

**THE IMPACT OF PUBLIC-PRIVATE PARTNERSHIPS ON THE PERFORMANCE
OF NIGERIAN SEAPORTS: A CASE STUDY OF APAPA PORT
COMPLEX, LAGOS**

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Abstract

Maritime activities are essential for national and international trade and undoubtedly becoming the life wire of developed, emerging, and developing economies. Generally, ports across the globe, in both developed and developing economies, are either publicly owned and operated or privately owned and operated. In some instances, ownership and operation are hybrid arrangements – publicly owned and privately operated. The reform model chosen by the Nigerian Government was the Landlord port system, where the Government, through its agency. The Nigerian Ports Authority (NPA) retains the ownership of infrastructure, and contracts out the management and operations of the facilities to the private sector with investment obligations on a competitive basis for a period ranging from 10-25 years. The longer the tenor, the high the investment obligations on the part of the private terminal operator. The Nigerian ports are structured into western and eastern ports under the supervision of a Governing Board. This empirical study examines the impact of concession on three significant indices of port management and operations, namely: average berth occupancy, average turnaround time, and security of cargo in the Apapa Port Complex. Attention has been drawn to how the reform has improved the efficiency of ports services in Nigeria. The recommendations capable of assisting in the actualization of the aims and objectives of the reform exercise. In this study, primary data obtained by survey technique were used.

Keywords: *Seaport, Nigerian Ports Authority, Apapa Port Complex, Lagos, Concession.*

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1. Introduction

1.1. Background and Objectives of the Study

Maritime activities are essential for national and international trade and undoubtedly becoming the life wire of developed, emerging, and developing economies. Maritime transportation has become the most effective mode of exchanging goods across the globe. Transportation of bulk commodities over a relatively long distance is most economically carried out by sea (Alfred, 1999). That is further enhanced through advances in technology, which has crystallized into an efficient, reliable, and demand-oriented transportation system. It is estimated that over 90% of global trade is seaborne. That reflects the level of dependency on shipping for the movement of goods generated through international trade transactions.

Generally, ports across the globe, in both developed and developing economies, are either publicly owned and operated, privately held, and operated or mixed arrangements. In some instances, ownership and operation are hybrid arrangements – publicly owned and privately operated. However, most ports that are publicly owned and worked mainly in developing nations and performed sub-optimally due to bureaucratic bottlenecks. That is characterized by differed investments due to dependence on budgetary allocations for expansion and modernization, low staff morale, corrupt practices, and insecurity of cargoes. Privately owned and operated ports or hybrid arrangements, in most instances, exhibit a remarkable level of performance in terms of improving port services.

Port reforms are policy measures by governments aimed at enhancing efficiency and productivity of ports by revitalizing and strengthening the operational and functional modalities of ports systems (Ndikom O. , 2004). In Nigeria, ports reforms embarked upon in 2004 were to make Nigerian ports both user and investor-friendly, thus enhancing smooth operations at the ports and cargo clearances.

The privatization of State Owner Enterprises can affect (SOE) their propensities to export for the following reasons. First, because SOE managers have distorted incentives (e.g., managers may be incentivized to maximize profits for themselves, rather than for their firms) and are less exposed to competitive pressure, privatized firms may be able to adopt strategies to compete in global markets more quickly. Second, privatized firms that become more productive and larger as a result of competitive pressure are more likely to serve foreign markets; this is the

case because productive privatized firms can afford the initial costs of marketing and production adaptation needed to enter international markets. (Todo, 2016)

Over the years, countries have been developing various management and financing mechanisms to build their port's infrastructure to optimize the port's operations efficiencies and effectiveness (Bousquet, 2001). The reform model chosen by the Nigerian Government was the Landlord port system, where the Government, through its agency, Nigeria Port Agency (NPA) retains the ownership of infrastructure, and contracts out the management and operations of the facilities to the private sector with investment obligations on a competitive basis for a period ranging from 10-25 years. The longer the tenor, the high the investment obligations on the part of the private terminal operator.

The Nigerian ports are structured into western and eastern ports under the supervision of a Governing Board. The western ports comprise Lagos Apapa Port, Lagos Tin Can Island Port, and Lagos Kerikeri Terminals I & II. In contrast, eastern ports are the Port Harcourt Port, Calabar Port, Delta Port, and Onne Port Complex. A port's manager supervises each of these ports.

Since the handling-over of the facilities to the private sector in 2006/7, few empirical studies were using a decade of data on ports operations in Nigeria. Therefore, this study is intended to measure the impact of private sector participation in the port operations in Nigeria using a 10-year data obtained from the NPA and the respective private terminal operators at the Apapa Port Complex, Lagos.

Over the years, the Nigerian ports are characterized by differed investments in terms of physical and moveable assets. The resulting in inefficiencies and low productivity, unwieldy workforce (more 70% performing administrative functions), bureaucratic bottlenecks occasioned by many government agencies operating in the ports, insecurity of cargo, and excessive charges, poor environmental management, among other challenges.

The Nigerian ports modernization study conducted revealed that the ports are administratively over-centralized, where NPA performs the tasks of regulator and operator without any form of competition. It was for this reason that the Government took the bold step to enshrine the private sector in the provision of ports services to change the status quo. The official view

about concession in Nigeria seems to be contained in the Infrastructure Concession Regulatory Commission Act (2005) where the authorization is described as:

a contractual arrangement whereby the project proponent or contractor undertakes the construction, including financing of any infrastructure, facility, and the operation and maintenance thereof and shall include the supply of any equipment and machinery for any support and the provision of any services for a pre-determined period (FGN, 2005).

Concerning port operations, concession refers to the lease of port terminals and the re-organization of stevedoring activities (Oghojafor, 2012. 1(4)). The contractual arrangement embodies service or performance criteria and specifies the technical quantities, qualities, and practices expected from the concessionaire. Perhaps, it is because of the stake that the Government still has in the venture that motivates the Government to ensure that her policies are implemented both in technical and social terms, as noted by (Awam, 2014).

The improvement of port efficiency or productivity seems to be the primary motivation for port concessions in Nigeria and other jurisdictions elsewhere. However, after the debut of the concession exercise, the level of achievement of this objective is yet to be determined and ascertained more than a decade. This paper, therefore, seeks to establish the impact of the ports reform in Nigeria by analyzing the significant indices of port operations performance. This impact would be determined by these objectives:

- a- Examine the impact of port concession on average berth occupancy in the Apapa Port Complex, Lagos,
- b- Analyze the impact of port concession on the turnaround time of vessels calling at the Apapa Port,
- c- Cargo security at the Apapa Port Complex, Lagos,
- d- Draw inferences and make policy recommendations based on the research findings.

This study examines the impact of concession on three significant indices of port management and operations, namely: average berth occupancy, average turnaround time, and security of cargo in the Apapa Port Complex. Attention has been drawn to how the reform has improved the efficiency of ports services in Nigeria. The recommendations capable of assisting in the actualization of the aims and objectives of the reform exercise.

A study by (Tongzon J. a., 2005) had studied the Concept of Landlord model, and how its application in seaports has increased competitiveness and efficiency, these have not been

specific to Nigeria. This study will complement these existing studies by establishing the impact of port concession on average berth occupancy, vessel turnaround time, and cargo security at the Apapa Port Complex, Lagos.

1.2. Statement of the Problem

The Nigerian Ports by the beginning of the 1990s have shown shallow levels of efficiency, which resulted in long turnaround times for ships and increased container dwell time (Leighland, 2007). Instead of the forty-eight hours international standard as recommended by the International Maritime Organization (IMO) to unload and reload a ship, it took weeks or even months. The workforce was over-bloated, there were excessive port-related charges, and massive levels of cargo theft. The port infrastructure required considerable reconstruction and upgrade. That is entailed extensive external financial support, which the Federal Government was unwilling to provide due to dwindling public revenues and other competing general needs. Hence, port operators and users were left dissatisfied.

The Nigerian Ports, as was the case with many other public corporations, were also believed to have a complex institutional management structure with stiff bureaucratic bottlenecks. In a bid to address the challenges militating against free performance at the port, the Federal Government opted for private sector management and operations in order to bring in needed technical expertise, managerial capacity, and financial resources in the area of ports operations as practiced elsewhere. The concession is a process whereby the concession grantor gives the right to operate a facility and deliver a service of public interest to a merchant concessionaire, against the commitment assumed by the concessionaire to build and manage the subject of the concession or to manage the delivery of service at the concessionaire's own risk (Tsvytkov, 2010).

Studies on the circumstances necessitating the Nigerian Ports concession and the primary outcomes have been carried out (Akinwale, 2010); others have looked at logistics and physical distribution at the ports (Ogunsiji A. S., 2011). However, no known study has examined, if some of the fundamental objectives of the concession were achieved during ten years after the concession exercise, hence the need for this study. Against this background, the study examines the current practices at the Nigerian Ports to ascertain if:

- a- The turnaround time has improved.
- b- The percentage of the berth occupancy rate has improved.
- c- The security around the seaports has improved.

1.3. Research Questions, Scope and Limitations, and Significance of the Study

Based on the objectives of the study, the following research questions deserve answers:

- a- Is there performance improvement in the turnaround time for ships?
- b- Is there performance improvement in the berth occupancy percentage rate?
- c- Has security around the port environment improved?

The Federal Government of Nigeria through the Nigerian Ports Authority Establishment Act, 1955 as amended and under the procedural supervision of the Federal Ministry of Transportation owns the following seaports across the country: Apapa Port, Lagos; Tin Can Island Port, Lagos; Port Harcourt Port, Rivers State, Calabar Port, Cross-River State; Onne Port, Rivers State; Delta Port, Delta State; Koko Port, Delta State, and Ro-Ro Port, Lagos. Because of the size and location coupled with time and financial resource constraints, this study is limited to the Apapa Port Complex, Lagos only. The Apapa Port Complex, for the concession exercise, is delineated into Terminals A, B, C, D, E and, Container Terminal for private terminal operations and management. At the same time, ownership of the ports assets remains the prerogative of the Federal Government of Nigeria.

There are limited studies on the impact of port concessions in Nigeria hence the need for this research study to augment the existing literature. This study is intended to further the enriched knowledge base of the Nigerian seaport concessions with particular emphases on the Apapa Port Complex, Lagos. Policymakers and other researchers alike would benefit tremendously from this research as the study would investigate issues that have affected the implementation of the concession policies that were designed to boost efficiency and come up with pragmatic approaches that could be applied to solving the identified problems.

The study is going to be answering some questions regarding turnaround time for ships, berth occupancy rates, and cargo security. The research would serve as a tool to address ports' development problems, both internal and external, and other sundry factors affecting port performances. Finally, the study will make some policy recommendations that will help in the

repositioning of the Nigerian ports generally towards maximum efficiency and effectiveness as obtainable in other jurisdictions elsewhere.

2. Literature Review

2.1. Theoretical Literature Review

The theoretical literature review addresses the theories of mercantile trade, customs excise, and transportation as their relationships to maritime shipping and exchange of goods across and between nations. The transfer of goods across international borders is being facilitated by mostly marine transportation.

There were no known defined pattern nations behave in terms of products they traded with other parts of the world and hardly allied to the trade structure of other countries. Instead, they gradually developed their own product sets and trade processes and procedures for exports and imports. The nations of the world have noticeable differences in their exposures to the disorders as a result of uncontrollable external factors.

The theory of mercantilism focuses on boosting nations' trade surplus, which would result in the building of countries' wealth. During the 16th and 17th centuries, European imperialists actively pursued foreign trade to augment their treasury of goods, which were, in turn, invested in creating strong armies for territorial defense and building of quality infrastructure to enhance socio-economic growth.

Adam Smith (1776): in, "*An Inquiry into the Nature and Causes of the Wealth of Nations*" examined mercantilist trade policies as being practiced and conclude that the wealth of a nation is not measured on the vast available stockpiles of precious metals such as gold and silver in treasuries, but the real wealth of a country is assessed in terms of the quality of living standards of the citizenry as reflected by the per capita income.

Adam Smith emphasized productivity and advocated free trade as a means of increasing global efficiency and effectiveness. As per his formulation, a country's standards of living can be enhanced by international trade with other countries either by importing goods not produced by it or by producing large quantities of products through specialization and exporting the surplus. David Ricardo, in *Principles of Political and Taxation* (1817), promulgated the theory of comparative advantage, wherein a country benefits from international trade even if it is less

efficient than other nations in the production of two commodities. Comparative advantage may be defined as the inability of a country to produce a good more efficiently than other nations, but its ability to provide that good more efficiently compared to the other good.

Heckscher-Ohlin (1919), the model suggests that nations export what they can produce in sufficient quantities. The model is used to assess trade, especially trade equilibrium between two nations that have distinct specializations and natural endowments. The model emphasizes the export of products whose factors of production are locally available in sufficient quantities. On the other hand, the model emphasizes the import of products that a nation lacks adequate capacity to manufacture. In summary, he opined that those nations should target export materials and resources of which they have in abundance while consistently importing those resources they need.

Staffan B. Linder (1961), a Swedish economist in his *Theory of Demand and Trade Pattern*, made a concerted effort to explain the pattern of foreign trade based on demand structure. According to Linder, industrial goods will not generally be exported until after there is the demand for it within the locality. The goods are manufactured principally to meet the local needs. After attending the domestic market, the product is exported to emerging nations. The theory maintains that the countries are identical in terms of income and have a similar demand structure and tendency to exchange goods with other nations.

The customs duties and excise duties are indirect taxes, which is implied that the fees are levied on a transaction, irrespective of the circumstances of the buyer and the seller. Another distinction is that indirect taxes are those whose incidence is shifted so that the consumer, and not the manufacturer of the goods, pay the fee. The administrative nature of customs duty and excise duty is an undisputed fact. That is attributable to the movement of merchandise goods on various vehicles and vessels, into and out of warehouses, and across borders, etc.

The Customs duties are traced to the era of Egyptian pharaohs. In South Africa, Customs duties were first levied 335 years ago, which was then referred to as the "Cape Colony." It was administered on all goods imported into the Colony and marketed for sale and are designed at fulfilling dual purpose: "fiscal" and "protective" measures. The former is designed to generate revenue for the Government to enable the rendering of public service obligations while the latter is to shield local industries from the dominance of foreign goods in the local market.

The importation of foreign products is regulated through customs duties and which eventually transfers cost to the ultimate consumer, rendering them less competitive against locally available goods. In most jurisdictions, Customs duties are used as policy instruments for development - to promote local manufacture of certain products while allowing for the importation of similar models. Generally, customs duties are used in combination with other policy instruments to regulate the market.

Gaspar Monge (1781), a French mathematician, viewed transport theory as a study of optimal transportation and allocation of resources to achieve specific objectives. In the 1920s, A. N. Tolstoy researched transportation problems mathematically, and he published an article in 1930 titled: "Methods of Finding the Minimal Kilometrage in Cargo-transportation in space." Also, in the 1940s, Leonid Kantorovich, a Soviet mathematician and economist, made other significant advances in the field. Consequently, the problem, as was stated, is sometimes referred to as the "Monge–Kantorovich transportation problem."

From a macroeconomic perspective, transportation activities form a component of a country's total economic product and play a key role in boosting a national or regional economy and offers significant influence in the development of land and other related resources. Similarly, from a microeconomic perspective, transportation encompasses relations between firms and consumers. The demand for and supply of traffic for the movement of passengers and freight, transportation pricing necessitated both regulated and deregulated of the sector. Generally, the Government's intervention in each mode of transportation (marine, land, and air) differs.

In certain situations, private enterprise is encouraged to venture into road transport operations while in others such as railways, the Government provides the facilities and equipment with the sole aim of providing reliable and affordable means of transportation, which is pre-condition for socio-economic development of the society. It is generally believed that the Government's intervention in traffic has both a macro and a microeconomic significance for the advancements of the community.

2.2. Empirical Literature Review

According to Callagy & Wilson (1988), Jerome (2008) stated that despite massive public funding, Nigeria's public corporations performed sub-optimally with 0.5% and, in some cases, zero

returns on investments to the national treasury. The FGN (1986) reported net outflows from the Government to the public sector corporations are in excess of over US\$2 billion annually.

According to (Ogunsiji A. S., 2010), the dismal performance of public corporations, were significant as a result of conflicting and interwoven roles: being project developers, operators, and regulators. Other reasons advanced were the wide-scale prevalence of uncompleted contracts and too much reliance on subsidies from the Government for operations and developmental projects. These issues propel inefficiencies accompanied by excessive bureaucratic controls, government interference and intervention, and other public service culture of undermining and compromising efficiency and optimum productivity

Public-private partnership or concession was triggered by the Government's desire to improve public service delivery efficiencies with minimal inputs as part of the overall economic reform agenda (Idornigie, 2006) and Jerome (2008), respectively. Broadly speaking, the concession is a sub-set of privatizations and has become a vital instrument for structural reforms in many developing economies, as championed by the World Bank/International Monetary Fund (IMF). The concept of privatization gained more prominence in especially developing nations battling with dwindling resources to fund public corporations, but the idea is being practiced in France water project since 1776.

The draft Ports and Harbor Authorities Bill (2008), Section 168, defined 'concession' as an arrangement between public and third party entities pursuant to which such a third party is authorized to provide a port service in agreement with the provisions of the draft Bill (Idornigie, 2006). The transfer for a defined tenor of port terminals operations through concession contracts is a valuable option to enhance the quality of port services through a competitive procurement process (Niekerk, 2005).

The principal objective of the port reforms is to address the lingering problems associated with service inefficiency, corruption, mismanagement, and huge debts burdens. Other pertinent reasons advanced for the reform measures labor redundancies, complex management structures, and weak governance systems. Port concessions in the Nigerian context refer to lease of port terminals and re-organization of stevedoring activities for better service delivery.

Leigland & Palsson (2007), Kieran (2005), Cameron (2004), and Akinwale & Aremo (2010), stated that when published advertisement soliciting for private sector participation in port operations, 110 applications were harvested from interested concessionaires in December

2004. After evaluation, 94 concessionaires were pre-qualified and issued with the Request for Proposals to submit technical and financial proposals for evaluation. At the end of the exercise, only 20 concessionaires were granted the right to operate the port terminals with investment obligations for tenors ranging 10-25 years.

The concept of efficiency is viewed as vague and proves challenging to apply in a typical port organization and equally extends to other sectors of the national economy. He stated that ports are mechanistic organizations in which institutions and functions often intersect at various levels of operations, according to Bichou & Gray (2004).

Trugillo & Nombella (1999) stated that there are three broad ways of measuring port efficiency, namely: physical indicators, factor productivity indicators, and economic and financial indicators. Physical indicators generally refer to time measures concerned with the ship, e.g., ship turnaround time, ship waiting time, berth occupancy rate, waiting time at berth). It can sometimes measure coordination with land modes, e.g., cargo dwell time or how long it takes for unloaded cargo to leave the port.

One researcher stated that the issue of concession in many countries, both developed and developing is generally controversial and evokes political reactions and viewed privatization as an instrument through which governments either exposes public corporations to market principles or to lowered the level of federal intervention by encouraging private sector either in the form of ownership, control or management of public enterprises (Iheme, 1997).

According to (Starr, 1988), privatization is a means through which governments transfer ownership of the public enterprise to private investors for pre-determined tenor and describe as a shift from the public to the private sector ownership and not a shift of ownership within sectors. The relatively high project start-up cost and other associated administrative bureaucracies in Nigeria served as a disincentive to both local and foreign investors to establish and nurture businesses from infancy makes concession even more appealing in Nigeria.

Over the last decade, the Government championed other reform measures aimed at reducing the problems that characterized the Nigerian ports. That is including the reduction of government agencies operating in the port environment, the introduction of 24-hour cargo clearance policy, and the development of inland river ports to make seaports for cargo transit only. That suggests that the Government appeared to have risen to the challenges of creating

a friendly business environment in Nigeria's seaports as the hub for marine transportation in the West and Central Africa regions. The core reasons advanced for adopting port concession is generally to enshrine the culture of good governance, competitiveness, and transparency based on best practices and norms.

According to (Ndikom O. , 2006), concession arrangements are geared towards attracting investors, which in turn would lead to introducing technical competences, managerial capabilities, and financial resources to enhance operational and service efficiencies at the ports.

Indeed, (Anagor, 2014) in observations that the transfers of port operations to private organizations in Nigeria brought about considerable level of improvement, increased investments in terminal physical and super-structure and cargo handling equipment, nearly 250% growth in cargo throughput over the last five of implementation of the ports reform, as well as a restoration of exporters and importers confidence.

For concession need to take place, public enterprises, which is need to be converted into private enterprises, must be in existence. An authorization is therefore premised on the fact that they are a problem associated with the public mode of service delivery, and permission is aimed to change the status quo so that ports services could be delivered more efficiently and effectively.

3. Research Methodology

The study was carried out in the Apapa Port Complex located in Apapa district, Lagos. The Apapa port has a developed land area of 228 Hectares made up of Terminals A, B, C, D, and E and a Container Terminal. The port has conventional berthing facilities for all cargo types – bulk, multi-purpose, liquid (petroleum products), and 3.9 million container handling capacity. The distance of the port from Fairway Buoy (Bullnose) is 2.7 nautical miles with a turning basin of 360 meters and has access connection of roads, rail, and inland waterways. Geographically, the port is the location at Latitude 06°25.9'N and Longitude of 003°24.11'E and also has support facilities for cargo on transit to neighboring West and Central African nations. The following concessionaires were granted the right to run the terminals for a tenor ranging from 15-25 years:

- a- Apapa Port Terminals & A&B – Apapa Bulk Terminal Limited
- b- Apapa Port Terminal C&D – ENL Consortium
- c- Apapa Port Terminal E – Greenview Development Nigeria Limited

d- Apapa Container Terminal – AP Moller Apapa Terminal Limited

To the objectives of the research work, 100 questionnaires were distributed to the NPA personnel, concessionaires, port users, freight forwarding agents, customs officials, and shipping lines, and 85 surveys out 100 were returned. The questionnaire was designed on a Likert 5 rating scale (**Strongly Disagree, Disagree, Undecided, Agree, and Strongly Agree**). The three hypotheses formulated were presented in the order in which they were written, and data from the primary source were carefully analyzed. Data collected were analyzed with the use of computer-based SPSS version 21, and the Chi-square test analysis was employed to test the formulated hypotheses.

4. Data Presentation and Analysis

The returned questionnaires were 85 (85%), which can be regarded as been high enough to enable valid analysis that would lead to projections and policy recommendations on how to further improve the port performance.

Table 1: The Performance Improvement in the Turnaround Time for Ships when they Arriv in Apapa Port

Variable	Number of Respondents	Percentage
Strongly agree	-	-
Disagree	-	-
Undecided	5	5.88
Strongly agree	60	70.59
Agree	30	23.53
Total	85	100.00

As shown in Table 1 above, 70.59% of the respondents in NPA and terminal operators (concessionaires) strongly agreed that ports concession has dramatically improved the turnaround time for ships, 23.534% agreed on the improvement on turnaround time for crafts, 5.88% were undecided while nothing was recorded for strongly disagree and disagree variables.

Table 2: The Performance Improvement in the Berth Occupancy Percentage Rate at the Apapa Port

Variable	Number of Respondents	Percentage
Strongly agree	-	-
Disagree	-	-
Undecided	2	2.35
Strongly agree	65	76.47
Agree	18	21.18
Total	85	100.00

As shown in Table 2 above, 76.47% of the respondents in NPA and terminal operators (concessionaires) strongly agreed that ports concession has dramatically improved the berth occupancy rate at the Apapa Port, Lagos, 21.18% agreed that there was an improvement on berth occupancy when compared to the pre-concession era, 2.35% were undecided while nothing was recorded for strongly disagree and disagree variables.

Table 3: The Security Improvement around the Port Environment

Variable	Number of Respondents	Percentage
Strongly agree	10	11.76
Disagree	8	9.41
Undecided	0	0.00
Strongly agree	40	47.06
Agree	27	31.76
Total	85	100.00

As shown in Table 3 above, 47.06% of the respondents in NPA and terminal operators (concessionaires) strongly agreed that general security within the Apapa Port environment. And it has improved, 31.76% agreed that there was an improvement on issues concerning the safety of cargo and personnel, 11.76 strongly disagree that there was an improvement in the general port environment, 9.41% disagree on security improvement in the general port area while no response recorded on undecided.

4.1. Test of Hypotheses

Lucey (2002) defined the Chi-square test as an essential extension of hypothesis testing and is used when comparing an actual, observed distribution with a hypothesized or expected delivery. However, the decision rule, as applicable in this study, states that: null hypothesis would be rejected if the calculated value is higher than the table value; otherwise, an alternative hypothesis will be accepted.

4.1.1. The First Hypothesis Ho1

Is there no performance improvement in the turnaround time for ships when they arrived in Apapa Port, Lagos?

Table 4: Chi-square Test Analysis on whether there is Performance Improvement in the Turnaround Time for Ships when they Arrive in Apapa Port

Parameter Estimates								
		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[V1 = Agree]	-38.350	33.726	1.293	1	.255	-104.451	27.751
	[V1 = Disagree]	-32.804	31.764	1.067	1	.302	-95.059	29.452
	[V1 = Strongly agree]	-23.848	28.960	.678	1	.410	-80.609	32.913
	[V1 = Total]	-15.388	26.444	.339	1	.561	-67.217	36.441
	[V1 = Undecided]	-6.207	22.315	.077	1	.781	-49.944	37.531
Location	[V2=-]	-32.802	31.794	1.064	1	.302	-95.116	29.513
	[V2=30]	-44.598	40.697	1.201	1	.273	-124.362	35.167
	[V2=5]	-10.949	24.793	.195	1	.659	-59.544	37.645
	[V2=60]	-28.308	30.419	.866	1	.352	-87.929	31.312

	[V2=85]	-19.577	27.699	.500	1	.480	-73.866	34.712
Link function: Logit.								

Table 5: Test Statistic Performance Improvement in the Turnaround Time for Ships when they arrive in Apapa Port

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	.085	20	1.000
Deviance	.169	20	1.000
Link function: Logit.			

Tables 4 and 5 above showed the impact of port concession on the turnaround time for ships at the Apapa Port Complex. The result of the calculated chi-square was 85%, and the table value at 1.0 significance level with 20 degrees of freedom. However, the estimated value was higher than the table value showing that there is a significant improvement in the turnaround time for ships. The null hypothesis is, therefore, rejected.

4.1.2. The Second Hypothesis Ho2

Table 6: The Performance Improvement in the Berth Occupancy Percentage Rate at the Apapa Port

Parameter Estimates								
		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[V1 =]	-45.118	23.546	3.672	1	.055	-91.267	1.032
	[V1 = Agree]	-36.111	21.502	2.820	1	.093	-78.254	6.032
	[V1 = Disagree]	-31.376	20.825	2.270	1	.132	-72.193	9.441
	[V1 = Strongly agree]	-23.016	19.268	1.427	1	.232	-60.781	14.749
	[V1 = Total]	-14.990	17.749	.713	1	.398	-49.777	19.797
	[V1 = Undecided]	-6.122	15.127	.164	1	.686	-35.770	23.527
Location	[V2=]	-51.244	28.006	3.348	1	.067	-106.136	3.647
	[V2=-]	-31.371	20.848	2.264	1	.132	-72.232	9.490
	[V2=18]	-40.481	22.934	3.115	1	.078	-85.431	4.470
	[V2=2]	-10.706	17.332	.382	1	.537	-44.676	23.264

[V2=30]	-40.481	22.934	3.115	1	.078	-85.431	4.470
[V2=5]	-10.706	17.332	.382	1	.537	-44.676	23.264
[V2=60]	-27.188	20.514	1.756	1	.185	-67.394	13.019
[V2=65]	-27.188	20.514	1.756	1	.185	-67.394	13.019
[V2=85]	-18.971	18.904	1.007	1	.316	-56.022	18.080
[V2=Number of Respondent]	0 ^a	.	.	0	.	.	.
[V3=]	0 ^a	.	.	0	.	.	.
[V3=-]	0 ^a	.	.	0	.	.	.
[V3=100]	-8.743E-16	7.637	.000	1	1.000	-14.968	14.968
Link function: Logit.							

Table 7: Chi-square test statistics on berth occupancy at the Apapa Port

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	.275	50	1.000
Deviance	.542	50	1.000

Link function: Logit.

Tables 6 and 7 above showed the impact of port concession on the berth occupancy by ships at the Apapa Port Complex, Lagos. The result of the calculated chi-square was 27.5%, and the table value at 1.0 significance level with 50 degrees of freedom. However, the estimated value was less than the table value showing that there is no significant improvement in the berth occupancy, and the null hypothesis is therefore accepted.

4.1.3. The Third Hypothesis Ho3

Table 8: The Security Improvement at the Apapa Port Complex

Parameter Estimates								
		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[V1 =]	-46.825	19.445	5.798	1	.016	-84.937	-8.712
	[V1 = Agree]	-37.882	17.850	4.504	1	.034	-72.867	-2.897
	[V1 = Disagree]	-31.890	17.009	3.515	1	.061	-65.228	1.448
	[V1 = Strongly agree]	-22.967	15.701	2.140	1	.144	-53.741	7.808
	[V1 = Total]	-14.975	14.480	1.070	1	.301	-43.355	13.404
	[V1 = Undecided]	-6.122	12.355	.246	1	.620	-30.338	18.093

Location	[V2=]	-52.950	23.049	5.277	1	.022	-98.126	-7.774
	[V2=-]	-31.901	17.038	3.506	1	.061	-65.296	1.493
	[V2=0]	-10.698	14.638	.534	1	.465	-39.389	17.992
	[V2=10]	-27.420	17.375	2.491	1	.115	-61.475	6.634
	[V2=18]	-42.214	19.353	4.758	1	.029	-80.146	-4.282
	[V2=2]	-10.698	14.638	.534	1	.465	-39.389	17.992
	[V2=27]	-42.214	19.353	4.758	1	.029	-80.146	-4.282
	[V2=30]	-42.214	19.353	4.758	1	.029	-80.146	-4.282
	[V2=40]	-27.420	17.375	2.491	1	.115	-61.475	6.634
	[V2=5]	-10.698	14.638	.534	1	.465	-39.389	17.992
	[V2=60]	-27.420	17.375	2.491	1	.115	-61.475	6.634
	[V2=65]	-27.420	17.375	2.491	1	.115	-61.475	6.634
	[V2=8]	-34.893	17.559	3.949	1	.047	-69.309	-.478
	[V2=85]	-18.939	15.253	1.542	1	.214	-48.836	10.957
Link function: Logit.								

Table 9: Chi-square Test Statistics on Security Improvement at the Apapa Port

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	.478	75	1.000
Deviance	.937	75	1.000
Link function: Logit.			

Tables 8 and 9 showed the post effect of port concession on security at the Apapa Port Complex, Lagos. The result of the calculated chi-square was 47.8% and the table value at 1.0 significance level with 75 degrees of freedom

4.2. Findings

As shown from the responses of the staff, participants from the private sector in the operation and management of the Apapa Port Complex in the Lagos has improved the turnaround time for ships and other vehicles. Also, the number of days spent on the port for withdrawal commodities from the port has significantly decreased, and process automation systems are improved when compared to the pre-concession era where ships spent weeks instead of days as is being experienced now. These improvements were as a result of investments by the respective terminal operations in both physical and movement ports assets that made it easy to load and offload ships. Favorable government policies such as ‘ease of doing business’ and Customs Service efficiency mode of operations has significantly helped. Findings show that even though there is semi-privatization in Apapa port, the process and working performance have increased considerably.

The influence of uncertainty and variability on seaport performance is tremendous. Changes happen extremely fast, with a high impact on operations output. It is, therefore, not surprising that port authorities pay great attention to the analysis of their port’s operations

performance. (Mahfouz A, Arisha A., 2015,2009)

5. Conclusion and Recommendation

The Nigerian port reforms that led to the transfer of terminal operation and management to the private sector entities have recorded remarkable progress over the last one and a half-decade. This remarkable progress was in terms of turnaround time for ships, berth occupancy rate, and security of cargo within the port environment. These were a result of adopting the concept of globalization, deregulation, and competition, which summarily defined as best practices.

The research carried out based on the responses of 85 respondents administered through a questionnaire administered to the NPA staff, terminal operators, port users, shipping lines/companies, and freight forward agents, among others. The study revealed that the ports reform has positively impacted the overall productivity of Apapa Port Complex, Lagos, and comparable with other port jurisdictions.

As shown above, the responses of the participants, concessionaires deployed technical expertise, managerial capability, and financial resources, and in tune improved the turnaround time for ships and other vehicles. The number of days spent at the port has significantly shortened when compared to the pre-concession era, where ships spent weeks instead of days as being experienced now.

In order to uphold this spirit, continuous dialogue on PPP contractual issues should be sustained between project parties (Government and private operators). The discussion should serve the platform for addressing investment, regulatory, and environmental sustainability issues relating to the ports' development and operations. It is recommended that similar reform measures be implemented in other ports across the country that were still publicly operated in order to keep them in pace with the successes recorded in the Apapa Port, Lagos.

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