

**The Effect of Cabotage Vessel Finance Fund on Indigenous Shipping Companies in Rivers State**

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**Abstract**

This study examined the effect of cabotage vessel finance fund on capacity development of indigenous shipping companies in Rivers State. The study design was the cross-sectional survey, with data generated from a sample of 67 key staff members from a population of 80 within 4 indigenous shipping companies in Rivers State. Three null hypotheses were tested in this study by using the Spearman's rank order correlation coefficient at a 95% confidence interval and a 0.05 level of significance. The findings revealed significant and positive relationships between cabotage vessel finance fund, and the measures of capacity development (ship acquisition and ownership, seafarers training and development, cargo tonnage availability). It was concluded that the application and practicality of cabotage vessel finance fund contribute towards the build-up and positive growth of local capacities such as ship acquisition and ownership, seafarers training and development and cargo tonnage availability. The study recommended that the financing and funding of the local maritime operations should be premised on clear and transparent functions which allow for the participation and contributions of both foreign and local, as well as private and government investors and stakeholders, and that policies should be designed to ensure control and the streamlining of behavior in a such a manner that allows for a conducive and healthy level of business operations, services and competition within the industry.

**Keywords:** Cabotage, Vessel, Finance, Fund, Capacity Development, Indigenous, Shipping-Companies, Rivers State

**Introduction**

Shipping is the heart of global economy and the maritime industry which is a sub-sector of the transport sector, accounts for nearly 90 percent of transport requirement of the world. Seaborne trade accounts for over 60 percent of the total GDP of the countries in the region. Over the years, Nigeria's Shipping Sector has not attracted considerably the required local and foreign investment inflow that is proportionate to its contribution both to the Nigerian and West African economy despite its great potential and enormous investment opportunities. Some experts in Nigeria adduced lack of knowledge about the Shipping sector and technical capacity as the basis for the very poor response that it has generated. Regardless, there are new indices and opportunities that portend the ability of Nigeria to develop the maritime industry through capacity building and professionalism (Johnson, 2014).

Organizations must be able to exert influence and develop with some sort of strategic objective. capacity development is about the capability of an organization to be aware of its place in the global world of business, trading and economies; to organize itself accordingly, develop its own identity and then to act appropriately and adequately (Ihenacho, 2004).. Many shipping companies in developing countries lack the power and drive to act. This is studies identify most government policies and influence as restricting their operating space and failing to provide to necessary support and framework for their functionality. Similarly, many organizations lack the required competence and capacities and they depend heavily on foreign partners or alliances to thrive. In 2003, the cabotage Act was enacted with the sole purpose of empowering local investors to take control of the domestic shipping trade and from it develop enough muscle to assume the right of place for Nigeria as a Maritime nation in the movement of her import and export cargoes including crude oil to and from Markets. Nonetheless, Ihenacho (2004) noted that the implementation or enforcement of the provision of the Acts needs to be constantly monitored to ensure that the goals and objectives of the law are pursued with vigor and accomplishment. The Cabotage Act is therefore an Act that reserves the commercial transportation of goods and services within the Nigeria coastal and inland waters to vessels flying Nigeria flags, that is, vessels owned and crewed by Nigerians. The cabotage Act is principally a protective law that safeguards indigenous or local shipping interests in the carriage of locally generated cargo. The law restricts the participation of foreign shipping companies in the carriage of such locally generated cargo (Ekpo, 2012; Ekwenna, 2003. A nation's cabotage Acts are designed to guarantee the participation of its citizens in its own domestic trade (Ekpo, 2012).

The need for a cabotage Act stemmed from the fact that all the shipping laws and policies existing at that time could not support the implementation of a true cabotage structure and at the same time, there existed an unhealthy paucity of indigenous shipping companies that could boast of similar presence and success with those of foreign origins (Igbokwe, 2006). For instance, the National Shipping Policy Act, which established the defunct National Maritime Authority (NMA), empowered it to achieve certain objectives conferred upon it by section 3 of the Act. Hence, the Act had good intentions of using NMA to, inter alia, stimulate and protect indigenous shipping companies, increase indigenous ship ownership and promote the training of Nigerians in maritime transport technology and as seafarers, which are part of the incidental benefits of cabotage laws. Although a substantial number of studies (Igbokwe, 2006; Kalu, 2018; Nweze, 2006) exist which have addressed the contributions of the cabotage Act towards the maritime sector and the its impact on maritime growth within the country, quite a few have examined its role in capacity development. In his study, Igbokwe (2006) investigated the implementation of the cabotage law and its effect on revenue generation for both State and the Federal government. In his study Igbokwe (2006) observed that many employed seafarers paid personal income tax in their states of residence while the Nigerian shipping companies, which own and operate the coastal vessels, were obliged to pay corporate tax. However, most of these revenues were generated from foreign shipping companies given their success rates and company preference by traders and transporters.

There has been a problem of huge revenue losses annually to foreign ship owners who deny the nation's seafarers employment opportunities, coupled with their reluctance to invest in local maritime infrastructure development amongst other reasons can also be considered responsible for the Federal Government's intervention in the maritime industry. The objective of the intervention was to enable accelerated economic development through increased local content in the nation's maritime sector; while the first intervention was the UNCTAD 40:40:20 which introduced by Decree 10 of 1987, the second was the Nigerian Cabotage Act. (Johnson, 2014). Against this backdrop, this paper examines the policy implications of the Cabotage Act in the development of indigenous shipping in Nigeria and argues that lack of funds and investments culminates in dearth of personnel and shipping infrastructure (Kalu, 2018). This paper therefore examines the effect of cabotage vessel finance fund on capacity development of indigenous shipping companies in Rivers State, Nigeria. In line with the above background the following hypotheses have been tested in this study:

Ho1: There is no significant relationship between Cabotage Vessel finance fund and ship Acquisition and Ownership;

Ho2: There is no significant relationship between Cabotage Vessel finance fund and Seafarer's Training and development.

Ho3: There is no significant relationship between Cabotage Vessel finance fund and Tonnage / Cargo Availability.

### **Theoretical Review**

There are many baseline Social theories in Social science but this used such theories as: Demand theory, Supply theory and Relative Autonomy theory that relate to the pertinent issues of the study.

### **Demand Theory**

Shipping can be defined as the physical movement of goods and passengers to the ports of demand from the ports of supply. It also involves all other related activities required to support and facilitate such movement. The movement of goods by sea is the economic lifeblood of many nations. This is because roughly three-fourth of the earth's surface is covered with water, thus shipping plays an important role in world trade. Many of the commodities that are transported by sea are usually raw materials which are heavy, dense and have low economic value such as the likes of coal and iron ore. Transporting these goods over vast distances by ships is cheap and economical. Ocean transport costs are relatively cheaper in comparison to other means of transport and there are also no substitutes to shipping (Anele, 2016). On the other hand, shippers of finished/manufactured goods also take advantage of the comparatively inexpensive rates charged for ocean transport. Ships also have a lot of cargo space and are therefore reasonably free of capacity constraints. Moreover, ships have acceptable transit times. Because of all this 90% of all trade is done by sea, the operation of cargo

ships brings an annual income of about USD 380 billion in freight. This amount is about 5% of the total world economy. The prospects for the industry's continued growth looks to be strong on account of globalization and on account of the fact that seaborne transport is becoming more efficient. Moreover, marine casualties have progressively decreased over the last many years and in comparison, to land transportation it is also more environmentally friendly and less polluting. "In his book *The Economic History of World Population*, Carlo Cipolla suggests that the transport industry has been one of the prime forces responsible for shifting the world from an essentially national system to the global economy that exists today (Stopford, 2003). Shipping has made the world a smaller place and it has succeeded in connecting even isolated economies. On account of all of these above reasons, demand for sea transportation is increasing continuously at an exponential rate. Since 1950 the economic evolution of the shipping industry has been immense. Maritime transportation since 1990 has been experiencing new heights which lasted in the first years of the new millennium. However, the economic crisis in 2008 brought a downturn in shipping sector resulting in a decrease in freight rates and a fall in demand for shipping services. In this paper Group we want to point out and analyze the theory of the determinants on which the demand for shipping depends on. Customers of Sea Transport have special requirements and these are met by shipping companies who provide a range of tailor-made services and solutions.

### **Supply Theory**

The law of supply is the microeconomic law that states that, all other factors being equal, as the price of a good or service increases, the quantity of goods or services that suppliers offer will increase, and vice versa. The supply of shipping services as being slow and ponderous in its response to changes in demand. Merchant ships generally take about a year to build and delivery may take 2–3 years if the shipyards are busy. This prevents the market from responding promptly to any sudden upsurge in demand. Once built, the ships have a physical life of 15–30 years, so responding to a fall in demand is a lengthy business, particularly when there is a large surplus to be removed. The supply of Shipping is made up of the carrying capacity of ship to move the cargo. The number of ships over last century decline but tonnage increase, carrying capacity increase as well. This is seen in three dimensions:

- The size of ships– over last century vessels has grown bigger. 1880 – 1955 slow growth but from 1955 – 1975 growth was spectacular. After that growth has stabilized.
- Port time Efficiency – the less time in port the more cargo the ship can carry. Main reason for container vessel replacing general cargo.
- Speed– increase speed obviously increases the supply of ships.

The determinants of Shipping supply can be characterized under five main factors;

- a) **Merchants fleets;** In the long run scrapping and deliveries determine the rate of fleet growth.

Since the average economic life of a ship is about 25 years, only a small proportion of the fleet is scrapped each year, so the pace of adjustment to changes in the market is measured in years, not months

- b) **Fleet Productivity;** Productivity expressed in terms of ton miles per deadweight reached a peak of 35,000 in 1973, but by 1985 this had fallen to 22,000; in other words, productivity had fallen by over a third. The major swings in productivity in Figure 4.8 are mainly due to the deep recessions in the 1970s and 1980s when ships were very cheap and as a result were used inefficiently. In normal times the average ship carries about 7 tons of cargo per deadweight and does around 35,000 tanker ton miles.
- c) **Ship Building Production;** The shipbuilding industry plays an active part in the fleet adjustment process. In principle, the level of output adjusts to changes in demand – and over long periods this does happen. Adjustments in the level of shipbuilding output on this scale do not take place quickly or easily. Shipbuilding is a long-cycle business, and the time-lag between ordering and delivering a ship is between 1 and 4 years, depending on the size of order book held by the shipbuilders. Orders must be placed on the basis of an estimate of future demand and in the past, these estimates have often proved to be wrong.

### **Relative Autonomy Theory**

The study will be anchored on the theory of relative autonomy of the state social science theory. The state relative autonomy theory is situated within the ambit of the neo-Marxist political economy paradigm. The theory of relative state autonomy depicts the level or degree of detachment or aloofness of the state in the discharge of its duties such as mediating inter-class and intra-class struggles. Thus, this theory presupposes that in any state or political society, there are two levels of contradiction, namely the primary contradiction and secondary contradiction. Primary contradiction is inter-class struggle or depicts class struggle between two antagonistic classes such as the ruling class and the ruled class or the bourgeois class and the proletariat (i.e. the working class). Whilst, secondary contradiction is the intra-class struggle, denoting class conflicts within the ruling-class or between different segments of the ruling-class. Marx and Engels demonstrate this intractable phenomenon of class struggle when they declare in the preface of their book, *The Communist Manifesto* that “the history of all the hitherto existing society is the history of class struggles” (Marx and Engel, 1974). The exponents of the theory hold that a state can exhibit either low or high relative autonomy. A state exhibits high autonomy when there is high commodification of capital or the excessive penetration of capital into the economy such that the bourgeois class indulges in the accumulation of capital through direct exploitation of the working class or appropriation of value when they enter into social relationships of production (i.e. private capitalism). Here, the state is not interventionist, in other words, it does not intervene in the domestic economy like to participate in the productive activities (i.e. public/state enterprises) or controlling or nationalizing the means of production. The role of state here, therefore, is to regulate. As such, the state is relatively an impartial umpire mediating inter-class

and intra-class struggles through harmonization and reconciliation of class interests. The developed capitalist states of the West are, therefore, considered to exemplify this high relative autonomy, and as a result, exhibit high level of human rights observance and protection. Conversely, a state exhibits low autonomy when there is low commodification of capital or the low penetration of (private) capital into the economy in such a way that the ruling class is constantly engaged in primitive accumulation of capital through embezzlement of public fund. The state becomes the only avenue for capital accumulation. The state is thus, interventionist for engaging in productive activities of means of productive activities (i.e. public corporation) by nationalization of major means of production. This state does not limit itself to regulatory rule and is hence compromised, such that instead of rising above class struggle it is deeply immersed in it (Aniche, 2011). The Nigerian state like other developing state exhibits a low level of the autonomy of the state as a result of low commodification of capital. Under the eclectic mixture of mixed economy, Nigeria experiences the phenomenon of lack of penetration of (private) capital into the economy creating a parasitic petty bourgeois class whose major source of accumulation of capital is the state. Hence, the Nigerian state becomes the only avenue for (primitive) accumulation of capital through which the governing class (i.e. petty bourgeoisie) produces and reproduces their dominance. Under this state of affairs, the state and its administrative or bureaucratic and coercive apparatus become inept or incapable of monitoring, supervising, implementing or enforcing laws, or even ensuring compliance. Similarly, the agencies of state like NIMASA cannot build indigenous capacity sufficient for bridging the capacity gap or closing the gap between capacity and the available opportunities created by the Cabotage Act 2003.

### **Conceptual Framework**

The purpose of this study is to effect of cabotage vessel finance fund and capacity development of indigenous shipping companies in Rivers State. In the study, cabotage vessel finance fund (independent variable) was considered as the dimension or predictor variable while capacity development (dependent variable) had ship acquisition and owner ship, seafarers training and development, and cargo tonnage availability were identified as measures or criterion variables. Various practical and theoretical gaps so identified gave rise to the formulation of Conceptual framework.

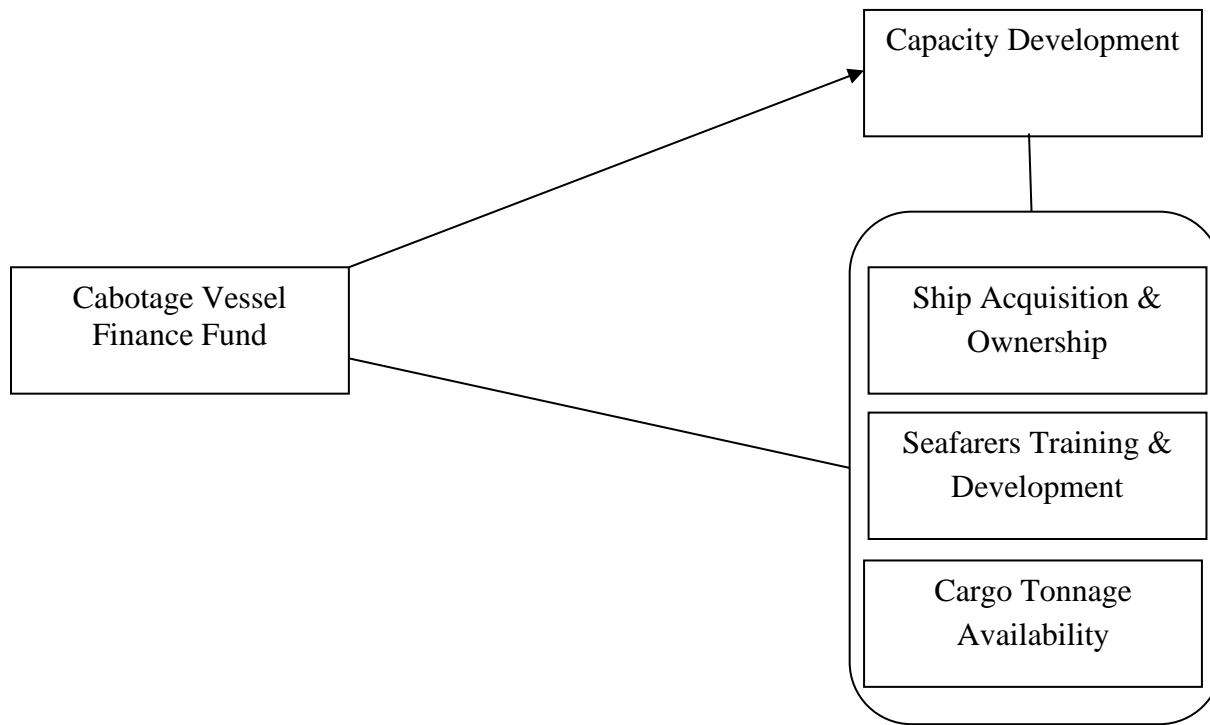


Figure 1: Conceptual Framework of the Effect of Cabotage Vessel Finance Fund and Capacity Development of Indigenous Shipping Companies in Rivers State

Source: Samson, E. (2016). Growing ship building industry with cvff, zero duty on outboard vessel, ship builders urges FG, Ships & Port Publication

### **Cabotage Vessel Finance Fund (CVFF)**

Under the two Acts, (NIMASA Act 2007 and Cabotage Act 2003) there is a provision as to how the Scheme is to be funded, Section 17 of NIMASA Act made provision for what is termed ‘Maritime Fund’ which purpose the law says is only for the furtherance of the objectives and function of NIMASA under the Act, the money accordingly may be used to promote the development of indigenous

shipping and shipping infrastructure and the beneficiaries shall be Nigerian Citizens. Meanwhile, Section 42 of the Cabotage Act established the Cabotage Vessel Financing Fund with the purpose of promoting and developing indigenous ship acquisition capacity by providing assistance to the Nigerian operators in the domestic Coastal Shipping, the fund is to be accumulated by dedicating 2 percent of the contract sum performed by any vessel engaged in coastal trade and also through the National Assembly who shall also determine and approve a particular sum from time to time to be saved for that purpose, monies generated under this Act. The CVFF is a potential tool that may kick-start improved participation of Nigerian operators in the cabotage trade. Four banks were appointed as Primary Lending Institutions (PLIs) for the purpose, namely, Skye Bank, Fidelity Bank, Diamond Bank and Sterling Bank. While it is notable that these banks were not the strongest in Nigeria, nor the ones with the best governance or customer-satisfaction records, NIMASA officers said that they fulfilled the benchmarks recommended in the law and had agreed to maintain a single-digit interest rate. Disbursement of the CVFF, which was said to hold about US\$150m, must follow the execution of a tripartite agreement between NIMASA, the PLIs and successful applicants for the loan, according to the law. It can be argued that these new-generation banks, by their low ranking vis-à-vis the stronger banks, were the ones that may be easily amenable to the persuasions of the powers-that-be, who would be the ultimate deciders of who gets the loans and who does not.

### **Capacity development of indigenous Shipping Companies**

In 2003, following the enactment of Cabotage Act, Nigerian government provides just \$25 million for shipping development, a very small amount given the size of the country. In effects, both the indigenous entrepreneurs and the NMA merely play the role of rent collectors. The NMA's earnings (in hard currency) rather than serve in any meaningful way to develop the industry have simply made it a veritable honey-pot plundered by successive governments and their agents. Under the Act establishing NIMASA, 5 percent of annual income would support the Maritime Academy of Nigeria (MAN) and 35% of income would be used to develop maritime infrastructure. The agency provided funding to MAN for a jetty and boat project. In December 2009, the agency said it was setting up a fund which would cover 40% of the cost of a nautical education with the students being responsible for the remainder (Olukoju, 2004). In June 2010, it was confirmed that NIMASA was encouraging Nigeria to enter the maritime industry. The agency was enforcing the directive that all ship operators engaged in cabotage trade whether Nigerian or foreign owned must have Nigeria cadets on board so they could gain sea-time experience. Yet, there was a severe shortage of trained sailors. As of 2011, the agency was still spending large amounts on training Nigerians in India, Scotland and Egypt because MAN lacked the capability to provide complete training. The government's plan to open new training institutes was under criticism, since they seemed likely to be operated no more effectively than the MAN.



### **Ship Acquisition and Ownership**

With regard to the suspended Ship Acquisition and Ship Building Fund, Amiwero (2005) noted that the American Federal Government has a Maritime Development Fund under the Merchant Marine Act of 1986, which had been the basis under which the US subsidy policy was built, and contained various subsidies, incentives and promotional programmes to develop the maritime industry. The Nigerian similar programme that is captured in Section 13 of Nigerian Shipping Policy Act of 1987 tagged “Ship Acquisition and Ship Building Fund” was suspended due to abuse in the process of appropriating the fund. By information, similar problems exist in the appropriation and management of funds. The point to note here is that the default situation in America and other nations did not suspend the subsidies, incentives and promotional programmes. It did not lead to suspension or cancellation of the capacity building programme of their various governments. Instead they reviewed the legislation and the concept design, to take care of the existing loopholes in the system so as to keep the maritime system afloat. The suspension of the Ship Acquisition and Ship building fund in Nigeria creates a serious vacuum in the country’s Maritime development which has suffered serious setback. Against this background that the Cabotage Vessel Finance fund came into being to empower Nigerian Ship operators to Acquire and own Ships but the fund is yet to be disbursed to potential indigenous beneficiaries.

### **Seafarers Training and Development**

Availability of sufficient seafarers both officers and crew are very vital issues to be given full attention by the Government Agency conferred with the responsibility of implementation of the cabotage Act if it is to achieve its objectives. For now, lack of qualified young officers and crew vis-à-vis the phasing out of most of the NNSL trained seafarers due to old age and/or dwindling interest in seafaring is a serious threat to the success of the Act objectives. Therefore, NIMASA must borrow leaf from NNSL strategies if it is determined to serve the industry she is created to foster. History tells us that the founding fathers of our nation realized this early in the life of independent Nigeria. Their vision was to replace foreigners and indigenize the manning of the national carriers. Oyesiku et al (2003) noted that if training of seafarers is not resumed now, Nigeria would in no distant future, start overseas recruitment of pilots and other harbor operatives as well as other categories of marine related officers and crew for the shipping industry.

### **Cargo Tonnage Availability**

Ihenacho (2004) stated that a successful cabotage regime in Nigeria would essentially require to be conditioned on the availability of Nigerian owned, registered and crewed vessels of the appropriate market role and description. Given that the main market vectors for the Nigerian cabotage trade consists in the operational requirements for tanker vessels as well as offshore support craft, Nigerian shipping interests would invariably require to develop an indigenous shipping fleet of the appropriate market role description and capacity in

order to be properly positioned to take full advantage of the cabotage law. Ships however cost a lot of money to acquire and the source of funding would therefore need to be adequately addressed.

### **Relationship between Cabotage Vessel Finance Fund and Capacity Development of indigenous Shipping Companies in Nigeria**

The creation of the Cabotage Finance Fund in the Cabotage Act is an attempt to facilitate the acquisition of vessels by indigenous operators. The CVFF requires an applicant to provide 15% of the cost of the vessel, while the primary lending institutions (PLIs) are to provide the balance of 85%. However, many of the indigenous shipping firms are not financially capable of meeting their financial obligation. The effect of this is when the CVFF is activated, only a few indigenous operators can access and take advantage of the inadequate funds to purchase vessels in advancing the course of cabotage in Nigeria.

### **Relationship between Maritime Training Centers and Capacity Development of indigenous Shipping Companies in Nigeria**

Usoro (2003) argues that due to poor funding of MAN Oron, indigenous capacity in Nigeria's maritime and shipping industry have suffered setback in the area of Ship Manning. Nigerians are not adequately train to take over the jobs from their foreign counterpart who is highly experience due to poor Maritime Training and education. He emphasis that Maritime Academy of Nigeria Oron should be funded and reposition to a world class Maritime training institution with training Ships for Cadet to have Sea experience along with academic work and newly established Maritime University, Warri, Delta State, to be well funded so that a ship engineering department with the relevant curricula will be introduced in the school to educate and train indigenous shipbuilding engineers, naval architects, and technicians (Comfort, 2019).

### **Relationship between Enforcement / Implementation and Capacity Development of Indigenous Shipping Companies in Nigeria**

Igbokwe (2006) identifies some of the challenges and problems of enforcing the Cabotage Act which include; exclusion of Indigenous Shippers Association of Nigeria (ISAN) from ministerial consultation process in granting waivers; inadequate implementation and monitoring of inter-ministerial and inter-agency/ inter-unit wrangling and uncooperative attitudes; three, high cost of enforcement and monitoring; four, lack of political will and determination; five, lack of confidence; local/foreign operators' dichotomy; resolution of Cabotage disputes/differences by the court. Federal Government has admitted that for more than seven years of the enactment of the Cabotage Act 2003, the Act is defective in structure and content which makes its enforcement difficult. Whilst, Benard (2010) has noted that many of the Director Generals of the Nigerian Maritime Administration and Safety Agency (NIMASA) have been removed as a

result of the inability to monitor and enforce compliance of the Cabotage Act. But Igbokwe (2006), Benard (2010) and Yusuf (2019) were neither able to examine the interface between the institutional incapacity to monitor compliance and enforcement of the Cabotage Act 2003 by NIMASA nor able to explore the nexus between capacity gap and poor compliance with the Cabotage Act (NIMASA, 2019). The Nigerian Maritime Administration and Safety Agency (NIMASA) institutional incapacity to monitor compliance affects adversely the enforcement of the Cabotage Act 2003 in the Nigerian coastal and inland shipping, and, the inability of (NIMASA) to bridge capacity gap results in poor compliance with the Cabotage Act 2003 in the Nigerian coastal and inland shipping.

### **Empirical Review**

While there appears to be scarce content on empirical studies which have examined both concepts (cabotage act and capacity development), there are, nonetheless studies, which have examined both concepts respectively and have examined in detail the effects of factors such as investment, pricing, trading and government policies in capacity development and performance of shipping companies. This paper examines these studies as a way of developing an empirical base for its investigation of the relationship between the variables. Both Dikos and Marcus (2003) and Tsolakis et al. (2003) applied modern finance theories and advanced econometric methods: Real Option approach and Error Correction Model respectively, in their analysis of shipping capacities within different shipping markets. Their financial theories and advanced econometric models contributed twofold to the literature: first, interpreting the industry with modern financial tools provided an insight to understand the second-hand ship valuation with a financial approach, second, advanced econometric tools eliminated previous statistical drawbacks such as multi-collinearity and heteroscedasticity problems. Moreover, these two papers inspired many future researchers to develop their model based on advanced financial approaches and applying advanced econometric tools. The study of Luo, Fan and Liu (2009) analyzed the container freight rate fluctuation attributable to the interactions of demand for container transportation services and the container fleet capacity. They empirically evaluated demand increase and fleet capacity increase which contributes to freight rate increase. Besides, the authors focused on the future freight rates after the 2008 Global Financial Crisis (GFC). They generated a forecasting model where freight rates fluctuate due to the impact of decreasing demand in the international trade. The freight rate is expected to decrease as demand decreased sharply after the crisis. In the post GFC period of, new building orders were cancelled, which leads a supply to decrease. They predicted the future response of the freight market as a circular movement whereby after the cancellation of new building orders freight rate decrease is restrained by a certain amount. The expectation is that by the cyclical effect the freight rate will slowly increase. The ship choice decision and ship capacity of containers have also been studied by Fan and Luo (2013). They extensively outlined the container market and provided a binary choice model to examine the capacity expansion decisions and nested logit models to examine ship selection decisions. They found that investors are keen to invest

when demand and charter rates are high. They provided some valuable insight into investment behavior of the companies listed in top 20, where they invest to keep their market share at a stable level, while the rest invest aggressively in obtaining high growth (Usoro, 2010). Furthermore, they found that ship companies initially decide whether to order a new ship or a second-hand ship instead of deciding ship size. Based on their empirical findings, new vessels are more favorable than second-hand ships in the container market, when time to build is short, and demand is low. When building time is long, and market demand is high, then second-hand ships become more favorable. Fan and Yin (2015), in their own study applied two different analysis methods to investigate the dynamic correlations among new building prices, second-hand prices, freight rates and ship capacities in the container market; they utilized the VAR cointegration model to test the long run correlation among these variables and Bai–Perron test to analyze multiple structural changes in multiple linear models. Their results confirmed the existence of structural changes in the correlation between ship prices, freight rates and ship capacities. The authors also found that while freight rate is decreasing, the new building price is more fluctuating than the time charter rate and the second-hand price. However, while freight rate is increasing, the time charter rate is more fluctuating; and in a matured stable situation, the second-hand prices get in increasing trend. Evident from the above reports is the fact that industry actions, trading activities and policies have a significant effect on the capacities of ships and their level of involvement in trading (domestic and international). While these studies clearly signify the tendencies of policies to impact on capacity development, there is however scarce content which links cabotage Act to capacity development in Nigeria (Word Press, 2016). Therefore, given this knowledge gap, this study departs from previous empirical investigations as it examines the relationship between Cabotage Act and Capacity development of indigenous Shipping Companies in Nigeria.

### **Research Methodology**

This study adopted the cross-sectional survey design in its investigation of the relationship between cabotage vessel finance fund and capacity development of indigenous shipping companies in Rivers State. It addresses the activities of data collection and the application of data techniques in analysis such that, actions and processes are integrated into a meaningful framework of events and systematic processes. Population of this study comprised the entire Staff of the 615 indigenous Shipping Companies registered under the Nigerian Oil & Gas Joint Qualification System. The study was restricted to four selected indigenous Shipping companies in Port Harcourt, Rivers State due to obscure locations, time and financial constraint but the companies selected under study has the same characteristics and are homogenous in terms of structure, mode of operation that is observation in all other shipping companies in Nigeria. Hence, an accessible population of 80 staff from four (4) selected indigenous Shipping Companies (Starz Investment Company Limited, Beneprojecti Nigeria Limited, E A Temile and Sons Dev Co. Nig Ltd and C and I Leasing PLC) within Rivers State, is adopted in the investigation. The sourcing of staff strength for each company was based on personal visits to the target companies and from the inquiries made at their human resource/personnel offices

**Table 1: Accessible population for the study**

Shipping Company	No of Staff			
	Departments in the Shipping Companies			
	Administration	Operations	Crewing	QHSE
Starz Investment Company Ltd	3	3	5	6
Beneprojecti Nigeria Limited	6	4	9	5
E A Temile and Sons Nig. Ltd	4	2	10	3
C& I Leasing Marine Limited	5	5	7	3
<b>Total</b>	<b>18</b>	<b>14</b>	<b>31</b>	<b>17</b>
<b>Grand Total</b>	<b>80</b>			

Source: <https://nogicjqs.gov.ng>. 2020

The study adopts the Taro Yamen sample size derivation formula (Kothari & Garg, 2015). The sample size was mathematically determined using the Taro Yamen formula as follows;

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

$$1+N(e)^2$$

Where n = Sample Size Sought

E = Level of Significance (0.05)

N = Population Size.

$$n = \frac{80}{1+80(0.05)^2}$$

$$1+80(0.05)^2$$

$$n = \frac{80}{1.08}$$

1.2  
 $n = 66.67$  approximately 67.

Therefore, the sample size sought is 67.

In addressing the homogenous nature and distribution for the individual organizations, the Bowley’s proportionate distribution formula is adopted in the study (Kothari & Garg, 2015). The formula is detailed as follows:

**Table 2: Sample distribution**

Shipping Company	Population Size	Sample Size
Starz Investment Company Ltd	17	14
Beneprojecti Nigeria Limited	24	20
E A Temile and Son Ltd	19	16
C and I Leasing PLC	20	17
<b>Total</b>	<b>80</b>	<b>67</b>

Source: Survey Data, 2020

Data collection for this study was carried out through the use of the structured questionnaire instrument. All related indicators for the constructs are stated in the positive and scaled uniformly on the 5 – point Likert scale ranked from 5 = very high extent, 4 = high extent, 3 = moderate extent, 2 = low extent, and 1 = very low extent. The techniques for data analysis comprised of the descriptive and inferential statistical techniques.

*The descriptive techniques* comprise of (a) frequencies and percentage tools; to be applied in the assessment of the distributions of the characteristics of the sample for the study, (b) mean and standard deviation tools; to be applied in the assessment of the univariate distributions and response aggregate estimates of the variables of the study.

*The inferential techniques* comprised of (a) the Spearman’s rank order correlation coefficient; applied in the test for the bivariate hypothetical statements of the study, and (b) the partial correlation coefficient; applied in the test for the multivariate hypothetical statements of the study. The Spearman’s rank order and the partial correlation tools were adopted specifically because of their flexible features and non-parametric attributes.

## Results and Discussion

### Survey Result

The data for this study is presented and discussed in this chapter of this study. The chapter presents the distributions and result on the test for the hypothetical statements (bivariate and multivariate) of the study. This section addresses the survey activities of the study as well as the coding and reliability results for the study. Table 4.1 below demonstrates the outcome for the field work of the study.

**Table 3: Survey result**

Shipping Company	Distributed	Retrieved	Used Copies	Unused Copies
Starz Investment Company Ltd	14	14	14	0
Beneprojecti Nigeria Limited	20	20	20	0
E A Temile and Son Ltd	16	16	16	0
C and I Leasing PLC	17	17	17	0
<b>Total</b>	<b>67</b>	<b>67</b>	<b>67</b>	<b>0</b>

Source: Research data, 2020

The distribution for the survey activities of the study reveal that all identified companies were successfully contacted and their distributed copies retrieved at a 100% rate. Furthermore, all retrieved copies were collated and coded in the Statistical Software for Social Sciences (SPSS) after which the data was assessed for errors and outliers using histogram charts and scatter diagrams. Evidence showed a 0% rate and as such established a 0% level of bias or outliers. Thereafter, the Cronbach alpha was used to ascertain the reliability of the instruments. The results are presented in Table 3.

**Table 4: The Cronbach alpha reliability**

Variables	Dimensions/Measures	No. of Indicators	Alpha coef.
Cabotage Act	Cabotage Vessel Finance Fund	3	0.782
Capacity Development	Ship Acquisition & Ownership	3	0.881
	Seafarers Training & Development	3	0.896
	Cargo Tonnage Availability	3	0.716

Source: Research data, 2020

As revealed (Table 4), the result on the Cronbach alpha reliability for the instruments on the variables demonstrates all instruments as having good reliability scores. This is demonstrated by the Cronbach alpha coefficients which are all revealed to surpass the 0.70 threshold for adequate reliability results. The evidence from the reliability test suggests that all instruments are clear and precise in addressing the features and manifest properties of the variables of the study, hence modifications or omissions were not considered as necessary due to the instruments level of reliability.

**Table 5: Cabotage Vessel Finance Fund Distribution**

		N	Mean	Std. Deviation
Cabotage Vessel Finance Fund (x = 3.4428; SD = 0.95943)	Cabotage1	67	3.3731	1.36887
	Cabotage2	67	3.4030	.95441
	Cabotage3	67	3.5522	1.10486
Maritime Training Centres (x = 3.5473; SD = 0.73558)	Maritime1	67	3.7463	1.14605
	Maritime2	67	3.5672	1.06207
	Maritime3	67	3.3284	.87712
Enforcement & Implementation (x = 3.5970; SD = 0.64233)	Enforce1	67	3.5821	1.11667
	Enforce2	67	3.5224	.99023
	Enforce3	67	3.6866	1.23348
	Valid N (listwise)	67		

Source: Research data, 2020



The distribution for the manifest properties of cabotage as revealed in Table 5 demonstrates all indicators for the three dimensions of the variable to be significantly manifested. Where  $x > 2.5$  for all indicators, the results identify the three dimensions of cabotage act – cabotage vessel finance fund, maritime training centers, enforcement and implementation as an evident features and characteristics of the cabotage act and also as defining the features of the industry. The evidence also demonstrates these dimensions as major factors pervading the industry. The evidence as such describes the industry as having a substantial level of evidence and manifestation of cabotage vessel finance fund, maritime training centers, enforcement and implementation.

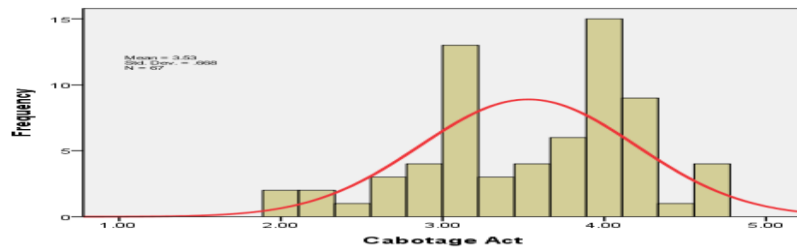


Figure 3: Distribution for qualification of participants

The summary evidence of cabotage act shows that the variable is well manifested as a feature and attribute of the industry. The result indicates that within the context of the study the variable can be considered as a defining factor which impacts on the behaviour, actions and practices of the members or players within the industry.

**Table 6: Capacity Development**

		N	Mean	Std. Deviation
Ship Acquisition & Ownership ( $x = 3.2239$ ; $SD = 0.88075$ )	Ship1	67	3.2388	1.06015
	Ship2	67	3.0746	1.14566
	Ship3	67	3.3582	1.21483
Seafarers Training & Development ( $x = 3.2786$ ; $SD = 0.88115$ )	Sea1	67	2.9851	1.23696
	Sea2	67	3.4179	1.08919
	Sea3	67	3.4328	1.22132
Cargo Tonnage Availability ( $x = 3.5075$ ; $SD = 0.90334$ )	Cargo1	67	3.5522	1.04857
	Cargo2	67	3.7910	1.09458
	Cargo3	67	3.1791	1.23000
Valid N (listwise)		67		

The result on the distribution for capacity development demonstrates the high evidence and manifestations for the properties of capacity development measures – ship acquisition and ownership, seafarers training and development, and cargo tonnage availability. Results suggest that respondents consider these features as evident and well manifested within the context of investigation. This is as the outcome of the distribution reveals mean coefficients for the main measures as surpassing the adopted benchmark of  $x = 2.5$  implying the variables can be considered as characterizing the industry.

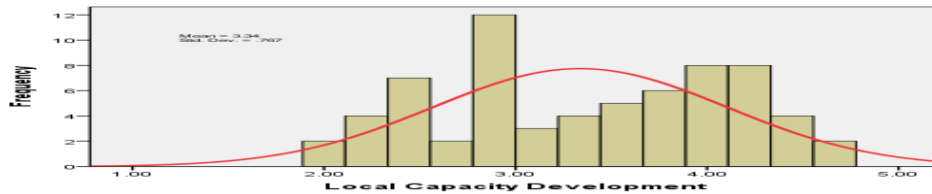


Figure 4: Distribution for capacity development

The evidence from the analysis on the summary distribution for capacity development shows a high mean score of  $x = 3.34$  implying on the average, majority of the respondents consider the capacity development in the maritime industry to be substantial and well evident. The results reveal that the industry as such is well characterized by ship acquisition and ownership, seafarers training and development, and cargo tonnage availability.

### **Bivariate Results**

In this section, the results for the test on the bivariate hypothetical statements of the study are presented. The tests reveal evidence on the relationship between the dimensions of cabotage act - cabotage vessel finance fund, maritime training centres, enforcement and implementation; and capacity development outcomes such as ship acquisition and ownership, seafarers training and development, and cargo tonnage availability. Each null hypothetical statement is tested at a 95% confidence interval and thus, adopts the probability value of  $P > 0.5$  for insignificant relationship and the  $P <$  for significant relationship. The Spearman's rank order correlation coefficient is adopted as the instrument for the test for the hypothetical statements of the study. The Spearman is applied in this context based on its suitability for both ordinal and interval data distributions and also its non-parametric assumptions with regards to the distribution of data for the study.

**Table 7: Test for hypotheses of cabotage vessel finance fund and capacity Development**

		Cabotage	Ship	Sea	Cargo	
Spearman's rho	Cabotage	Correlation Coefficient	1.000	.633**	.656**	.647**
		Sig. (2-tailed)	.	.000	.000	.000
		N	67	67	67	67
	Ship	Correlation Coefficient	.633**	1.000	.656**	.503**
		Sig. (2-tailed)	.000	.	.000	.000
		N	67	67	67	67
	Sea	Correlation Coefficient	.656**	.656**	1.000	.712**
		Sig. (2-tailed)	.000	.000	.	.000
		N	67	67	67	67
	Cargo	Correlation Coefficient	.647**	.503**	.712**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	67	67	67	67

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS version 25 Output window and Survey Data, 2020

The results of the test on the null hypotheses concerning the relationship between Cabotage Vessel Finance Fund and the measures of capacity development are displayed in Table 7. The results show that cabotage vessel finance fund has a significant impact on capacity development. This is premised on the evidence of outcomes such as ship acquisition and ownership (where rho = 0.633 and P = 0.000), seafarers training and development (where rho = 0.656 and P = 0.000) and cargo tonnage availability (where rho = 0.647 and P = 0.000). In line with this result, all previous null hypothetical statements are rejected as the results show that cabotage vessel finance fund significantly correlates with capacity development and as such positively contributes towards outcomes such as ship acquisition and ownership, seafarers training and development, and cargo tonnage availability.

## **Discussion of the Finding**

### **Cabotage vessel finance fund contributes significantly towards capacity development of indigenous Shipping Companies in Rivers State**

The relationship between cabotage vessel finance fund and capacity development is noted to be significant at a  $P < 0.05$  for all tested relationships between cabotage vessel finance fund and outcomes such as ship acquisition and ownership, seafarers training and development and cargo tonnage availability. The study revealed that all the three hypothetical statements were rejected in view of the observed relations between the variables. The evidence supports the position of Yusuf (2019) in financing and funding within the industry as key to harnessing and stimulating the dynamic performance and growth of the local capacities within the industry and through this finding identifies the cabotage vessel finance fund as being crucial for capacities of local companies to engage and successfully run their business within the industry. The findings point to the importance of investment and available funding as a boosts and support for local development and capacity build-up in line with works of Samson (2016). The result further indicates that cabotage vessel finance fund offers opportunities for local marine business companies as it enables a levelling up of activities and practices of local indigenous firms with those foreign origins or backgrounds. This finding agrees with those of previous studies (Luo et al, 2009; Fan & Luo, 2013; Fan & Yin, 2015) which outline the need for support from the stakeholders in the performance and functionality of any business or service venture facing strong international or

## **Summary**

The observed evidence of the relationship between the cabotage act and capacity development signifies the imperatives of policy provisions which address cabotage vessel funds, maritime training centres as well as enforcement and implementation. These dimensions as showed in the results, all contribute significantly towards improving the capacity development expressed through the manifestations of ship acquisition and ownership, seafarers training and development and cargo tonnage availability. The results suggest that the cabotage act currently contributes and enhances the maritime features of the Nigerian local economy in a manner that can be described as enhancing its local capacities and characteristics. In view of the findings noted for this study, all previous hypothetical statements were rejected given the established relationship between the dimensions of cabotage act and the measures of capacity development. Furthermore, the impact of the contextual variable – external environment, was noted as being significant on the relationship between cabotage act and capacity development. In this vein, it is therefore the summary of this study that cabotage act within the Nigerian maritime is a well-recognized and appreciated factor which as observed contributes positively towards the development and local content capacities. The relationship between both variables offers insight with regards to the need for the establishment of frameworks and

platforms that not only protect, but which also offer the necessary support through funding and inclusiveness, as well as the strict control of actions and practices in a manner that ensures goals and maritime objectives are achieved (Fan and Luo, 2013; Tsolakis et al., 2003; Igbokwe, 2006).

### **Conclusion**

The facts from the study show that in the long run, the situation of the indigenous shipping companies will be the better for it, with all the government efforts to provide cabotage vessel finance to Nigerian shipping companies. The study concludes that the application and practicality of the cabotage act through actions such as cabotage vessel finance fund, maritime training centres as well as enforcement and implementation contribute towards the build-up and positive growth of local capacities such as ship acquisition and ownership, seafarers training and development and cargo tonnage availability. Also, the study in line with the observed impact of the external environment on the performance outcomes of the local maritime industry affirms that the external environment contributes as a significant moderator of the relationship between cabotage act and capacity development in Nigeria.

### **Recommendations**

Based on the findings and conclusions reached in this study the following recommendations have been made:

- i. The financing and funding of the local maritime operations should be premised on clear and transparent functions which allow for the participation and contributions of both foreign and local, as well as private and government investors and stakeholders.
- ii. The establishment of training programmes and centres should focus on addressing the gaps and lagging issues in within the maritime industry as a way of driving its effectiveness, competitiveness and standards so as to be able to compete with foreign companies
- iii. Policies and regulations within the industry which are contained in or can be considered as features of the cabotage act should be designed to ensure control and the streamlining of behavior in such a manner that allows for a conducive and healthy level of business operations, services and competition within the industry
- iv. Measures should also be taken to check and guard against the negative impact of external factors; these may involve the use of policies as well as control actions and to coordinate responses and the company's interaction with its external environment.

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