**AN EVALUATION OF THE INLAND TRANSPORTATION AND ITS EFFECT ON LOGISTICS IN NIGERIA**

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**Abstract**

This study is on evaluation of the inland transportation and its effect on logistics in Nigeria. The total population for the study is 200 staff of ministry of transportation, Lagos state. The researcher used questionnaires as the instrument for the data collection. Descriptive Survey research design was adopted for this study. A total of 133 respondents made up directors, marine officers, senior staff and junior staff was used for the study. The data collected were presented in tables and analyzed using simple percentages and frequencies

**CHPATER ONE**

**INTRODUCTION**

* 1. **Background of the study**

Transportation represents one of the most important human activities worldwide. Transportation is defined according to Oni (2009), as the conveyance of goods and people over land, across water, and through the air from one location to another. Ighodalo (2009) observed that several modes of transportation exist for both man and goods; and that these modes, can be grouped into four basic categories, namely: rail, road, water and air. Water transport is associated with inland waterways, coastal waters and the deep sea (Ismaila, 2008). Inland waterways are navigable water bodies which include: rivers, lakes, coastal creeks, lagoons and canals, found within the geographical dimensions of a state (Aderemo and Mogaji, 2010). The movement of goods and services along inland waterways is one of the oldest means of transporting goods and services from point to point (Fellinda, 2006). This is largely due to the fact that inland water transport (IWT) offers the most economical, energy efficient and environmental friendly means of transporting all types of cargo from place to place (Ojile, 2006). In most cities, urban freight transport is almost exclusively performed by road. Railways and waterways are seldom used for carrying goods in urban areas Several authors (e.g. ) acknowledge the potential of shifting a part of Inter-urban flows towards the waterway network. In fact, inland waterways are the only land infrastructure with free capacity and are therefore not subject to congestion problems. Inland navigation is the most energy and carbon-efficient mode as a ship uses 1 to 2 times less fuel than a train and 3 to 5 times less fuel than a truck and can be economically competitive. In Europe, inland navigation is already commonly used for the transportation of bulk materials over longer distances and consequently to supply port-cities in those products. Logistics can be considered as a tool for getting the products and services where they are needed and when they are desired. It is difficult to accomplish any marketing or manufacturing without logistical support. It involves the integration of information, transportation, inventory, warehousing, material handling, and packaging. The operating responsibility of logistics is the geographical repositioning of raw materials, work in process, and finished inventories where required at the lowest cost possible. To varying degrees, the logistics function also includes sourcing and procurement, production planning and scheduling, packaging and assembly, and customer service. It is involved in all levels of planning and execution: strategic, tactical and operational. Logistics management is an integrating function which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions, including marketing, sales, manufacturing, finance, and information technology. Quite a few studies have reviewed intermodal opportunities for city logistics and even fewer have focused on initiatives using the inland waterway Network. Nemoto et al builds a general research framework for intermodal transport in the context of city logistics and provides few examples of implementation of city logistics solutions using waterborne transport. Apart from the fact that It is a sustainable and the most environmentally friendly mode in terms of energy consumption, noise and gas emission and also that it remains the oldest means of transporting persons and goods from point to point (Fellinda, 2006), it has the ability to tackle traffic congestions challenges in Lagos Metropolis when used as a complement mode to road. Lagos roads and its furniture are saturated and over stretched with the responsibility of moving millions of residents daily. Water travel is a realistic and potentially effective option given that Lagos state is blessed with abundant water bodies that could be harnessed to offer fast, safe, comfortable and cheap water transportation service.

**1.2 STATEMENT OF THE PROBLEM**

The enormous coastal trade opportunities it present for indigenous shipping companies in Nigeria overtime failed due to shipping policy in place over the years, directed on such trade. Several policies initiatives are currently directed on the operation and the management at the inland waterways such as the coastal and inland shipping (cabotage) Act passed 2003. However, it is not enough a thing to initiate policies whereas the management administration or rather the expected enforcement pattern of such policies is not inputted. This really affects on logistics especially those in Lagos state.

* 1. **OBJECTIVE OF THE STUDY**

The objectives of the study are;

1. To evaluate the extent of Government commitment to the development of inland water transport in Nigeria
2. To ascertain the relationship between the inland transportation and effect on logistics
3. To ascertain the effect of inland transportation on Nigeria economy
   1. **RESEARCH HYPOTHESES**

The following have been put forward for testing

**H0:** there is no relationship between the inland transportation and effect on logistics

**H1**: there is relationship between the inland transportation and effect on logistics

**H0:** there is no effect of inland transportation on Nigeria economy

**H1**: there is effect of inland transportation on Nigeria economy

**1.5 SIGNIFICANCE OF THE STUDY**

The study will be very significant to students, ministry of transport and the general public. The study will give a clear insight on evaluation of the inland transportation and its effect on logistics in Nigeria. The study will also serve as a reference to other researchers

* 1. **SCOPE AND LIMITATION OF THE STUDY**

The scope of the study covers an evaluation of the inland transportation and its effect on logistic in Nigeria. The result of this work shall be of immense assistance to each to these user groups in the advancement of their interest. The researcher encounters some constrain which limited the scope of the study;

**a) AVAILABILITY OF RESEARCH MATERIAL:** The research material available to the researcher is insufficient, thereby limiting the study

**b) TIME:** The time frame allocated to the study does not enhance wider coverage as the researcher has to combine other academic activities and examinations with the study.

**c) Organizational privacy**: Limited Access to the selected auditing firm makes it difficult to get all the necessary and required information concerning the activities.

**1.7 DEFINITION OF TERMS**

**INLAND TRANSPORTATION:** By rail, barge, or road, our flexible inland transportation services cover both FCL (full container load) and LCL (less than full container load), and help ensure your products are collected and delivered to the right place, at the right time

**LOGISTICS:** Logistics is generally the detailed organization and implementation of a complex operation. In a general business sense, logistics is the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations

**1.8 ORGANIZATION OF THE STUDY**

This research work is organized in five chapters, for easy understanding, as follows

Chapter one is concern with the introduction, which consist of the (overview, of the study), historical background, statement of problem, objectives of the study, research hypotheses, significance of the study, scope and limitation of the study, definition of terms and historical background of the study. Chapter two highlights the theoretical framework on which the study is based, thus the review of related literature. Chapter three deals on the research design and methodology adopted in the study. Chapter four concentrate on the data collection and analysis and presentation of finding. Chapter five gives summary, conclusion, and recommendations made of the study

**CHAPTER TWO**

**REVIEW OF RELATED LITERATURE**

**2.1 RELATION BETWEEN LOGISTICS AND ECONOMIC GROWTH**

Developments in growing global economy and increased competitiveness make logistics a sector which has strategic importance. Accordingly, developments in logistics sector have become a propellant force related with growth of countries. Increasing investments in this area and forming of logistics networks has provided advantages for countries. Consequently, countries have currently increased their investments in this area and logistics sector has become prominent as a segment which grows rapidly demonstrates impact mechanism of logistic investments on economic growth. Accordingly, investments on logistics infrastructure have increased logistics capacity, has provided rise of efficiency, has improved the quality of service creating a secure domain, and has provided an increase in added value. So this situation has allowed low logistics costs, short transportation time, and creating of work enlargement opportunities. As a result, this process has increased efficiency and competitiveness force for countries and so it has allowed to economic growth. When the literature is analyzed, it is pointed out that a great majority of the studies analyzed China origin. Mody and Wang (1997) studied various determinants of economic growth using the data were collected from 23 industry sectors which are located in seven coastal regions of China for a period between 1985 and 1989. It was discovered in that study that development in transportation and telecommunication facilities was leading of the growth. Demurger (2001) researched relation between infrastructure investments and economic growth for 24 provinces in China. In this study which contains years between 1985 and 1998, it is found that investments on transportation and telecommunication have positive significant impact on economic growth. Chu (2010) studied relation between logistics and economic growth in 30 provinces of China for a period between 1998 and 2007. In this study which was used generalized method of moments approach that is the one of the methods of dynamic panel data analysis, there was a positive significant relationship between investments of logistics sector (transportation, storage, mailing, and telecommunication) and growth. However, the contribution of logistic investments for growth is higher for interior undeveloped provinces in comparison to coastal provinces. Wang (2010) analyzed the effect of logistics activities on regional economic growth for Anhui province in China. In this study, cargo turnover was used as a proxy of logistics activities and the findings showed that the effect of logistics activities on regional economic growth is uncertain. Cheng et al. (2010) investigated the effect of logistics sector on economic growth for Henan region in China in a period between 1978 and 2008, and they found that logistics sector has a significant role on economic growth. In Yuan and Kuang’s (2010) study, the effect of developments in logistics sector on economic growth was studied for central, east, and west regions of China. The results showed that development of logistics sector has fundamental impacts on economic growth, however, there were differences among the regions. Accordingly, whereas logistics infrastructure has more important role on economic growth in more developed regions, its contribution to economic growth are fewer in less developed regions. Hu et al. (2012) analyzed the relation between logistics infrastructure investments and regional economic growth for the central China region. In this study, the relationship between logistics investments, logistics value-added and gross domestic products (GDP) were investigated by the method of time-series analysis. According to the result of co-integration analysis, it was found that there are three co-integration relations among variables. As to the results of Granger causality analysis, it was seen that there was one-way causality from investment of logistic infrastructure to GDP and two-way causality between investment of logistic infrastructure and accretion value of logistics. Banerjee et al. (2012) studied the access of transportation network’s impact on economic growth for various regions of China in a period between 1995 and 2010. The results of analysis demonstrated that the closeness to transportation networks has a moderate, significant, and causative impact on GDP. In the study, it is also found that the GDP per capita and income inequality were at higher levels in regions which were close to historical transportation networks, and also there were more companies in the regions, however, gains of the companies were higher.

**2.2 HISTORY OF INLAND WATER TRANSPORT DEVELOPMENT IN NIGERIA**

Inland Water Transportation in Nigeria could be said to be as old as road transportation system. The reason being that riverine communities relied upon IWT as much as hinterland communities relied upon roads. So as a means of transportation, it served all the purposes associated with connectivity, trade and travels. Consequentially, means of transportation such as logs and canoes were developed. The use of these means also included the purposes of warfare and entertainment. Major pre-colonial inter-cultural contacts were established and conducted through rivers. The advent of colonialism introduced initial changes. Initially, it served the purpose of penetration for both missionaries and exploiters. The introduction of mechanized boats extinguished the cultural technology that was still at the wooden stage. As long as the exploitation lasted, the major rivers were fully utilized. Aside using the rivers in its natural state, no further developments were contemplated by the colonialists. However, all the major rivers especially the Niger, Benue, rivers and creeks in the Niger Delta and coastal areas, and a few others served all the purposed at the time. At the early state of imperialistic advent turism in the territory that later became Nigeria, British companies were operating on the Niger Valley, and carrying commercial cargo up to the Delta Rivers and places up to 1,000 km inland (NIWA Newsletter, No. 8,2006). During the era of colonialism, these companies notably Royal Niger Company, John Holt and Level. Technical Limited, that later merged to become the United African Company (UAC), established River Stations at Akassa, Aboh, Andoni, Owerrinta, Onitsha, Idah, Lokoja, Markurdi, Ibi Warri, Sapele, lagos etc. They transformed into major transshipment stations and later became prominent and important trading posts. Historical accounts also reveal that aside the colonial era; economic interests have attempted the revitalization of navigation on the Rivers Niger and Benue. In the period up to 1970, these three companies dominated transportation in the inland waterways sector (Ogboye, 2012):

Niger River Transport Company (NRTC) with its base at Burutu

Holts Transport (HT) based in Warri

Niger Basin Transport Company (NBTC) based in Warri.

Operationally, the indigenous company, Niger Basin Transport Company (NBTC), tried unsuccessfully to operate profitably shipping ventures downstream of the Niger. The company was said to have expanded and modernized its fleet increasing capacity to about 220,000 tons per annum. Another major development in IWT in Nigeria in the seventies was the incorporation of the Central Water Transportation Company (CWTC) in July 1971 by the then six states: North Eastern State, Benue - Plateau State, East – Central State, Kwara State and North Western State. The common attribute among these states was being riparian to the Niger – Benue waterways system (Orode, 2010). However, the CWTC operated at a deficit for most of the years and in July, 1976, based on the application of a joint venture, the company was taken over by the Federal Government. The take-over could still not ensure the survival of the company because of the obvious inherent systemic distortions.

The operations of CWTC were constrained principally by the following factors, (Transport monitor, November 2002):

Inadequate complement of tugs and barges, both in number and mix. The small capital base of the company did not allow for purchase of more crafts;

Restricted period of commercial navigation on the rivers as a result of poor depths.

The problem of seasonal non-navigability of the Niger and Benue rivers militated seriously against the profitability/effectiveness of the company;

Lack of patronage by government agencies;

Joint venture by the six participating states did not make for a streamlinedϖ organization with smooth responsive management;

The nation’s IWT network gave access to the Western explorers and theϖ British, Ominu and Onokerhoreye (1995) argue correctly that: “Before the advent of the railway era in Eastern Nigeria, the only communication line which was used for inter-regional movement was the Niger-Benue water ways or Cross River” Navigation on the River Niger is not new. Already in 1832 the steam vessel Alburkah sailed up the river and managed to reach Lokoja. Also, by 1878, four British companies were operating on River Niger. Commercial shipping vessels were navigated far inland. The river traffic contributed to the development of the timber industry as well as oil palm and rubber plantations in Nigeria. It also allowed for the easy and cheap outlet for other exportable products as well as the importation of various goods. Historically, British explorers took the lead in the discovery and exploration of River Niger with Macgregor Lliad’s arrival in 1832 after the discovery of the mouth of the River by the Lander Brothers; arrangements were made for British Merchants to trade directly with tribes along the banks of Niger – Benue waterways. The Rivers were extensively used for the evacuation of agricultural produce such as groundnut, cotton, palm produce, beniseed, timber, etc (by expatriate trading companies in the colonial era such as UAC, John Holt Limited, CFAO Limited, etc) from the hinterland via coastal ports to European markets. In return, imported goods such as bicycles, sugar, salt, cement, kerosene etc were moved from European markets via coastal ports and railways up into the hinterland markets. Surprisingly though despite the great opportunity provided by this cheap transportation (the natural waterway) they have remained largely underdeveloped owing to some reasons. The potentials of IWT as well as coastal water services provided the country in the past the major source of revenue generation, employment opportunities, as well as supporting the nation’s export and import trades. By implication, it accelerated industrial and regional development and peaceful co-existence. Up to the 20th century, river transport provided the most economical means of the evacuation of agricultural products, Badejo (2009). Badejo (2010) stated that before 1960, transportation by river was very important and prominent thereby accounting for well over 30% of the entire produce moved in the country. The main reasons that were responsible for the significant use of IWT before independence include:

The existence of produce/marketing boards

The absence of good road/railway network

Government had control of the waterways and its security

Friendly communities; Availability of cargo; Availability of storage facilities for agriculturalϖ produce etc The Lower Niger River and other inland waters of Nigeria were a useful means of trade and transportation in pre and colonial period but with the building of railways in 1912 and the construction of roads in 1919 by the British colonial government, the waterway declined in its importance. Also, the discovery of crude oil in Nigeria in the 1950s caused many investors to divert capital from cash crop trade on the Lower Niger River to petroleum business. Worse still, the federal government has been paying only lip service to developing transportation on the Lower Niger River since independence. However, despite the decline in the role of IWT in Nigeria, the river side dwellers on the Niger Delta, coastal areas of Nigeria and the Rivers continue to utilize the waterway as a principal mode of transport as they have always done from precolonial times. Azonwu (2001) postulates that “In Nigeria, the Niger/Benue valley corresponds to the little productive middle belt and because of the handling cost in moving the produce of the area further to the North by rail transport; the river is less economic than direct rail transport to the coast. Thus, the considerable length of the inland waterways in the country remained relatively underdeveloped”. Again, during the Nigerian Civil War of 1967 – 1970, the inland transport was severely disrupted as the Lower Niger and inter-coastal routes in the Niger Delta were converted to war territory (Ogboye, 2012). The parties involved in the conflict used these waterways to press strategic military and economic advancement causing people to quit the waterways for road transport. Despite the post civil war misfortune of inland waterways, transport mode as it were, its role, relevance and importance in National Development Goals were never lost sight of by the Government. The government commissioned an Inland Waterway Improvement Program in 1956 which was handled by Netherlands Engineering Consultants (NEDECO). Irrespective of the little gains of that program the government commissioned another River Niger Channel Development Program by the French Group (LCHF & UMD) in 1980 and 1984 which included the dredging of Lower River Niger with little success. The national Transport Policy, which was approved in 1993 by the National Council on Transport, recognized inland water transport as the cheapest and most efficient transport mode in the areas of mass bulk commodity movement over long distances. Prior to this, by a Presidential Directive by Chief Olusegun Obasanjo January 31st, 2006 in Abuja, it was decided to carry out an Inland Waterway Transport (IWT) Master plan and a Bankable Feasibility Report, covering all background and planning aspects related to this Heijboer 2012)

**2.3 ADMINISTRATION OF INLAND WATERWAY TRANSPORT SYSTEMS**

Modern inland waterway development has been largely carried out by governments, in contrast to early canal construction, which was mainly undertaken by private enterprise. Most of the older canals were subsequently acquired by the state and are administered by them or their agencies and are subject to comprehensive regulation, frequently by independent commissions. International commissions representing the states concerned regulate navigation on the international waterways. In the United States the waterways are basically a federal responsibility, with their development undertaken by the U.S. Army Corps of Engineers, but state governments and local authorities also participate in the administration of many local waterways. The Interstate Commerce Commission has responsibility for the regulation of the common carriers and requires them to publish their rates. For some major multipurpose projects, public corporations were established to undertake and administer them. 38 In Europe and the former Soviet Union the national networks, mainly based on navigable and canalized rivers linked by canal, were developed by the governments, which retained responsibility for finance and administration. In Britain most canals were brought under government ownership beginning Jan. 1, 1948, and are administered by the British Waterways Board.Europe’s main waterways have long been accepted as international waterways with navigation free to all vessels and equality of treatment of all flags guaranteed. The chief regulatory commissions are the Central Commission for the Navigation of the Rhine, the Danube Commission, and the commission for the canalized Moselle. There are also a number of bilateral agreements between states. Wars and political considerations following them have from time to time interrupted the freedom of navigation. A provisional Rhine Commission was operating in the early 1970s; a new Danube Commission was established in 1953 after the signing of the Austrian state treaty, when freedom of navigation throughout the river’s length was fully restored. With the creation of a number of international organizations in Europe, a high degree of cooperation between states for the development of the inland waterways and the regulation of navigation was achieved, particularly through the United Nations Economic Commission for Europe, the European Economic Community, the Organization for Economic Cooperation and Development, and the Council of Europe. In North America a U.S.-Canadian International Joint Commission has functioned since 1909 with general authority over the boundary waters. The St. Lawrence Seaway is a joint project, administered by the St. Lawrence Seaway Authority in Canada and the St. Lawrence Seaway Development Corporation in the United States. The Panama Canal was originally administered under the Panama Canal Convention of 1903 by the United States, under the supervision of the army. Panama-U.S. relations were frequently strained, and in 1964 the United States agreed to negotiate new treaties concerning the existing canal and construction of a new canal at sea level. Later both countries agreed to a new treaty recognizing Panama’s sovereignty over the Canal Zone. The international status of the Suez Canal, constructed and administered by the Suez Canal Company, has frequently been a matter for dispute, peaceful and otherwise. Only in 1904, under an Anglo-French agreement, was the Constantinople Convention of 1888, establishing the Suez Canal as an international waterway open to all in war and peace, finally implemented. In 1956 British presence in the area ended, and troops were withdrawn from the canal zone; the Egyptian government nationalized the assets of the canal company and the 40 administration was assumed by Egypt, but the 1967 war closed the canal until 1975.

**2.4 ADMINISTRATION OF INLAND WATER TRANSPORT IN NIGERIA**

The first attempt to manage the vast resources of inland waterways system in Nigeria was made by the colonial administration with the establishment of the Marine Department and later the Inland Waterways Department (IWD) in 1956. . Badejo (2010) accounted that the Marine Department was responsible for the distribution of creek mails and passenger movement as well as colonial administration services. The IWD upon its establishment in 1956 was charged with responsibility of ferry services, clearance of waterways, dredging of river channels and laying of buoys. After independence in 1960, IWT started to experience a decline.IWD maintained a reasonable control over the nation’s inland waterways system but made little management initiative. In a bid to resuscitate IWT in Nigeria and make it efficient, competitive and result oriented, the Federal Government of Nigeria set up the National Inland Waterways Authority (NIWA) through Decree No. 13 of 1997 to succeed the defunct Inland Waterways department (IWD), with a clear mandate to manage Nigeria's vast inland waterway resources. The Decree enabling Act/Decree establishing NIWA 41 came into effect on the 1st of January, 1998. The Decree vests in NIWA the power of exclusive management, direction and control on the Nigerian inland waterways. This power is exercised on Nigeria’s 10,000km navigable waterways from the Nigeria/Niger and Nigeria/Cameroon borders to the Atlantic Ocean (NIWA Decree 1997).

**2.5 LOGISTICS: IMPORTANCE, DEFINITION AND INTEGRATION**

The globalisation of both the production and transportation of goods has had the effect of internationalizing the logistics business. Today’s logistics providers must build both a global network of their own offices or partner companies, and an effective communication system for the flow of data and information (Bruisma et al, 2000). The availability of softwares that facilitate the control of goods in transit delivers savings and efficiencies within the supply chain are now available (Key Note, 2003). The movement of goods from point of manufacture to the end user relies upon the four basic transport modes: road, rail, water and air. Each mode has evolved independently of the others, and each has its roots embedded in its own particular social and industrial history. The four sectors have become industries in their own right with their own infrastructure, cultures and identity. It is, therefore, not surprising that these industries - road haulage, the railways, shipping and aviation - are often seen taking robust positions to lobby for, and protect, their particular interests (Chopra and Meindl, 2004: 412). Today, however, there is a greater awareness of the benefits of integrating one transport mode with another: this has resulted in providers of one type of distribution service moving across into what was the traditional domain of others. Prahinski and Kocabasoglu (2006) mentioned that logistics is an important component of a nation’s economy since it affects productivity, distribution efficiency, interest rates, energy availability and energy costs. Many advanced nations have recognised the importance of logistics and accepted it as a necessary management function long ago. ENIT and JIKA (2006) highlighted that the future holds many further developments in Egypt as the business of freight logistics evolves and as greater economies and efficiencies are achieved. The sector is, therefore, at a dynamic and exciting stage in its evolution, presenting both risk and opportunity for those involved Logistics can be considered as a tool for getting the products and services where they are needed and when they are desired. It is difficult to accomplish any marketing or manufacturing without logistical support. It involves the integration of information, transportation, inventory, warehousing, material handling, and packaging. The operating responsibility of logistics is the geographical repositioning of raw materials, work in process, and finished inventories where required at the lowest cost possible. This could be clear from the CSCMP (2005: 64) definition of logistics management as follows: “It is that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers’ requirements” The CSCMP (2005) has highlighted the logistics management activities as typically including inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfillment, logistics network design, inventory management, supply/demand planning, and management of third party logistics services providers

**2.5 CONCEPT OF CONTAINER LOGISTIC CHAINS WITH PARTICIPATION OF THE INLAND WATERWAYS TRANSPORT**

Currently, the containers from the Port of Szczecin reach the container terminal almost only via road transport. It may be assumed that in case of reaching class IV of navigability conditions in the Oder river, allowing to realize international water transport, new cargo streams will be generated, or proneness to containerization of the existing ones will improve. In case of the Port of Szczecin, an average time for container clearance (if of course there are no premises to control it or to undertake other actions), is the shortest among all Polish sea ports: so-called transit clearance lasts about 30 minutes, while the procedure of approval for trading only 15 minutes. The standards mentioned above allow to shorten the clearance time significantly and reduce the associated costs, thus enabling operation of a greater volume of containers, which would be transported via inland waterways Shifting part of the loads from road to inland waterways or railway transport, and taking over new streams of containers, will bring numerous positive effects. The safety level on roads will improve as a result of relieving road transport and reducing congestion. It allows to realize an ecological strategy of transport development, pursuant to the transport policy. External costs of transportations will be reduced, among others in relation to a lower number of road accidents and their consequences, or lower emission of harmful substances to the natural environment.

**2.6 SIGNIFICANCE OF INLAND WATERWAY TRANSPORT IN CONTAINER LOGISTIC CHAINS**

Economic respect is the basic determinant that decided on inclusion of the inland waterways transportation into handling of container loads in Europe. The inland waterways transport belongs to the most economic and at the same time the most environmentally friendly branches of transportation (EECTM 2007). Its low energy consumptions, no congestion, and low external costs in the form of emission of contaminants, as well as a scarce amount of accidents, contribute to application of this transportation branch to an increasingly broader scale (DOC 2014: 25). The possibility to realize the inland transport of container loads requires proper parameters of inland waterways, which according to the AGN requirements, adopted in Europe, should meet the standards of classes from IV to VII (COM 2013). It is necessary for realization of long-range container transport, and for relatively sizable sets. Currently, there are about 750 inland ports located within the European Union - 389 of which operates in the Netherlands. In more than 50 ports, annual handling exceeds 1 mln tons, and almost 40 is at the same time an inland and a sea port. There are container terminals functioning in case of more than 100 ports, while this number is on a continuous increase. The existing potential of the container terminal in Szczecin, in terms of the container loads handling is first of all related to the fact of its convenient location in comparison to other inland and water terminals. The port in Szczecin is the only Polish sea port that has a direct connection thanks to the Oder Waterway (ODW, Odrzańska Droga Wodna), with the system of Western European network of inland waterways (Kulczyk and Skupień 2010). The Oder-Sprewa and Oder-Hawela channel connect Szczecin to Berlin, to the areas of Mecklenburg and Brandenburg, what constitutes an additional asset for development of this transportation branch in the international goods exchange. The location of the Port of Szczecin and inland connections with the Southern part of Poland, as well as the trans-boundary character of the Oder river, are the biggest asset of the container terminal (www1b), (www1c). In relation to the policy of sustainable transport development, assuming that loads transported on roads should be moved to the rail and water transport, including the inland waterways (COM 2011), it seems that the Oder, as a transport route, would be - after rendering its navigable along its whole course - one of the crucial inland waterways in this part of Europe. Countries such as the Netherlands, Germany and Belgium, which have a network of waterways with high technical parameters (Quispel 2011) (BVB 2013), record a permanent increase in the share of inland waterways transport within containers handling to and from sea ports (www1). There are distribution and logistic centers created within their territories, nearby thriving inland ports, enabling operation of containers and their transportation into land. Therefore, the ports transformed into multi-functional logistic centers, which are crucial components of container logistic chains. Another asset supporting the inland waterways transport in handling the container loads is the concept of establishment of the West-Pomerania Logistic Center (ZCL, Zachodniopomorskie Centrum Logistyczne) at the container terminal in the Port of Szczecin. It will offer at least 40 thousand m2 of warehouse space, where - apart from temporary goods storage - also other operations are assumed, such as light manufacturing, conditioning, repackaging of goods. This added value of port services may also attract loads - triggered by the ZCL and container terminal operation - which previously could not undergo such logistic processes (www1d). Location of the Port of Szczecin and the trans-boundary character of the Oder river are the greatest asset of the container terminal, and they provide proper conditions for receipt and handling of a greater number of containers than previously. Therefore, it provides solid basis for handling container logistic chains, based on inland waterways transport.

**CHAPTER THREE**

**RESEARCH METHODOLOGY**

* 1. **Research design**

The researcher used descriptive research survey design in building up this project work the choice of this research design was considered appropriate because of its advantages of identifying attributes of a large population from a group of individuals. The design was suitable for the study as the study sought to an evaluation of the inland transportation and its effect on logistics in Nigeria

* 1. **Sources of data collection**

Data were collected from two main sources namely:

(i)Primary source and

(ii)Secondary source

**Primary source:**

These are materials of statistical investigation which were collected by the research for a particular purpose. They can be obtained through a survey, observation questionnaire or as experiment; the researcher has adopted the questionnaire method for this study.

**Secondary source:**

These are data from textbook Journal handset etc. they arise as byproducts of the same other purposes. Example administration, various other unpublished works and write ups were also used.

* 1. **Population of the study**

Population of a study is a group of persons or aggregate items, things the researcher is interested in getting information on an evaluation of the inland transportation and its effect on logistics in Nigeria. 200 staff of ministry of transportation, Lagos state were selected randomly by the researcher as the population of the study.

* 1. **Sample and sampling procedure**

Sample is the set people or items which constitute part of a given population sampling. Due to large size of the target population, the researcher used the Taro Yamani formula to arrive at the sample population of the study.

n= N

1+N (e) 2

n= 200

1+200(0.05)2

= 200

1+200(0.0025)

= 200 200

1+0.5 = 1.5 = 133.

**3.5 Instrument for data collection**

The major research instrument used is the questionnaires. This was appropriately moderated. The respondents were administered with the questionnaires to complete, with or without disclosing their identities. The questionnaire was designed to obtain sufficient and relevant information from the respondents. The primary data contained information extracted from the questionnaires in which the respondents were required to give specific answer to a question by ticking in front of an appropriate answer. The questionnaires contained structured questions which were divided into sections A and B.

* 1. **Validation of the research instrument**

The questionnaire used as the research instrument was subjected to face its validation. This research instrument (questionnaire) adopted was adequately checked and validated by the supervisor his contributions and corrections were included into the final draft of the research instrument used.

* 1. **Method of data analysis**

The data collected was not an end in itself but it served as a means to an end. The end being the use of the required data to understand the various situations it is with a view to making valuable recommendations and contributions. To this end, the data collected has to be analysis for any meaningful interpretation to come out with some results. It is for this reason that the following methods were adopted in the research project for the analysis of the data collected. For a comprehensive analysis of data collected, emphasis was laid on the use of absolute numbers frequencies of responses and percentages. Answers to the research questions were provided through the comparison of the percentage of response to each statement in the questionnaire related to any specified question being considered.

Frequency in this study refers to the arrangement of responses in order of magnitude or occurrence while percentage refers to the arrangements of the responses in order of their proportion. The simple percentage method is believed to be straight forward easy to interpret and understand method.

The researcher therefore chooses the simple percentage as the method to use.

The formula for percentage is shown as.

% = f/N x 100/1

Where f = frequency of respondents response

N = Total Number of response of the sample

100 = Consistency in the percentage of respondents for each item

Contained in questions

**CHAPTER FOUR**

**PRESENTATION ANALYSIS INTERPRETATION OF DATA**

**4.1 Introduction**

Efforts will be made at this stage to present, analyze and interpret the data collected during the field survey. This presentation will be based on the responses from the completed questionnaires. The result of this exercise will be summarized in tabular forms for easy references and analysis. It will also show answers to questions relating to the research questions for this research study. The researcher employed simple percentage in the analysis.

**DATA ANALYSIS**

The data collected from the respondents were analyzed in tabular form with simple percentage for easy understanding.

A total of 133(one hundred and thirty three) questionnaires were distributed and 133 questionnaires were returned.

Question 1

Gender distribution of the respondents.

TABLE I

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Gender distribution of the respondents** | | | | | |
| Response | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Male | 77 | 57.9 | 57.9 | 57.9 |
| Female | 56 | 42.1 | 42.1 | 100.0 |
| Total | 133 | 100.0 | 100.0 |  |

From the above table it shows that 57.9% of the respondents were male while 42.1% of the respondents were female.

Question 2

The positions held by respondents

TABLE II

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **The positions held by respondents** | | | | | |
| Response | | Frequency | Percent | Valid Percent | Cumulative Percent |
| **Valid** | Directors | 37 | 27.8 | 27.8 | 27.8 |
| Marine officers | 50 | 37.6 | 37.6 | 65.4 |
| Senior staff | 23 | 17.3 | 17.3 | 82.7 |
| Junior staff | 23 | 17.3 | 17.3 | 100.0 |
| Total | 133 | 100.0 | 100.0 |  |

The above tables shown that 37 respondents which represents27.8% of the respondents are directors 50 respondents which represents 37.6 % are marine officers 23 respondents which represents 17.3% of the respondents are senior staff, while 23 respondents which represent 17.3% of the respondents are junior staff

**TEST OF HYPOTHESES**

**Ho:** there is no relationship between the inland transportation and effect on logistics

**Hi:** there is relationship between the inland transportation and effect on logistics

**Table III**

|  |  |  |  |
| --- | --- | --- | --- |
| **there is relationship between the inland transportation and effect on logistics** | | | |
| Response | Observed N | Expected N | Residual |
| Agreed | 40 | 33.3 | 6.8 |
| strongly agreed | 50 | 33.3 | 16.8 |
| Disagreed | 26 | 33.3 | -7.3 |
| strongly disagreed | 17 | 33.3 | -16.3 |
| Total | 133 |  |  |

|  |  |
| --- | --- |
| **Test Statistics** | |
|  | **there is relationship between the inland transportation and effect on logistics** |
| Chi-Square | 19.331a |
| Df | 3 |
| Asymp. Sig. | .000 |
| a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 33.3. | |

Decision rule:

The researcher therefore rejects the alternate hypotheses which states that, there is no relationship between the inland transportation and effect on logistics as the calculated value of 19.331 is greater than the critical value of 7.82 Therefore the null hypotheses which states that there is relationship between the inland transportation and effect on logistics.

**TEST OF HYPOTHESIS TWO**

**Ho:** there is no effect of inland transportation on Nigeria economy

**Hi:** there is effect of inland transportation on Nigeria economy

Table V

|  |  |  |  |
| --- | --- | --- | --- |
| **there is effect of inland transportation on Nigeria economy** | | | |
| Response | Observed N | Expected N | Residual |
| Yes | 73 | 44.3 | 28.7 |
| No | 33 | 44.3 | -11.3 |
| Undecided | 27 | 44.3 | -17.3 |
| Total | 133 |  |  |

|  |  |
| --- | --- |
| **Test Statistics** | |
|  | **there is effect of inland transportation on Nigeria economy** |
| Chi-Square | 28.211a |
| Df | 2 |
| Asymp. Sig. | .000 |
| a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 44.3. | |

Decision rule:

The researcher therefore rejects the null hypotheses which states that there is no effect of inland transportation on Nigeria economy, as the calculated value of 19.331 is greater than the critical value of 7.82 Therefore the alternate hypotheses which states that there is effect of inland transportation on Nigeria economy

**CHAPTER FIVE**

**SUMMARY, CONCLUSION AND RECOMMENDATION**

**5.1 Introduction**

It is important to ascertain that the objective of this study was to ascertain an evaluation of the inland transportation and effect on logistics in Nigeria.

In the preceding chapter, the relevant data collected for this study were presented, critically analyzed and appropriate interpretation given. In this chapter, certain recommendations are made, which in the opinion of the researcher will be of benefit in addressing the challenges of inland transportation and effect on logistics in Nigeria

* 1. **Summary**

This study was on an evaluation of the inland transportation and effect on logistics in Nigeria. Three objectives were raised which included: To evaluate the extent of Government commitment to the development of inland water transport in Nigeria, to ascertain the relationship between the inland transportation and effect on logistics, to ascertain the effect of inland transportation on Nigeria economy. In line with these objectives, three research hypotheses were formulated and three null hypotheses were posited. The total population for the study is 200 staff of ministry of transportation, Lagos state. The researcher used questionnaires as the instrument for the data collection. Descriptive Survey research design was adopted for this study. A total of 133 respondents made up directors, marine officers, senior staff and junior staff was used for the study. The data collected were presented in tables and analyzed using simple percentages and frequencies

* 1. **Conclusion**

In the introduction to this paper, the urgency of significant combination of inland waterways in Lagos state was pointed out. Logistics will play a critical role in the recovery of the inland waterways sector and economy as well. International and domestic trade, which will have a major impact and will in fact be one of the drivers of economic growth, will depend to a large extent on the availability of infrastructure alongside the River Nile. The greatest obstacle for development or change is not admitting the need for it. Since the Lagosians authorities, companies and logisticians seem to be aware of the problems and challenges which need to be solved, developing an efficient logistics inland waterways system should not be difficult for these parties. However the key question is whether there is a serious interest in overcoming these challenges or not before it is too late. Logistics can potentially become the most important source of cost and quality advantages available to companies in

* 1. **Recommendation**

There is need to ensure that there are functional social amenities in the coastal region of the country. As we know, the water ways does not require intensive expenditure to create water ways, compare to what is obtainable in construction of other modes counterparts like roads and railway. The area should be compensated in the area of provision of social amenities like steady electricity, pure water for drinking and other. This will not only attract investors in the region but will also boost the quality of life in the area. These have a way of increase the market and industrialization of the area and in turn make IWT transport more viable and profitable.

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**QUESTIONNAIRE**

**INSTRUCTION**

Please tick or fill in where necessary as the case may be.

Section A

1. Gender of respondent

A male { }

B female { }

1. Age distribution of respondents
2. 15-20 { }
3. 21-30 { }
4. 31-40 { }
5. 41-50 { }
6. 51 and above { }
7. Marital status of respondents?
8. married [ ]
9. single [ ]
10. divorce [ ]
11. Educational qualification off respondents
12. SSCE/OND { }
13. HND/BSC { }
14. PGD/MSC { }
15. PHD { }

Others……………………………….

1. How long have you been in  ministry of transport
2. 0-2 years { }
3. 3-5 years { }
4. 6-11 years { }
5. 11 years and above……….
6. Position held by the respondent in  ministry of transport
7. Director { }
8. Marine officer { }
9. Senior staff { }
10. Junior staff { }
11. How long have you been working in  ministry of transport
12. 0-2 years { }
13. 3-5 years { }
14. 6-11 years { }
15. 11 years and above……….

SECTION B

1. Ministry of transport boost Nigeria economy
2. Agrees { }
3. Strongly agreed { }
4. Disagreed { }
5. Strongly disagreed { }
6. There is effect of inland transportation and logistics

(a) Agrees { }

(b) Strongly agreed { }

(c) Disagreed { }

(d) Strongly disagreed { }

1. Businessmen prefer inland transportation to others
2. Agreed { }
3. Strongly agreed { }
4. Disagreed { }
5. Strongly disagreed { }
6. Ministry of transport do not contribute to Nigeria economy
7. Agreed { }
8. Strongly agreed { }
9. Disagreed { }
10. Strongly disagreed { }
11. There are significant differences in the level of development in the inland water ways transport in the study area.
12. Agreed { }
13. Strongly agreed { }
14. Disagreed { }
15. Strongly disagreed { }
16. Government commitment on the development of inland water transport in Nigeria
17. Agreed { }
18. Strongly agreed { }
19. Disagreed { }
20. Strongly disagreed { }
21. There is no maintenance in the ministry of transportation.
22. Agreed { }
23. Strongly agreed { }
24. Disagreed { }
25. Strongly disagreed { }
26. Not every businessmen prefer inland transportation
27. Agreed { }
28. Strongly agreed { }
29. Disagreed { }
30. Strongly disagreed { }