage berth and berthing services, etc. and auxiliary or supporting services (such as storage and warehousing, maritime cargo handling services, customs clearance services, etc.). Therefore, the expansion and modernization of port facilities with multimodal connectivity would ensure efficient cargo transportation and evacuation (Igbintade, 2025).

Ports are essentially a channel of integration into the global economic system (Miambo, 2021), however, the crucial issues militating against Nigerian ports currently are infrastructure related and these have to do with capacity utilization and evacuation corridors through port hinterland connectivity to facilitate trade. For instance, while the Eastern ports are grossly underutilized owing to deficient maritime transport infrastructure, shallow draft, poor port access road and insecurity, the efficiency of the Western ports is obstructed by inadequate evacuation corridors, and this hinders trade flows. These factors add up to result in cargo congestion at the ports and

traffic congestion on the port access roads. Therefore, the consequences of these challenges which are related to maritime transportation infrastructure affect port competitiveness. These challenges are felt by port businesses that thrive on prompt service delivery and they dampen the investment zeal of would-be investors who must have identified the numerous investment opportunities in the maritime sector in Nigeria (Eto, 2021).

Currently, Nigeria's maritime transportation infrastructure is confronted with significant deficits, which combine to hinder the country's economic growth and development. The advent of ultra large vessel and very large vessels is a big challenge to the country's existing ports, such that the constraint of inadequate harbor infrastructure limits the nation's ability to accommodate modern generation vessels. The Eastern seaport channels are mostly shallow (Eto, 2023). The World Bank has stated that the cost of trade in Nigeria is four to five times higher than what obtains in the United States due to insecurity, higher transportation costs, topography, and poor port hinterland connectivity infrastructure (Udi, 2024).

Therefore, the success of maritime transportation system in Nigeria hinges on infrastructural development, which must target ports, terminals, and cargo handling equipment, most of which are obsolete. Nigerian ports are also plagued by poor infrastructure which includes dilapidated quays and aprons, poor and inadequate road networks, outdated and insufficient storage facilities (Anagor-Ewuzie, 2024). The significance of this study flows from the fact that it emphasizes that functional maritime transportation infrastructure is pivotal in the significant role played by maritime shipping, which provides the link that facilitates global value chains. The big role played by maritime transportation in spearheading Global Value Chain is illustrated by the fact that about 87% of sea borne trade by volume was handled by only 20 of the world's ports in 2017 (Eto, 2021). Thus, in order for Nigeria to key into Global Value Chain, the country needs functional and efficient maritime transportation infrastructure.

### **The Problem**

Maritime transport has been identified as "the backbone of global trade and the global economy" (Korinek & Sourdin, 2009). The jobs and livelihoods of billions of people in the developing world, and standards of living in the industrialized and developed world, depend on ships and shipping. Accordingly, the shipping industry has played an important part in the remarkable improvements in global living standards, and this has been made possible due to maritime transportation and its functional infrastructure (Eto, 2023).

Over 70% of industrial activities in Nigeria are carried out in cities such as Lagos, Warri, Port-Harcourt, and Calabar because they have a large presence of maritime infrastructure that facilitate maritime transportation activities within and around them to facilitate seaborne commerce (Badejo, 2000; Lloyd et al., 2020). This places emphasis on the significant role of maritime transportation and its infrastructure in Nigeria's economy. However, the need for funding the

---

Publication of the European Centre for Research Training and Development -UK

upgrade of maritime transportation infrastructure was recognized when port infrastructure in Nigeria's major seaports started to collapse, and the World Bank ranked Lagos ports as 358<sup>th</sup> out of 370 ports (based on Container Port Performance Index - 2021 Report, Tunji, 2022).

Consequently, the Nigerian Ports Authority had to source for loan facility of \$700m from UK Export Finance to commence the rehabilitation and upgrade of the port infrastructure for efficient landside operations ((Faith, 2019, Business Transport, 2024). Thus, there is urgent need for facilitation of maritime transportation and the sustainable use of marine resources in Nigeria through the provision of efficient maritime transport infrastructure, comprehensive national maritime transport policy, efficient security architecture, navigational safety and protection of marine environment (Eto, 2021).

According to Asghar (2019) cited in Eto (2021), the growth in international trade and the removal of trade barriers (trade liberalization), have made developing countries to concentrate more on the improvement of their roads, airports and seaports infrastructure for efficient logistics processes and multimodal transport system, which play a critical role in the development of the economy. Therefore, even though the improvement of maritime transportation infrastructure in Nigeria is only a fraction, nonetheless it is a very vital aspect in the overall infrastructural requirements for enhanced international trade.

The maritime transportation industry in Nigeria is undeniably important to the economic growth and development of the nation. Its effective role, which depends on efficient infrastructure, can have positive effect on national economy. The history, growth and progress of maritime nations are closely connected with the degree of development of the maritime transport infrastructure. For instance, over 90% of the vehicle transported to Nigeria is seaborne and maritime transportation infrastructure plays a crucial part in this (Peretomode, 2014).

Thus, the attention being given to poor maritime transportation infrastructure, which is mainly due to inadequate financing, is aimed at addressing the deplorable condition of port facilities, limited port hinterland connectivity, and inefficient port infrastructure in Nigeria in order to restore lost investment opportunities. This would improve revenue with the assurance of boosting Nigeria's economy through the promotion of economic diversification, reduction of Nigeria's dependence on oil export, and increase Nigeria's participation in global value chain. It would also enhance trade facilitation in terms of customs clearance, cargo handling efficiency; reduce poverty through job creation, and community development (Eto, 2021).

Moreover, with the advent of the African Continental Free Trade Agreement (AfCFTA), which promises an estimated \$3.4 trillion trade opportunities, Nigeria stands to gain if key requirements (such as investment in maritime transportation infrastructure, efficient procedures, capacity building and modern technologies to facilitate trade) are provided (<https://unctad.org>). This further

provides justification for the study and buttresses the significance of maritime transportation infrastructure towards Nigeria's economic growth and development.

Nigeria's inefficiencies in the maritime transportation sector are due to lack of modern port infrastructure, outdated ports, terminal, and cargo handling equipment, as a result of which some neighbouring countries (such as Ghana, Benin, and Togo) have been receiving diverted international trade destined for Nigeria. Consequently, owing to lack of priority attention given to maritime transportation infrastructure development in Nigeria's national economic planning, over two million vehicles which are imported into Nigeria usually pass through the aforementioned neighbouring countries, with the result of a huge revenue loss of ₦20 million daily – equivalent to ₦7.8 trillion annually at Apapa Wharf alone (Igbintade, 2025). Therefore, to reverse this negative trend, so that the nation can be a key player in global maritime trade (towards national economic growth and development), there is need to strategically overhaul policies, modernize maritime transportation infrastructure, and create a robust regulatory environment to attract international investment to improve the country's position in global shipping.

## **LITERATURE REVIEW AND CONCEPTUAL CLARIFICATION**

### **Conceptual Clarification**

#### **Maritime Transportation Infrastructure**

Maritime transportation is the mainstay of international trade and the global economy. It consists of infrastructure that is made up of facilities that aid port and shipping operations. These include ports terminals, cargo handling equipment, channels and harbours, warehouses, ports access roads, intermodal transport involving rail and roads (port hinterland connectivity) interfacing with ships and badges, utilities, information communication technology (ICT), deep seaport and scanners (Proshare, 2019).

Ports constitute vital maritime infrastructure and their expansion as well as that of the waterways is crucial to making room for larger containerships and accommodating the growing economy. They play a crucial role in maritime trade and are of vital importance for international trade and the global economy. With increasing maritime transportation and larger vessels, countries throughout the world are expanding their ports and waterways. Safeguarding the accessibility of these access channels and ports is of paramount importance (Van Oord, n.d.).

Listed below are ten major activities in the port that require maritime infrastructure (facilities) for efficient operations, identified by Lukmansyah (1986) cited in Eto (2023). They are interrelated and have strong influence on the success of port operations in particular and maritime transportation in general:

Cargo handling,

Shipping operation,  
Warehousing,  
Lighterage,  
Transportation,  
Ship supplies,  
Bunkering,  
Ship agency and Freight forwarding,  
Banking and Insurance,  
Shipbuilding and Ship repairs.

Maritime transportation infrastructure is important in port hinterland connectivity from the angle of inland maritime traffic. The significance of port hinterland connectivity (for movement of import and export) is underscored by the acknowledgement of rivers and channels as notable network of water connections which enable inland maritime traffic. Therefore, the success of maritime transportation requires that in order to ensure that vessels maintain safe sailing conditions at all times, maintenance dredging works is crucial (Van Oord, n.d.).

The process of economic development is complex and influenced by various factors, many of which are not directly observable; however, there is little doubt that infrastructure is a catalyst for economic growth. Infrastructure and economic growth are inextricably linked, with infrastructure as the backbone on which economic activities are delivered. According to the McKinsey Global Institute, infrastructure is estimated to deliver a socioeconomic rate of return of about 20 percent which means that \$1 of infrastructure investment results in a 20 cent rise in GDP (Ahmed, 2021). Infrastructure investment is not a one-time activity but one which requires the continuous maintenance and replenishment of the infrastructure stock of any country, regardless of its level of development. For example, the United States Senate recently passed a US\$1 trillion infrastructure bill with bipartisan support which according to the Brookings Institute represents about 1.25% of US GDP<sup>2</sup>. This signifies the multiplier effects from infrastructure investment and underscores the attention it receives as an important driver of economic growth, even in advanced economies (Ahmed, 2021).

It is also for this reason that Goal 9 of the United Nations Sustainable Development Goals is to 'Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation'. This places infrastructure at the heart of industrialization and innovation, activities required for the transformation of low-income countries to advanced industrialized societies. Transportation infrastructure is often considered a key factor in facilitating economic development and growth. The improvement of transportation infrastructure connectivity has thus become increasingly important in international trade research and transport policy agenda. Although the strong link between transport connectivity and economic growth has been well documented in the air, railway, and road transportation literature, less has been done to establish the direct association

between maritime connectivity and economic growth, let alone the exact effect magnitude and causal relationship. Shipping accounts for most of global trade in terms of both volume and value (Cheung et al., 2020 cited in Li, Bai, Yang & Hou, 2023), and it continues to be the dominant mode for long-distance transportation of physical goods (Saeed et al., 2021 cited in Li et al. 2023). The connectivity of transport infrastructure within the sphere of shipping thus has extremely significant practical effects on global trade and deserves greater attention.

### **Maritime Logistics Theory (MLT)**

According to Caliskan and Ozturkoglu (2016), several individuals and institutions have contributed significantly to the development and advancement of Maritime Logistics Theory, providing valuable insights into the complex relationships between maritime transport, logistics, and global supply chains. Such academics included Dr. Theodore Tsekeris, Professor of Shipping and Logistics at the University of Piraeus, Greece; Dr. Photis Panayides, Professor of Shipping and Logistics at the Cyprus University of Technology and Dr. Richard Gray, Professor of Maritime Logistics at the University of Plymouth, UK.

This theory explores the integration of maritime transport with logistics and supply chain management, highlighting the importance of efficient and effective maritime transportation infrastructure.

MLT is built upon several theoretical foundations:

1. **Supply Chain Management Theory:**

This explains the integration of business processes across the supply chain to create value for customers.

2. **Logistics Theory:**

This analyzes the planning, coordination, and execution of logistics activities to meet customer requirements.

3. **Maritime Economics Theory:**

This examines the economic relationships between maritime transport, trade and economic development.

#### **Factors Influencing Maritime Logistics**

1. **Economic Factors:** Global trade patterns, economic growth, and demand for maritime transport services.

2. **Technological Factors:** Advances in information and data analytics in maritime logistics.

3. **Institutional Factors:** Government policies, regulations, and international agreements affecting maritime logistics.

4. **Environmental Factors:** Climate change, pollution, and sustainability concerns in maritime logistics.

#### **Applications of Maritime Logistics Theory**

The following applications of Maritime Logistics Theory are the reasons why the theory is relevant to this study:

1. Maritime Supply Chain Optimization: Analyzing and improving the efficiency of maritime supply chains.
2. Logistics Service Provider Selection: Evaluating and selecting logistics service providers for maritime transport.
3. Maritime Risk Management: Identifying and mitigating risks in maritime logistics, such as piracy and cargo damage.
4. Sustainable Maritime Logistics: Developing strategies to reduce the environmental impact of maritime logistics.

### **Empirical Studies**

In a paper titled “Maritime Transport Infrastructure, Discussion Paper” Transport Australia Society (2020) observe that globally, ships are steadily increasing in size including the basic overall ship dimensions, acceptable tonnage and cargo quantities that can be accommodated. Thus, according to Transport Australia Society (2020), increases in container vessel sizes in Australia are motivated by global factors, rather than domestic demand. Consequently, this exerts greater pressure on current infrastructure and gradually requires costly upgrades of berthing and mooring infrastructure on wharves and shipping navigation channels. Moreover, dredging and dredged material relocation sites are required to offer deeper and wider shipping channels and vessel turning basins. The ability of existing container cranes to reach out to load unit may be inadequate for the wider beam ship, thus necessitating crane replacement.

Therefore, in the view of Transport Australia Society (2020), failure to upgrade infrastructure results in larger ships increasing risk profile for maneuvering the vessels in channels and harbours. Accordingly, this demands more in-depth risk assessments, enhanced training, broad-based expertise and comprehensive use of available technologies such as dynamic under keel clearance systems.

In a study titled “Maritime infrastructure: Transportation opportunities and considerations” Hickman (2013) observes that the Maritime Transportation System (MTS) is generally part and parcel of the efficient movement of the USA's freight. The author observes that MTS includes maritime infrastructure like navigable waterways, ports, and port connectors (roads and railways), which provide access to the interstate highway system and the national rail network. With approximately 90 percent of America's overseas imports and exports tonnage being moved by ship, the continued maintenance and improvement of the MTS and its infrastructure is essential to sustaining the nation's competitive position in the global economy.



**METHODOLOGY**

The study used simple random sampling technique owing to its ease of use and accuracy of representation. Observation and structured 4-point Likert scale questionnaire was used to collect quantitative data and descriptive statistics was used to analyze the data. On the questionnaire, SA: Strongly Agreed; A: Agreed; D: Disagreed; SD: Strongly Disagreed

*Table 1: Population of the study*

S/N	Respondents	Population
1	Importers	178
2	Exporters	106
3	Freight forwarders	79
4	Haulage/Logistics Companies	42
5	Seaport Terminal Operators	18
	<b>Total</b>	<b>423</b>

Source: Researchers Computation, (2025)

The study used primary and secondary sources of data. Questionnaire and structured interview were the instruments used for sourcing primary data. The study adopted the Taro Yamane formula to determine 225 as the sample size, out of population of study of 423.

In determining the sample size for this research, the Taro Yamane’s formula given as (equation. 1) was used:

$$n = \frac{N}{1 + N (e)^2} \dots\dots\dots (equation 1)$$

Where:

- n = sample size
- N = population size (423)
- e = level of significance (our level of significance is chosen at 5%)

Applying the formula at significant level of 5%;

$$\frac{423}{1 + 423 (0.05)^2}$$

$$\frac{423}{1+1.0575}$$

$$\frac{423}{1 + 1.06} = 205$$

Therefore, the sample size = 205. However, 20 (i.e.10%) is added to accommodate non-response and this brings the sample size to 225. From the above calculated value, a sample size of 225 was drawn at 95% confidence level and 0.05 error rate.

### **Sample Size Determination**

The sample size for the study was 225. Below is the number of copies of questionnaire that were administered to each group of respondents. Probability proportional to size (PPS) method was employed in selecting the sample size of respondents from each of the selected group of respondents. This was utilized in order to have an equal sample size representation and adequacy of the respondents in each of the group of respondents. The formula used to achieve this representation from each group of respondents is as follows:

$$\frac{\text{Number of questionnaires} \times \text{population of each group of respondents}}{\text{Grand total}}$$

*Table 2: Sample Size Determination*

S/N	Respondents	Population	Proportion	Sample size
1	Importers/Exporters	178	$\frac{225 (178)}{423}$	95
2	Shipping Agents	106	$\frac{225 (106)}{423}$	56
3	Freight forwarders	79	$\frac{225 (79)}{423}$	42
4	Haulage/Logistics firms	42	$\frac{225 (42)}{423}$	22
5	Seaport Terminal Operators	18	$\frac{225 (18)}{423}$	10
	<b>Total</b>	<b>423</b>		<b>225</b>

Source: Researcher's Computation, (2025)

## RESULTS AND DISCUSSION

### *Summary of Questionnaire Distributed*

The questionnaire distributed and the number of copies retrieved is presented in Table 3.

*Table 3: Copies of Questionnaire Administered*

Number of copies of Questionnaire Distributed	Number of copies of Questionnaire Retrieved	% of Copies of Questionnaire Retrieved
225	225	100

Source: *Field survey (2025)*

A total of 225 copies of the questionnaire were distributed to major stakeholders in the maritime transport sector. All the copies were returned to represent 100% response rate as shown in the Table above.

### *4.2 Socio-economic Characteristics of Respondents*

*Table 4: Demographic Analysis of Respondents*

Characteristics	Frequency	Percentage
Male	116	52
Female	109	48
<b>Total</b>	<b>225</b>	<b>100</b>

Source: *Field survey (2025)*

The gender distribution of the respondents is shown in Table 3. The distribution shows that 116 or 52% of the respondents were male while 109 or 48% were female. This shows that majority of the respondents were male.

*Table 5: Age Distribution of Respondents*

Age	Respondents	Percentage (%)
Less than 18	4	1.78
18-35	98	43.55
36-64	108	48
Above 65	15	6.67
<b>Total</b>	<b>225</b>	<b>100</b>

Source: *Field survey (2025)*

The age distribution in Table 4 shows that the number of respondents who were less than 18 years of age was 4 or 1.78%. Those whose age fell into the age bracket 18-35 years were 98

or 43.55%. Those who fell within the 36-64 years range were 108 or 48%, and they happened to be the majority. The respondents whose age was above 65 years were 15 or 6.67%.

*Table 6: Educational Level*

<b>Educational Level</b>	<b>Respondents</b>	<b>Percentage (%)</b>
Primary	4	1.78
Secondary	32	14.22
Tertiary	189	84
<b>Total</b>	<b>225</b>	<b>100</b>

Source: *Field survey (2025)*

The formal education of respondents as shown in Table 5 shows that all the respondents attained various degrees of formal education. Those who only attained Primary School education were 4 or 1.78%. Those who attained Secondary School education were 32 or 14.22% and the majority of the respondents, who happened to attained Tertiary education, were 189 or 84%.

*Table 7: Occupation Distribution*

S/N	Occupation	Respondents	Percentage
1	Importers/ Exporters	95	42.22
2	Shipping Agents	56	24.89
3	Freight forwarders	42	18.67
4	Haulage/Logistics firms	22	9.78
5	Seaport Terminal Operators	10	4.44
<b>Total</b>		<b>225</b>	<b>100</b>

Source: Researcher's Computation, (2025)

The occupation distribution shown in Table 6 indicates that 95 or 42.22% were importers/ Exporters were 56 or 24.89%. Shipping Agents were 56 or 24.89%, Freight forwarders were 42 or 18.67%. Haulage/Logistics firms were 22 or 9.78% and Seaport Terminal Operators were 10 or 4.44%.

*Table 7: Status Distribution*

<b>Status</b>	<b>Respondents</b>	<b>Percentage (%)</b>
Top-Level Management	78	34.67
Senior-Level Management	134	59.55
Junior-Level Management	13	5.78
<b>Total</b>	<b>225</b>	<b>100</b>

**Source:** Researchers Computation (2025)

The status distribution of respondents shown in Table 7 indicates that 88 or 39.11% were Top-Level Management. Majority of the respondents, who were 124 or 55.11%, fell within the Senior-Level Management while those who were of the Junior Management cadre were 13 or 5.78%.

## **DISCUSSION OF RESULTS**

Tables 8 to 12 show the responses to 4-point Likert Scale questions based on objectives 1 to 5.

Table 8: Objective 1: To examine the maritime transportation infrastructure and Nigeria’s economic growth

S/N	Question Items	SA	%	A	%	D	%	SD	%	Total	%
1	Would you rate the quality of Nigeria’s maritime transportation infrastructure (e.g. ports, shipping lanes, cargo handling facilities) as excellent?	23	10.22	49	21.78	57	25.33	96	42.67	225	100
2	To what extent do you agree that Nigeria’s maritime transportation infrastructure has a positive impact on the country’s economic growth?	20	8.89	45	20	65	28.89	95	42.22	225	100
3	To what extent do you agree that Nigeria’s maritime transportation infrastructure is efficient in facilitating trade and economic growth?	15	6.67	43	19.11	68	30.22	99	44	225	100
4	To what extent do you agree that Nigeria’s maritime transportation infrastructure is essential for the country’s economic development?	92	40.89	71	31.55	38	16.89	24	10.67	225	100
5	To what extent do you agree that Nigeria’s maritime transportation infrastructure makes the country competitive in the global market?	18	8	29	12.89	76	33.78	102	45.33	225	100

Objective 1 aims to investigate the correlation between the development of maritime transportation infrastructure and Nigeria's economic growth, as measured by GDP. The questions aim to capture the respondents' perception of the quality, impact, efficiency, and competitiveness of Nigeria's maritime transportation infrastructure, as well as the importance of investing in its development. Based on objective 1, which is: to examine the maritime transportation infrastructure and Nigeria's economic growth, Table 8 shows the responses to question 1 which is: Would you rate the quality of Nigeria's maritime transportation infrastructure (e.g. ports, shipping lanes, cargo handling facilities) as excellent? The Table shows that 96 (42.67%) respondents strongly disagreed; 57 (25.33%) disagreed; 49 (21.78%) agreed while 23 (10.22%) strongly agreed. This implies that the quality of Nigeria's maritime transportation infrastructure (e.g. ports, shipping lanes, cargo handling facilities) is not excellent.

The Table also shows responses to question 2, which states: To what extent do you agree that Nigeria's maritime transportation infrastructure has a positive impact on the country's economic growth? The Table shows that 95 (42.22%) respondents strongly disagreed that Nigeria's maritime transportation infrastructure has a positive impact on the country's economic growth; 65 (28.89%) disagreed; 45 (20%) agreed, while 20 (8.89%) strongly agreed. This implies that Nigeria's maritime transportation infrastructure does not have a positive impact on the country's economic growth. Furthermore, the Table shows responses to question 3, which states: To what extent do you agree that Nigeria's maritime transportation infrastructure is efficient in facilitating trade and economic growth? The Table shows that 99 (44%) respondents strongly disagreed that Nigeria's maritime transportation infrastructure is efficient in facilitating trade and economic growth; 68 (30.22%) disagreed; 43 (19.11%) agreed, while 15 (6.67%) strongly agreed. This implies that Nigeria's maritime transportation infrastructure is not efficient in facilitating trade and economic growth.

The Table shows responses to question 4, which states: To what extent do you agree that Nigeria's maritime transportation infrastructure is essential for the country's economic development? The Table shows that 92 (40.89%) respondents strongly agreed that Nigeria's maritime transportation infrastructure is essential for the country's economic development; 71 (31.55%) agreed; 38 (16.89%) disagreed, while 24 (10.67%) strongly disagreed. The Table also shows responses to question 5, which states: To what extent do you agree that Nigeria's maritime transportation infrastructure makes the country competitive in the global market? The Table shows that 102 (45.33%) respondents strongly agreed; 76 (33.78%) disagreed; 29 (12.89%) agreed, while 18 (8%) strongly agreed. This implies that Nigeria's maritime transportation infrastructure is essential for the country's economic development.

S/N	Question Items	SA	%	A	%	D	%	SD	%	Total	%
1	Would you rate as very high the rate of efficiency of Nigeria's port infrastructure in facilitating trade?	29	12.89	41	18.22	58	25.78	97	43.11	225	100
2	To what extent do you agree that Nigeria's port infrastructure effectively facilitates trade by reducing clearance times and costs?	27	12	32	14.22	61	27.11	105	46.67	225	100
3	To what extent do you agree that Nigeria's port infrastructure has significant impact on the country's economic development?	18	8	26	11.56	53	23.55	128	56.89	225	100
4	To what extent do you agree that the quality of Nigeria's port infrastructure, which includes facilities, equipment and technology, can be rated excellent?	29	12.89	37	16.44	51	22.67	108	48	225	100
5	To what extent do you agree that Nigeria's port infrastructure makes the country competitive in the global market?	31	13.78	26	11.56	64	28.44	104	46.22	225	100

Table 9: Objective 2: To assess the impact of port infrastructure on trade facilitation and economic development in Nigeria



---

Publication of the European Centre for Research Training and Development -UK

Objective 2 aims to assess the impact of port infrastructure on trade facilitation and economic development in Nigeria. The questions based on Objective 2 measure the impact of port infrastructure on trade facilitation and economic development in Nigeria. They aim to capture the respondents' perceptions of the efficiency, effectiveness, and impact of Nigeria's port infrastructure on trade facilitation and economic development. Based on objective 2, Table 9 shows the responses to question 1 which is: Would you rate as very high the rate of efficiency of Nigeria's port infrastructure in facilitating trade? The Table shows that 97 (43.11%) respondents strongly disagreed that the quality of Nigeria's maritime transportation infrastructure (e.g. ports, shipping lanes, cargo handling facilities) is excellent; 58 (25.78%) disagreed; 41 (18.22%) agreed while 29 (12.89%) strongly agreed. This implies that the quality of Nigeria's maritime transportation infrastructure (e.g. ports, shipping lanes, cargo handling facilities) is not excellent.

The Table also shows responses to question 2, which states: To what extent do you agree that Nigeria's port infrastructure effectively facilitates trade by reducing clearance times and costs? The Table shows that 105 (46.67%) respondents strongly disagreed that Nigeria's port infrastructure effectively facilitates trade by reducing clearance times and costs; 61 (27.11%) disagreed; 32 (14.22%) agreed, while 27 (12%) strongly agreed. This implies that Nigeria's port infrastructure does not effectively facilitate trade by reducing clearance times and costs. Furthermore, the Table shows responses to question 3, which states: To what extent do you agree that Nigeria's port infrastructure has significant impact on the country's economic development? The Table shows that 128 (56.89%) respondents strongly disagreed that Nigeria's port infrastructure has significant impact on the country's economic development; 53 (23.55%) disagreed; 26 (11.56%) agreed, while 18 (8%) strongly agreed. This implies that Nigeria's ports infrastructure has no significant impact on the country's economic development.

The Table shows responses to question 4, which states: To what extent do you agree that the quality of Nigeria's port infrastructure, which includes facilities, equipment and technology, can be rated excellent? The Table shows that 108 (48%) respondents strongly disagreed that the quality of Nigeria's port infrastructure, which includes facilities, equipment and technology, can be rated excellent; 51 (22.67%) disagreed; 37 (16.44%) agreed, while 29 (12.89%) strongly agreed. This implies that the quality of Nigeria's port infrastructure, which includes facilities, equipment and technology, cannot be rated excellent. Furthermore, the Table also shows responses to question 5, which states: To what extent do you agree that Nigeria's port infrastructure makes the country competitive in the global market? The Table shows that 104 (46.22%) respondents strongly disagreed that Nigeria's port infrastructure makes the country competitive in the global market; 64 (28.44%) disagreed; 26 (11.56%) agreed, while 31 (13.78%) strongly agreed. This implies that Nigeria's port infrastructure does not make the country competitive in the global market.

Table 10: Objective 3: To investigate the effect of maritime transportation costs on Nigeria’s international trade and economic growth

S/N	Question Items	SA	%	A	%	D	%	SD	%	Total	%
1	To what extent do you agree that high maritime transportation costs have a negative impact on Nigeria’s international trade?	98	43.56	61	27.11	36	16	30	13.33	225	100
2	To what extent do you agree that the competitiveness of Nigeria’s maritime transportation costs compares favourably to other countries?	24	10.67	33	14.66	76	33.78	92	40.89	225	100
3	To what extent do you agree that reducing maritime transportation costs would have a positive impact on Nigeria’s economic growth?	101	44.89	51	22.67	36	16	37	16.44	225	100
4	To what extent do you agree that the impact of maritime transportation costs on the volume of Nigeria’s international trade is low?	31	13.78	41	18.22	68	30.22	85	37.78	225	100
5	To what extent do you agree that the Nigerian government should implement policies to reduce maritime transportation costs and promote international trade?	105	47.66	48	21.33	41	18.22	31	13.78	225	100

The questions based on Objective 3 aim to measure the effect of maritime transportation costs on Nigeria's international trade and economic growth. The questions aim to capture the respondents' perceptions of the impact of maritime transportation costs on Nigeria's international trade and economic growth, as well as their opinions on the competitiveness of Nigeria's maritime transportation costs and the need for cost reduction strategies. Based on objective 3, Table 10 shows the responses to question 1 which is: To what extent do you agree that high maritime transportation costs have a negative impact on Nigeria's international trade? The Table shows that 98 (43.56%) respondents strongly agreed that high maritime transportation costs have a negative impact on Nigeria's international trade; 61 (27.11%) agreed; 36 (16%) disagreed while 30 (13.33%) strongly disagreed. This implies that high maritime transportation costs have a negative impact on Nigeria's international trade.

The Table also shows responses to question 2, which states: To what extent do you agree that the competitiveness of Nigeria's maritime transportation costs compares favourably to other countries? The Table shows that 92 (40.89%) respondents strongly disagreed that the competitiveness of Nigeria's maritime transportation costs compares favourably to other countries; 76 (33.78%) disagreed; 33 (14.66%) agreed, while 24 (10.67%) strongly agreed. This implies that the competitiveness of Nigeria's maritime transportation costs does not compare favourably to other countries. Furthermore, the Table shows responses to question 3, which states: To what extent do you agree that reducing maritime transportation costs would have a positive impact on Nigeria's economic growth? The Table shows that 101 (44.89%) respondents strongly agreed that reducing maritime transportation costs would have a positive impact on Nigeria's economic growth; 51 (22.67%) agreed; 36 (16%) disagreed, while 37 (16.44%) strongly disagreed. This implies that reducing maritime transportation costs would have a positive impact on Nigeria's economic growth.

The Table shows responses to question 4, which states: To what extent do you agree that the impact of maritime transportation costs on the volume of Nigeria's international trade is low? The Table shows that 85 (37.78%) respondents strongly disagreed that the impact of maritime transportation costs on the volume of Nigeria's international trade is low; 68 (30.22%) disagreed; 41 (18.22%) agreed, while 31 (13.78%) strongly agreed. This implies that the impact of maritime transportation costs on the volume of Nigeria's international trade is low.

Furthermore, the Table also shows responses to question 5, which states: To what extent do you agree that the Nigerian government should implement policies to reduce maritime transportation costs and promote international trade? The Table shows that 105 (47.66%) respondents strongly agreed that the Nigerian government should implement policies to reduce maritime transportation costs and promote international trade; 48 (21.33%) agreed; 41 (18.22%) disagreed, while 31 (13.78%) strongly disagreed. This implies that the Nigerian government should implement policies to reduce maritime transportation costs and promote international trade.

Table 11: Objective 4: To evaluate the role of maritime transportation infrastructure in promoting regional development and economic growth in Nigeria

S/N	Question Items	SA	%	A	%	D	%	SD	%	Total	%
1	To what extent do you agree that maritime transportation infrastructure has a positive impact on regional development in Nigeria?	108	48	56	24.89	31	13.78	30	13.33	225	100
2	To what extent do you agree that the economic benefits of maritime transportation infrastructure in Nigeria are immense?	110	48.89	47	20.89	38	16.89	30	13.33	225	100
3	To what extent do you agree that Nigeria's maritime transportation infrastructure is of high quality and accessible to all regions?	38	16.89	37	16.44	69	30.67	81	36	225	100
4	To what extent do you agree that the role of maritime transportation infrastructure in promoting regional integration and cooperation in Nigeria is high?	112	49.78	45	20	38	16.89	30	13.33	225	100
5	To what extent do you agree that investing in maritime transportation infrastructure should be a priority for promoting regional development and economic growth in Nigeria?	108	48	49	21.78	34	15.11	34	15.11	225	100

The questions based on Objective 4 aim to capture the respondents' perceptions of the impact of maritime transportation infrastructure on regional development and economic growth in Nigeria, as well as their opinions on the quality, accessibility, and prioritization of the infrastructure. Based on objective 4, Table 11 shows the responses to question 1 which is: To what extent do you agree that maritime transportation infrastructure has a positive impact on regional development in Nigeria? The Table shows that 108 (48%) respondents strongly agreed that maritime transportation infrastructure has a positive impact on regional development in Nigeria; 56 (24.89%) agreed; 31 (13.78%) disagreed while 30 (13.33%) strongly disagreed. This implies that maritime transportation infrastructure has a positive impact on regional development in Nigeria.

The Table also shows responses to question 2, which states: To what extent do you agree that the economic benefits of maritime transportation infrastructure in Nigeria are immense? The Table shows that 110 (48.89%) respondents strongly disagreed that the economic benefits of maritime transportation infrastructure in Nigeria are immense; 47 (20.89%) disagreed; 38 (16.89%) agreed, while 30 (13.33%) strongly agreed. This implies that the economic benefits of maritime transportation infrastructure in Nigeria are immense. Furthermore, the Table shows responses to question 3, which states: To what extent do you agree that Nigeria's maritime transportation infrastructure is of high quality and accessible to all regions? The Table shows that 81 (36%) respondents strongly disagreed that Nigeria's maritime transportation infrastructure is of high quality and accessible to all regions; 69 (30.67%) disagreed; 37 (16.44%) agreed, while 38 (16.89%) strongly agreed. This implies that Nigeria's maritime transportation infrastructure is of high quality and accessible to all regions.

The Table shows responses to question 4, which states: To what extent do you agree that the role of maritime transportation infrastructure in promoting regional integration and cooperation in Nigeria is high? The Table shows that 112 (49.78%) respondents strongly agreed that the role of maritime transportation infrastructure in promoting regional integration and cooperation in Nigeria is high; 45 (20%) agreed; 38 (16.89%) disagreed, while 38 (16.89%) strongly disagreed. This implies that the role of maritime transportation infrastructure in promoting regional integration and cooperation in Nigeria is high. Furthermore, the Table also shows responses to question 5, which states: To what extent do you agree that investing in maritime transportation infrastructure should be a priority for promoting regional development and economic growth in Nigeria? The Table shows that 108 (48%) respondents strongly agreed that investing in maritime transportation infrastructure should be a priority for promoting regional development and economic growth in Nigeria; 49 (21.78%) agreed; 34 (15.11%) disagreed, while 34 (15.11%) strongly disagreed. This implies that investing in maritime transportation infrastructure should be a priority for promoting regional development and economic growth in Nigeria.

Table 12: Objective 5: To develop a framework for optimizing maritime transportation infrastructure in promoting sustainable economic growth in Nigeria

S/N	Question Items	SA	%	A	%	D	%	SD	%	Total	%
1	To what extent do you agree that it is important to optimize maritime transportation infrastructure in promoting sustainable economic growth in Nigeria?	105	46.66	54	24	33	14.67	33	14.67	225	100
2	To what extent do you agree that sustainability consideration (e.g. environmental, social) should be integrated into the development of maritime transportation infrastructure in Nigeria?	108	48	58	25.78	36	16	23	10.22	225	100
3	To what extent do you agree that it is important to engage stakeholders (e.g. government, private sector, local communities) in the planning and development of maritime transportation infrastructure in Nigeria?	98	43.56	76	33.78	32	14.22	19	8.44	225	100
4	To what extent do you agree that emerging technologies (e.g. blockchain, IoT) should be integrated into the development of maritime transportation infrastructure in Nigeria to promote efficiency and sustainability?	101	44.89	87	38.67	27	12	10	4.44	225	100
5	To what extent do you agree that it is important to develop a comprehensive framework for optimizing maritime transportation infrastructure in Nigeria, considering factors such as infrastructure development, sustainability, and stakeholder engagement?	108	48	54	24	36	16	27	12	225	100

The questions based on Objective 5 aim to capture the respondents' perceptions of the importance of optimizing maritime transportation infrastructure, integrating sustainability considerations, emerging technologies, and developing a comprehensive framework for promoting sustainable economic growth in Nigeria..

Based on objective 5, Table 12 shows the responses to question 1 which is: To what extent do you agree that it is important to optimize maritime transportation infrastructure in promoting sustainable economic growth in Nigeria? The Table shows that 105 (46.66%) respondents strongly agreed that it is important to optimize maritime transportation infrastructure in promoting sustainable economic growth in Nigeria; 54 (24%) agreed; 33 (14.67%) disagreed while 33 (14.67%) strongly disagreed. This implies that it is important to optimize maritime transportation infrastructure in promoting sustainable economic growth in Nigeria.

The Table also shows responses to question 2, which states: To what extent do you agree that sustainability consideration (e.g. environmental, social) should be integrated into the development of maritime transportation infrastructure in Nigeria? The Table shows that 108 (48%) respondents strongly agreed that sustainability consideration (e.g. environmental, social) should be integrated into the development of maritime transportation infrastructure in Nigeria; 58 (25.78%) agreed; 36 (16%) disagreed, while 23 (10.22%) strongly disagreed. This implies that sustainability consideration (e.g. environmental, social) should be integrated into the development of maritime transportation infrastructure in Nigeria.

Furthermore, the Table shows responses to question 3, which states: To what extent do you agree that it is important to engage stakeholders (e.g. government, private sector, local communities) in the planning and development of maritime transportation infrastructure in Nigeria? The Table shows that 98 (43.56%) respondents strongly agreed that it is important to engage stakeholders (e.g. government, private sector, local communities) in the planning and development of maritime transportation infrastructure in Nigeria; 76 (33.78%) agreed; 32 (14.22%) disagreed, while 19 (8.44%) strongly disagreed. This implies that it is important to engage stakeholders (e.g. government, private sector, local communities) in the planning and development of maritime transportation infrastructure in Nigeria.

The Table shows responses to question 4, which states: To what extent do you agree that emerging technologies (e.g. blockchain, IoT) should be integrated into the development of maritime transportation infrastructure in Nigeria to promote efficiency and sustainability? The Table shows that 101 (44.89%) respondents strongly agreed that emerging technologies (e.g. blockchain, IoT) should be integrated into the development of maritime transportation infrastructure in Nigeria to promote efficiency and sustainability; 87 (38.67%) agreed; 27 (12%) disagreed, while 10 (4.44%) strongly disagreed. This implies that emerging technologies (e.g. blockchain, IoT) should be

integrated into the development of maritime transportation infrastructure in Nigeria to promote efficiency and sustainability.

Furthermore, the Table also shows responses to question 5, which states: To what extent do you agree that it is important to develop a comprehensive framework for optimizing maritime transportation infrastructure in Nigeria, considering factors such as infrastructure development, sustainability, and stakeholder engagement? The Table shows that 108 (48%) respondents strongly agreed that it is important to develop a comprehensive framework for optimizing maritime transportation infrastructure in Nigeria, considering factors such as infrastructure development, sustainability, and stakeholder engagement; 54 (24%) agreed; 36 (16%) disagreed, while 27 (12%) strongly disagreed. This implies that it is important to develop a comprehensive framework for optimizing maritime transportation infrastructure in Nigeria, considering factors such as infrastructure development, sustainability, and stakeholder engagement.

## **CONCLUSION**

The study examines the impact of maritime transportation infrastructure on Nigeria's economic growth and development in order to enhance the level of trade facilitation, boost efficiency of shipping and logistics, prompt export-led growth in an import-dependent economy. The study finds that currently, Nigeria's port infrastructure does not make the country competitive in the global market and that investing in maritime transportation infrastructure should be a priority for promoting regional development and economic growth in Nigeria.

It shows that maritime transportation infrastructure development in Nigeria is low thereby affecting the prospects of job creation, regional development and investment opportunities in the sector. The significance of the study is underscored by its usefulness to policy makers and stakeholders in making informed decisions about investments, policy reforms and regulatory frameworks that would promote the development of a safe, efficient, and competitive maritime sector. Accordingly, with a strategic policy framework, legislative reforms, and significant investment in maritime transportation infrastructure, Nigeria's economic growth and development is assured.

## **Recommendations**

The following recommendations would help to address Nigeria's maritime infrastructure challenges and unlock the potential of the maritime sector for job creation, regional development, and investment opportunities:



1. Nigerian ports should be upgraded with modern facilities, equipment, and technology to increase efficiency, reduce congestion, and improve cargo handling capacity;
2. The Federal Government of Nigeria should establish a comprehensive national maritime transport policy that outlines the country's vision, goals, and strategies for infrastructure development, safety and security, environmental protection, and human capacity development.
3. The government should improve intermodal connectivity by investing in rail, road, and inland waterway infrastructure that links ports to hinterland regions. This would include the development of inland dry ports, logistics centre, and transportation corridors that facilitate the efficient movement of goods;
4. Government should enhance maritime safety and security by implementing international standards and best practices, such as the International Maritime Organization and the International Ship and Port Facility Security Code. This can include investing in maritime surveillance systems, patrol vessels, and port security infrastructure.
5. Government can promote public-private partnerships (PPPs) to finance, develop, and operate maritime infrastructure projects, such as ports, terminals, and logistics facilities. PPPs can attract foreign investment, transfer technology and expertise, and improve the efficiency and sustainability of maritime infrastructure development.

## REFERENCES

- Ahmed, Z.S. (2021). Towards Harnessing and Exploring Opportunities for Sustainable Financing of Transport Infrastructure in Nigeria. Sustainable Funding for Transport Infrastructure Development in Nigeria. 2-Day National Conference on Transportation Infrastructure Development Financing in Nigeria by the Nigeria Institute of Transport Technology, Zaria, Kaduna.
- Anagor-Ewuzie (2024). The gains and challenges of port concession in Nigeria, BusinessDay.
- Badejo, D. (2000). The Role and implication of government policies in charting the course of the Maritime industry in Nigeria. A paper presented at a National Seminar on the eradication of Complicated Sharp Practices in the Sea Ports held in Lagos, Nigeria.
- Business Transport (2024). NPA, Citibank Conclude \$700 loan for Apapa, Tin Can Ports' Rehabilitation.* <https://businessandtransport.com>.
- Dennie, C. (2018). The Significance of a Port in a Small Developing Country: A Case of Antigua and Barbuda. The International Journal of Maritime Themes. <https://www.academia.edu>.
- Eto, G.M. (2021). Maritime Transport in Nigeria. Heavens Rule Heritage Ltd.
- Eto, G.M. (2023). The Principles and Practice of Port and Shipping Operations in Nigeria. Heavens Rule Heritage Ltd.
- Faith, A. E. (2019). The Maritime Industry of Nigeria. Challenges and Sustainable Prospects

- <https://dj.univ-danubius.ro/index.php/DWP/article/view/126/285>
- <https://unctad.org/news/africas> (2025). 34 Trillion Opportunity Turning Vulnerabilities Resilience.
- Igbintade, W. (2025). Agbakoba: Nigeria's Untapped Maritime Potential Could Yield ₦7 Trillion in Revenue. *ThisDay*. [www.thisday.com](http://www.thisday.com).
- Li, W., Bai, X., Yang, D., & Hou, Y. (2023). Maritime connectivity, transport infrastructure expansion and economic growth: A global perspective. *Transportation Research Part A: Policy and Practice*. Volume 170, 103609.  
<https://www.sciencedirect.com/science/article/abs/pii/S0965856423000290>
- Korinek, J. & Sourdin, P. (2009). Maritime Transport Costs and Their Impact on Trade.  
<https://www.researchgate.net/publication>
- Lloyd, C., Onyeabor, E., Nwafor, N., et al. (2020). Maritime transportation and the Nigerian economy: matters arising. *Commonwealth Law Bulletin*.  
<https://doi.org/10.1080/03050718.2019.170842>.
- Miambo, C. (2021). The Impact of Port Performance on Trade: The Case of Selected African States. *Economies*, 9 (4), 135.
- Peretomode, V. F. (2014). The role of the maritime industry and vocational and technical education and training in the economic development of Nigeria. *IOSR Journal of Humanities and Social Sciences*, 19 (5), 45-50.
- Proshare (2019). Nigeria Maritime Industry. <https://www.proshare.co/articles/nigeria-maritime-industry?menu=Economy&classification=Read&category=Transportation>.
- Transport Australia Society (2020). Maritime Transport Infrastructure, Discussion Paper.  
<https://www.engineersaustralia.org.au/sites/default/files/2022-06/maritime-transport-infrastructure-discussion-paper.pdf>
- Tunji, S. (5 June, 2022). World Bank Ranks Lagos Ports Poorly Amid Collapse, Cargo Diversion. *The Punch*.
- Udi, (2024). Trade Cost in Nigeria Five Times Higher than United States – World Bank
- Van Oord Marine Ingenuity (n.d.). Maintenance of ports and waterways.  
<https://www.vanoord.com/en/activities/maintenance-ports-and-waterways>.

Global Journal of Arts, Humanities and Social Sciences

Vol.13, No.3, pp.1-26, 2025

Print ISSN: 2052-6350(Print)

Online ISSN: 2052-6369(Online)

Website: <https://www.eajournals.org/>

---

Publication of the European Centre for Research Training and Development -UK

Global Journal of Arts, Humanities and Social Sciences

Vol.13, No.3, pp.1-26, 2025

Print ISSN: 2052-6350(Print)

Online ISSN: 2052-6369(Online)

Website: <https://www.eajournals.org/>

---

Publication of the European Centre for Research Training and Development -UK

Global Journal of Arts, Humanities and Social Sciences

Vol.13, No.3, pp.1-26, 2025

Print ISSN: 2052-6350(Print)

Online ISSN: 2052-6369(Online)

Website: <https://www.eajournals.org/>

---

Publication of the European Centre for Research Training and Development -UK