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THE IMPACTS OF CABOTAGE LAW IMPLEMENTATION ON NIGERIA'S INDIGENOUS SHIPPING INDUSTRY: A STUDY OF THE ONNE SEA PORT, RIVERS STATE, NIGERIA

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ABSTRACT: *This study examined the level of indigenous participation in shipping-related businesses in Onne Sea Port, Port Harcourt, owing to the implementation of the Cabotage Law. A Principal component analysis (PCA) was conducted on 67 items from 450 questionnaires administered with a success rate of 89.3 using orthogonal rotation. The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO = .771, and all KMO values for individual items were greater than .51, which is slightly above the acceptable limit of .5. Bartlett's test of sphericity* χ^2 *(2211) = 2.480, p < .001, indicated that correlations between items were sufficiently large for PCA. An initial analysis was carried out to obtain eigenvalues for each component in the data. Seventeen components had eigenvalues over Kaiser's criterion of 1 and in combination explained 75.65 per cent of the variance. Various levels of impact of the Cabotage law on SMEs and indigenous ship building technology has been examined. Multiple regression analysis confirmed that Cabotage regime has significant impact on the number of indigenous vessels through a combined effect of six variables (*R^2 *= 0.05, F(6, 395) = 4.501, p < .005). The study recommended human capital development as a vital and indispensable element of Cabotage Law implementation in Nigeria.*

KEYWORDS: Cabotage Law, Indigenous Participation, Shipping Industry, Capacity Building, Maritime Industry.

INTRODUCTION

Maritime activities are globally acknowledged to play a key role in the alleviation of extreme poverty and hunger through employment and other economic opportunities. This include the supply of seagoing personnel and ship recycling, ship owning and operating, shipbuilding and repair and port services, among others. Nigeria is blessed with a coastline of about 870km and about 3,000 kilometres of inland waterways with varieties of natural resources including petroleum, natural gas, tin, columbite, iron ore, coal, zinc, limestone, lead and other minerals. According to the Cabotage Implementation Guidelines (2007) for example, Nigeria had about 22.5 billion Cubic Meters of crude oil, 3.5 trillion cubic meters of gas and 42.7billion cubic meters of bitumen. These statistics depicts that Nigeria should have a whole lot of trade opportunities across the globe. Nigeria generates more than seventy percent of the cargo throughput in West and Central Africa but presently, the sector is characterized by the domination of foreign flag vessels especially those of developed market economies of Western Europe and America. Available data show that as at 2013, about 98 percent of the sea freight in Nigeria was still done by foreign companies and that foreigners make up about eighty-five percent of the maritime workforce in Nigeria (Global shipbuilding Market Report, 2013).

According to the 2017 report of the National Bureau of Statistics/Nigerian Ports Authority (NPA), the ship traffic statistics at Nigerian ports has reflected that a total number of 19,833

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vessels berthed at the various ports between 2013 and 2016. Similarly 543,842,425 tonnages were registered within the period under review. Year 2014 recorded the highest number of vessels berthed as well as tonnages registered while the least were recorded in 2016. Tin Can Island Port handled the most ships accounting for thirty-three percent of total number of ships that berthed in all ports and thirty-two percent of total tonnage registered in all ports. It is closely followed by Apapa port which accounted for twenty-eight percent of ships that berthed and twenty-five percent of total tonnage registered and Onne port which accounted for fifteen percent of ships that berthed and thirty percent of total tonnage registered. Also, cargo traffic statistics revealed a total of 312,185,808 cargo traffic was recorded at all Nigerian ports between 2013 and 2016. 196,851,236 (63%) of the cargo traffic were inwards while 115, 334572 (37%) were outward (National Bureau of Statistics/Nigerian Ports Authority, 2017)

The term "Cabotage" is a Spanish word which refers to maritime trade along countries coastlines. The Nigerian Cabotage Law came into force in April, 2004 (Cabotage Act, 2003). The aim was to reserve the costal shipping business by Nigeria national. According to Black's Law Dictionary (Thumma, & Kirchmeier, 1999) "Cabotage is the carrying on of trade along a country's coast, the transport of goods or passengers from one port or place to another in the same country". It is also a term from the French word 'caboter' meaning to sail along the coast. Cabotage has however, come to be known as "coastal trade" or "coasting trade" or "coastwise shipping" meaning carriage of goods and persons by ships between ports along the same coast or between ports within the same country and the exclusive rights of a country to operate sea traffic or rail traffic (Ajiye, 2013). The goal of Cabotage laws is to protect the domestic shipping industry from foreign competition and preserve domestically owned shipping infrastructure for national security purposes. Other objectives of the law are to encourage indigenous participation and profit making as well as to ensure the safety of life and property in congested territorial maritime environment. In many countries where the Act has been practiced, its main thrust has been the promotion of indigenous participation in the primary sector of the economy, to add value to the local economy, increase local participation and build local capacity. Thus, inadequate indigenous participation in maritime shipping service portends great danger to both the economy and security of the nation.

The study examined the implementation of Cabotage law as it relates to indigenous participation in the maritime industry as well as the performance of the Cabotage Act on indigenous capacity to actively participate in th shipping industry with a focus on Onne sea port. The study also hypothesized that the Cabotage regime has no significant effect on the number of indigenous vessels. The Onne sea port is located in Onne town of Port Harcourt. It is geographically situated at longitude 4°431011N and 7o91011E. As an urban neighbourhood of Port Harcourt, it has an estimated landmass of about 186 square kilometers within the total metropolitan area of 462km2. The population as at 2006, stood at 1,230,114 within a total metropolitan population figure of 2006 (NPC, 2006). Using 2.54% growth rate, it is estimated at 1,580,806 in 2016. The Onne Port Complex was established as a 'Free Port Zone' (FPZ) to serve as the focal point for the oil and gas industry in West Africa. This complex which started in 1982 as the Federal Lighter Terminal (FLT) has grown over the years to a very enviable state, due largely to Public/Private Partnership. Onne Port Complex is situated along Bonny Estuary on Ogu Creek which is about 25 kilometers south of Port Harcourt, Rivers State of Nigeria. The geographical area of the Port spans between NAFCON (Now NOTORE) Jetty and Bonny Island. It crosses three Local Government Areas of Rivers State including, Eleme, Ogu-Bolo and Bonny. The land area of approximately 2,500 hectares is situated on the soil of

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Eleme Local Government Area while the channel to the Port along Bonny River and Ogu Creek within Bonny and Ogu-Bolo Local Government Areas (figure 1).

LITERATURE REVIEW

The shipping industry plays a significant role in the economic development of any nation. This is why maritime transportation has been adjudged an absolute mercenary of world trade. The Nigerian Cabotage Policy is both a protectionist and liberalization policy. The former is provided for in Sections 15-21, which provided for rules, terms, regulations, duration, guidelines and for every other thing regarding license to foreign vessels while the latter is stated in sections 9-14 of the Act, which clarifies the grant of license to foreign vessels, terms and conditions and vessels eligible for registration in the Cabotage trade (Cabotage Act, 2003).

On capacity building for ship building, Igbokwe (2006) maintained that the government must give time for human-capacity development as it often takes more than 20 years to master the art of ship building. This may be wrong if restricted to oil and gas at the expense of commercial shipping. This is because oil and gas is only but a very small fraction of the maritime industry. Nkoro (2012) observed that the call by government to continue to encourage foreign shipping companies in Nigeria and the carefree attitude towards the country's self-sufficiency in the maritime industry is not of any good to the realization of the aims of the Act. Based on this irregular behaviour from the government, according Nkoro (2012), foreign shipping companies believes that foreign owned ships are needed to run Nigerian economy. It is a fact that as the country begins to take decisive steps to develop its capacities, the presence of foreign owned, built and crewed ships will be a thing of the past in the maritime history of Nigeria.

Olukoju (2004) stated that 'following the enactment of Cabotage Act in 2003, Nigerian government provided only $25 million for shipping development, a very meagre amount compared to the population of Nigeria'. This according to him means that indigenous entrepreneurs and the Nigeria Maritime Authority (NMA) only played the role of rent collectors. Instead of using the resources of NMA meaningfully to develop the industry, the funds are being diverted and/or embezzled by successive governments and their agents. Under the Act establishing NIMASA, 'five per cent of annual income would support the Maritime Academy of Nigeria (MAN) and 35 percent of income would be for the development of maritime infrastructure (Olukoju, 2004).

On the indigenous participation in the maritime industry, Usoro (2003) and Biu (2007) stated that 'despite the fact that Nigeria has about 3,000 kilometres of inland waters, six major ports and ten crude oil terminals, and several inland ports, much is still to be desired'. For example, in the year 2000 according to them, only 139 indigenous marine vessels less than six percent were involved in this traffic with a cargo throughput of 441, 031 tons. Biu (2007) similarly reported the 2004 survey of the National Maritime Authority which showed that only 11 of 245 coastal vessels that operated in the Onne oil and gas free zone axis in 2003 were owned by Nigerians. During the same period of the 266 tankers that were engaged in coastal trading in the Apapa port only 44 tankers (16.5%) were Nigerian owned while 222 (83.5%) were foreign-owned. The total metric tonnage of petroleum products carried by the Nigerian owned tankers were 97,041 tons (3.4%) while the foreign owned tankers carried 2,745,365 metric tons (96.6%) of the entire volume of cargo. This confirms the reality of foreign domination in the coastal trade. The survey also showed that

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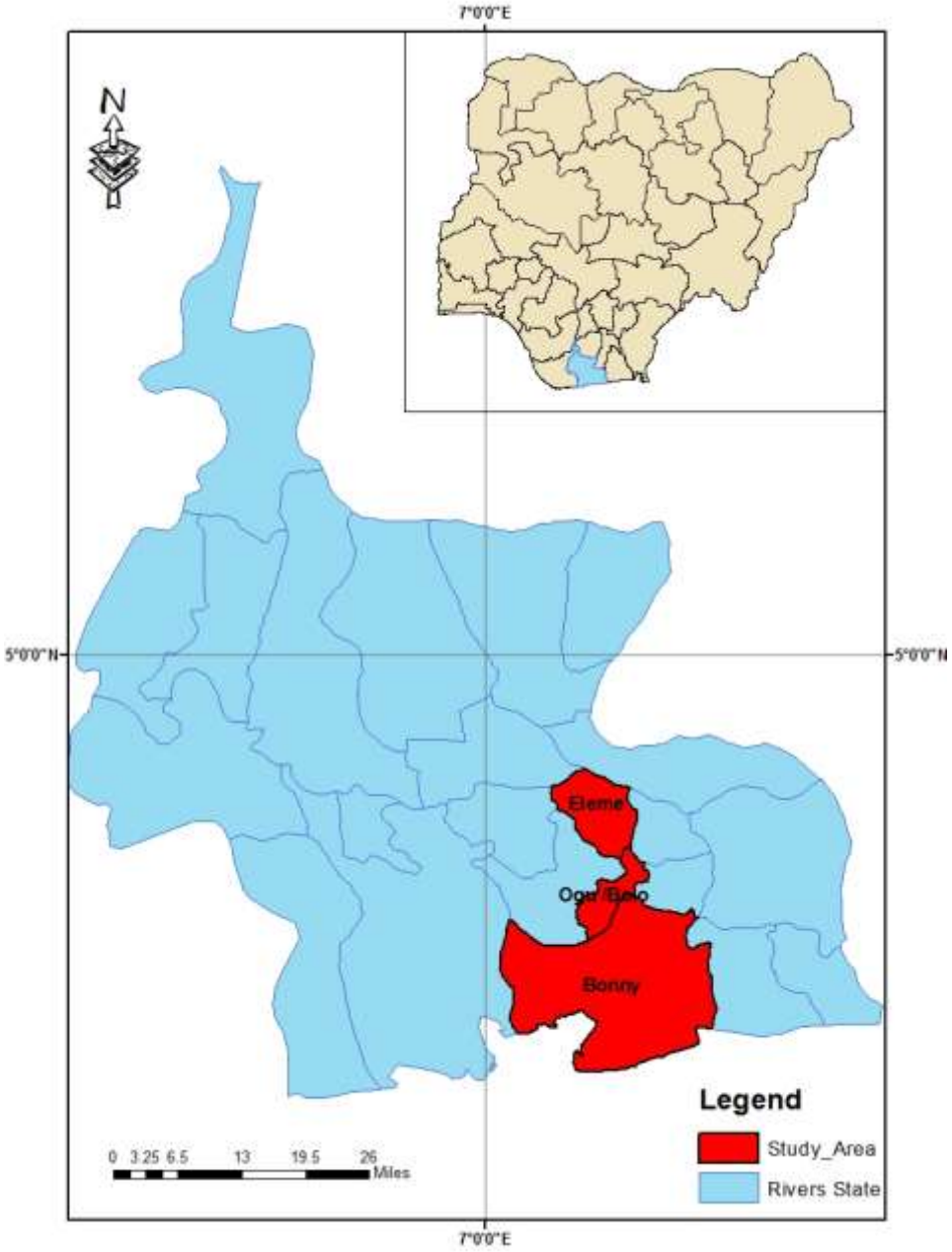

Figure 1. Rivers State showing the three Local Government Areas where Onne Port is located; Insert: Nigeria showing Rivers State

West African Offshore (WAOS) chartered 16 vessels, all of which were foreign flagged, except one; and out of 183 crews, only 45 crews (24.5%) were Nigerians.

Nkoro (2012) opined that the commencement of the Cabotage Law in May 1, 2004 'signposts a new vista of shipping business and market opportunities for indigenous Nigerian ship owners and management interests'. Numerous challenges confront the effective implementation and enforcement of the law. Okeke and Anichie (2012) points out the pitfalls, defects and weaknesses of the Cabotage regime in Nigeria. This include the fact that conditions prescribed for obtaining a waiver by foreign firms are less challenging with the likelihood that more

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foreign ships will be granted waivers in Nigeria. This is because there is presently insufficient Nigerian fleet to cater for the Nigerian maritime industry. The waiver inclusion in the Cabotage Law makes the bulk of the responsibilities of the indigenous vessel holders to be shifted to the foreigners making the Cabotage Act to be ineffective, thus, defeating the purpose of the Act. Igbokwe (2003) also observed that 'the exclusion of Indigenous Ship-owners Association of Nigeria (ISAN) from ministerial consultation process is a big challenge'. In his opinion, 'one of the flaws of the guidelines is that an umbrella of the Nigerian ship-owners/operators like ISAN is excluded'. Another challenge is the fact that facilities and equipment such as amphibious aircrafts and patrol boats for monitoring the enforcement of the Act are expensive. Although, some patrol boats were purchased by NIMASA, they are grossly inadequate. Ihenacho (2004) likewise identified lack of finance and human resource constraints as other challenges bedevilling the maritime sector in Nigeria. Agbakoba (2004) stated that the challenge of Cabotage Law in Nigeria is that of inability to create an enabling environment for effective take off.

In their study which hypothesized that the expansion in vessel fleet has no significant relation with employment status and annual income of indigenous maritime workers due to the implementation of Cabotage Law in Nigeria, Okon and Edem (2018) observed that annual income is negatively related to the fleet expansion of vessels, with a coefficient of $r = -.103$, significant at $p<.001$. Furthermore, employment status was positively related to the annual income, $r = .454$, $p<.001$. However, their output shows that fleet expansion of vessels is negatively related with annual income, with a coefficient of $r = -.103$, not significant at $p<.001$ whereas employment status was positively related to the annual income of respondents, $r = .454$, $p<.001$. They concluded that the enactment of the cabotage law is yet to impact strongly on the annual income as well as the employment status of indigenes.

However, the above challenges notwithstanding, there are notable benefits of Cabotage Law in Nigeria. Usoro (2004) asserted that Cabotage has anticipated benefits in Nigeria through revenue generation from fees for registration, approvals, licenses and fines. According to 'if Cabotage is properly handled, it would generate four million jobs a year since one of the nation's problems is massive unemployment and poverty eradication'. He concluded that it is a new economic system that needs to be developed with our vast manpower. Akabogu and Onyuike (2004) espoused the benefits of Cabotage to accrue to Nigerians if Cabotage Law is effectively implemented and enforced. These benefits are expected to be experienced in different sectors of the Nigerian economy such as 'oil and gas, ship ownership, chartering, insurance, brokerage, shipbuilding, trading and fishing'. Nigeria as the 6th oil producing country in the world has 21 Ports on the over 800-Nautical Miles stretch of coastline in addition to rivers, ports, and private jetties is positioned for maximum benefits from the law (Ajiye, 2013). Furthermore, Nekasil (1996) stated that 'without the critical mass represented by the domestic fleet, the United States would not be able to sustain the maritime infrastructure essential to its national and economic security'. He maintained that Cabotage Laws are essential to the U.S. national security because only that can ensure American ownership and control over domestic fleet; competitive balance in the domestic trades in which that fleet operates, without government subsidies; and a stable investment climate for American ship building and ship operators.

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MATERIALS AND METHODS

The survey research design was adopted to describe and explain the effect of Cabotage law enactment in the maritime industry. It also allowed for easy and systematic collection of data from a chosen sample or representative population upon which analyses and inference were drawn. Data to assess the level of indigenous capacity built under Cabotage based on the number of trained personnel in skill areas of sea faring, operators, managers, brokers, dockers, ship builders, charters, etc. Data of the number of indigenous shipping companies that so far benefited from Cabotage vessels financing fund (VFF) was also collected. These data were sourced from primary sources through the use of a 67 item questionnaire and secondary means such as gazette information in journals, periodicals and seminar papers on maritime industry under Cabotage regime and the outcome of studies conducted by NIMASA and NPA consultants.

The staff of NIMASA, NPA, DPR, as well as staff of all indigenous shipping companies listed in the Nigeria Maritime Companies Association doing business in the Onne Sea Port were purposively sampled. The questionnaires were distributed randomly with emphasis on all categories of staff that are more knowledgeable on the subject of Cabotage law. Following Smith's (2000) sample size formula, based on a 5 percent error margin and a population less than 1million, a minimum of 384 questionnaires was adequate for this study. However, a total of 450 were used to avoid much sampling error from either bias or low success rate from respondents during the survey.

Data were analysed using descriptive and inferential statistics. Descriptive statistical tools such as frequencies, tables, graphs, and charts were used to show socio-economic characteristics of respondents and independent opinion on the role of Cabotage Law in their respective businesses in Onne Port. Factor Analysis (FA) was performed on multiple data layers to achieve a manageable data size amenable to inferential statistical analysis. Thereafter, the Multiple Regression Analysis was employed to test the study hypothesis.

RESULTS AND DISCUSSION OF FINDINGS

Level of indigenous participation in the maritime industry

The Employment characteristics of study respondents indicate that an overwhelming 96.8 per cent of study participants are of African extraction, 0.2 per cent is of European extraction, 2.5 per cent are Asians, while 0.5 per cent are South Americans. Whereas this does not represent the real composition of employee in the Nigerian maritime sector, it may have provided insight into the structure of employment by continent or even country. Furthermore, respondents were asked to indicate their employment designation if they were Nigerians. The result shows that 3.2 per cent are employees at management positions, 37.3 per cent are general senior staff, 6.2 per cent are at the director cadre, 5 per cent are managers, 5.5 per cent are personnel managers while 39.6 per cent are other categories, mostly lower and medium level staff. Of the group, 72.9 per cent belong to the permanent employment status while 26.4 are temporary (Table 1).

In terms of the department where they are employed, 27.1 per cent of respondents are Admin Staff, 9.7 are in Finance Department, 25.9 per cent are in Operations/Shipping, 30.3 per cent are Technical Staff while 7 per cent are employed into Marketing Department. Accordingly, 5.5 per cent of these staff has 0-5 years working experience, 30.3 per cent have 6-10 years, and

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45.5 per cent have 11-15 years, while 17.9 per cent have above 16 years of working experience (Table 1). With regards to ship building, 21.1 per cent of respondents acknowledged working in an indigenous ship building company such as West Atlantic Ship Yard, West Africa

Table 1. Employment characteristics of study respondents

Employment characteristics	Frequency	Percent
Continent of origin		
Europe	1	0.2
Africa	389	96.8
Asia	10	2.5
South America	2	0.5
Nigerian employee designation		
Management	13	3.2
Senior staff	150	37.3
Director	25	6.2
General manager	20	5
Personnel manager	22	5.5
Other	159	39.6
Employment status		
Casual	106	26.4
Permanent	293	72.9
Other	2	0.5
Department		
Admin	109	27.1
Finance	39	9.7
Operations/shipping	104	25.9
Technical	122	30.3
Marketing	28	7
Work experience		
0-5yrs	22	5.5
6-10yrs	122	30.3
11-15yrs	183	45.5
16-20yrs	72	17.9
21yrs>	3	0.7
Status of company		
Foreign	340	84.6
Local	62	15.4

Transport Terminal (WATT) Slok Nig Ltd, Fymak Marine and so on. However, 12.4 per cent of respondents admit that they do not work in ship building company but carry related services in the port.

Opportunities created by the Cabotage Act on Local operators

Some opportunities created by the Cabotage Act for Local operators were listed for respondents to indicate which one of them that apply using a multiple response answer and analysis techniques in which a total of 954 ratings from 402 total respondents were achieved. In Table 2, it is revealed that 26 per cent rating for opportunity for employment is highest amongst all opportunities created by the Cabotage Law. Respondents mostly agree with employment

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generation as impact of Cabotage Law in the Onne port. About 22.6 per cent agreed with the view that the Cabotage Law influences income generation for government, organizations and individuals that work in the Onne port. In terms of opportunities for vessel fleet expansion for local operators, 21.3 per cent of respondents rated in favor of this impact of the law. Similarly, 18.3 per cent of respondents are of the opinion that the Cabotage Law creates opportunity for ship building and ownership in the maritime sector of Nigeria, whereas 11.7 per cent of them also attribute reduction in competition with foreign companies to the introduction of the Cabotage Law (Table 2). This opinion of stakeholders in the Onne port cannot be treated with leap service as it is seen to have great implication for the successful implementation of the

Table 2. Opportunities created by the Cabotage Law in Onne Port

Opportunities were created by the Cabotage Act	Frequency	Percent
Employment	248	26.0%
Income Generation	216	22.6%
Fleet Expansion	203	21.3%
Ship Building and ownership	175	18.3%
Reduction in competition with foreign companies	112	11.7%
Total	954	100.0%

Cabotage Law especially given the fact that its main goal is to provide a favorable environment for local operators to thrive in the maritime sector.

Infrastructures created by the Cabotage Law for local ship building in Onne

A total of 879 multiple response ratings were provided by 402 respondents in Onne port where in a maximum of 28.2 per cent of the ratings indicate the provision of energy generating plants as a direct impact of the Cabotage Law. This has significant impacts on small and medium scale enterprises such as barber shops, dry cleaning shops, food vendors, and so on, especially in a country where adequate power supply is yet to be achieved. About 26 per cent support the notion that the introduction of the Cabotage Law has influenced the development of terminal quay apron in the port area. The reason may not be farfetched since this infrastructure highly supports vessel operations in the port. This has direct correlation with the volume of vessel operations in Onne port. And this in turn influences ship building platform which respondents indicates by 25.5 per cent. Furthermore, 20.4 per cent of respondents affirmed that the Cabotage Law impacts positively on communication facilities. From the respondent point of view, it can therefore be concluded that the introduction of the Cabotage Law has positive relationship with infrastructure development in Onne port.

Impact of Cabotage Law on human capacity development

Using multiple response questions administered on respondents, about 1220 total ratings for five different indicators of human capacity development in the port was received. From the results, it is revealed that respondents indicated safety training (27.8 per cent) as the most highly received human capacity development resulting from the Cabotage Law implementation in Onne port. Furthermore, 26.7 per cent are of the view that training of technicians was significant among the human capital development indicators contained in the question asked. This is highly significant from earlier field work observation where a good number of indigenous maritime workers are seen to be technical/operations shipping staff. Training on

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ship building technology was also rated highly with 22.0 per cent of respondents as their favorable human capacity development resulting from the Cabotage Law in Onne port. Only 11.0 percent and 12.5 per cent respectively indicated maintenance training and manning of ship (figure 2).

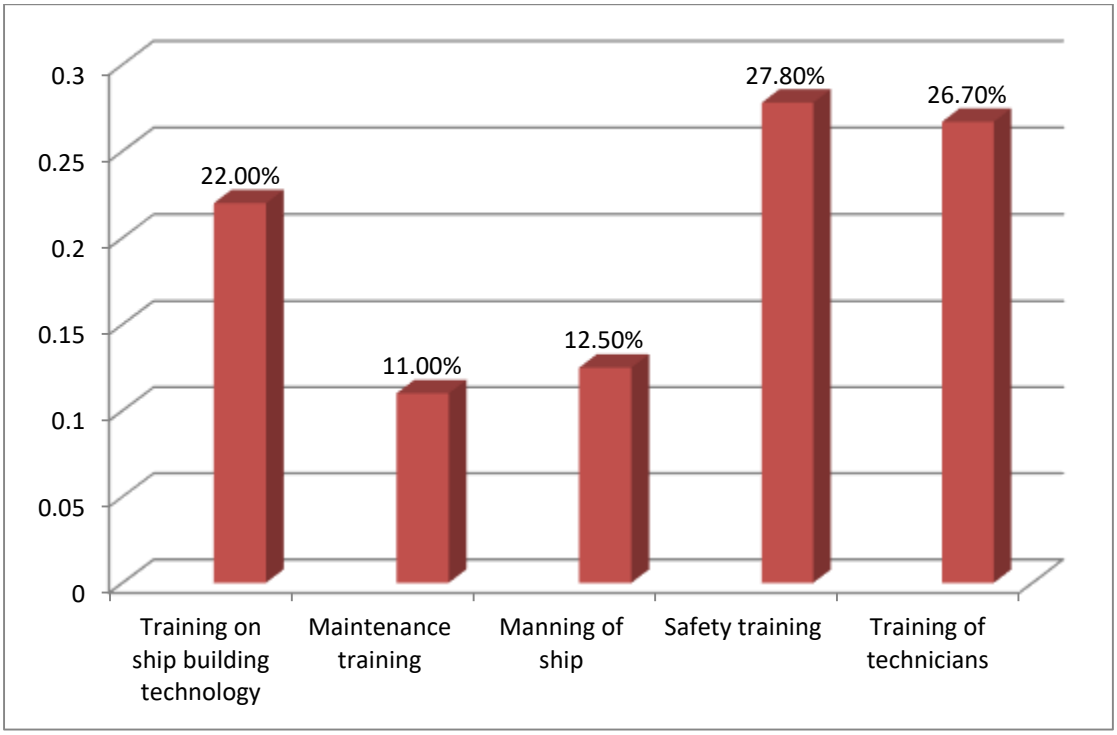

FIG 2: The impact of Cabotage Law on human capacity development

FACTOR ANALYSIS

The factor analysis was used to reduce the data in the study from the 67 variables contained in the questionnaire for this research. This helped to provide understanding into what role the enactment of the Cabotage Act has on the development of indigenous Nigerian maritime sector through indigenous participation. As a preliminary, the R-matrix (or correlation matrix) was produced using the coefficients and significance levels options. The determinant of the correlation matrix is checked and problematic variables were eliminated where necessary. The determinant is listed at the bottom of the matrix. As derived, its value is 3.16E-03 (which is 0.00316) which is greater than the necessary value of 0.00001.

Also computed is the Haitovsky's (1969) test of whether the determinant is 0 using equation:

Haitovsky's $x^2_H = \left[1 + \frac{(2p+5)}{6} - N\right] ln\ (1 - |R|)$.
(i)

where p is the number of variables in the correlation matrix (67), N is the total sample size (402), |R| is the determinant of the correlation matrix and ln is the natural logarithm

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$$=\left[1+\frac{(2*67+5)}{6}-402\right]ln(1-0.00316) = [1+23.2-402]ln(0.99684) =2.0$$

This test statistic has $p(p - 1)/2$ degrees of freedom, which is equal to $67(67 – 1)/2 = 2211$. From chi-square distribution table for df = 2211 the critical values are 1074.68 (df = 1000). The observed chi-square is much smaller than this value indicating non-significance. As such, our determinant is not significantly different from zero. Because we are performing principal component analysis, we do not need to worry about the contradictory evidence about whether multicollinearity is a problem for these data.

The derived output of the inverse of correlation matrix depicts the inverse of the correlation matrix (R^{-1}), which is used in various calculations (including factor scores). This matrix is produced using the *Inverse* option but in all honesty is useful only if we wanted some insight into the calculations that go on in a factor analysis. Table 3 shows several very important parts of the output: the Kaiser–Meyer–Olkin measure of sampling adequacy, Bartlett's test of sphericity and the anti-image correlation and covariance matrices (note that these matrices have been edited down to contain only the first and last five variables). Kaiser (1974) recommends a bare minimum of 0.5 and that values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb (Hutcheson & Sofroniou, 1999). For these data the value is 0.77, which falls into the range of being good, so we should be confident that the sample size is adequate for factor analysis.

Factor extraction

The first part of the factor extraction process is to determine the linear components within the data set (the eigenvectors) by calculating the eigenvalues of the R-matrix. We know that there are as many components (eigenvectors) in the R-matrix as there are variables, but most will be unimportant. To determine the importance of a particular vector we look at the magnitude of the associated eigenvalue. We then apply criteria to determine which factors to retain and which to discard. We set Kaiser's criterion of retaining factors with eigenvalues greater than 1.

Before extraction, SPSS has identified 23 linear components within the data set (we know that there should be as many eigenvectors as there are variables and so there will be as many factors as variables). The eigenvalues associated with each factor represent the variance explained by that particular linear component and SPSS also displays the eigenvalue in terms of the percentage of variance explained (so, factor 1 explains 26.584% of total variance). It should be clear that the first few factors explain relatively large amounts of variance (especially factor 1) whereas subsequent factors explain only small amounts of variance. SPSS then extracts all factors with eigenvalues greater than 1, which leaves us with seventeen factors. The eigenvalues associated with these factors are again displayed (and the percentage of variance explained) in the columns labelled Extraction Sums of Squared Loadings. The values in this part of the table are the same as the values before extraction, except that the values for the discarded factors are ignored (hence, the table is blank after the seventeenth factor). In the final part of the table (labelled Rotation Sums of Squared Loadings), the eigenvalues of the factors after rotation are displayed. Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of the seventeen factors is equalized. Before rotation, factor 1 accounted for considerably more variance than the remaining three (31.696% compared to 9.629%, 7.487%, 4.152%, 3.457% and so on), but after extraction it accounts for only 16.040% of variance (compared to 10.149, 8.824, 5.316 and 4.260% respectively).

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Table 3. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**.771**
Bartlett's Test of Sphericity	Approx. Chi-Square	2.480E4
	df	2211
	Sig.	.000

Factor rotation: Orthogonal rotation (Varimax)

Rotated component matrix (also called the rotated factor matrix in factor analysis in Table 5) which is a matrix of the factor loadings for each variable onto each factor is also produced. This matrix contains the same information as the component matrix except that it is calculated after rotation. There are several things to consider about the format of this matrix. First, factor loadings less than 0.4 have not been displayed because we asked for these loadings to be suppressed. Second, the variables are listed in the order of size of their factor loadings. By default, SPSS orders the variables as they are in the data editor; however, we asked for the output to be sorted by size (using the option in factor analysis). Finally, for all other parts of the output we suppressed the variable labels (for reasons of space) but for this matrix we have allowed the variable labels to be printed to aid interpretation. The original logic behind suppressing loadings less than 0.4 was based on Stevens' (2002) suggestion that this cut-off point was appropriate for interpretative purposes (i.e. loadings greater than 0.4 represent substantive values). However, this means that we have suppressed several loadings that are undoubtedly significant. However, significance itself is not important.

Naming of factors

The next step is to look at the content of questions that load onto the same factor to try to identify common themes (Table 4). If the mathematical factor produced by the analysis represents some real-world construct then common themes among highly loading questions can help us identify what the construct might be. The questions that load highly corresponding to factors 1-17 seem to all relate specific impact of the law on different themes within the industry as shown in Table 4.

Test of hypothesis

The multiple regression analysis was used to test whether Cabotage regime has any significant effect on the number of indigenous vessels in Onne Port. this examine the relationship between the number of local vessels due to the implementation of the Cabotage Act and various potential predictors (fleet expansion of vessels, infrastructure for ship building, indigenous ship manning, unskilled employment in maritime industry, access to development funds, and reduced foreign competition). The initial Pearson Correlation output shows that all six variables were correlated with the number of local vessels and all predictor correlations positive (1-tailed). Variables with higher scores were positively and significantly correlated with the number of local vessels. By the way, the "adjusted R^2" in the model summary (Table 5) is basically used to determine how well a regression model fits the data. It's perceived utility varies greatly across research areas and time. The "R Square" column represents the R2 value which is the proportion of variance in the dependent variable that can be explained by the independent variables. From our model of the data, we can see from our value of 0.064 that our independent variables explain only 6.4

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Table 4. Named factors

Component	Factor name
1	Fleet expansion of indigenous ownership
2	Infrastructures that support local ship building
3	Income generation for national economic development.
4	Improved information technology for industrial personnel.
5	Increased manning of ship by indigenous industry personnel.
6	Improved performance of NIMASA on security of ship
7	Improved DPR performance through increased trained personnel
8	Unskilled indigenous employments.
9	Expansion on ship building technology
10	Human capacity development
11	Food vendoring
12	Access to funds for indigenous ship construction.
13	Increased raw cargo shipment
14	Effective supervision of petroleum resources by DPR
15	SMEs
16	Reduced competition with foreign companies.
17	Effective regulation by NNPC

Table 5. Multiple Regression model summaries

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.253a	0.064	0.05	0.897	0.064	4.501	6	395	0	1.903

a. Predictors: (Constant), Reduced_ForCompetitn, Access_DevtFunds, Unskilled_IndEmploymt, Indegenous_ShipMannig, Infrastructure_ShipBuild, Fleet_Expansion

b. Dependent Variable: No$vessels$local

Percent of the variability of our dependent variable; number of local vessels. The F-ratio in the ANOVA table (Table 6) tests whether the overall regression model is a good fit for the data. The table shows that the independent variables statistically significantly predict the dependent variable, $F(6, 395) = 4.501$, $p < .0005$ (i.e., the regression model is a good fit of the data).

The general form of the equation to predict number of local vessels from fleet expansion of vessels, infrastructure for ship building, indigenous ship manning, unskilled employment in maritime industry, access to development funds, and reduced foreign competition is given as:

Predicted number of local vessels = 1.261- (0.006* fleet expansion of vessels) + (0.004* infrastructure for ship building) + (0.032*indigenous ship manning) + (0.027*unskilled employment in maritime industry) + (0.226* access to development funds) – (0.039*reduced foreign competition).

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This is obtained from Coefficients in Table 7. We can further conclude that only the coefficient of access to development funds, $p < .05$ is statistically significantly different to 0 (zero). The multiple regression model with all six predictors produced $R^2 = 0.05$, $F(6, 395) = 4.501$, $p < .005$. All six variables added statistically significantly to the prediction, $p < .05$. We therefore reject the null and accept the alternate that the Cabotage regime has significant effect on the number of indigenous vessels through a combined effect of six variables.

Table 6. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.73	6	3.622	4.501	.000
	Residual	317.845	395	0.805		
	Total	339.575	401			

a. Predictors: (Constant), Reduced_ForCompetitn, Access_DevtFunds, Unskilled_IndEmploymt, Indegenous_ShipMannig, Infrastructure_ShipBuild, Fleet_Expansion

b. Dependent Variable: No$vessels$local

Table 7. Coefficients (a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
Constant	1.261	0.045		28.189	0	1.173	1.349					
Fleet_Expansion	-0.006	0.045	-0.006	-0.132	0.895	-0.094	0.082	-0.006	-0.007	-0.006	1	1
Infrastructure_ShipBuild	0.004	0.045	0.004	0.08	0.937	-0.085	0.092	0.004	0.004	0.004	1	1
Indegenous_ShipMannig	0.032	0.045	0.034	0.708	0.48	-0.056	0.12	0.034	0.036	0.034	1	1
Unskilled_IndEmploymt	0.027	0.045	0.029	0.594	0.553	-0.061	0.115	0.029	0.03	0.029	1	1
Access_DevtFunds	0.226	0.045	0.245	5.035	0	0.137	0.314	0.245	0.246	0.245	1	1
Reduced_ForCompetitn	-0.039	0.045	-0.043	-0.881	0.379	-0.128	0.049	-0.043	-0.044	-0.043	1	1

a. Dependent Variable: No$vessels$local

SUMMARY, CONCLUSION AND RECOMMENDATIONS

More than 50 countries including those in the European Union, Asia, Africa, United States and other countries that advocate trade globalization and liberalization have implemented the Cabotage Law in their respective countries. This is interesting as Nigeria is not alone in her effort towards the protection of indigenous industries in the maritime sector. As it is mostly expected, restricting domestic waterborne trade to only Nigerian-built, own and operated vessels using the Cabotage Law, is capable of attracting new and higher investments in the domestic shipping sector, thereby leading to the growth, development and full capacity utilization of Nigerian shipyards and dry-dockyards.

Several opportunities are observed to have been created by the implementation of the Cabotage Law. This includes employment, income generation, fleet expansion, ship building and ownership, reduction in competition with foreign companies, among others. With regards to

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ship building, most respondents acknowledged working in an indigenous ship building company such as West Atlantic Ship Yard, Onne, West Africa Transport Terminal (WATT) Slok Nig Ltd, Fymak Marine and so on, while only a few do not work in ship building company but carry out related services in the port. The research also showed the level of implementation of the Cabotage Law in the Nigerian maritime sector. From about 67 variables 17 factors were extracted and used in the test of hypothesis. Various levels of impact of the Cabotage law on SMEs and indigenous ship building technology has been examined. The study confirmed that the Cabotage regime has significant effect on the number indigenous vessels through a combined effect of six variables ($R^2 = 0.05$, $F(6, 395) = 4.501$, $p < .005$).

Conclusively, this study examined the role of cabotage law in the indigenization of maritime activities in the Onne Port, Rivers State. The example of Onne Port may not be any different from the experiences of other ports in Nigeria. The level of awareness of the concept of Cabotage was found to be high, suggesting an increased involvement of the indigenous population in maritime activities not only in Onne Port but also in many other ports in Nigeria. Opportunity for employment generation was realized to be the major impact of Cabotage Law in the Onne Port while provision of power had significant impacts on small and medium scale enterprises such as barber shops, dry cleaning shops, food vendors, etc. It was also deduced that safety training was the most highly received human capacity development resulting from the Cabotage Law implementation in Onne port.

Human capital is a vital and indispensable element of Cabotage Law implementation in Nigeria because the Act provided that Cabotage vessels must be crewed by Nigerians with a view to providing employment for the citizens. Also it is observed that there is a growing dearth of Nigerian officers as the study revealed more indigenous population in other port related services (SMEs) rather than main stream vessel activities. Therefore, the current technical level of Nigerians at the maritime sector may hardly support the expansion of the Nigerian fleet.

Tables should be titled like the example shows below, the style "Figure title" is used here also for the title.

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