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The Cabotage Law and Indigenous Capacity Building in the Nigeria Maritime Industry: Onne Sea Port Scenario

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ABSTRACT

A principal component analysis (PCA) was conducted on 67 items with orthogonal rotation (varimax). The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO = .771 and all KMO values for individual items were > .50, which is slightly above the acceptable limit of .5 (Field, 2009). 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 run 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% of the variance. The study hypothesized that the expansion in vessel fleet has no significant relation with employment status and annual income of respondents due to the implementation of Cabotage Law in Nigeria. The output also shows that annual income is negatively related to the fleet expansion of vessels, with a coefficient of r = -.103, which is significant at p < .001. Finally, employment status is positively related to the annual income, r = .454, p < .001. However, the output shows a different relationship, fleet expansion of vessels is negatively related with annual income, with a coefficient of r = -.103, which is also not significant at p < .001. Finally, employment status is positively related to the annual income of respondents, r = .454, p < .001. We can therefore conclude that the enactment of the cabotage law is yet to impact strongly on the annual income as well as the employment status of respondents. The study recommended that the implementing agencies of the law should kick-start the implementation by giving the indigenous operators the encouragement as stipulated in the Act for fleet acquisition.

1. Background to the Study.

The maritime and shipping industry is renowned to have facilitated international and regional trade and enabled countries to benefit from the comparative advantages of other countries or regions. It is recognized as a major driver of the globalization process and is essential to the world's economy. According to the International Centre for Trade and Sustainable Development (ICTSD, 2005), maritime transport accounts for about 90 per cent of world trade (volume) and 60 per cent (value).

Shipping or maritime transport is an economic enabler that fosters comprehensiveness even in maritime-disadvantaged landlocked countries. Alam (2014) reported that seaborne trade reached over 9 billion tons in 2003 in China, a record so high due to the opening up of markets in China and increase trade with Asian countries. As a result, countries have seen the need to safeguard their economies by enforcing strict Cabotage regimes to build local or indigenous capacity in shipping and derive revenues from inland and coastal shipping transportation. The fact that Nigeria is blessed with a coastline of about 870km and about 3,000 kilometres of inland waterways with varieties of natural resources does not translate to expected lots of trade opportunities with the international community (Obed, 2013). Furthermore, advantages of her numerous natural resource endowments especially oil and gas is often argued as not been commensurate with substantial influence from the activities in

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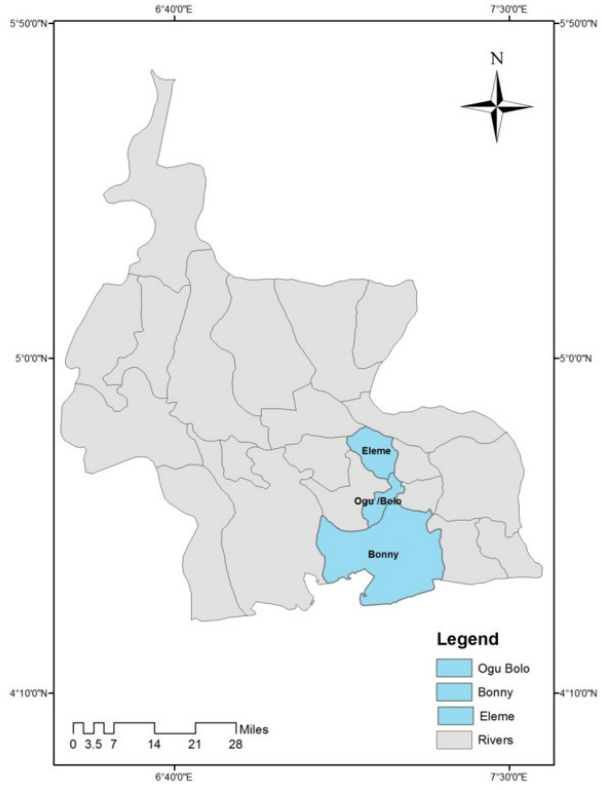
the maritime industry.

The Nigerian Cabotage Act (passed in 2003), seeks to reserve domestic coastal trade or Cabotage trade within the country's coastal and inland waters to vessels built, registered and wholly owned and manned by Nigerian citizens. Foreign owned vessels and companies are however allowed to participate in Cabotage trade within Nigerian waters, subject to obtaining a waiver and or license from the Federal Ministry of Transport. The reason behind the Cabotage Law is essentially economic. It is aimed at building indigenous capacity in maritime tonnage, infrastructure and labour. The Nigerian Cabotage Law is the second direct intervention by government through the Nigerian Maritime Administration and Safety Agency (NIMASA) to break the dominance of the Nigerian maritime industry by foreigners and rescue the indigenous operators from imminent extinction. The first was the UNCTAD 40:40:20 cargo sharing formula, introduced by Decree 10 to 1987 (Cabotage Act, 2003).

Figure 1: Rivers State three Local Government Areas where Onne port is located.



Source: Authors.

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 kilometres 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 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).

With its unrivalled position, Onne Port provides valuable incentives to investors, such as simple regulations to enter the Nigerian oil and gas market, minimum bureaucracy and marketing opportunities to the region. The FPZ is positioned at the centre of Nigeria's oil activities and offers excellent business opportunities to investors wishing to participate in both planned and existing projects. The incentives for importers and exporters are comparable to those offered by successful FPZs elsewhere in the world. These include free corporate tax, free import and export duties, free repatriation of capital and profit, 100 per cent foreign ownership, free pre-shipment inspection for imported goods and a free expatriate quota. The Onne FPZ has modern port infrastructure and super structure that can accommodate ocean-going vessels. There are two major Terminal facilities at Onne Port Complex. These are the Federal Ocean Terminal (FOT) and the Federal Lighter Terminal (FLT). Additionally, the jurisdiction of the Port also covers operations at NLNG Jetty at Bonny, NAFCON (Now NOTORE) Jetty and midstream discharge at Buoy 9.

The Port is designed as Oil and Gas Free Zone vide Federal Government Decree No. 8 of 1986. Currently about 150 (One hundred and fifty) Companies are licensed to operate at the Zone. Companies like Tenaries, Socotherm, Delta Environmental Services, West Atlantic Shipyard (WAS) and so on have added significant value to the economy of the country through their activities in pipe coating, pipe vending, waste treatment, boat building and so on. More so, the seaport, due to its strategic location fosters transport growth and development. The emergence of inland and land transport network connectivity linking Onne to the outside world (sea route) and intra-city roads for commuters "to" and "fro" the port to transact business activities contribute immensely to regional economic integration. The area also has resident population engaged in the non-formal sector of the economy. These constitutes occupational group involved in livelihood activities of farming and fishing.

Despite deliberate efforts to drive Cabotage to translate to investments for Nigerians, the sector is still in the hands of foreigners or better still, their fronts. The captivation of the Cabotage shipping market opportunity was expected to occur with the introduction of Cabotage Act, yet Nigeria has been losing as much as $ 4 billion to foreign ship owners annually due to lack of indigenous capacity in the coastal and inland maritime transportation (Okoroji and Ukpere, 2011). This lack of local capacity is attributed to the inability of Nigerians to invest in the maritime transportation. Even the transport services for the personnel and equipment for oil exploration in the deep sea were being rendered by foreigners. This is the reason why despite its potentials for wealth creation as the largest sector in the Nigerian economy, the maritime industry has not lived up to its ex-

pectation (Iroegbu, 2010). The industry which normally should employ up to 5 per cent of the population is enshrouded by the regulatory agencies and people consequently losses interest in investing in the opportunities in the industry. Due to the want of studies on the effectiveness of the Cabotage Law in Nigeria since its inception in 2003, particularly the Onne Seaport, this study is aimed at assessing the effectiveness of its implementation on Nigeria's economy. The study accordingly hypothesized that the expansion in vessel fleet has no significant relation with employment status and annual income of respondents due to the implementation of Cabotage Law in Nigeria.

2. Literature review.

The Nigeria Coastal and Inland Shipping (Cabotage) Act, 2003 in section 2, has a very wide definition of the word cabotage which is used interchangeably with coastal trade. For the purposes of this study, Cabotage under the Act covers: "(a) carriage by sea of goods and passengers from one coastal or inland point which could be ports, jetties, piers and so on, to another point located within Nigeria; (b) carriage of goods and passengers by sea in relation to the exploration, exploitation or transportation of natural resources whether offshore or within the inland and coastal waters; (c) carriage of goods and passengers on water or underwater (sub-sea) installations; (d) carriage of goods and passengers originating from a point in Nigeria intended for Nigeria but transiting through another country then back to Nigeria for discharge; and (e) operation by vessel of any other marine transportation activity of a commercial nature in Nigerian waters includes towage, pilotage, dredging, salvage, bunkering and so on within its territory" (Cabotage Act, 2003).

The Business Dictionary defines Cabotage as "carriage of cargo between two points within a country by a vessel or vehicle registered in another country, the permission on who to engage in Cabotage is, in general, strictly restricted in every country". Igbokwe (2001) noted that cabotage is derived from the Spanish nautical term denoting strictly navigation from cape to cape along the coast without going out into the open sea and also pointed out that it has a cognate in French "caboteur" meaning "to sail along a coast", or as Magee (2002) puts it "to sail coastwise or by the capes". Thus, Cabotage has come to be known as coastal trade or carriage of goods and persons by ships between ports or along the same coast or between ports within the same country and the exclusive rights of a country to operate sea traffic within its coast. Cabotage is usually regulated by laws or acts empowering navigation and trading within a country's coasts or from port to port within a country to be reserved exclusively for and carried on by its national flagships and nationals.

Several countries have openly attested to the benefits of cabotage to their national economy and security. Statistics from the United States on the benefits of cabotage commonly can be summarised in President Bush's 2002 National Maritime Day Speech 'that America's waterborne domestic trade totals one billion tons a year (Owen, 2002). The cabotage regime in Brazil saw the evolution of the Brazilian cabotage merchant fleet from 500,000 GRT in 1970 to 3,500,000 GRT in 2000. The volume of cargo in Brazil's cabotage trade leaped from about 31million tons in 1994 to nearly 67million tons in 2000 (Agoha, 2008). Ajiye (3013) contended that what Nigeria stand to gain by Cabotage transcends what she will lose if the law is not given birth to and concluded that if the implementation guidelines are jealously adhered to and the enforcements are strictly followed, Cabotage has the potentials of becoming a great rivalry to Oil and Gas Industry in Nigeria.

Cavana (1994) outlined the potential costs and benefits of the New Zealand Government's open coast shipping policy and concluded that the clauses of the Transport Law Reform Bill relating to an open coast policy should be withdrawn and a full empirical cost benefit analysis undertaken to determine the best coastal shipping policy for the country. In France, Italy, Greece, Portugal and Spain, mainland cabotage was gradually liberalized according to a specific time table for each type of transport service. Mainland-island and inter-island cabotage for these states were liberalized in 1999 although this exemption was prolonged until 2004 for scheduled passengers and lighter services and services involving vessels of less than 650 gross tonnages in the case of Greece (Luis, 2002; Giannopolous and Aifandopoulou-Klimis, 2004; Tzannatos, 2004; Chlomoudis, Pallis, Papadimitriou and Tzannatos, 2007).

In a nutshell, indigenous ships owners in Nigeria are yet to exploit the opportunities that would have created direct and indirect jobs for Nigerians due to poor implementation by concerned agencies. NIMASA has also been slow paced in the building of sufficient indigenous capacity to bridge the gap between the indigenous or local capacity and available opportunities thrown up by the cabotage Act or close the supply-demand gap in the coastal and inland shipping sector. The reviewed studies have also shown that the level of implementation of the cabotage policy has been fraught with many controversies. Therefore this study focused on the cabotage policy in the Nigeria shipping industry with particular reference on the Onne port.

Numerous challenges he be seen as bedeviling the effective implementation of the law. For example, Okeke and Aniche (2012) observed that procedure for waiver application favors foreign shipping lines than indigenous ships. They further noted that, with the inclusion of waiver, the bulk of the responsibilities of the indigenous vessel holders have been shifted to the foreigners making the Cabotage Act to be ineffective. This however defeats the true essence of the enactment of the law from the very beginning. Okon, Ekwok and Edem (2019) revealed that the cabotage regime has significant impact on the number of indigenous vessels through a combined effect of six variables ($R^2 = 0.05$, $F(6, 395) = 4.501$, $p < .005$).

Cases of insecurity bordering on armed gang terrorizing vessels and maiming crew members on the nation's territorial waters have been reported. For instance, Mukundan (2008) reported that there were 60 piracy attacks in 2008; 263 in 2007; 236 attacks in 2006; 276 cases in 2005; 329 incidents in 2004; and 444 attacks in 2003. In addition to these safety challenges, he further observed that piracy attacks raised three folds in Nigeria in 2007, with the attacks mainly targeted at oil vessels by militants in the Niger Delta.

3. Materials and Methods.

The data for this study was generated through primary and secondary sources. Primary data on the level of indigenous participation in shipping service, the manpower available, etc., in the maritime industry was obtained by questionnaire. Secondary sources of data included gazetted information in journals, periodicals and seminar papers on maritime industry under cabotage regime. A multi-stage sampling technique was employed in this study. At the first strata was the purposive sampling of all regulatory agencies of the law such as NIMASA, DPR and NPA. Staff of all indigenous shipping companies listed in the Nigeria Maritime Companies Association doing business in the sea port was interviewed. The target population in these companies comprised all categories of staff that are more knowledgeable on the subject of "Cabotage law". Small and medium scale business operators were also randomly sampled as well as other port-related businesses.

From: *"Necessary sample size = (Z-score)^2 * StdDev*(1-StdDev) / (margin of error)^2" (i)* Based on a 95% confidence level (corresponding to a Z score = 1.96), 0.5 standard deviations, and a margin of error (confidence interval) of +/- 5%, minimum sample size for the study became 384.16. This therefore implies that a minimum of 384 questionnaires was adequate for this study. The choice of 450 was to avoid much sampling error from either bias or low success rate. We therefore analyzed our data using descriptive and inferential statistic. 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. Initial Factor Analysis (FA) was performed on multiple data layers to achieve a manageable data size for test of hypothesis using the Pearson Product Moment Correlation.

4. Results and Discussion of Findings.

A principal component analysis (PCA) was conducted on 67 items (Table 1) on various factors of capacity building in the maritime industry since the inception of the cabotage law using orthogonal rotation (varimax). The Kaiser–Meyer–Olkin measure verified the sampling adequacy for the analysis, KMO = .771 ('superb' according to Field, 2009), and all KMO values for individual items were > .51, which is slightly above the acceptable limit of .5 (Field, 2009). 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 run 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% of the variance. The scree plot was slightly ambiguous and showed inflexions that would justify retaining both components 3 and 5. Given the large sample size, and the convergence of the scree plot and Kaiser's criterion on seventeen components, this is became the number of components that were retained in the final analysis (Table 2).

4.1. Factor loadings.

The questions that load highly on factor 1 seem to all relate to impact of the Cabotage Law on socio-economy of indigenous ship owners and therefore, it is labelled as fleet expansion of indigenous ownership. The high loading of this factor reveals the existence of indigenous fleet in the Nigerian maritime sector (Onne Port) such as: Sea Truck Nig. Ltd., Homeland Marine, Danjuma Id Plangeria Nig. Ltd., Marine platcom Ltd., Sea Craft Nig. Ltd., Fymak Marine Service, Slok Marine, Lamnalco Nig. Ltd., and Nkra Investment Ltd., among others (Table 2).

Factor two is made of questions that relate to terminal quay apron infrastructures to support local ship building. Some of this infrastructure include: Federal Light Terminal (FLT) Onne quay apron; Federal Ocean Terminal (FOT) Onne quay apron; Escravos quay apron; Dual Carriage Way Onne Eleme; Crane Lifting Equipment in Onne; and Jetty 4 at Onne Port.

The questions that load highly on factor 3 all seem to relate to national economic development. The Cabotage Act partially creates income generation for national development in Onne Port through the creation of new businesses, construction of transport infrastructure, and terminal expansion (Phase III, Onne). Due the implementation of the law, there is an increase in domestic commercial activities like vendor, trades, mechanic workshop, etc., with the potential for unskilled job creation.

Factor 4 contain some components of technology and therefore labelled as improved information technology for industrial personnel. For effective coordination in maritime transport operation within oil field in downstream, the following gadget were installed to improve information technology for industrial staff in Onne port: Single Side Band (SSB), high frequency Radio (HF), VHF Radio; installation of mega computer system for programming and processing of information; installation of global information system (GIS) based infrastructure at Onne control room for interface with onshore and offshore operation staff; availability of wireless handheld portable radio for logistic offices; partnership program with communication companies, like Mtn, Glo, Airtel and Etisalat.

Accordingly, factor 5 is labelled as increased manning of ship by indigenous industry personnel. Implementation of cabotage act of 2004 and local content made it possible for increase manning of ship positions by indigenous company personal at all indigenous companies listed in factor 1.

Factor 6 has questions that load highly to the performance of NIMASA, therefore we named this factor improved performance of NIMASA on security of ship. Continuous monitoring of vessel companies and effective implementation of cabotage act as a regulatory agency has improved the performance of NIMASA on security of ship. Other collaborating agencies include the recruitment of Marine Police at Onne Sea Port, Nigeria Naval Force, Civil Defense, and Customs

Factor 7 is named improved DPR performance through increased trained personnel since questions relating to it loaded highest. This has led to the availability of petroleum products and reduction in scarcity of petroleum products in the country.

Other questions that load highly on factor 8 all contain some

Table 1: Total variance explained.

Comp	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Var	Cumul %	Total	% of Var	Cumul %	Total	% of Var	Cumul %
1	17.812	26.584	26.584	17.812	26.584	26.584	10.747	16.04	16.04
2	6.452	9.629	36.214	6.452	9.629	36.214	6.8	10.149	26.189
3	5.016	7.487	43.701	5.016	7.487	43.701	5.912	8.824	35.013
4	2.782	4.152	47.853	2.782	4.152	47.853	3.562	5.316	40.329
5	2.316	3.457	51.311	2.316	3.457	51.311	2.854	4.26	44.589
6	2.007	2.995	54.306	2.007	2.995	54.306	2.714	4.051	48.64
7	1.694	2.528	56.834	1.694	2.528	56.834	2.279	3.401	52.041
8	1.619	2.416	59.25	1.619	2.416	59.25	1.848	2.758	54.799
9	1.497	2.234	61.484	1.497	2.234	61.484	1.819	2.715	57.514
10	1.342	2.002	63.486	1.342	2.002	63.486	1.77	2.642	60.156
11	1.336	1.994	65.48	1.336	1.994	65.48	1.576	2.352	62.508
12	1.268	1.893	67.373	1.268	1.893	67.373	1.545	2.306	64.814
13	1.206	1.8	69.173	1.206	1.8	69.173	1.524	2.274	67.088
14	1.14	1.701	70.874	1.14	1.701	70.874	1.522	2.272	69.36
15	1.115	1.664	72.538	1.115	1.664	72.538	1.493	2.228	71.588
16	1.079	1.61	74.148	1.079	1.61	74.148	1.446	2.158	73.747
17	1.007	1.503	75.651	1.007	1.503	75.651	1.276	1.904	75.651
18	0.993	1.482	77.133						
19	0.939	1.401	78.534						
20	0.858	1.281	79.815						
21	0.82	1.224	81.039						
22	0.797	1.189	82.228						
23	0.686	1.024	83.252						
24	0.661	0.987	84.238						
25	0.65	0.97	85.209						
26	0.608	0.908	86.116						
27	0.566	0.844	86.961						
28	0.557	0.832	87.792						
29	0.537	0.801	88.593						
30	0.506	0.755	89.349						
31	0.457	0.683	90.031						
32	0.425	0.635	90.666						
33	0.407	0.607	91.273						
34	0.405	0.605	91.879						
35	0.37	0.553	92.431						
36	0.352	0.525	92.957						
37	0.344	0.513	93.469						
38	0.32	0.477	93.946						
39	0.319	0.476	94.423						
40	0.291	0.435	94.857						
41	0.283	0.423	95.28						
42	0.266	0.397	95.676						
43	0.256	0.382	96.059						
44	0.241	0.36	96.418						
45	0.231	0.344	96.763						
46	0.206	0.307	97.07						
47	0.195	0.291	97.361						
48	0.186	0.278	97.639						
49	0.166	0.248	97.887						
50	0.149	0.223	98.11						
51	0.138	0.206	98.316						
52	0.128	0.191	98.507						
53	0.123	0.184	98.692						
54	0.113	0.168	98.86						
55	0.106	0.159	99.018						
56	0.104	0.155	99.174						
57	0.09	0.134	99.308						
58	0.087	0.129	99.437						
59	0.071	0.106	99.543						
60	0.066	0.099	99.642						
61	0.05	0.075	99.717						
62	0.042	0.063	99.78						
63	0.04	0.059	99.839						
64	0.035	0.052	99.891						
65	0.03	0.045	99.936						
66	0.023	0.034	99.971						
67	0.02	0.029	100						

Source: Authors.

Table 2: Named factors from principal component analysis result.

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

Source: Authors.

components of menial jobs such as security employment; therefore we named it unskilled indigenous employments. The establishment of indigenous companies in downstream sector by cabotage act is instrumental to the emergence of some security outfits thus creating employment to unskilled labour related to security services. Examples of some of these outfits include the Pentagon Security, Prudential Security, and Govty Security.

In terms of factor 9, it is named expansion on ship building technology since it has questions relating to the impact of cabotage on the nation's economy. The cabotage act has created various employment opportunities for local technicians such as welders, mechanic, electricians, pipeline fitters, dives, underwater welders, painters for industrial coating; building of ship yard; reduction in foreign participation among others.

Factor 10 is named human capacity development. This is because questions relating to this variable load highly on the factor.

The questions that load highly on factor 11 all seem to relate to sale of food in ship yards and other port facilities as a result of more indigenous participation in the sector. We therefore named it as food vendoring. The cabotage act provided the platform for food vendoring services in the Onne port. Examples of some of these outfits include, Volka Small Shop, Fast Food Shops, Restaurants, Bakeries, West Atlantic caterers, Protea caterers, and so on.

In terms of factor 12, the questions that load highly on it relate to the access of development funds by indigenous ship construction companies and so we chose to label it as access to funds for indigenous ship construction. Cabotage act made provision for 5 billion naira for indigenous ship owners leading to ship expansion, employment of skilled and unskilled labour like security, painters, mechanic, welders, cooks, electrician, motorman oilers, Engineers, and master mariner (captain).

In the same vein, the questions that load highly in factor 13 relate to increased raw cargo shipment abroad, we labelled it as increased raw cargo shipment. The increase in raw cargo shipment as a result of cabotage law generated the following impacts in the exportation of crude oil, timber, cocoa, cassava, palm oil and gas.

The questions that load highly in factor 14 all relate to the improved performance of DPR towards effective supervision of petroleum resources, therefore, we name this factor as effective supervision of petroleum resources by DPR. Cabotage act has enhanced the effective supervision of petroleum resources and this has generated the following impacts at Onne seaport: quality control which often avoids short landing; effective checkers on oil supplier to other countries; increase in number of barrels supply; transparency and accuracy in quantity exported.

Factor 15 is named as SMEs (small and medium-scale enterprises) since all questions that load highly on it relate to small shops like boutique, barber shops and other SMEs. The following SME's were established at Onne sea port due to cabotage act implication, including: sachet water factories, restaurants, boutiques, barbing shops, mechanic workshops, pharmacy, and communication accessories.

The questions that load highly on factor 16 all seem to relate to increasing participation of indigenous companies due largely to reduction in the participation of foreign companies, therefore, we name this factor as reduced competition with foreign companies. The reduction of foreign competition due to cabotage act has impacted on the increase in capacity building (e.g. welders, electrician, ship building engineers); and fleet expansion (eg., West Atlantic ship yard, Onne, West Africa transport terminal (Watt) Slok Nig Ltd, Fymak Marine).

The last factor in our matrix is factor 17 which is labelled as effective regulation by NNPC since the questions that load highly on it seem to relate more on the regulation of activities in the supply of petroleum products by NNPC. The effective regulation by NNPC due to cabotage law has the following impacts on the Nations' economy: check foreign shipping companies irregularities; help in establishing local content Act e.g. Global Santage, Global Drilling Company; indigenous participation in oil exploration and drilling; increase in supply by petroleum product and deregulation of the down-stream.

4.2. 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 in Table 3, 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

Table 3: Impact of Cabotage Law on human capacity development.

Human capacity development	Frequency	Percent
Training on ship building technology	269	22.0
Maintenance training	134	11.0
Manning of ship	152	12.5
Safety training	339	27.8
Training of technicians	326	26.7
Total	1220	100

Source: Authors.

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. While only 11.0 percent and 12.5 per cent respectively indicated maintenance training and manning of ship.

4.3. The impact of Cabotage act on indigenous ship owners.

Multiple response questions on the impact of Cabotage Act on indigenous ship owners produced a total of 1163 responses, indicating 31.3 per cent each for training on ship building technology and maintenance training (figure 2). Others such as Employment, Access to development funds, and Local ship building accounted for 19.0 per cent, 5.9 per cent and 12.5 per cent respectively. The data in figure 2 has great implication on the effective implementation of the cabotage law in Nigeria. Bearing in mind the capital intensive nature of shipping business, the Law contained in its provision the establishment of the Maritime Development Fund to make incentives available for potential indigenous investors. Unfortunately, as data in table 3 and other results of oral interview revealed, not much has been achieved in this respect due largely to cumbersome bureaucracy.

4.4. The impact of cabotage act on indigenous employment.

In terms of the impact of cabotage law on employment generation in the Onne Port, respondents produced a total of 1327 ratings which indicated that ship building engineers (27.1 per cent) accounts for the highest occupation type produced by the implementation of the Cabotage Law (Table 4). This is closely followed by safety officers which accounts for about 30 per cent. Other employment categories revealed as been influenced by the implementation of the cabotage law include admin staff (10.2 per cent), technicians (19.1 per cent), and security (17.8 per cent).

4.5. Test of hypothesis.

A Pearson product-moment correlation was conducted to examine the relationship between expansion of vessel fleet, employment status and annual income of respondents due to the implementation of the law. Table 5 provides a matrix of the correlation coefficients for the three variables. Underneath each correlation coefficient both the significance value of the correlation and the sample size (N) on which it is based are displayed. Each variable is perfectly correlated with itself (obviously) and so r = 1 along the diagonal of the table. Employment status strongly negatively related to fleet expansion of vessels with a Pearson Correlation Coefficient of r = -.088 and the significance value is more than .001. This significance value tells us that the probability of getting a correlation coefficient this big in a sample of 402 people if the null hypothesis were true (there was no relationship between these variables) is low (close to zero in fact). Hence, we can gain confidence that there is no genuine relationship between fleet expansion of vessels and employment status of respondents. Our criterion for significance is usually .05 so SPSS marks any correlation coefficient significant at this level with an asterisk, unlike in this case. In other words, the casual or permanent employment status of respondents has no relationship with fleet expansion of vessels as a result of cabotage law enactment. The output also shows that annual income is negatively related to the fleet expansion of vessels, with a coefficient of r = -.103, which is significant at p < .001. Finally, employment status is positively related to the annual income, r = .454, p < .001. However, the output shows a different relationship, fleet expansion of vessels is negatively related with annual income, with a coefficient of r = -.103, which is also not significant at p < .001. Finally, employment status is positively related to the annual income of respondents, r = .454, p < .001. The alternate hypothesis that expansion in vessel fleet has significant relationship with employment status and annual income of respondents due to the implementation of cabotage law in Nigeria is rejected. We can therefore conclude that the enactment of the cabotage law is yet to impact strongly on the annual income as well as the employment status of respondents.

Table 4: Impact of Cabotage Law on human capacity development.

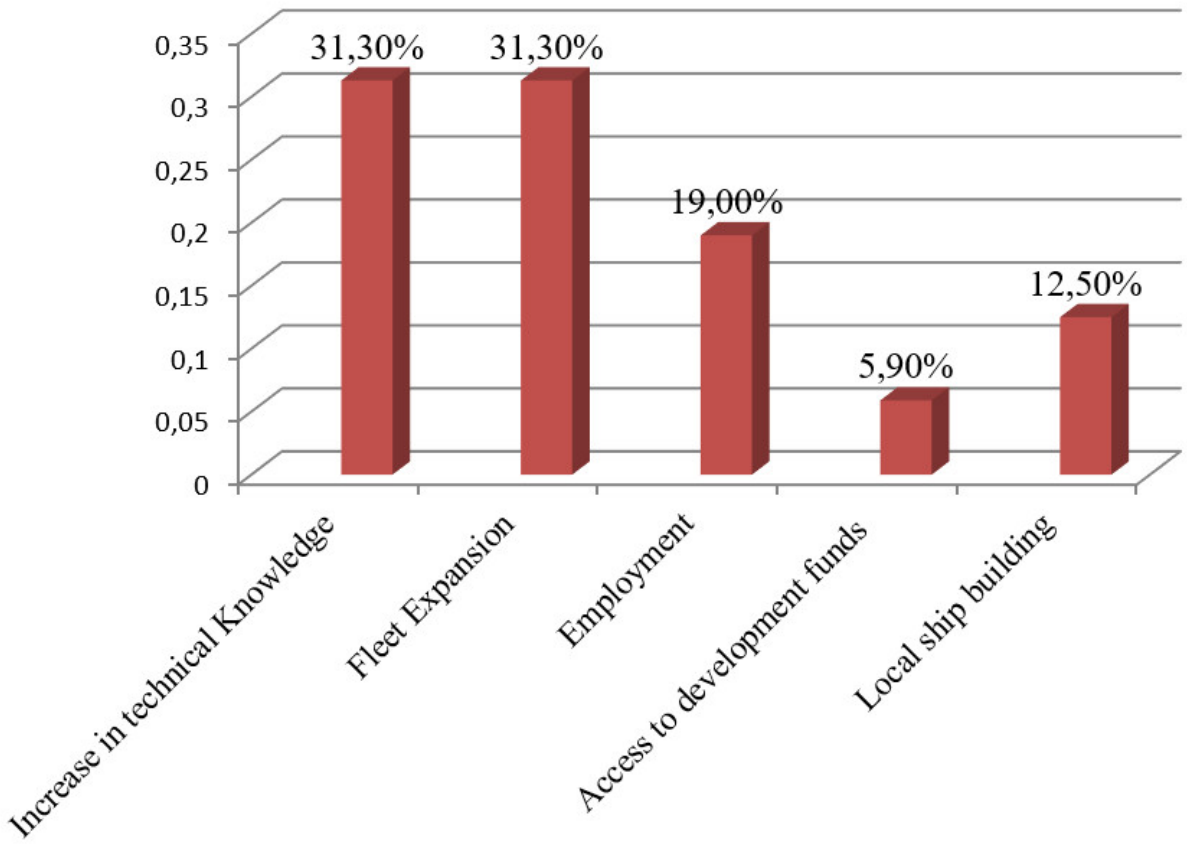
Employment generated by Cabotage Law	Frequency	Percent
Ship building engineers	359	27.1%
Safety Officer	344	25.9%
Admin Staff	135	10.2%
Technicians	253	19.1%
Security	236	17.8%
Total	1327	100.0%

Source: Authors.

Summary, Conclusion and Recommendations.

This study aimed at examining the impact of Cabotage Act implementation on Nigerian indigenous shipping industry. The consensus from most of these forums and published articles (Okeke & Aniche, 2012; Iroegbu, 2010; Igbokwe, 2003; Okoroji & Ukpere, 2011; Ugwu, (2005; Usoro, 2003) has revealed the daunting task of the implementation of this law to translate into economic realities as expected. The successful implementation of the cabotage law in Nigeria is expected to create a large scope of investment opportunities for Nigerians in areas

Figure 2: The impact of cabotage act on indigenous ship owners.



Source: Authors.

Table 5: Correlations.

		Fleet expansion	Employment status	Annual income
Fleet expansion	Pearson Correlation	1	-0.088	-.103*
	Sig. (2-tailed)		0.077	0.039
	N	402	402	402
Employ status	Pearson Correlation	-0.088	1	.454**
	Sig. (2-tailed)	0.077		0
	N	402	402	402
Annual income	Pearson Correlation	-.103*	.454**	1
	Sig. (2-tailed)	0.039	0	
	N	402	402	402

*. Correlation is significant at the 0.05 level (2-tailed).

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

Source: Authors.

previously dominated by foreigners. There is also the likelihood of enhanced transfer and development of ship-building and ship management technology between expatriates and locals. The implementation of the law would also create vast employment opportunities for Nigerian citizens, increase their per capita income and enhance their standard of living. This is because the cabotage act has extensive and practical enforcement provisions to curb adequate for complete elimination of subversive practices by some industry stakeholders. The concern that the law will go the way of other pieces of legislations is high among industry players. Another consensus among stakeholders is that the government agencies saddled with the responsibility to implement the legislation are constrained by other bureaucracies and thus compromises its anticipated impact on the indigenous industry operators. For instance, the Act noted that possession of tonnage is a critical infrastructure for a successful cabotage business and that the acquisition and management are capital intensive and, of course, beyond the resource capacity of a Nigerian investor. This is why the Act provided the cabotage vessel finance fund (CVFF) to enable indigenous operators acquire ships. The research study discovered that more than a decade since the law took effect in the maritime sector, CVFF took off only a few years ago with highly unfriendly conditions for access. Access to CVFF was the most disappointing of all impacts of the law on indigenous ship owners. Industry players also observed that the take-off sum is grossly inadequate for an expensive sector like maritime.

With regards to 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. 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. In addition to employment creation, the findings of this study also revealed that the cabotage law stimulate infrastructure development such as energy generating plant, communication, terminal quay apron, ship building platform and so on in the Onne port. Human capacity development as a core mandate of the law is revealed to have contributed significantly in training of personnel on ship building technology, maintenance training, manning of ship, safety training and training of technicians. Amongst the various impacts of the law on indigenous ship owners, increase in technical knowledge, fleet expansion, employment and local ship building seemed most significant.

Different kinds of employment generated by cabotage law as revealed in this study include ship building engineers, safety officer, admin staff, technicians, security personnel and so on. The law remained very relevant in stimulating small and medium-scale enterprises (SMEs) through reduction in foreign competition, innovation, increase in local production, and increase in participation. However, the findings of the test of hypothesis also held to conclude that the enactment of the cabotage law is yet to impact strongly on the annual income as well as the employment status of respondents ($r = .454$, $p < .001$). Therefore, the current technical level of Nigerians at the maritime sector may hardly support the expansion of the Nigerian fleet.

The study has observed that weak application and underfunding of the Cabotage Vessel Financing Fund has slowed down the implementation process and encouraged the continued foreign domination of the coastal businesses. This has further frustrated the indigenous operators' hope of participation. It is recommended that CVFF which remains one of the surest sources of shipping financing for Nigerians should be adequately funded and faithfully implemented without unnecessary bureaucracies. In view of the realization that human capital is a vital and indispensable element of Cabotage Law implementation, vessels must be crewed by Nigerians with a view to providing employment for the citizens. This is expected to address the growing dearth of Nigerian officers as the study revealed more indigenous population in other port related services (SMEs) rather than main stream vessel activities. We also recommend that the implementing agency NIMASA should kick-start the implementation by giving the indigenous operators the encouragement as stipulated in the Act for fleet acquisition. This is because ships constitute indispensable factor of a successful cabotage implementation and considering the established fact that ship acquisition and management is capital intensive and also beyond the riches of indigenous operators. It is further recommended that local investors should carry out market survey which will enable them to determine the right kind and design of vessels our coastal transportation would require before they buy. This will enable them to run a profitable business and recoup their capital investment with elements of certainty.

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