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Challenges and Implications of a Funding Option for an Effective Water Transportation System in Lagos State

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ABSTRACT

Transport is the bloodstream of any developed or developing nation. Through funding of each mode and section, the economic benefits of normal living standards are integrated and a smooth functioning is promoted, which provides different transport financing and mobility options. However, in Lagos State, water-based transportation encounters various kinds of damages ranging from human induced to natural cause. Survey research design X was used. Content validity and Cronbach's Alpha was used to determine the validity and reliability of the study. The hypothesis was tested using simple linear regression. The result revealed that proper funding and maintenance of water transportation significantly enhance the operations of water transport system in Lagos state ($r^2 = 0.562$, $p = 0.000$). The study however recommends that existing and potential investors must fully come on board to enhance investment in the sector and that all stakeholders should join hands together to develop this mode of transportation.

KEYWORDS: Funding, Transport, Public Private Partnership, Operation

I. INTRODUCTION

Transportation is the bloodstream of any developed or developing nation, the funding of each mode and section therefore integrate benefit of economy of normal standard of living and promote smooth operation which gives various funding to the transport and mobility option. Movement is a basic activity of man and it is impossible for man to do without it. Based on this need, and pursuit of development through science and technology, movement of man is aided through transportation. Transportation represents one of the most important human activities worldwide. Transportation is defined according to Oni (2019), as the conveyance of goods and people over land, across water, and through the air from one location to another. Ighodalo (2019) 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, 2018). The transportation of goods and services by waterway is one of the oldest ways of transporting goods and services.

The development and efficient functioning of water transportation is very essential to highly congested cities to cushion the high demand and over stressed of other means of transportation such as road. In Lagos State over 98% of movement is done by road, and cities of this size cannot survive on one mode of transportation (Frontier Market Intelligence, 2014). Obed (2013) lamented that there has been a considerable decline in the use of water transportation in Nigeria. This was attributed to several physical constraints impeding growth and performance in the water transport sector in Nigeria, this therefore created an urgent need for innovative actions and strategies to radically improve the sector for it to continue as the bedrock in facilitating trade, industrial and economic growth. For obvious reasons, Lagos has great potential to develop its water economy to a highly competitive level. If this is done, fishery, tourism, water transportation and the likes would immensely benefit. The state of Lagos occupies 3,577 sq. kms with 23 percent of its geographical location represented by water bodies. Residents of these communities convey themselves on ferries and boats to their various points of trade in the state. The commercial nature of the state has contributed immensely to the saturation of the road ways; many people migrate from other states to explore the opportunities and carry out transactions in various sectors of the Economy. Considering these facts, it is necessary for Lagos State government to properly fund water transportation system so as to enhance transportation in Lagos state. Expectedly, the regular use of ferries and boats are not strange to residents in areas like Badagry, Tarqua Bay, Amuwo-Odofin, Ayobo, Ikorodu, FESTAC, Mile 2, Ijede, Egbin and

Lagos Island just to mention a few. To further improve on existing system, the state government should draw up projections to develop water transport. Working through the Lagos State Waterways Authority (LASWA), policies and established rules and regulations to guide water transport in the state must be created. Most especially financing water transportation system should be paramount.

It is, no doubt, a beneficial undertaking to explore and develop water transport in the State. Firstly, it has tremendous financial opportunities, particularly in terms of job creation and time reduction on the road. It will also encourage fishermen to rebrand their aquatic enterprise, creating room for innovations in the trade of seafood and petroleum products within the state. With an effective waterway system, the commercial image of Lagos will be further diversified, attracting foreign investment. Traders will be able to move their commodities via ships and other water transport modes. On our roads, tankers and lorries will be drastically reduced. Therefore, there is need for proper funding of water transportation system in Lagos state. More so sustainable development of water transport needs proper funding and management.

Statement Of The Problem : The importance of water transport cannot be over emphasized. However, although water transport generally needs considerable investment in capital and maintenance rather than other means of transportation, it has, despite obvious demand, potential and utilization, been neglected in many countries, including Nigeria. Lagos, a coastal town with a wealth of waterways, is unfortunately the least exploited. It is unfortunate. If optimized, it could help in eliminating congestion, pollution, and provide a low-cost alternative to long haul passages. Despite these many rewards, water transport system encounters a number of challenges which if managed and funded well it will effectively complement and reduce the pressure on road transport in Lagos State. Therefore, this study examines the funding option of water transportation system for the effective usage of water-based transportation system.

Study Area : The study area is Lagos state where water transport operates, Lagos State is the smallest state in geographical terms in the Nigerian Federation, it occupies an area of 357,700 hectares (3,475.1km²), which is just 0.4% of the total land area of Nigeria (Adejare , Nwilo, & Opaluwa, 2011), of which 22% of the total land mass consists of lagoons and creeks. The State lies between longitudes 2042' East and 30 42' East and Latitude 60 22' North and 60 52' North, in the southwestern area of Nigeria and shares boundaries with Ogun State both in the north and east, by the Republic of Benin in the west and the Atlantic Ocean, stretching for almost 180 kilometers of coastline, in the south (Olayiwola Adeleye and Oduwaye, 2016)

Twelve (12) out of the twenty (20) Local Governments of Lagos state are drained by rivers, which are: Badagry, Ojo, Amowo - Odofin, Apapa, Lagos Island, Eti - Osa, Kosofe, Somolu, Lagos Mainland, Ikorodu, Epe and Ibeju Lekki. However, Lagos state is running water transport on 12 routes under the supervision of Lagos State Water Authority (LASWA). The routes are Ikorodu-Marina/CMS; Marina-Mile 2; Ikorodu-Addax/Falomo; Ikorodu-Ebute Ero; Marina-Ijegun Egba-Ebute-Ojo; Mile 2-Marina/CMS-Mekwen-Falomo; Badore-Ijede; Badore-Five Cowries; Marina- Oworonshonki; Ebute Ojo-Ijegun Egba; Oworonshonki-Five Cowries; and Baiyeku-Langbasa. The implication of this route is that if this route are well funded with PPP agreement, it will reduce the negative fear of water which have been a major challenge to residents in term of passengers ridership in the modes of transport. This study tends to examine this specific objective of this paper to analysis funding option for water transport system in the state.

Aim of Study : The aim of the study is to examine funding option for Lagos state water transportation system. The objective is to investigate whether proper funding and maintenance of water transportation enhances the operations of water transport system in Lagos state.

II. RESEARCH HYPOTHESIS

Ho: Proper funding and maintenance of water transport do not enhance the operation of the system.

Literature Review : Water transportation is crucial to urban development and growth, while water transport is, in clearer terms, crucial to all economic growth and development. It has played a major role in bringing various parts of the world closer together and is vital for external trade. Water transport helps to bridge the gap by the inabilities of land transport to cope with the unfolding trends and it plays a crucial role in the connection of the foreland to the hinter land. It involves the process of moving people, goods etc. by barge boat, ship or sail boat over a sea, ocean, lake, canal, and river. In its simplest form, it connotes transportation via water. It serves as a complementary and alternative mode to land and rail based transport. In addition, it is an essential tool for growing and developing all sectors of the economy. Indeed it can help in achieving greater functionalities in all activities in space especially when natural and human resources are not together in one location. Water travel as all initiatives and activities put together to ensure the ease of movement of people from land to water and vice versa

(Badejo, 2015). This mode of transportation is very crucial, particularly in the Coastal Regions. This mode of transportation is not commonly used in Nigeria except in the littoral zones like the Niger Delta Region. Water transportation entails transporting goods, services and passengers over local and international waters. Water transportation is the most common means of transportation in the littoral regions of Rivers State in particular as some of the communities are located along the shoreline, Ya (2013).

Water Transportation Characteristics : Water transportation have been group into various characteristics which include;

The ability to carry large number of passengers at a time: In water transportation the vessels used for carrying passengers vary in sizes. The number of persons carried per trip varies depending on the size of the boat. However, water transportation vessels are known for carrying large number of persons. For instance, in the fleet of the Inland Water Transportation Department in Lagos (IWD), the ferry can carry one hundred and twenty five passengers and the largest can carry one thousand at a time. Ferries are used in most places in the world but have not been given the needed attention in Nigeria due to obvious neglect of the sector.

Availability and Reliability: The availability of services can be looked at from two perspectives; constant availability and ability to provide hitch free operation when properly managed, ferry services can be made available as at when required. However, in every place where ferries are in operation, the crews that operate the ferry are trained to handle specific duties to ensure that the ferry is available and the movement with respect to the schedule for its services.



Source: LASWA 2018 Manuel Handbook

Picture 1: A cross section with proper funding infrastructure for water transport passengers.

Water Transportation in Lagos State : The merits of water-based travel are un-ending; it is familiar, accessible, relatively cheap and convenient, hence providing a transport system that is effective and seamless while serving local needs. It also has the potential to address isolation thus minimizing the impact on the environment. In other words, water transportation is very important, not just for its own sake, but because it has the potential to reduce traffic gridlock, eliminate poverty and reduce isolation. Water transport plays a vital role in urban growth and development, in clearer terms, it is pivotal to growing and development of all sectors in the economy. It has equally played a very significant role in bringing different parts of the world closer and is indispensable to foreign trade.

Water transportation in Lagos dates back to the 70's when she was still the federal capital territory. Ferry services were operated to Apapa, CMS, Ebute-Ero and so on by Federal Inland Revenue Service (FIRS). The state government under the Lateef Jakande administration also provided ferry services with her "ItaFaji".and "Baba Kekere" boats and The Ferry Services Corporation was established which is now the Lagos State Waterways Authority (LASWA) created in 2008 by National Inland Waterways Authority Act (Repeal) Law 1997. Lagos operates and runs ferry services on 12 routes in the state which are: - Ikorodu – Marina/CMS, Marina – Mile 2, Ikorodu – Addax/ Falomo, Ikorodu – Ebute Ero, Marina – Ijegun Egba -Ebute Ojo, Mile 2- Marina/CMS-Mekwen- Falomo, Badore – Ijede, Badore – Five Cowries, Marina – Oworomsoki, Ebute Ojo – Ijegun Egba, Oworomsoki – Five Cowries and Bayeku to Langbasa, through the three under listed lines

- Ikorodu to Marina (North Direct line).

- Ebute Ojo (LASU) to Marina via Satellite Town (Ijegun Egba) (West Line).
- Ijede- Badore to Marina via Lekki and Falomo (East line)

III. MAJOR CHALLENGES OF WATER TRANSPORT DEVELOPMENT

Inadequate Infrastructure: One of the major impediments to the successful development and operation of water transport system is the lack of adequate infrastructure for water transport operations. Lack of adequate river ports, jetties and terminals on the rivers and creeks. Absence of cargo handling equipments, only few of the ports has been successfully rehabilitated and equipped with modern cargo handling equipment. Lack of road and rail connectivity etc

Inadequate Funding for Projects and Operations: water transport development is not self-financing. So far in Nigeria, the main source of revenue has budgetary allocation from the federal government which historically has been insufficient and inconsistent. State governments in Nigeria has not fared any better. The federal government's investment in the water transport sub sector have hardly been at a substantial and consistent level capable of generating and sustaining development of water transport at optimal level.

Significant underfunding in this subsector has caused the absence of infrastructure and floating equipment and have lead the existing ones to deteriorate badly. Inadequate funding in terms of government appropriations over the years which have been paltry and grossly inadequate has negatively affected the implementation and realization of capital projects. There is a muchunlimited need for the Lagos state government to appear to the funding need of water transport sector development.

Poor safety and Insecurity: Disruption of operations of water transport, Piracy and kidnapping, illegal bunkering, pipeline vandalization, grounding of socio-economic activities in riverine communities, blocked water transport routes and unsafe waterways, inadequate policing, negatively affect water transport operations in Lagos. Other factors include illegal tool collections and levies by local governments and communities, Water hyacinth infestation, presence of logs, wrecks and derelicts, inadequate navigational aids and data and absence or lack of enforcement of minimum safety standards.

Poor Image and Awareness of water transport system: Water transportsystem is perceived as obsolete, uncomfortable, uncompetitive, inefficient and with high operational cost. This is as a result of its non-development and lack of efforts to portray it in good light. There is lack of understanding of the cot benefits of water transport over road and rail especially as it regards to bulk cargo transportation.

Inadequate Qualified and Experienced Manpower: This is one of the most fundamental problems militating against the development of water transport in Lagos. The absence of skilled managerial and technical manpower in the water transport sector especial in the Public sector manifests itself in all aspect of water transport development and operations. Human resources development and institutional building are linked and therefore efforts should be made to improve their performance jointly.

Poor- maintenance -culture: Poor maintenance culture is a national issueand it is also manifesting itself in the water transport sector.

Low Level of Private Sector Participation in water transport: The private sectorshould be encouraged to invest in water transport development and operations. Public-Private partnership model should be explored to facilitateprivate sector participation in water transport sector in the state. Incentives andinformation should be provided by the government to encourage the privatesector.

Implications of Government Effort and the Need to Source Alternative Strategies

- Government did not create deliberate focus and attention for adequate and proper funding.
- There was also a lacuna in the strengthening of its institutional capacity and capability along with improving its legal framework to operate.
- No policy directive to support and encourage water based mode of transportation that will complement or serve as alternative mode of transportation.
- No specific role for private sector incursion
- Lackcluster and uncoordinated development in waterways transportation infrastructure
- Low pace and disjointed development and weak growth.
- Very weak resource based sub- sector.

Research Methods : Survey research design was adopted in this study. Primary and secondary data were used to gather information for inference in this study. The population of this study was selected from the operation and safety department of LAWSA’s staff in Lagos State. Questionnaire were purposively administered to the staff using simple random sampling technique. 100 copies of questionnaire were administered. Likert five-point scales ranging from 1-5 (5=strongly agree to 1=strongly disagree) was used as a basis of the questions. Content validity was used to test the validity of the research instrument while internal consistency result (Cronbach’s alpha was 0.75) showed the reliability of the instrument. The study used descriptive and inferential statistics to test the hypothesis. Regression analysis was used to test the effect of the variables under study.

IV. RESULTS AND DISCUSSION

Out of the 100 copies of questionnaire administered ninety-three was found valid and used for he analyses.

Table 1: Bio data of Respondents

		Freq	Percent (%)
Gender	Male	67	72.0%
	Female	26	27.9%
Age	29-39YRS	44	47.3%
	39-49YRS	47	50.5%
	59 YRS &Above	2	2.2%
Marital Status	Single	57	61.3%
	Married	36	38.7%
Educational Qualification	MSC/MBA	19	20.4%
	BSC/HND	43	46.2%
	OND/NCE	23	24.7%
	SSCE	8	8.6%

Source: field survey, 2021

Table 1 revealed that 72% of the respondents are male while 27.9% are female. 47.3% of the respondents are between 29-39 years, 50.5% are between 39-49 years and 2.2% are 59 years and above.61.3% of the respondents are married while 38.7% are single. 20.4% of the respondents had MSC/MBS educational qualification, 46.2% had BSC/HND educational qualification, 24.7% had OND/NCE educational qualification and 8.6% hadSSCE educational qualification.

Table 2: Respondents Responses

QUESTIONS	SA	A	UNDECIDED	D	SD
Adequate funding will enhance the operation of water transport system in Lagos	21(22.6%)	43(46.2%)	1(1.1%)	27(29%)	1(1.1%)
Adequate measure to checkpollution is very essential	33(35.5%)	51(54.8%)	5(5.4%)	4(4.3%)	-
Enabling policies to matchinternational standard will enhance the system	42(45.2%)	40(43%)	3(3.2%)	7(7.5%)	1(1.1%)
There is need for private partnership to enhance water transport system in Lagos	54(58.1%)	14(15.1%)	8(8.6%)	14(15.1%)	3(3.2%)
Funding water transport system will enhance the usage of water transportation	55(59.1%)	12(12.9%)	8(8.6%)	12(12.9%)	6(6.5%)
There is need for proper supervision of the water transport system	20(21.5%)	60(66.7%)	5(5.4%)	4(4.3%)	2(2.2%)
Government should employ skilled staff so as to ensure adequate monitoring of the transport system	11(11.8%)	52(55.9%)	13(14%)	13(14%)	4(4.3%)
Better linkages with waterways in other regions will boost the operations of water transportation	20(21.5%)	30(32.3%)	4(4.3%)	28(30.1%)	11(11.8%)

Reduction of pipe line vandalization will be achieved	37(39.8%)	26(28%)	8(8.6%)	9(9.7%)	13(14%)
Improved standard of living of host communities.	37(39.8%)	32(34.4%)	10(10.8%)	12(12.9%)	2(2.2%)

Source: field survey, 2021

The table revealed that majority of the respondents agreed to the statement, while few of them disagree and some were undecided. This implies that higher percentage of the respondents agree to the statement

Hypothesis testing

Ho: Adequate water transport financing and maintenance does not improve system operations in Lagos.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig.
1	.750 ^a	.562	.417	.47318	.000 ^b

a. Predictors: (Constant), proper funding and maintenance

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.910	.296		3.068	.003
	Corporate reputation	.722	.077	.750	9.328	.000

a. Dependent Variable: institution choice

The model summary shows the extent to which proper funding and maintenance enhances operations of water transport system in Lagos state. The coefficient of determination ($R^2 = 562$) shows that 56.2% of the success recorded in operations of water transport system in Lagos state is contributed by proper funding and maintenance. This result is statistically significant because the p-value of the result (0.000) is less than 0.05 level of significance used for the study. This indicates that proper funding and maintenance of water transportation significantly enhances the operations of water transport system in Lagos state.

The model signifies that a unit changes in proper funding and maintenance enhances attraction the operations of water transport system in Lagos state by the rate of 0.722. Therefore, the null hypothesis was rejected while alternative hypothesis is accepted.

V. CONCLUSION/RECOMMENDATIONS

The study examines funding option for Lagos state water transportation system. The literature shows that it needs to improve and fund the water transport system in order to improve its proper operation. The results also revealed that proper funding and maintenance enhances operation of water transport operations in Lagos state. It was therefore recommended that;

- In order to maximise their potential, all stakeholders must join forces to develop this mode of transport.
- There is need to be stressed that proper compliance to rules and regulation guiding the use of the waterways must be strictly adhered to without hesitation by all concerned
- Existing and potential investors must fully come on board to enhance investment in the sector
- Awareness level on safety of water transport should be increase thorough an enlightenment in order to douse people tension on its usage

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