



Concessioneering a Strategy for Enhancing Nigeria's Airport Operational Efficiency - Lessons from Developed Countries

A. O. Adeniran^{1*}, K. T. Gbadamosi²

¹ Department of Transport Management Technology, Federal University of Technology, Akure, Nigeria.

² Department of Transport Management Technology, Federal University of Technology, Akure, Nigeria.

ABSTRACT

This study examines some concessioneered airports in the developed countries and their operational performance level with a view to identifying the positive impact of concessioneering on their growth, development and operational performance. The ultimate goal of the study is to provide basis for adapting the experience from lessons learnt to Nigeria's airports as a strategy for realization of airport operational efficiency. The study advocated for the concessioneering of two principal airports in Nigeria because of their potentials to enhancing the application of the experience learnt from lessons on concessioneering in the developed countries. Data obtained from relevant Government Institutions and Agencies in Nigeria were analyzed using descriptive statistics. It was concluded that Lagos and Abuja International Airport are the two major airports in Nigeria that can be privatized or concessioneered in order to improving their level of efficiency. Happenings around the world have shown the efficacy of Government disengagement in running business through the policy of concessioneering and privatization. Airport concessioneering and privatization has been considered as a major tool to enhance airport efficiency as witnessed in the developed countries. Airport concessioneering has the capacity to enhance efficiency of airport operation; reduce cost of airport services to stakeholders; decrease cost to the government for the support of airport sector; and attract private sector participation to free public resources for public services.

Keywords: Airport, capacity, concessioneering, efficiency, institutions.

Article history:

Received: 05 July 2017 Revised: 08 August 2017 Accepted: 19 October 2017 Available online: 11 November 2017

1. Introduction

Aviation plays a vital role in facilitating economic growth, and offers numerous economic and social benefits [1]. It provides the only rapid worldwide transportation network effectively supporting global business and tourism. It offers countries, especially developing ones, the opportunity to facilitate trade and enable linkages in the global supply chain. A viable and stable air transport industry plays critical roles in integrating the nation into the developed economy [2]. Air Transportation is the movement of passengers and freights by aircrafts. It is a transport system that involves the movement or carriage by air of persons or goods using airplanes and

* Corresponding author
E-mail: 4tynil@gmail.com
DOI: 10.22105/riej.2017.97500.1013

helicopters [3]. It has become the primary means of common carrier traveling. Greatest efficiency and value are obtained when long distances are involved and high value payloads are moved, although, the time and cost efficiencies obtained decreases as travel distances are reduced, air transport is often worthwhile even for relatively short distances. It also provides a communication link, which is sometimes vital, between the different groups of people involved [3]. Airports are terminal that acts as the interchange or interface between road and other transport modes. According to International Civil Aviation Organization (ICAO), an airport (or aerodrome) is an area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft. Airports are vital national resources which serve a key role in transportation of people and goods and in regional, national, and international commerce [2]. They are where the nation's aviation system connects with other modes of transportation and where federal responsibility for managing and regulating air traffic operations intersects with the role of state and local governments that own and operate most airports.

The development of aerodromes for the facilitation of the operation of airports in Nigeria began in the 70s. By 1976, Nigeria had thirteen airports, one in each state and Federal Capital which was Lagos. These airports were maintained by the department in the Ministry of Transport called Public Works Department (PWD). In 1965, Government created a depart known as civil Aviation Department (CAD) to handle the maintenance of the airports and runways. In 1976, government established Nigeria Airports Authority (NAA) under decree 45 and vested it with the responsibility to manage and maintain the airports and facilities except navigational aids. On August 31st, 1985, the federal military government created the Federal Airports Authority of Nigeria (FAAN) as a result of the Civil Aviation Reforms which brought about the merger of the Nigeria Airports Authority (NAA) and the Federal Civil Aviation Authority (FCAA). Airport concessioning is born out of the fact that there are many airports operating beyond their capacity, due to a constantly growing number of passenger and cargo traffic [4].

The magnitude, scope and persistence of failure of Nigeria's Public Enterprises (PEs) including the airports became alarming; as these enterprises required continuous massive subsidies, they seems to have delivered only intermittent and substandard services. The returns on these large investments were generally poor, and in some cases negative, with an especially low rate of return relative to the large amount numbers of resources invested in them [5, 6]. Net outflows from the government to the public enterprise sector were estimated at US\$2 billion annually [5].

All these pointed to the inefficiencies of public enterprises. Among the public enterprises in Nigeria are airports. The reasons for the poor performance of Nigerian airports and other public enterprises can be pointed to the fact that they tend to have uniform pattern and range, from the presence of conflicting and interwoven roles determined by politicians, prevalence of uncompleted contracts and subsidies from government. This step up internal inefficiencies, issues of excessive bureaucratic controls, government interference and intervention, and other public

service culture of undermining and compromising efficiency and optimum productivity [5, 7]. Most airport infrastructures in Nigeria required considerable rebuilding and restoration. This entailed massive external financial support which the federal government was unwilling to provide due to the present economic recession, existing corruption and operational inefficiencies. The Nigerian Airports and many other public corporations were also believed to have complex institutional management structure with stiff bureaucratic bottlenecks. For the purpose of addressing some immediate challenges such as airport delay, high charges, the Federal Minister of Aviation introduced airport concession to some of the airports in the country (Lagos, Kano, Abuja and Port-Harcourt), to facilitate needed expertise in the area of operations and technical-knowhow.

Recently, with globalization and the current economic recession, the government realizes that it lacks the resources (man, material, money and machinery) and technical knowhow to operate a modern airport successfully. In most develop countries like South Africa, Brazil, United States of America and others, governments and airport authorities have withdrawn from airport operations having the conception that enterprise-based airport services and operations would allow for greater flexibility, effectiveness, efficiency, excellent services and customer satisfaction. As a result of this, Nigerian government and airport stakeholders are considering the adoption of airport concessioning as a way out of crisis situation.

This study is aimed at examining operation of the concessioned airports in the developed countries which is a strategy for enhancing and sustaining Nigeria's airport operational efficiency. The objectives are:

- I. To identify major or principal airports in Nigeria.
- II. To make out the derived lessons from airport concessioning in the developed countries.
- III. To suggest recommendations for major or principal airports in Nigeria.

At the end of this study, the general public, most especially the Nigerian airport stakeholders, will be enlightened on the benefits of airport concessioning to enhancing sustainable airport operational efficiency. They will also be educated on the prospects and challenges of concessioning so as to avert the challenges during implementation. The study will also contribute to the body of literature in the subject matter. The outcome of this research will serve as an input to policy makers in decision making concerning management of public infrastructures. This study covers the benefits and the challenges of airport concessioning. There are few literatures regarding the subject matter. It should be noted that absence of literatures to review is due to the fact that the policy is on the formulation stage and still await full implementation by the Nigerian government. Also, the study focused on few concessioned airports in the world.

2. Literature Review

Concession is a process whereby the concession grantor gives the right to operate a facility and/or deliver a service of public interest to a merchant concessionaire, against the commitment assumed by the concessionaire to build and manage the subject of the concession or to manage the delivery of service at the concessionaire's own risk [8]. Airport concessioning is defined as a business located on an Airport which engages in the sale of consumer goods or services to the public under an agreement with an Airport, another Concessionaire, or the owner of or Lessee of a terminal [9]. For more than five years, South Africa's airports have remained the best Africa's airports; this can be attributed to the fact that the airports are concessioned. The concessioned airports in South Africa and some other airports in Africa are managed by Airports Company of South Africa limited (ASCA).

On a global scale, ownership of airlines was the prerogative of respective governments until the 1970s when the United State government initiated the ideology of de-regulation to remove restrictions and encourage competition in civil aviation. By the 1980s, more countries embraced the idea of liberalization and privatization of air services and have access to air transport markets. This development triggered the involvement of private sector participation like the British Overseas Airways Corporation (BOAC) and Imperial Airlines of UK [10]. The first recorded flight into Nigeria was in 1925. However, commercial aviation services between Nigeria and UK commenced in 1935 with flights operated by Imperial Airlines of UK to serve the British West Africa Colonies. This development was further boosted with the advent of the Second World War, which led to the completion of all the aerodromes and airports that had been planned for Nigeria by 1940 [11]. Air travel in Nigeria commenced during World War II (1939-1945) when it seems necessary to move troops and supplies fast across the country. Several air strips were built and converted for Civilian use after war [12]. Nigerian airways was established in October, 1958 as a joint venture between the Nigerian government, Elder Dempster lines and the British Overseas Airways Corporation (BOAC) [10]. The Airways took over the operation of domestic flights from the disbanded West African Airways Corporation (WAAC) which had been operating commercial aircraft within the country since 1946 [13]. In 1963, the Nigerian Federal Government bought out the other shareholders and Nigeria Airways became wholly-owned by the Nigerian government. The airline has a monopoly for providing domestic air services in Nigeria. It was also the national flag carrier for international services along the West African Coast, Europe and the United States of America [11].

In 1976, Nigeria Airways operated a fleet of nineteen aircraft consisting of two Boeings 707 and 737 and one DC 10-30 aircraft used mainly for international flights. There were Seven F.28 Jets and Seven Folder F.27 propeller aircrafts used mainly for domestic routes [13]. There were also other major international airlines which operate flights to Nigeria, thereby linking Nigeria with the World's major socio-economic and political centers. Within Nigeria itself, several charter companies operate additional flight in small aircraft from Lagos to the main economic

centers in the southern parts of the country [11]. Furthermore, the roles of air transport in the nation's development became noticed, and as a result of this, Nigerian government made significant attempts to develop the country's air transport system in the year 1975-1980. Airport development programme was achieved which significantly affected Murtala Muhammed airport, and six other airports in Kano, Ilorin, Kaduna, Sokoto, Port Harcourt and Maiduguri. Apart from these Airports Development programme the federal government also increased manpower development in the aviation industry [11].

The Nigerian Civil Aviation Training Centres provides a substantial number of trained air personnel. This is in the areas of piloting, maintenance engineers, air traffic controllers, aeronautics teleprompter operators and communications personnel. These personnel were strengthened by Nigerian College of Aviation Technology, Zaria. During the 1980s and 1990s, many airports were built. Existing ones were modernized and integrated with more facilities under the management of Nigerian Airports Authority [11]. It is estimated that by the year 2003, over four million Nigerian would fly using the airports each year [12]. However, private domestic air carries began to win business at the expense of Nigeria, Airways, the government-owned national airline and it went into comatose in 2004. The national flag carrier of Nigeria is now-*virgin* Nigeria Airways, joint ventures between Nigerian private investors and the UK-based *Virgin Atlantic Airways* with the backing of the Nigerian government [14].

The replacement of Nigerian Airways with *Virgin Atlantic Airways* is an attempt at deregulating the civil aviation industry. On 17th September, 2009, *Virgin Nigeria* was re-branded as *Nigeria Eagle Airlines* which was further changed to *Air Nigeria Development Limited* in 2nd June, 2010, branded as *Air Nigeria* [14]. There are a total of thirty eight (38) airports with paved runways and sixteen (16) airports with unpaved runways. In the year, 2011 the State Governors of Bauchi, Kebbi, Kwara and Niger carried out rehabilitation and upgrading of airports in their State capitals to attract investors from anywhere in the world. These airports are to create an efficient transportation network which is indispensable for economic growth [15]. However, few planes fly in these airports as the overwhelming majority in these States can only afford road transport. In the years 2011 and 2012, there were new developments in air transportation in Nigeria. The development includes renovation and upgrading of facilities in Lagos, Kano, Port-Harcourt, Enugu and Jos. Examples included the construction of new terminal at *Nnamdi Azikwe International Airport Abuja* and the construction of domestic wing of *Mallam Aminu Kano Airport*. On 12th December, 2011, *Arik Air* launched the Abuja-London Flight while earlier in the year; a new airline named *1st Nation Continental Airlines* started the Lagos (Nigeria)-Kigali (Rwanda) direct flight [11].

Airports in Nigeria are being managed by Federal Airports Authority of Nigeria (FAAN). This body is responsible for the management of all commercial airports in Nigeria through the provision of services to passengers and airlines. It is a parastatal of the government, under the supervision of the Federal Ministry of Aviation. FAAN generates revenue for operations through

aeronautical and non-aeronautical sources such as landing fees, parking fees, rents, concession fees and utilities fees. One of its main functions is to develop, provide and maintain airports, necessary services and facilities for safe, orderly, expeditious and economic operation of air transport [4]. There are four ownership and operation schemes for airports [16]:

1. Public ownership and operation

This is the first model and is common in Africa. Just like other regions, the governments of countries in Africa often consider airports as public infrastructure that provides revenue and foreign currency. Even if the airport is corporatized (as in the case of the Airports Company South Africa), the state retains majority ownership [16]. However, even airports with operational surpluses fail to undertake necessary maintenance and reinvestment. The success of this model is thus questionable [16].

2. Regional ownership and operation

Regional ownership is most common secondary airports and is often used by central governments to remove less profitable airports from the national budget. It is also found in federal countries, especially those with strong airport markets, such as the United States of America. This form of ownership is unlikely to benefit regional airports in poorer countries with weak provincial government systems and it is therefore generally inappropriate for Africa [16].

3. Public ownership and private operation

There are several models for public-private partnerships (PPPs): joint ventures, partial and majority divestitures, management contracts, and concession contracts. The few recorded attempts at PPPs in African airports have occurred in markets of all sizes:

- i. Cameroon: This is a small market that serves below 1 million seats a year.
- ii. Tanzania: This serves more than 1 million seats a year (an average size for the region).
- iii. South Africa: This is the largest market in Sub-Saharan Africa [16].

Cameroon was the only country in the region with a management contract covering a system of seven airports owned by the Aéroports du Cameroun. Its major stakeholders were Aéroports de Paris, with 34 percent, and the government of Cameroon, with 24 percent (the remaining stakes were shared by other carriers and a bank). But when Aéroports de Paris failed to meet the agreed-upon requirements for funding the Douala International Airport rehabilitation in 2004, the government took over its share. This model has thus also proved not to be efficient [16].

The majority of private participation in African airports is through concessions. Under a concession agreement, the government continues to fund infrastructure investment while the

concessionaire assumes responsibility for service provision. This arrangement allows private firms to offer specific services, such as Swiss Port's passenger counter services in Johannesburg and Dares Salaam and private contractors' cargo-handling functions in lesser-known airports, such as Mwanza in Tanzania. Contract bidding occurs in regular cycles, and terms vary from airport to airport [16].

4. Private ownership and operation

Concessions of specific services is a well-developed model in airports throughout the world, and it may be the most appropriate and sustainable form of PPP for Africa. Full privatization is rare among airports and it is generally attractive only for airports with substantial passenger traffic that is potentially profitable. One example is that of the British Airports Authority, which owns three main London airports (Heathrow, Gatwick, and Stansted) as well as three main Scottish airports (Edinburgh, Glasgow, and Aberdeen) [16]. However, it has been argued that because of the authority's monopolistic nature, airport charges have soared, service quality declined, and reinvestment in basic airport infrastructure has been insufficient. Following an inquiry by the UK Competition Commission, the authority was required to sell off Gatwick, Stansted, and either Glasgow or Edinburgh. The Airports Company South Africa, which owns 10 airports in South Africa, appears to follow this model. In practice, however, the company is controlled by the government of South Africa. Meanwhile, the privatization of complete airports is slowing worldwide; noticeably fewer transactions occurred in 2007 than in the immediately preceding years. This trend is likely to continue [16].

Airport concessions have been in existence in the developed countries for almost thirty (30) years. Despite the fact that it has been in existence for long, it is a new idea in Nigeria although South Africa has embraced it since 1993 till present. It is quietly obvious that the best three Airports in Africa as rated by SKYTRAX in the 2016 are among the concessioned Airports in South Africa. The concessioned airports are managed by Airports Company of South Africa limited (ASCA). Airport concessions is a business located on an Airport that is engaged in the sale of consumer goods or services to the public under an agreement with an airport, another concessionaire, or the owner or lessee of a terminal. It is also a business conducting one or more of the following activities, even if it does not maintain an office, store, or other business location on an Airport, as long as the activities take place in the airport terminal [9].

The effective overall capacity of an airport is determined by the facilities with the lowest capacity, such facilities may be airside (such as runways and airport parking space) or landside (such as terminals). Airports with higher traffic volumes generally have higher quality airside infrastructure. In Africa, main hubs, such as Johannesburg and Nairobi, have adequate airside infrastructure, including standard runway length and Instrument Landing System (ILS) [16]. In West Africa, Murtala Muhammed International Airport (MMIA) is the main hub. The airport is rather considered to be effective but not efficient due to the fact that the infrastructures are

inadequate. Lower quality infrastructure is much more prevalent among airports with low traffic volumes (below a million seats per year). Airport landing charges are high in Nigeria, although the charges vary considerably by airport and aircraft size. Comparison of charges for three aircraft types across fifteen airports in Sub-Saharan Africa and 3 in North Africa with FraPort in Frankfurt, Germany, shows that charges at Sub-Saharan African airports were on average 30 to 40 percent higher than at FraPort, while those in North Africa were comparable or lower. Charges were particularly high in Cameroon, Côte d'Ivoire, and Ghana. But they averaged 29 percent higher at African airports [16]. The increasing size of aircraft suggests that airports charged intercontinental travelers more, perhaps to generate foreign currency revenues. In some cases, passenger fees exceed \$80 per passenger. On the other hand, airports in Sub-Saharan Africa rarely have other sources of revenue, such as shopping, car rentals, and duty-free concessions, which contributes to large proportion of overall airport revenues in industrialized countries. The higher charges in the region are therefore unsurprising [16]. Concessions were born out of the needs for reforms. Concession may be considered analogous to public private partnerships (PPPs) and Private Finance Initiatives (PFIs) and or seen as an arm of privatization (if defined broadly). Privatization of state-owned enterprises (SOEs) has become a key component of the structural reform process and globalization strategy in many economies. Concessions is an old innovation practiced by French government and is seen efficient since the water project of the year 1776 [5, 6]. Concessions of airports in the developed countries has generally improved. Sustaining the improvements will depend critically on addressing a range of observed defects in the way concessions are designed and managed in its pricing policies. Although concessions in the impoverished countries are unlikely to be financially attractive to traditional operators; as private companies that can secure financial benefits not directly linked to the operations.

2. Methodology

This is a descriptive study; Data are obtained from secondary sources especially published materials, journal articles, and other documents of relevant government institutions and agencies in Nigeria.

3.1 Study Area

Nigeria is located in the West Africa sub-region. It is bounded in the north by Niger Republic, south by Atlantic Ocean, east by Cameroon and Chad and west by Benin Republic. Nigeria is the most populous country in Africa. With respect to NPC, 2006, Nigeria accounted for more than 140 million and by August 2011. The country is located within the longitude 3°E and 15°E and latitude 4°N and 14°N of the equator [17].

Nigeria has about eight major international airports and the most functional among them are Murtala Muhammed Airport, Lagos, Nnamdi Azikwe International Airport, Abuja and Mallam Aminu Kano International Airport, Kano. MMA is the busiest international Airports in Nigeria that account for more than 80% of the international airport service operation in Nigeria. Five of

the International Airport are located in the northern part of the country while the rest were in the southern [17]. The table below illustrates the spatial and geographical location of International Airports in Nigeria [17].

Table 1. location map of international airports in Nigeria.

Airport	State	Geopolitical Zone
Murtala Muhammed International Airport	Lagos	South West
Nnamidi Azikwe International Airport	Abuja	North Central
Ilorin International Airport	Kwara	North Central
Maiduguri International Airport	Bornu	North East
Sadiq Abubakar International Airport	Sokoto	North West
Mallam Aminu Kano International Airport	Kano	North West
Port Harcourt International Airport	River	South South
Margaret Ekpo International Airport	Cross River	South East

Nigeria has about twenty functional domestic airports. the most functional domestic airports are located in the following areas, Lagos, Abuja, Port Harcourt, Kano, Enugu, Osubi, Kaduna, Calabar, Sokoto, Benin, Maiduguri, Jos, Owerri, Yola, Ilorin, Ibadan, Minna, Akure, Katsina, and Makurdi. Recently, Federal Airport Authority, Nigerian Airspace Management Agency and Nigeria Civil Aviation Authority under the ministry of aviation manage all the listed domestic or local airports. It should be noted that some international airports also function as domestic airports. Table (2-4) below depict the movement of international, domestic and total air passengers' movement in Nigeria.

Table 2. Total international air passenger movement in Nigeria.

YEAR	NUMBER OF PASSENGERS	% CHANGE
2010	3,217,876	
2011	3,586,742	0.12
2012	4,440,930	0.24
2013	5,463,528	0.23
2014	3,881,633	-0.29
2015	4,335,343	0.12
TOTAL	24,926,052	

From the Table 2 above, the highest number of international air passenger movement was recorded in 2013. From the Table 3 above, the highest number of domestic air passenger movement was recorded in the year 2014.

Table 3. Total domestic air passenger movement in Nigeria.

YEAR	NUMBER OF PASSENGERS	% CHANGE
2010	10,753,725	
2011	11,303,215	0.05
2012	9,770,453	-0.14
2013	9,159,612	-0.06
2014	11,447,601	0.25
2015	10,222,441	-0.11
TOTAL	62,657,047	-0.01

Table 4. Total air passenger movement in Nigeria.

YEAR	NUMBER OF PASSENGERS	% CHANGE
2010	13,971,601	
2011	14,889,957	0.06
2012	14,211,383	-0.05
2013	14,623,140	0.03
2014	15,329,234	0.05
2015	14,557,784	-0.05
TOTAL	87,583,099	0.04

Table 5. Domestic air passenger traffic in each airport in Nigeria between year 2010 and year 2015.

AIRPORT	Passenger Traffic in Year 2010	Passenger Traffic in Year 2011	Passenger Traffic in Year 2012	Passenger Traffic in Year 2013	Passenger Traffic in Year 2014	Passenger Traffic in Year 2015
Lagos	3,864,458	4,127,100	3,646,824	3,383,338	3,111,975	3,778,145
Abuja	3,361,107	3,624,862	2,904,491	3,116,634	3,274,986	3,375,823
Port Harcourt	1,198,668	1,256,266	1,077,517	125,377	1,225,135	1,116,885
Kano	234,996	272,911	213,949	207,485	257,927	227,038
Enugu	0	301,744	211,225	217,031	291,023	310,558
Osubi	343,333	365,875	355,661	267,532	221,250	187,430
Kaduna	185,297	109,622	140,800	141,841	174,216	123,827
Calabar	281,556	152,930	205,676	197,470	203,844	189,907
Sokoto	60,425	69,805	67,238	30,663	100,078	84,338
Benin	348,906	323,554	222,027	230,347	227,896	126,224
Maiduguri	107,200	74,824	79,753	13,025	11,103	43,079
Jos	75,525	47,794	50,964	54,798	48,938	48,199
Owerri	476,063	384,016	265,082	1,094,929	338,943	313,343
Yola	108,547	83,222	199,926	9538	145,588	149,940
Ilorin	43,761	46,990	65,517	63,379	66,205	67,439
Ibadan	27,843	38,979	52,286	61,072	64,743	67,911
Minna	8,896	0	5,406	8,105	787,811	5,379
Akure	6,640	6,073	7,612	10,742	6,113	2,786
Katsina	8,773	5,937	2,381	8,980	2,189	3,314
Makurdi	11,731	10,711	1,525	5,029	907,638	876

From the Table 4 above, the highest number of total air passenger movement was recorded in year 2014. Table 5 below depicts the domestic air passenger traffic in each airport in Nigeria between 2010 and 2015 and the pictorial view will be depicted in Figure 1 below respectively. This will enable the researcher to know the major domestic airports in Nigeria that can be concessioned.

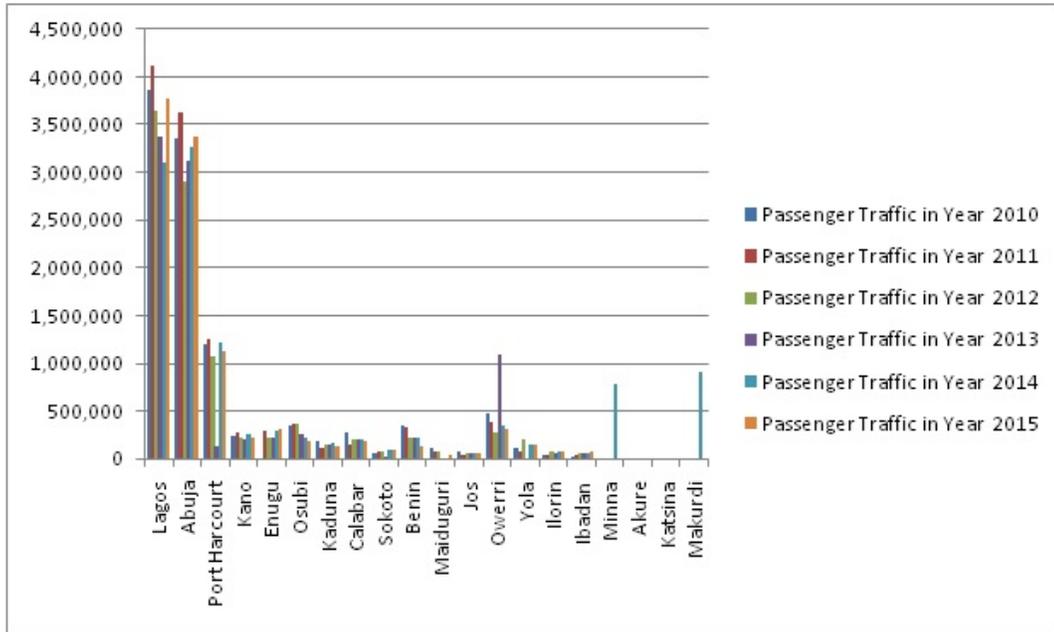


Figure 1. Bar chart domestic air passenger traffic in different airports in Nigeria from year 2010 to 2015.

From the table and figure above, it can be depicted that Lagos Airport, Abuja Airports are the major domestic Airports in Nigeria that are based on the high number of domestic passenger movement. Also, Port Harcourt Airport is also improving. Nigeria’s airports have contributed significantly to the economic development in Nigeria.

Table 6. International air passenger traffic in each airport in Nigeria between year 2010 and year 2015.

AIRPORT	Passenger Traffic in Year 2010	Passenger Traffic in Year 2011	Passenger Traffic in Year 2012	Passenger Traffic in Year 2013	Passenger Traffic in Year 2014	Passenger Traffic in Year 2015
Lagos	2,409,087	2,619,190	3,232,462	3,877,840	2,582,288	3,024,078
Abuja	561,440	591,285	774,733	829,690	894,690	965,814
Port Harcourt	13,148	90,345	114,619	80,572	112,342	106,922
Kano	146,845	975,881	155,183	122,146	175,336	162,486
Enugu	0	0	0	12,645	46,507	42,262
Kaduna	20,755	26,282	29,865	18,628	26,840	14,248
Calabar	379	138	492	687	192	1
Sokoto	40,231	41,525	69,962	125,676	18,047	11,891
Maiduguri	14,809	13,150	25,782	1,107	0	4,706
Yola	0	9,418	110,567	0	11,023	8,956
Ilorin	9,187	3,643	4,974	7,209	3,896	0
Minna	1,995	1,924	9,748	238,463	1,757	3,237
Katsina	0	13,961	12,453	80,217	9,075	4,990

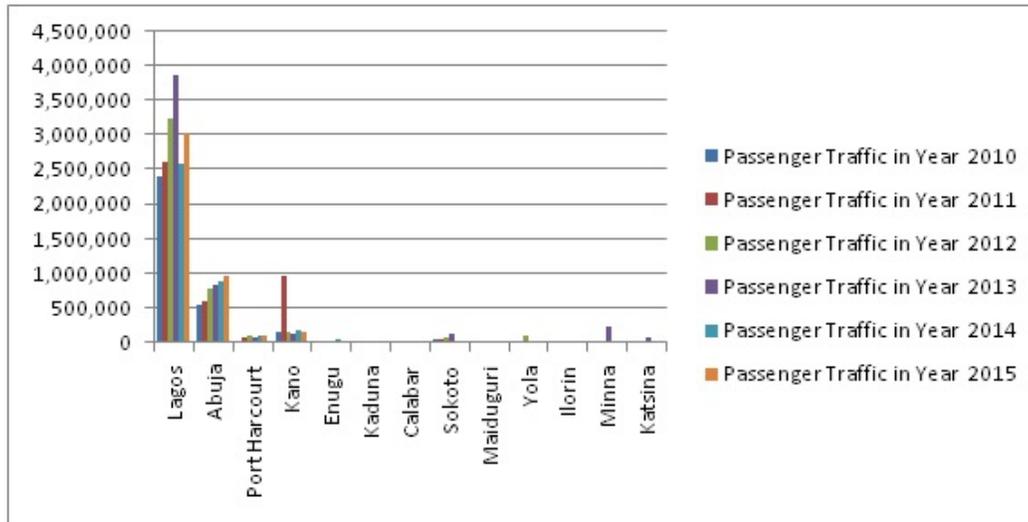


Figure 2. Bar chart international air passenger traffic in different airports in Nigeria from year 2010 to year 2015.

From the table and figure above, it can be depicted that Lagos Airport is the major international Airport in Nigeria, due to the high number of international passenger movement. Also, Abuja Airport is also improving. These airports in Nigeria have contributed significantly to the economic development in Nigeria.3.2. Airport Concessioning in the developed countries.

The changing perspective of airports from public utilities to businesses is coupled with a shift to move airport governance from public to more private sector participation. The move to privatization was motivated by number of factors [16]. The UK was the first to privatize a subset of airports beginning in 1987. Since the British Prime Minister Margaret Thatcher's government privatized the former British Airports Authority; airport privatization has become a global phenomenon. Governments in Europe, Asia, Australia and New Zealand, Latin America and the Caribbean subsequently privatized major airports. By the end of 2010, a study by Airports Council International (ACI) Europe found that 22% of Europe's 404 principal airports were either wholly investor-owned or mixed (public/private) ownership. Elsewhere in the world, the primary mode of privatization has been via a long-term lease or concession. Some of the larger privatized airports have acquired full or partial ownership interests in other airports. This process has created a global airport industry, with significant investment recently coming from pension funds and infrastructure investment funds [18].

In the research conducted by Robert, the world's 100 largest (by revenue) airport groups were examined. Among the airports, thirty-eight airports were either fully or partially owned by investors (or were in the process of becoming so, as in Spain and Portugal as at year 2012). Some of these global airport groups also manage overseas airports, on a contract basis, without actually obtaining an ownership share. The global airport industry is dynamic, with a number of changes in ownership during 2013, especially in the airport division of Spanish company Abertis and

German company Hochtief, as well as Ferrovial's stake in London's Heathrow Airport. The largest airport privatization activity in 2013 continued to be in Europe and South America [18].

India in recent years has used long-term concessions to upgrade and modernize the existing airports of New Delhi and Mumbai and to create new ones at Bengaluru and Hyderabad. In these concessions, the Airports Authority of India (AAI) retained 26% of the concession company, leaving majority control with investors. These arrangements have enabled two Indian firms, GMR and GVK, to become global players in airport privatization [18]. Government of South Korea has been talking about privatizing the large new Incheon International Airport serving in Seoul as dated to year 2008. Meanwhile, it should be noted that Incheon International Airport is presently among the highest performing airports which is included among the providers of excellence in customer service in the world as rated by Skytrax, in 2016. Robert revealed that the announced plan was to sell a 49% stake via an initial public offering of shares, but no time frame was given. The proposed sale has turned into a controversial political issue.

The evidence suggests that governments have preference for elimination of (costly) regulation. As an increasing number of governments including Nigeria are moving to privatize airports, the following questions emerge:

- i. Under what circumstances can a shift to privatization take place?
- ii. Will the loss of economic welfare be minimal or more?

It should be noted that in the UK where all airports have been privatized except Manchester, small airports with a least amount of schedule air service are profitable [19]. Thus, concession services play an important role in sustaining airport viability. Government, in principle, is concerned with the economic welfare from aeronautical services. Although the convention in the current literature is to assume that consumption of concession services carries positive welfare effects, the value of non-aviation services can vary from near zero to some positive value in our view [19].

3.3. Evidence of Government and Private Contributions towards Ownership and Management of Selected Airports in the World

The Austrian airport operator of Vienna, Flughafen Wien AG, was privatized in 1992, and nowadays 50% of shares are in the hands of private shareholders, while the other 50% are divided between the province of Lower Austria (20%), city of Vienna (20%), and a private employee participation foundation (10%). The Belgium government owns 25% of the shares of Brussels Airport Company, and the remaining 75% are owned by a private investor, the Australian Group Map Airports [20]. At the end of year 2006, the German-Bulgarian consortium of the worldwide famous airport operator Fraport AG and the Bulgarian logistic company BM Star won the competition for the concession of Varna and Burgas airports – the air gateways to the popular Bulgarian Black Sea tourist region. During the 35-year concession period, Fraport Twin Star Airport Management will operate and invest in the development of both coastal airports.

Concession contracts were signed in 2005 before the beginning of the busy summer season. The 35-year contract will have an option for a 15-year extension [20].

Cyprus has three international airports: Larnaca, Ercan, and Paphos. Ercan airport is situated in the Turkish area of Cyprus, and is publicly run, although privatization plans for increasing capacity (runway length and a new terminal building) are in the agenda. An entirely different model was developed for Larnaka and Pafos, the two largest Cypriot airports, run through a 25-year concession contract, established between the consortium (Hermes Airports) and the Republic of Cyprus, in July 2005. The concession agreement included investments for the construction of a new passenger building, as well as apron and runway extensions, which was the largest construction contract done in the Republic, and was developed under a BOT scheme (622 million Euros). The shareholder structure of Hermes Airport Ltd has investors from a very large diversity: the French construction group Bouygues Batiment International (22%), the French infrastructure group Egis Projects (20%), Cyprus Trading Corporation (11.34%), Hellenic Mining (11.33%), Vancouver Airport Services (11%), Aer Rianta International (11%), Iacovou Brothers (5.665%), Charilaos Apostolides (5.665%) and the French airport operator Aéroport Nice Côte D'Azur Chambre de Commerce et D'Industrie (2%). One of the main shareholders (Bouygues Batiment International) was responsible for all public works to update and construct facilities, sub-contract the local partners (Iacovou and Charilaos). Cyprus Trading Corporation and Aer Rianta manage duty-free retailing. The agreement established an annual fee of 33% of gross revenue to the Cyprus government and a fixed annual fee of 3.5 million Euros [20].

Copenhagen Airport is the largest airport in Denmark, is managed by Københavns Lufthavne, a public limited company. The main shareholders are the Macquarie Group (52.4%) and the Denmark government (39.2%). Originally it was a government enterprise and it was transformed into a limited company in 1990. Four years later, the government sold 25%, and listed the company in the Copenhagen Stock Exchange. In Paris, Aéroports de Paris is operating under a 99 year concession, and it is owned by the French government (52.1%), the Schiphol Group (8.0%), Caisse de Dépôts et Consignations (8.6%), French institutional Investors (11.4%), Non-French resident institutional investors (11.4%), French individuals and unidentified shareholders (8.6%), Employees (2.1%) and Treasury shares (0.1%) [20]. In France, the Aéroports de la Côte d'Azur is owned by the State (60%), the French Riviera Chamber of Commerce (25%), and 15% ownership distributed equally among the Region of Provence Alpes Côte d'Azur, Alpes-Maritimes Regional Councils and Urban Community of Nice.

In Frankfurt's main airport in Germany, the manager/operator is Fraport, hold by the Sate of Hesse (31.52%), the city of Frankfurt (20.13%), and private corporations like Artio Global Investors (10.35%), Deutsche Lufthansa AG (5.01%), Taube Hodson Stonex Partners (3.59%), Arnhold and Bleichroeder Holdings, Inc. (2.98%) and Morgan Stanley (2.94%). 18.59% are in the hands of anonymous shareholders. Also, Dusseldorf (the first German airport to be partially

privatized), 50% belongs to the Landeshauptstadt Dusseldorf (state capital) while 50% belong to Airport Partners [20].

In Germany, concession was signed, for 99 years, for Berlin-Brandenburg new airport. The winning bid belongs to IVG Holding and Hochtief Airport, together in a consortium called Berlin-Brandenburg International Partner. In this green field project, the government role was to resettle the population in two small villages (Diepensee and Selchow) and build rail and road infrastructures [20]. In Greece, Athen's International Airport is commonly referred to when speaking about the PPP option in airports. Established in 1996, it was awarded the construction and management of Eleftherios Venizelos airport for a 30-year BOOT (Build-Own-Operate-Transfer) concession scheme. The company is responsible for the construction and operation of the airport which is owned by the Greek State (55%), while Hochtief AirPort GmbH and Hochtief AirPort Capital, owned 26.667% and 13.333% respectively, and 5% belongs to Copelouzos Group. The Airport Company is not permitted to perform any operations outside this area. Also, all of its operations are expected to be related directly to the business of managing the airport. All ground accessibility to the airport will be provided by the Greek state [20].

In Holland, Schiphol Group is the entity responsible for the management and operation of Schiphol Airport, 69.77% of shares belong to the Dutch government, 20.03% to the Municipality of Amsterdam, 2.20% to the Municipality de Rotterdam and 8% to Aéroports de Paris. In Italy, Aeroporti de Roma could be considered as a private firm because the shares owned by the public sector are 3%, while 95.8 % belong to Gemina (an Italian holding company listed in the stock exchange market). Latvia Riga Contractual Riga Airport is one of the latest airports in Europe developed under a PPP scheme, in this case, a BOT agreement. The concession included the construction of a new terminal and the operation of the entire airport [20]. In Malta, Malta International Airport handled 2.9 MPax (2009), and it is run by the company with the same name. In 2002, the Maltese government sold 40% of the company to the Malta Mediterranean Link Consortium Ltd (a 93.6 million Euros trade). In 2002 and 2005, the government sold extra 40% (20% each year), to smaller private investors. Slovenia Ljubljana Institutionalized Aerodrom Ljubljana, the company owning and managing the Ljubljana Airport, is owned 51% by the Republic of Slovenia, 7% by the Pension fund, 6% by the Slovenian Restitution Fund and 19% by Private Companies and other 16 legal entities [20].

The company structure of Newcastle International Airport is the result of an agreement by the airport's seven local authority shareholders to enter into a PPP arrangement with Copenhagen Airports in May 2001. As part of the establishment of a PPP arrangement for the future, the local authority shareholders sold 49% of its shares to the Company to Copenhagen Airports and the Company has entered into a 15 year Technical Services Agreement with Copenhagen Airports. In United Kingdom, Norwich International Airport is owned in 80.1% by Omniport (private investor) and the remaining shares belong to Norwich City and County Council [20].

4. Discussion and Summary of Findings

It has been affirmed that these days many airports are operating beyond their capacity, due to a constantly growing number of passengers [21]. Also, airports are very competitive nowadays and creating unique environments for their passengers, develop loyal relations with them and offer products and services to make them come back to a particular airport as part of airport concession management strategy to generate revenue coming mostly from the non-aeronautic sector [22]. There are several factors influencing successful concession management in airports. There is a number of activities strongly associated with concession components in airport operations management, such as convenience stores, drug stores, bakery stores; bookstores, souvenir stores, fashion apparel stores, sports stores, record stores, electronics stores; duty-free stores, food and beverage services, rent-a-car services; airport advertising services, telephone services. Other concession activities associated with services aimed to meet passengers needs include business facilities, leisure facilities, lounge facilities. Shopping areas, which have the most direct relation to concession management, are divided into two categories. The first category is open to all the visitors, employees and obviously passengers [22].

Airports are looking for operators who can establish financial validity, resolute flexibility and high-quality operational performance. These changes in airports' expectations enhance global operators' competitive advantage. The tendency among operators facing internationalization and reinforcement helps them achieve an improved professionalism, buying power, enlarged brand portfolio, offer rival and solid concession fees [23]. The strategy has a focus on customer satisfaction and the needs of passengers, with an aim to improve quality service management as one of the most important factors in airport retail management [24]. Another forecast based on a study is a social factor at airport-cities, associating it with a number of various activities available within the airport and driven by the industry. Some gateways in airports already follow the model of airport cities with a number of economic, regional and national strategic poles [25].

From the above review, the following are the summary of lessons derived:

- i. The ownership and management of airports should be done by partly government and partly private.
- ii. Major or principal airports are privatized either by long term lease or concession.
- iii. The private investors are in-charge of major operation, management and control of those privatized or concessioned airports.
- iv. Some larger privatized airports acquired full or partial ownership interests in other small capacity airports.
- v. The government fully regulates those concessioned airports for economic purpose.

5. Conclusion and Recommendation

Evidences of concessioned airport in the developed countries revealed that concession services play an important role in sustaining airport viability. Due to the higher number of passengers patronizing the airport as shown in the Figure 1 and 2 respectively, Murtala Muhammed International Airports in Lagos and Nnamdi Azikwe International Airport in Abuja are the major or larger airports in Nigeria which can be privatized or concessioned. Their domestic airports respectively can be acquired by full or partial ownership interests. For a developing country like Nigeria, airport concessioning should be considered as major tool to enhance airport efficiency as experienced in the developed countries. Airport concessioning enhances efficiency of airport operation; and reduces costs of airport services to stakeholders; reduces costs of the government for the support of airport sector; and attract private sector participation so as to free public resources for public services. Government of Nigeria should therefore consider major or principal airports in Nigeria privatized either by long term lease or concession. They should be on lookout for seasoned operators who can establish financial validity, resolute flexibility and high-quality airport operational performance. The investors or operators should be in-charge of operation, management and control of major or principal airports to be privatized or concessioned in Nigeria. The government may fully regulate concessioned airports in Nigeria for economic purposes. The ownership, management and operations of Nigeria airports should not be solely by one entity but rather both Government and private stakeholders.

References

- [1] Forecasting, O. E. (2005). The economic and social benefits of air transport. *Geneva, switzerland, air transport action group*.
- [2] Transportation research board of the national academics. (2013). Airport cooperative research program (acrp) synthesis 48. Retrieved from <http://www.trb.org/Publications/PubsACRP/SynthesisReports.aspx>
- [3] Windows Internet Explorer (2011). *Air Transportation System- Definition of Air Transport*. Retrieved from <https://www.thefreedictionary.com/air+transportation+system>.
- [4] SERVICOM Integrated/Local Charter. (2009). Retrieved from: <https://www.faan.gov.ng/>.
- [5] Jerome, A. (2008). *Privatization and enterprise performance in Nigeria: Case study of some privatized enterprises* (Vol. 175). African Economic Research Consortium.
- [6] Oghojafor, B. E., Kuye, O. L., & Alaneme, G. C. (2012). Concession as a strategic tool for ports efficiency: An assessment of the Nigerian ports. *American journal of business and management, 1*(4), 214-222.
- [7] Ogunsiji, A. S., & Ogunsiji, O. O. (2010). Consummate precision of strategic management approach on transport logistics and physical distribution for port performance efficiency: A case study of Nigerian Ports. *Journal of emerging trends in economics and management sciences, 1*(2), 96-101.
- [8] Tsvetkov, A. (2010). Strategy for the development of the transport infrastructure of the republic of bulgaria through concessioning mechanisms. *Bulgarian minister of transport, information, technology, and communication*. Retrieved from: www.traceca-org.org/fileadmin/fm-bulgaria/Presentation_Concessions_0310_en.pdf
- [9] Airports council international, north America. (2016). Retrieved from: www.acina.org/content/airport-concessions-award-winners.

- [10] Federal government of Nigeria. (n.d.). Retrieved from: https://en.wikipedia.org/wiki/Federal_government_of_Nigeria.
- [11] Allen, C. K. (1999). *A new geography of Nigeria*. Retrieved from: https://books.google.com/books/about/A_New_Geography_of_Nigeria.html?id=SJ4PAQAA-MAAJ.
- [12] Filani, M. O. (1983). Air Transportation in Oguntoyinbo. In J. S. Areola, O. O. Filani M., (Eds.), *A geography of Nigerian development*.
- [13] Air Nigeria. (n.d.). Retrieved from https://en.wikipedia.org/wiki/Air_Nigeria.
- [14] Aun, I. I. (2013). Airport development and socio-economic development of Nigeria. *Journal of research in national development*, 11(1), 196-205.
- [15] Bofinger, H. (2011). *Africa's transport infrastructure: Mainstreaming maintenance and management*. Africa: World Bank Publications.
- [16] Afolayan, O. S., Asaju, A. J., & Malik, N. A. (2012). Variation in spatial trend of passengers and aircrafts movement in Nigerian international airports. *International journal of humanities and social science*, 2(10), 126-133.
- [17] Gilroy, L. (2007). Annual privatization report. Retrieved from: <http://tinyurl.com/15o5e8>.
- [18] Starkie, D. (2008). The airport industry in a competitive environment. *OECD/ITF joint transport research centre discussion papers*, 29. <http://dx.doi.org/10.1787/20708270>.
- [19] Cruz, C. O., & Marques, R. C. (2011). Contribution to the study of PPP arrangements in airport development, management and operation. *Transport policy*, 18(2), 392-400.
- [20] Gridlock on the ground: How airlines can respond to airport congestion. (2015). Retrieved from: <https://www.mckinsey.com/industries/travel-transport-and-logistics/our-insights/gridlock-on-the-ground-how-airlines-can-respond-to-airport-congestion>.
- [21] Alieva, J. (2017). Retail management: factors influencing profit maximization and customer satisfaction.: A case study of airport operations and concession management. Retrieved from: www.diva-portal.org/smash/get/diva2:1075335/FULLTEXT01.pdf
- [22] Czerny, A. I., Shi, Z., & Zhang, A. (2016). Can market power be controlled by regulation of core prices alone? An empirical analysis of airport demand and car rental price. *Transportation research part A: policy and practice*, 91, 260-272.
- [23] Del Chiappa, G., Martin, J. C., & Roman, C. (2016). Service quality of airports' food and beverage retailers. A fuzzy approach. *Journal of air transport management*, 53, 105-113.
- [24] da Rocha, P. M., de Barros, A. P., da Silva, G. B., & Costa, H. G. (2016). Analysis of the operational performance of brazilian airport terminals: A multicriteria approach with De Borda-AHP integration. *Journal of air transport management*, 51, 19-26.