

CHALLENGES FACING SEABORNE CARGO OPERATIONS IN NIGERIA: A CASE STUDY OF LAGOS PORT COMPLEX

Samuel Adebayo OGUNLADE¹, Mobolaji Stephen STEPHENS²,
Wilfred I UKPERE³

¹ *Department of Logistic and Transport Technology, Federal University of Technology Akure, Nigeria, Nigeria, Email: samuellicon77@gmail.com*

² *Department of Logistic and Transport Technology, Federal University of Technology Akure, Nigeria, Email: st_eboka@hotmail.com*

³ *Department of Industrial Psychology and People Management, School of Management, College of Business & Economics, University of Johannesburg, South Africa, Email: wiukpere@uj.ac.za*

How to cite: OGUNLADE, S.A., STEPHENS, M.S., & UKPERE I., W. (2021). "Challenges Facing Seaborne Cargo Operations in Nigeria: A Case Study of Lagos Port Complex." *Annals of Spiru Haret University. Economic Series*, 20(3), 251-262, doi: <https://doi.org/10.26458/21312>

Abstract

This paper aims to look into the challenges confronting seaborne cargo operations in Nigeria, using Lagos Port Complex (LPC) as a case study. The research adopted expository research design. Lagos Port Complex was the sample frame, and 230 questionnaires was administered using purposive sampling technique. Descriptive statistics was used for the analysis. Tables and the centre tendency to ascertain the opinion of the respondents were used. The results shows that the challenges confronting the maritime operation in Nigeria include the fact that foreign vessels berth more in LPC; import cost are very high; lack of export makes ships to frequently sail back on ballast; and finally, foreign dominance in Nigeria territorial waters. The respondents seems more indifferent about the adequacy or inadequacy port infrastructures in handling the cargoes at the port, with regards to mechanized as well as port-system upgrade to international standard. Respondents were also

Issue 3/2021

indifferent about foreigners manning the ships (meaning that if the CABOTAGE Act had not failed in its essence that should not have been a problem that needs attention or be spoken about after fifteen years of enacting the Act). It can be said that the CABOTAGE Act have not actualize its essence. These challenges confronting the maritime operations in Nigeria should have been addressed through the CABOTAGE Act.

Keywords: *challenges; seaborne-cargo; foreign-dominance; port; Cabotage Act.*

JEL Classification: R4

Introduction

There is barely any system that is challenged free. Attending to the challenges facing a given system is to create leverages for the systems to become stronger, advance, as well as develop into something better. Maritime operations in Nigeria have been facing so several challenges that are associated with the advancement in the maritime technological operational strategy and the current position of maritime operations in Nigeria. Maritime technological advancement strategy reveals the extent or the role a country plays in the technological advancement in the maritime sector. This looks into the degree of a nation's inclination towards technological advancement across the globe. Whether a country is among those that contribute technologically or among the end users of the technological innovations developed within the global maritime industries is immaterial when addressing maritime related challenges a nation faces holistically. The current technological advancement puts country like Nigeria at a disadvantaged point, which has little or no contribution to the development of the maritime technological advancement globally. With a country's inclination to maritime operations there are certain challenges that a counties is confronted with, particularly when a country is a consuming nation, with access to world market through maritime transportation of heavy and long shelf-life commodities. Adenigbo & Enyinda (2016), consider the challenges confronting the nation's shipping activities as growth in trade-cargo capacity and inadequate equipment, while Dosunmu, Adepoju, & Somuyiwa (2016) consider dominance of foreign vessels and lack of export as challenges facing Nigerian maritime operations. More detail of those challenges will be discussed in the next section.

Challenges confronting seaborne cargo in Nigeria

There are several challenges confronting seaborne cargo activities in Nigeria, such as ship carrying capacity and growth in trade; inadequate equipment; dominance of foreign vessel and deficiency in export. The lists will be discussed one after another proceeding sub-sections.

Ship carrying capacity and growth in trade

The growing rate of the world total cargo throughput has been an issue the world is facing in the maritime arena [Alderton, 2008], and port handling capacity is presently confronted with the pressure. The current exertion of port handling capacity is shrinking the number of ports that are competitive based on performance. In the absence of protective policy, countries have to accelerate efforts to ensure that their port attracts cargoes to remain competitive. Ports in the developing countries merely operate individually [Ndikom, 2013], and majority of them are not as competitively as their counterparts in developed countries. Some of the ports are protected by policy that makes them attractive to cargoes that are destined for their region. Mostly the newly constructed ports are the only ports that can meet up with the rate of increase in cargo throughputs to be managed [Alderton, 2008], such as having an up to date facility to berth and service the ships. In the developed countries, unemployment rate is not as high as the developing ones, such as Nigeria. The developed countries can afford to automate the ports operations, as maritime activity is one of the biggest employers of labour in many countries. Of course, the advanced countries can afford automation of their port operations because they seem more objective in their approach to things, which is why they make all efforts to ensure that their operations are efficiently and effectively managed rather than being politically or sentimentally driven.

Inadequate equipment

Modern equipment is needed for modern ships operations owing to their design [Dosunmu, Adepoju, & Somuyiwa, 2016]. Emagbara and Ndikom (2012) opined that there is inadequate cargo handling tools at the Nigerian seaport, in addition to the fact that more personnel need to be trained. This training will be focused not only on those who operate the new equipment, but also include personnel handling manual operations. This inadequacy in cargo handling is not only the issue, however, the port needs to operate on a newly developed system of handling cargoes. The increase demand and the need for advanced technological equipment

Issue 3/2021

to handle the cargo operation within the port are of essence to make the port competitive, and hence, help to optimize the resources and infrastructures at the port [Somuyiwa & Ogundele, 2015].

In order to meet up with the need of port utility in the nearest future some level of automation is necessary. However, automating the port with little or no human interference can also increase the level of unemployed in the country. Nonetheless, over dependence on human to operate the cargo handling process will halt the running process when the workforce embarks on industrial action. It must also be noted human are confronted with fatigue as opposed to machine. Thus, a well-maintained automated process will reduce the operation cost drastically in terms of time and resources for handling cargoes at the port. However, in an underdeveloped country like Nigeria, where the workforce is more than the available work, it will be necessary first to maximize the use of available human resources to optimal level before gearing towards full automation. The process of optimizing the port operations will assist the building of infrastructures that will attract cargoes to the port as well as minimize the down time within the port facility. Such measure will prevent the underutilization of the automated port, while the return on investment and payback period of the investment made in procuring and implementing automations should be established.

Inefficient operations in the handling of cargo inevitably affect the viability and attractiveness of a port. Handling and operation cost does not readily add to the value of the cargo that passes through the port but only ensures the availability of such commodity in a given region. In a situation where the operation and handling cost escalates, reasonable percentage of the supposed profit margin of the commodity may be depleted, which could make the port over time to lose the patronage of owners of such commodities. Port users gravitate towards ports that enhance the optimization of their profit margin [Stephens & Ukpere, 2011]. It is pertinent to note that transportation constitute a substantial unit of the cost of any product. However, the need to reduce the transaction cost of transporting commodities to the end users is very crucial. The developing countries are trapped in the sphere of poor technological growth. Nevertheless, advancements and innovations within the global village are rapid and ubiquitous. Globalization seems to have prompted countries to specialize in the areas of their competitive advantage as a way of promoting exchange earnings. However, the developing countries are at the tail end of the production chain. While they are the provider of raw materials, the developed countries add value to the chain by turning the raw materials into

intermediate and finished products. Excavation of some of the raw materials from the developing countries to the developed ones is undertaken by citizens and enterprises of the developed countries. Hence, the dependence of the developing countries on the developed ones puts the developing countries at a disadvantaged position. However, the reaction time of the developed countries to any international market trend, policy or law seems shorter when compared to the developing nations.

Dominance of foreign vessel and deficiency in export

It has been notice that despite all efforts put into structural reformation in order to position Nigeria's shore facilities towards efficiency in maritime services, the Nigerian citizens have not so far benefited in terms of share, from maritime activities. It is projected that about 80% of the nation's shipping business is in the hands of foreign investors, which impacts negatively on the foreign exchange earning of Nigeria, resulting in poor job creation, as well as posed some potential threats to national security. In spite of the policy on Coastal and Inland Shipping, [CABOTAGE Act, 2003] as well as provision to protect the indigenous shipping operator, the dominance of the foreign vessels prevails. The domination of foreign shipping operators over domestic shipping lines is a major threat to the Nigerian economy. The Indigenous Ship Owners Association of Nigeria (ISOAN) posited that Nigeria loses roughly \$300 million every year due to capital flights perpetrated by foreign maritime operators in the Nigerian seaborne activities.

Some of the Ships that are destined for Nigeria ports are relatively expensive because the return commodity for shipment is not guarantee. In other words, most ship sail back empty. Most developing nation, particularly in Oceania and Africa, pay an additional 40-70% on average for the transportation of their imported goods compared to their counterparts in highly advanced countries. The main cause of this state of affair could be traced to poor countries' trade imbalances. This situation calls for some forms of reform in port and trade facilitation, in addition to reduction in trade volumes as well as connectivity in shipping activities [United Nations Conference on Trade and Development, UNCTAD, 2015].

With the projected changes in focus of the world's sources of energy, the fossil fuel that has been the dominant cargo export from Nigeria will soon be very negligible, and the agricultural produce that dominated the export earning of Nigeria before independence has not been doing so well since the discovery of oil. Based on the above it is projected that in the nearest future the country could be headed toward zero-export if the fossil fuel is no longer required for the daily

Issue 3/2021

running of human activities. That said, and being a consumer country, the nation may become deficient in foreign currency required for international trade.

Research Method

The sample frame use for this research is the Apapa Port Complex (NPA) workforce. The total workforce population stood at 573 in the year 2017. Applying Cochran (1977) formula:

$$n_0 = \frac{Z^2 pq}{e^2}$$

where

$e =$ the desired level of precision

p

$=$ the (estimated) proportion of the population that will be sampled

$$q = 1 - p$$

$z = z -$ value (found on Z table)

$$e = 0.05$$

$$p = 0.5$$

$$q = 1 - 0.5 = 0.5$$

$Z = Z -$ Score for the 95% level of confidence(1.96)

$$n_0 = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2}$$

$$n_0 = \frac{0.9604}{0.0025}$$

$$n_0 = 384$$

Modification for Cochran formula for sample size calculation in smaller populations

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Where

$n_0 =$ Cochran's sample recommendation

$N =$ population size

$n =$ is the new adjusted sample size

$$n_0 = 384$$

$$\begin{aligned}
 N &= 573 \\
 n &= \frac{384}{1 + \frac{(384 - 1)}{573}} \\
 n &= \frac{384}{1.668412} \\
 n &= 230.15898 \\
 n &\approx 230
 \end{aligned}$$

230 questionnaires were administered to the NPA Lagos Port Complex workforce. The sampling technique for the data collection was purposive sampling technique and descriptive analysis was adopted for the data analysis.

Data analysis and interpretation of findings

Table 1 below shows the frequency of respondents' opinion about how adequate the port security is. There are 206 responses without a missing value. In other words, with regards to the questions, the entire respondent gave their opinion about how adequate the port security is. About 6.8% of the respondents disagreed to the proposition that the port security is adequate, while one person disagreed with the proposition. 21.4% of the respondents are indifferent to the proposition, namely they did not disagree or agree to the claim. 50.5% of the respondents agreed and 28.2% of respondents strongly agreed to the proposition, that overall, the Apapa Lagos port's security is adequate for its operation.

Table 1. Security Adequacy

	Frequency	Percent	Cumulative Percentage
Strongly Disagree	1	0.5	0.5
Disagree	13	6.3	6.8
Indifferent	30	14.6	21.4
Agree	104	50.5	71.8
Strongly Agree	58	28.2	100.0
Total	206	100.0	

Source: Author's Field Survey

Issue 3/2021

Table 2 below represents the opinion of the respondents about the ratio of foreign vessels docking at Apapa Lagos Port Complex. Amongst the respondents, none of them affirmatively disagreed to the statement, but all of the respondents made their respective opinions known. Amongst them, 7.3% disagreed to the statement, while 26.7% were indifferent about the preposition. And a cumulative of 73.3% (9.7 + 63.6) of the respondents agreed to the preposition, that vessels that berth at Apapa Lagos Port Complex are more of foreign vessels.

Table 2. Foreign Vessel Berth More

	Frequency	Percent	Cumulative Percentage
Disagree	15	7.3	7.3
Indifferent	40	19.4	26.7
Agree	20	9.7	36.4
Strongly Agree	131	63.6	100.0
Total	206	100.0	

Source: Author's Field Survey

Table 3. Import Cost More to Nigeria

	Frequency	Percent	Cumulative Percentage
Strongly Disagree	10	4.9	4.9
Disagree	25	12.1	17.0
Indifferent	30	14.6	31.6
Agree	129	62.6	94.2
Strongly Agree	12	5.8	100.0
Total	206	100.0	

Source: Author's Field Survey

Table 3 above depicts the respondent's opinion about whether it cost more or less to ship to Nigeria than other West Africa ports. The opinion scale was to establish the extent to which port in other West Africa countries were more competitive compared to cost of shipping cargo to Nigeria. 4.9% of respondents strongly disagreed that NPA Port Complex is competitive among ports in West Africa and 17.0% disagreed to the preposition that it cost more to ship to Nigeria

than other West Africa ports. Aggregating the strongly disagree and disagree comes to 21.9%. However, 62.6% of the respondents agreed to the assertion, while 5.8% of respondents strongly agreed to the proposition. Cumulatively, 68.4% of the respondents agreed to the assertion, while 31.6% of respondents were indifferent about their opinion concerning the proposition.

Table 4 below illustrates and revealed the opinion of the respondents as to what extent they agree or disagree with regards to the adequacy of the port infrastructure provided. Out of the two-hundred and Six (206) persons, seven (7) of them did not reply to the question and thus were regarded as missing value by the statistical tool. 17.1% of the valid respondents agreed that the port infrastructure is adequate for its operation while 28.6% of the valid respondents disagreed to the preposition. More than half of the valid respondents were indifferent about the adequacy of the infrastructural provision. Ignoring the percentage of the respondents that are indifferent in their responses, those who disagreed that the port infrastructure is adequate are higher than those who agreed that the infrastructure is adequate. There is a little more than 25% difference in the response of those who disagreed compared to those who agreed.

Table 5 below represents the opinion of respondents based on their perceived experience about foreign crews on ships that ply Nigeria flag of convenience and registered as Nigeria ship. 11.2% of the respondents strongly disagreed that Nigeria ships are not manned by foreign crews, 34.0% disagreed that the ships' crew on Nigeria ports or Nigerian State registered ships are foreigners. They are of the opinion that ships owned by Nigerian or registered in Nigeria are manned substantially by Nigerian crews. Meanwhile, 44.2% of the respondents were indifferent as to whether foreigners or Nigerians man operate the ships that were registered in Nigeria.

Table 4. Adequacy of Port Infrastructure

	Frequency	Percent	Valid Percent
Disagree	57	27.7	28.6
Indifferent	108	52.4	54.3
Agree	34	16.5	17.1
Total	199	96.6	100.0
Missing	7	3.4	
Total	206	100.0	

Source: Author's Field Survey

Issue 3/2021

Table 5. Foreign Ship Crews

	Frequency	Percent	Cumulative Percentage
Strongly Disagree	23	11.2	11.2
Disagree	47	22.8	34.0
Indifferent	91	44.2	78.2
Agree	45	21.8	100.0
Total	206	100.0	

Source: Author's Field Survey

Table 6 below shows the respondents opinion pertaining to the returning of major ships that berth in Apapa Lagos Port Complex in Nigeria. 11.7% of the respondents among the 206 persons that were sampled among the port workforce, disagreed that ships do not sail back on ballast and 37.4% among them were indifferent as to whether ships sail back on ballast or not. However, 51.5% of the respondent agree that most of the ships that berth at the port sail back on ballast and 11.2% strongly agreed that ships sail back on ballast. Collapsing the scale into three (3) categories reflected that 12.7% were indifferent and 62.7% of the respondents agreed to the preposition that ships sails back on ballast, while 24.8% disagreed.

Table 6. Ship Sails Back on Ballast

	Frequency	Percent	Cumulative Percentage
Strongly Disagree	2	1.0	1.0
Disagree	24	11.7	12.6
Indifferent	51	24.8	37.4
Agree	106	51.5	88.8
Strongly Agree	23	11.2	100.0
Total	206	100.0	

Source: Author's Field Survey

In summary, the respondent's opinion and the extent of the validity of their opinion (if skewed or not) and possibly to know the centre tendency of the respondents' opinion pertaining to the challenges facing sea borne cargo operation in Nigeria, **Table 7** reflects the opinion of the Apapa Lagos Port Complex

workforce. Among the seven (7) questions or assertions posed to the respondents, except for the assertion that examined the extent of port infrastructure and foreign dominance, seven (7) and nine (9) respondents respectively gave no response. With regards to all other assertions, the respondents' opinions were made known. The average opinion about port security adequacy was "Agreed", while that of whether more of foreign vessels berth at the port was "Strongly Agreed". With regards to whether it costs more to import to Nigeria than other ports in West Africa it was "Agreed". In terms of ships sailing back on ballast it was "Agreed". With regards to foreigners manning the Nigeria ships it is "indifferent". In terms of foreigners vessels dominating our water it was "Strongly Agreed", and with regards to the average opinion as to whether port infrastructure is adequate it was "indifferent".

Table 7. Respondent's Centre Tendency

		Security Adequacy	Foreign Vessel berth more	Import Cost More in Nigeria	Ship Sails back on Ballast	Foreign Ship Crews	Foreign Dominance	Adequacy of Port Infrastructure
N	Valid	206	206	206	206	206	197	199
	Missing	0	0	0	0	0	9	7
Median		4.00	5.00	4.00	4.00	3.00	5.00	3.00

Source: Author's Field Survey

Discussion & Conclusion

Based on the feedbacks from the port workforce, it can be said that the challenges that are confronting the maritime operation in Nigeria are that foreign vessels berth more at Apapa Lagos Port Complex in Nigeria than Nigerian vessels; cost of importation is high; the lack of export make ships to frequently sail back on ballast; and foreign dominance in Nigeria territorial waters may open rooms for security challenges. While the respondents where indifferent about how adequate or inadequate the port infrastructures are in handling the cargo at the port, the indifference is as a result of mechanized approach instead of the port-system upgrade to the international standard in terms of port automation within the maritime sector. Moreover, more of the respondents were indifferent about foreigners manning the Nigerian ships inferring that if the CABOTAGE Act had not failed in its essence that should not have been a problem that needs too much attention or concerned about after fifteen years of enacting the Act. It can therefore

Issue 3/2021

be said that the CABOTAGE Act have not lived up to expectation, in term of addressing some of challenges confronting the maritime sector in the country.

References

- [1] Adenigbo, J. A., & Enyinda, C. A. (2016). "Operational Challenges of Cargo Handling Equipment at Terminals of Lagos Port Complex, Nigeria." *FUTA Journal of Management and Technology*, 105-111.
- [2] Alderton, P. (2008). *Lloyd's Practical Shipping Guides*. London: Informa.
- [3] Authority Nigeria Port (2003). *Coatal and Inland Shipping (CABOTAGE) Act*. Abuja.
- [4] Cochran's, W. G. (1977). *Sampling Techniques (3rd ed)*. New York: John Wiley and Sons.
- [5] Dosunmu, V. A., Adepoju, O. O., & Somuyiwa, A. O. (2016). "Analytical of Cargo Handling Operations in Apapa and Tincan Island Ports." *Academia Journal of Scientific Research*, June.
- [6] Emaghara, G. C., & Ndikom, O. B. (2012). "Delay factor evaluation of Nigeria seaports: a case study of Apapa Ports Complex, Lago." *Greener Journal of Physics Sciences*, 097-106.
- [7] Ndikom, B. C. (2013). "A Critical Evaluation of the Challenges and Opportunities of Shipping Line Services in Nigeria." *Greener Journal of Business and Management Studies*, 240-250.
- [8] Somuyiwa, A. O., & Ogundele, A. V. (2015). "Correlate of Productivity components in Tincan Island Port Apapa, Lagos." *European Journal of Logistics Purchasing and Supply Chain Management*, 44-57.
- [9] Stephens, M. S., & Ukpere, W. I. (2011). "Port Performance: the importance of land transport in a developing economy." *African Journal of Business Management*, 8584-8551.
- [10] United Nations Conference on Trade and Development (UNCTAD). (2015). "Freight Rate and Maritime Transport Cost." *Review of Maritime Transport*, 47.