



ABSTRACT

This study was to examine reasons Cabotage enactment of 2004 has not been fully implemented in Nigeria. Secondly, is to analyse the pattern of petroleum distribution Petroleum Motor Spirit (PMS) across Nigerian states. 279 persons from major shipping companies involved in carriage of crude oil were sampled and the Inland and Coaster shipping Act was carefully read to understand grey areas in the policy. Quarterly Petroleum Motor Spirit (PMS) distributions from 2016 to 2019 were collected from National Bureau of Statistics website and the trend of forecast was predicted by a regression analytical technique. Descriptive analysis has been used to explain the non-fully implementation of

PETROLEUM PRODUCTS DISTRIBUTION AND CABOTAGE POLICY IMPLEMENTATION CHALLENGES IN NIGERIA

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Introduction

Nigeria is one of the largest oil producers among oil producing countries in the world. , the import and export of the crude oil or refined products into and out of Nigeria is through shipping. This is primarily because; no other mode of transport can be beneficial in tonnes and volume for economies of scale like maritime transport. Nigeria at various times witnessed scarcity of petroleum products especially Premium Motor Spirit to the extent that, many have been killed during the process. In order to forestall such occurrences, it became evident that research must be conducted on the distribution and shipping of petroleum product.

Agbakoba (2011) enumerated the importance of crude oil production as it serves as source of energy for automobiles, electricity and income to the country. Nonetheless, the recent clamour by indigenous shipping companies has been on the need to allow them lift crude oil cargo to countries within the coaster region stipulated by inland and coaster shipping Act, 2003 known as Cabotage law. Nkoro (2012) opined that the beginning 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. In fact for as long as it existed, the Nigerian National Shipping Line (NNSL) not only provides employment to Nigerians but also serve as a pool or training ground for majority of the master mariners and other experienced professional people in Nigeria's maritime according to (Igbokwe, 2006). Of importance is who are responsible for lifting these cargoes off Nigerian shores. When foreigners dominate the activities of shipment it means capital flight out of Nigeria. However, a critical issue in international trade is the issue of currency disparity. Natural, physical, economic among other resources are not the same all over the world. Hence, there is need to transport from where we have surplus to deficit areas. Madu (2015) observed



Cabotage Act based on responses received. Quarterly data shows that, Lagos, Kano, Niger, Ogun, Oyo states were at the fore front of PMS demand in Nigeria. Results from the findings revealed that, it is very difficult for Cabotage to be fully implemented in Nigeria. Factors responsible for inability to be fully implemented are related to weak policy enforcement, lack political will, Cabotage Vessel Financing Fund (CVFF), seaworthiness of vessels, joint ventures and waivers respectively. The research concluded that, the issues of FOB and CIF can be resolved with the use of political will by implementing capacity building through CVFF and removal of waivers in the Cabotage Act. PMS distribution has shown a correlation between the demand for the PMS and population of the states.

Keywords: petroleum, distribution, cabotage and Nigeria

that, the issue related to Cost, Insurance and Freight and Free on Board are the fundamental problems of cabotage law. According to Advocaat Law Practice (2016), the Nigerian maritime sector is governed by four (4) principal legislations namely the Merchant Shipping Act 2007 (MSA); the Coastal and Inland Shipping Act 2003 (Cabotage Act); the Nigerian Oil and Gas Industry Content Development Act 2010 (The Nigerian Content Act) and the Nigerian Maritime Administration and Safety Agency Act 2007 (NIMASA Act). Of all these, Cabotage formed the basis for the operational modalities to promote indigenous shipping companies in carriage of goods within Nigerian Coaster waters.

That was perhaps Iheanacho (1997) faulted Degree 10 of 1987 on the implementation of maritime policies. He opined that, shipping policy is rather too deficient in scope and coverage to make any meaningful impact on maritime transport and trade in Nigeria. He sees it as not protective enough of indigenous interest especially in the area of cabotage and government assistance to indigenous operators through subsidies for the acquisition of new tonnage or ships.

The oil price fluctuation is not only affecting the country's economy but also the entire world. What kills Nigeria's oil and gas faster is lack of accountability, theft, sharp practices and corruption. Ikueomenisan (2017) succinctly describe the problem of oil and gas sector in Nigeria as fraud. Fraud he said can be regarded as activities such as theft, corruption, conspiracy, embezzlement, money laundering, bribery and extortion (Ikuomenisan, 2017). According to Ode et al (2017) some of the petroleum products include Liquefied Petroleum Gas (LPG), Household Kerosene (Aviation Turbine Kerosene), Petroleum Motor Spirit, High Pour Oil, Bitumen, Industrial fuel among others.

Oil contracts, movement, storage and exploitations are executed with selfish motives without national interest. In fact, as at today; Nigeria is yet to fathom out solution to the problem of crude oil exploration, storage, importation, exportation and distribution. This is a sector that is the nervous system of the economy. Gas is used by market women for cooking, commercial drivers depend on fuel to operate their business, trucks depend on diesel to carry goods, ships make use of fuel for international voyage and as vital as it is; every phase of its production and distribution is suffering from corruption. Attempts that have been made till date in solving the problems of oil and gas industry in Nigeria in form of changing from government's name to private, establishment of equalization body for effective distribution, creating subsidy, modular refineries, downstream and upstream, petroleum products marketing services and various licenses for operators. The transactions in the sector are full of treachery and it will take a courageous leader to solve the problem.

Literature Review

There are so many literatures on the issues relating to policy implementation and its challenges. More often than not; as noted by Dosunmu and Adepoju (2022) when policy is undergoing formulation process and



procedures, it is usually unable to capture the realities until the practicalities begin to unfold certain issues which always warrant reviews. While the implementation opens the problem sometimes; the nature of the problem may be inherent in the policy itself. Dosunmu and Adepoju (2022) said that; unfortunately theory of implementation does not exist. The fulfillment of policy requires that someone, at a particular time should do something or stop something and that action must have desire effect for either administrative or regulatory or statute functions. In a way, government functions are to be achieved by organs or agencies of that government; hence the organizational structure can be seen to mean the level of policy implementation.

According to OECD (2013), it seems to mean that, crisis brings change and subsequently this leads to policy change. The fundamental question raised then; was that whether crisis is an opportunity to bring change or may be change can be increased as time goes on. Examining the theory of change in relation to Nigerian maritime industry, Greener (2002) opined that, it is difficult to change policies as institutions are sticky and mostly actors tend to protect the existing model. It is not so interesting to hear this as the actors can also be changed to facilitate the change. A radical change that understands the benefit thereof does not consider cost as a barrier. Even the costs, can be strategically cut in line with the existing infrastructure. However, it has been observed by Levi, (2017) that the cost of reversal of change is usually enormous. According to Pierson (2000) past decision continuity is the framework of the design of many public policies. Narendra (2009) critically examined the issues of top to bottom policy implementation vis-à-vis bottom-top strategies of policy implementation. In all, there are certain issues that hinder effective implementation of policies ranging from political, to institutional, environmental and economic. The political will is indispensable in implementation and enforcement which seems to be lacking in the pursuit of cabotage law implementation (Ajiya, 2013).

However, transport policy must give its direction in terms of its context, content, and consequence. In most cases, enactment in Nigeria is not properly executed especially in the area of transport policy. Often, the policies are usually at draft level which will not have legal backing and as such may render it unenforceable.

According to Premium Times as reported by Ogunmade (2017), about N10 trillion was said to be uncovered by the Senate Committee on Petroleum (downstream, upstream and gas) allegedly perpetrated by the officials of Nigerian National Petroleum Corporation (NNPC) between year 2006 and 2016. The amount is worth the budget of two consecutive years of the nation's budget. The realization of the expenditure on capital or other projects depending on the opportunity cost at the time has been deprived as a result of fraudulent practices in the sector. Ndu (2017) noted that hoarding, diversion of products to neighboring countries and incessant bunkering and pipeline vandalizations are the causes of distribution challenges of petroleum products in Nigeria.

According to KPMG (2010), there are concerns that the procedures for managing and reporting the country's crude oil and gas revenues are opaque and characterized by gaps, overlaps and inconsistencies in the role of key parties responsible for the assessment, collection and reporting on these revenue streams. The indirect consequence of refined crude oil importation in Nigeria has resulted in hike in fuel price and occasioned the claim by marketers that the cost of fuel cannot be stipulated by government and subsequently culminated at fuel subsidy which depletes Nigerian foreign reserve. According to Global Business Media Group (2017), reported that Nigeria produces 2 million barrels of crude oil per day (bpd) and 7.6 billion scf per day of gas which was later dropped in production by 20% and loss of 3billion dollars which led to trade by barter deal of crude oil for product. According to the report, the loss and inability of Nigerian refineries to function can be attributed to mismanagement and unclear terms of corrupt practices. Various methods have been used to solve the problems of shortage of refined crude oil's product like the establishments of Pipeline and Products Marketing Company (PPMC), a subsidiary of Nigerian National Petroleum Corporation (NNPC), NNPC retail Ltd, Petroleum Product Pricing and Regulatory Authority (PPPRA) and trade by barter deal swap all not to favour our balance of trade. In the reaction of Oyegbami (2017), the economy of Nigeria relating to distribution of petroleum products is not run based on economic templates. He argued that, equal access to petroleum product is different from equitable access. In essence, that; people who are closer to the



petroleum depot and the cost of transportation distance should be removed. According to Ribadu (2004), the oil and gas sector is the biggest target for economic crime perpetrators in Nigeria. Billions of naira is being lost by the Federal Government every day due to the activities of illegal oil bunkerers, pipeline vandalization and saboteurs. Economic and Financial crimes such as money laundering and trade malpractices are the twin enemies of the manufacturing sector. In countries transitioning to industrialization like Nigeria, the criminal influence on the financial system could undermine the transition to industrial and technological revolution and subsequently keep the country under perpetual imports slavery.

Queue Theory

Adedayo et al (2006) espoused on this theory as the basis usually found in the arrival pattern, service rate, queue discipline and exit rule. According to Oyatoye (2011), queue theory is very important to solving congestion problems at the port. He noted that, queue theory follows Poisson distribution. From his analysis, queue theory can be used to determine the average waiting time of ship, average number of ships, berth utilization and average queuing length. Queue theory system requires appropriate formulation of arrival pattern, the capacity of the queue, service pattern and the rules or service principle. All the efforts in queue scheduling is to ensure that, minimum time is spent at the port and optimization of turnaround time will be guaranteed. Fararoui (1989) observed that, the capacity of the port can influence the waiting time. Most Nigerian seaports are not programmed to be efficient occasioned by manual operations and hinterland logistics challenges. Oyatoye et al (2011) explained that, lack of discipline to maintain certain lane with corrupt practices tendencies to jump protocol are bane to efficient logistics at Nigerian seaports.

Maduka (2005) explained that, queues at the port has made charges to be unnecessarily high and many abandoned cargoes used to cause delays. Tongzon and Oum (2014) espoused on the need for infrastructure to relieve the queue experiencing at the seaports. Infrastructure must not be in terms of quantity but also of quality of cranes, container terminal, tug boat, information facilities and inter-modal transport. Limited access to port information and arrival of vessels with non-dynamic cargo clearance processing are the bane of maritime petroleum logistics. According to Premium Times (2023) high rate of exchange with Dollar against naira and inadequate number of trucks are responsible for distribution challenges currently in Nigeria.

Methodology

Nigeria is located in West part of Africa. The country has 36 States and the Federal Capital Territory is Abuja. The probability sampling technique was used to draw the sample with the use of stratified sampling technique to capture representatives from the population of ship-owners, oil companies and major oil marketers. Four major companies were eventually selected each from the each stratum comprising PAN-OCEAN, STAR DEEP SAHARA and OANDO for oil and gas section, AA RANO Ltd, BOVAS Nigeria Ltd, NNPC, MRS Oil and Gas Ltd marketers and distributors and Fortune Global, Dubril Oil, Oil Resources, Patovic oil Deus Oil and Gas for shipping section. The total number of estimated population for oil and gas sector was 562, 304 for marketers and 61 for the shipping. Yamane (1967) provides a simplified formula to determine the sample size as:

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

The total estimated population = 562 + 304 + 61 = 927

$$n = \frac{927}{1 + 927(0.05)^2}$$

Approximately, 279 persons were sampled.

4. Results and Discussion

States	Q/4 2016	q/4 2017	q/4 2018	Q/4 2019	Total	Average
ABIA	23230842.33	421,413,784	103539704	113,744,795	661929125.3	165482281.3
ADAMAWA	20573378	619,557,369	152165623	165,245,195	957541565	239385391.3
AWKA IBOM	25613488.33	375,577,635	86359544	123,754,498	611305165.3	152826291.3



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ANAMBRA	40944615.67	537,260,530	148320625	140,477,176	867002946.7	216750736.7
BAUCH	31968367.33	72,470,506	22201820	10,822,515	137463208.3	34365802.08
BAYELSA	8567756	90,695,623	17752172	26,046,243	143061794	35765448.5
BENUE	19737484	486,652,639	122216590	120,373,607	748980320	187245080
BORNO	16427619	233,388,979	68003479	66,953,885	384773962	96193490.5
CROSS RIVER	25890487	345,035,862	100326559	69,833,656	541086564	135271641
DELTA	60606790	695,967,874	198064932	218,846,161	1173485757	293371439.3
EBUYIN	7407008.667	76,498,343	17757568	38,242,470	139905389.7	34976347.42
EDO	33390383.67	521,591,234	128865309	155,531,321	839378247.7	209844561.9
ENUGU	31868442	640,912,678	178656025	28,455,717	879892862	219973215.5
EKITI	6234256.333	84,974,421	15576740	187,672,897	294458314.3	73614578.58
GOMBE	10955375.33	29,752,754	76082918	82,364,351	199155398.3	49788849.58
IMO	28782837.33	395,495,722	102971104	112,071,553	639321216.3	159830304.1
JIGAWA	7370351	35,047,485	10490002	9,838,845	62746683	15686670.75
KADUNA	43039764.67	723,795,185	186381575	173,600,967	1126817492	281704372.9
KANO	29252064.67	1,366,544,006	402497026	474,281,851	2272574948	568143736.9
KASTINA	28732388.67	124,237,329	26521030	21,199,898	200690645.7	50172661.42
KEBBI	28926062.67	92,943,453	28105828	16,134,000	166109343.7	41527335.92
KOGI	20140531	145,415,412	30611478	34,844,381	231011802	57752950.5
KWARA	30352420	504,726,922	90404872	140,135,071	765619285	191404821.3
LAGOS	293095717.3	3,033,892,351	911303193	798,131,661	5036422922	1259105731
NASARRAWA	17740174.67	125,381,149	18052026	37,042,186	198215535.7	49553883.92
NIGER	25373822.33	1,115,180,336	280980190	237,007,936	1658542284	414635571.1
OGUN	94185253.67	985,376,613	227509048	278,716,799	1585787714	396446928.4
ONDO	25036926	479,854,659	99734005	131,197,751	735823341	183955835.3
OSUN	24452109.67	221,362,774	50160956	84,740,285	380716124.7	95179031.17
OYO	91791653	799,984,434	208591465	252,258,008	1352625560	338156390
PLATEAU	15928900.33	379,734,051	116278063	108,745,026	620686040.3	155171510.1
RIVERS	48375640.33	709,773,590	156966132	191,986,036	1107101398	276775349.6
SOKOTO	9263255.333	65,145,804	19879443	20,095,072	114383574.3	28595893.58
TARABA	9889201.667	93,886,658	30464285	24,591,490	158831634.7	39707908.67
YOBE	20512031.67	28,982,869	10833004	5,680,910	66008814.67	16502203.67
ZAMFARA	11612057.67	64,696,226	158454281	193,708,368	428470932.7	107117733.2
FCT	165412618	564,696,226	294862377	228,825,274	1253796495	313449123.8
TOTAL	1490633054	1490633054	1490633054	5,123,197,855	9595097017	2398774254

Table 1: The First Three Quarterly Series of PMS Data (metric tons)

Source: NBS (2019)



Table 1 presented the quarterly reports of the PMS distribution pattern in Nigeria. The PMS alone has been used in this research. The reason is because other petroleum products are not all distributed across the country mostly.

In the Table 1, Lagos state has the highest demand for PMS followed by Kano, Niger and Ogun states respectively. Oyo, Delta and FCT are also the next in order as stated the least Demanding States are Bauchi, Yobe and Jigawa States.

In the Table 2 below, the trend of PMS production for the years (2005- 2019) using average production per quarter excluding 2015 is presented.

Table 2: Trend Analysis of PMS production per quarterly year (metric tons)

Year	PMS	X	XY	x2	
2005	23,682.91	-13	-307877.83	169	
2006	22,758.86	-11	-250347.46	121	
2007	24,273.43	-9	-218460.87	81	
2008	23,551.33	-7	-164859.31	49	
2009	28,535.05	-5	-142675.25	25	
2010	17,407	-3	-52221	9	
2011	15,584.79	-1	-15584.79	1	
2012	13,746.67	1	13746.67	1	
2013	43,546.50	3	130639.5	9	
2014	47,669.80	5	238349	25	
2016	1,490,633.00	7	10434431	49	
2017	1,490,633.00	9	13415697	81	
2018	1,490,633.00	11	16396963	121	
2019	5,123,197.00	13	66601561	169	
	9,855,852.34	0	106079360.7	910	

Using the trend line equation: $Y=a +bx$

Where $a = \sum y/N$

$$b= \sum XY/\sum X^2$$

Therefore , $\sum Y=9,855,852.34$

$$XY=106079360.7$$

$$X^2= 910$$

$$a= \frac{9,855,852.34}{14} = 703989.4529$$

$$b= \frac{106079360.7}{910} =116570.726$$

$$\text{The trend} = Y= 703989.4529 + 116570.726X$$

The trend value for 2020 may likely be 2452550.343 in metric tons. However, there is tendency for variance because of the year 2015 that was not factored in. The trend analysis shows increase as the year increases. Even with the discovery of shale in United States, the demand for the crude oil is still increasing in Nigeria. Meanwhile, this research does not cover the sales of the crude oil over time. The shipment of the crude oil has not given Nigeria the required economic boost unless cabotage law is fully implemented and enforced.

The findings of this study revealed that, the issues of inability of indigenous shipping companies to fully participate are within the six identified problems in Figure 1 below.

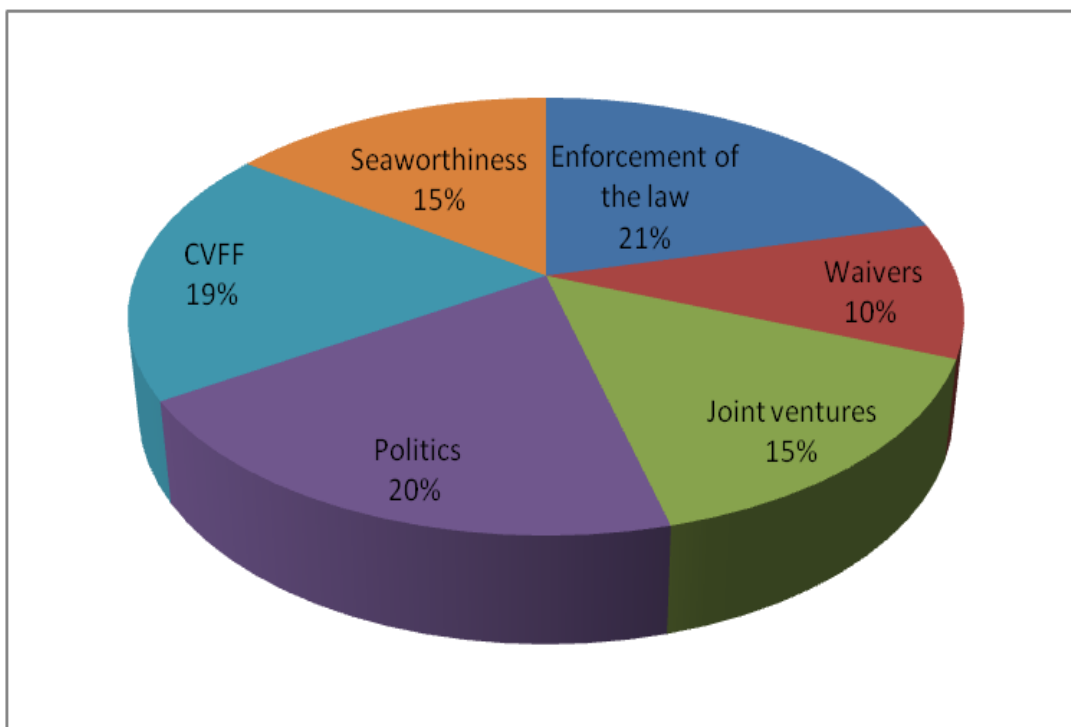


Figure 1 depicts that, the larger challenge about the non-involvement of indigenous shipping companies in carriage of crude oil is as a result of weakness on the enforcement of the law which has about 21%. The next issue is the politics which has been stated to carry about 20% while the financing to cabotage vessel under the Cabotage Vessel Financing Fund (CVFF) which is yet to be released for vessels under this category indicated 19% as the challenge of the shipment. The seaworthiness of indigenous shipping companies contributes to 15% of factors responsible for the problem and similarly the issue of having a joint venture 15% in which the indigenous shipping companies' ships are not as qualified for the activities of crude oil shipment and the collaboration between Nigerians and foreigners to own and manage vessels under the Joint-venture which dissuade them from Cabotage Act. The last item raised was the waivers in the Cabotage Act, which paved way for foreign vessels as it contributes to about 10% of the challenges. The implication of these descriptions is that, each of these factors must be addressed if the implementation of cabotage Act will be successful. The gravity of each of the identified factor has been seen from the percentage perspectives and hence must be tackled if solutions to these problems are of importance to Nigeria.

Conclusion and Recommendations

The identified factors responsible for the challenges of indigenous shipping company can be a good area of focus while attempting to solve the problem. It has been realized by the gap that this paper was set out to address that, there are number of issues responsible for not giving consideration of indigenous shipping companies in the carriage of crude oil in Nigeria. Therefore, all the stakeholders and government must work on all these identified challenges in order to improve the economy of this nation generally. Secondly, the distribution pattern of this petroleum product has been recorded for PMS; it is worthwhile to determine how the proportions of these products are to be rationed with the highly increasing demand every day. Nigeria needs to focus on other exportation products especially in the area of agriculture as there is now efficient utilization of Electronic Vehicles among developed economy.



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