International Science Journal of Management, Economics & Finance
2025; 4(1): 9-22
https://isg-journal.com/isjmef/
doi: 10.46299/j.isjmef.20250401.02
ISSN: 2720-6394

INTERNATIONAL SCIENCE GROUP

The emergence of civil aviation as critical public sector in Nigeria: an industry from grass to grace

Salisu Ojonemi PAUL
Department of Public Administration and Local Government Studies, University of Nigeria, Nsukka, Nigeria
ORCID: 0000-0002-9690-1852

Chekwume Anthony Okolie
Department of Public Administration and Local Government Studies, University of Nigeria, Nsukka, Nigeria

Chigozie Rita Nnamdi-Chiawa
Department of Public Administration and Local Government Studies, University of Nigeria, Nsukka, Nigeria

To cite this article:
PAUL Salisu Ojonemi, Okolie Chekwume Anthony & Nnamdi-Chiawa Chigozie Rita. The emergence of civil aviation as critical public sector in Nigeria: an industry from grass to grace. International Science Journal of Management, Economics & Finance. Vol. 4, No. 1, 2025, pp. 9-22. doi: 10.46299/j.isjmef.20250401.02.
Received: 11 26, 2024; **Accepted:** 12 28, 2024; **Published:** 02 01, 2025

Abstract: Transport and aviation sector play critical roles in the economy of any nation at both local, regional, and continental level. These are in the form of job creation and multiplying effect on other sectors. This study distinguished the sector as the opener of any national aspiring economy thereby creating opportunity for Foreign Direct Investment (FDI), globalisation, simplification of trade, tourism and the overall national development. The paper adopted a descriptive research design to make description, summarization and report the situational activities and nature of the development of transportation and civil aviation sector in Nigeria. Relevant literature was carefully selected and review was done using a "Systematic Review Approach." It exposed the fundamentality in transport and aviation development history that engenders infrastructural development, safety and security assurance which is the hallmark of transportation business. It concluded that the emergence of transportation and civil aviation changed the dynamics of business activities and urban development in Nigeria. The paper illustrated a different perspective of the earliest mode of transportation, emergence of civil aviation in Nigeria and its contribution to national development. It recommended the prioritization of transport and aviation infrastructural development in the annual and supplementary budget of Nigeria, and training and retraining of aviation personnel to close the gap of manpower deficit and among others.

Keywords: Civil Aviation Sector, Development, History, Safety, Security, Transportation

1. Introduction

Suffice to state that the development and growth of Nigeria modern governance system and economy emerged from the advancement of the contemporary transportation system during colonialism (Eri, 2014 in Omisore, et al, 2014). Thus, the system majorly includes networks of Rail, Water, Road and Civil Aviation. The Nigeria civil aviation activities started in the ancient city of

Kano in 1920s following seventeen years after the first air transportation operation was launched by Ovuille and Wilbor, the Wright Brothers' flight in 1903. "Though it started as a purely military operation with the landing of a British Royal Air Force aircraft on a polo field in Maiduguri, the capital city of the old Kanem Borno Empire, North Eastern State, and the present headquarters of Borno State, it gradually assumed the character of a civilian operation in the decades that followed" (Ogbeidi, 2006:133; PAUL & Ofuebe, 2019). The averment below puts this narrative succinctly that:

The first aircraft landed in Nigeria in the year 1925, even though there has been no agreement on whether it landed in Kano or in Maiduguri. There is also no agreement as to the intent of the first landing nor the exact date. From the first landing, the civil aviation sector of Nigeria has been growing at a steady pace albeit not without challenges (Ogunbodede & Odetunde, 2016:26).

For over ninety years of its existence, the aviation sector has greatly contributed to the reshaping, restructuring and repositioning of the transportation sector of Nigeria socio-economic development in particular and the developing nations at large. The availability of 2,000 airline organisations, 23,000 aircraft and 3,700 aerodromes situated the industry as a propeller of both public and private global businesses (Stephens, Ikeogu, Stephens & Ukpere, 2014; Bonser, 2019).

This created the need by both internal and external stakeholders to embark on the transformation of civil aviation in Nigeria since the industry became popular and lucrative. The attempts have led to enactment of various aviation laws, policies and the aviation-centred institutions like the Nigeria Civil Aviation Authority (NCAA), Nigeria Airspace Management Agency (NAMA), Federal Airports Authority of Nigeria (FAAN), Nigeria College of Aviation Technology (NCAT), Nigeria Meteorological Agency (NIMET), and Nigeria Safety and Investigation Bureau (NSIB). Effoduh (2013:4, 5) gives examples of others to include:

i. Air Navigation Ordinance of 1941;
ii. Civil Aviation Act of 1949 in England to be applicable to Nigeria by Article 3 of the Colonial Civil Aviation Order of 1952;
iii. Air Navigation (Nigeria) regulation of 1954;
iv. Laws of the Federation of Nigeria which contains the Civil Aviation Act of 1964 (Cap.C13, LFN 2004); and
v. Civil Aviation Act of 2006.

Some prominent ones were Aerodrome Development Programme in the Third National Development Plan (1975-1980) and the Nigerian Airports Authority Decree 45, 1976. All these efforts without much result gave birth to the National Civil Aviation Policy (2013) under the President Goodluck Ebele Jonathan (2011 – 2015) "Transformation Agenda" and Stella Adaeze Odua, the then Minister of Aviation (2011 – 2014) (PAUL and Ofuebe, 2024). "The main thrust of the policy is to develop a broader strategic plan to build a stronger, dynamic and liberalised aviation sector that will meet the present and future challenges" (NCAP, 2013).

The transformation of socioeconomic, political and cultural structures of any nation has been through the initiation of development policies and implementation of National Development Plans (NDPs) which according to Fuseini & Kemp (2015) must achieve desired social goals. Thus, the need to develop the aviation sector of the Nigerian economy became important in the 21st century due to the reality that the fastest effective and efficient carriage of goods, persons and services from one location to another has been a serious challenge which bedeviled human existence for thousands of years. Hence, the dependency on the speed of production, trade, and ideas on transport cannot be relegated to the background (Albert, 2016).

Therefore, transportation controls the organic structure of social, economic and political systems of any economy. It does not only power the movement of man and economic activities but it is a major settlement denominator. These explain why Ogunsanya (2014) maintains that life in the absence of transport would be inconceivable. This has steered the identification of transportation as one of the major factors that facilitated the developed economies and democracies of the world like the United States of America, Canada, Chile, Australia, Austria, the United Kingdom, Germany, Japan, Finland, Switzerland, North Korea, and Thailand.

For this reason, Africa on the quest for development cannot be divorced from the high-speed transport system. The expansion of international trade in Africa has placed a lot of demand on the importance of the air transport industry. In a concise submission of Faajir & Zidan (2016:18), the nature of Africa's potentials for growth and development are quite promising to an extent that "the expansion in the external trade among most African Countries such as Nigeria, Egypt, Ghana, Benin, Togo and so on has resulted in increased demand for more effective transportation."

Illson (2013:6) alluded to the fact that, "air transport drives economic sustainability and social development worldwide and that it has carried over three billion travellers and $5.3 trillion cargo on a yearly basis." Froesch & Prokosch (1946); Adefolalu (1977) cited in Aun (2013:195) believe that the birth of aviation has pioneered the important methodology of surmounting the obstruction imposed by "physical distances and difficult topography" due to hyper-speed nature of aircraft to any other mechanism of transport.

Hence, this research is subdivided into a discussion of how transportation and civil aviation has contributed to national development; the composition and synergy amongst Nigerian civil aviation agencies; and the Nigeria civil aviation safety and security control.

2. Literature Analysis

2.1 Transportation, Civil Aviation and National Development: A Description

It has been observed that air and sea transportation are the fundamental facilitators of world trade and development and as such attracts much attention in terms of inflow and outflow of capital which are the typical spotlight of the government authorities not only for their tax-generating potentialities and national security but as mirrors or otherwise of the economy always. In other words, few technologies have affected modern society profoundly but no contemporary invention in human existence has left a deep and permanent imprint on virtually every aspect of life than transportation (Orski, 1980; Onokala, 2015; Aluko & Ogunleye, 2019).

Although the poverty of transport infrastructures has served as a clog in the wheel of development in many developing countries, Sakulyeva (2019:1) writes that "the first known public transport appeared at the end of the XVII century in Paris when multiple seats – the coach was transporting residents on pre-determined routes." However, Onokala (2015:11) asserts that after the Wright Brothers inaugurated the first propelled flight in 1903, "the 1920's and 1930's saw the expansion of regional and national air transport services" despite the fact that other few types of transportation had been existing in Nigeria before the emergence of air transport. Ogbeidi (2006) and Ogunjimi & Oluwatoki (2014) pointed to two of the most punctual vehicle frameworks—human porterage and water transport—which granted opportunities for socio-cultural and economic exchange. It is believed that:

Porters carried goods over long distances along well-defined trade routes to market centres. Water transport was mostly used by communities crossed by rivers and creeks. This was particularly true of the people located around Rivers Niger and Benue, i.e., the Tiv, Jukun, Nupe, Igala, Birom, Idoma, etc., and the Ijaw and Itsekiri peoples of the Niger-Delta area of southern Nigeria (Ogbeidi, 2006:118).

In the early life of the Nigerian nation the only practical means of transport was by the River Niger and later River Benue. Therefore, Onokerhoraye (1978) puts that the urbanisation of Nigeria was coastally-based. He adds that the principal towns of the day were Lagos, Calabar, Warri, Port Harcourt, Onitsha, Lokoja, Makurdi, and Zungeru – all possessing excellent water and ports. The government made efforts in knitting together turnpikes or toll roads as the first step. Thus, apart from their original location at the seaports, the development of these cities was enhanced by the linking of motorable roads.

In addition, the next important attempt taken was "the building of the Port of Lagos which is split into three main sections – Lagos, Apapa and Tin Can Island Apapa Seaport. The port of Lagos is not

only Nigeria's leading port but also the largest and busiest in Africa" (FGN, 2010). The port opened up the South Western region and Lagos terminus for serious commercial activities. This gave Lagos a serious economic growth and development advantages over other coastal cities because of the presence of a port for ocean-growing as well as interior trade.

The emerging transport system was the rail structure. Froesch & Prokosch (1946:2) identified three factors which dictated the pattern for the railroad network as the next phase of transport development. Theses includes joining the already established cities, linking smaller towns with larger ones, and opening up areas that could not be tapped by other means. The factors led to the emergence and the growth of interior cities like Ibadan, Ogbomosho, Jebba, Zaria, Kaduna, Kano, Maiduguri, Otukpo, Enugu, Aba, and Port Harcourt.

The railroad made the development of the above-mentioned cities possible because mountains and valleys were major challenges that bedeviled the development of inland waterways which in other words hindered the rail system. Lindsay (1998:439) finds that "African railways developed to meet new demands for transport." Though Oshin (1992); Ogbeidi (2006); Odeleye (2012) and Ibiloye (2016) emphasised that the creation of the railway network in Nigeria was part of the calculated policy by the British to promote the growth of "legitimate trade" from the hinterland to the coast and Britain; the system connected the mainland towns in the entire Western, Northern and Southern region of Nigeria to rapid socio-economic development. It was also the largest employer of labour and its workers' union was the most politically active labour organisation in Nigeria in 1940 with 18,162 workers when its emergence assumed prominence (Ananaba, 1969; Lindsay, 1998; Sikainga, 2010). Also, O'Connor, (1965) cited by Adesanya (2010) says, in Central Africa and East, railway encouraged the development of agriculture, commerce, and expansion of settlements created by the railway lines.

In another perspective, the automobile through road networks has led to significant changes in rate of regional and communities' development in Nigeria. In FGN (2010) document, the road system has been acknowledged to be the most important means of transport in the country, accounting for about 95% of the movement of all goods and passengers in Nigeria. It further quoted the CIA World Fact Book (2009) that Nigeria has a total of 193, 200Km of roads (28,980-paved; and 164, 220-unpaved). The motor vehicle has firmly brought about the emergence and densely populated centres together. The road transport system does not stop the trend started by the railroad opening up of remote rural areas. The motor vehicle in another expansion resonates the transport system decentralisation (Riverson & Carapetis, 1991). According to Burinskienė (2009), Davis & Altschuler (2018) and Dodson & Sipe (2018), while the rail system concentrated in small area, the automobile does the opposite. As a consequence, it has given rise to the population of newer cities outside the coastal towns. Another interesting result of the development of motor vehicles and good roads for them to travel on is the number of communities which find existence possible with other means of transport. Suffice to say therefore that, Akure, Ore, Ado-Ekiti, Shagamu, Ijebu-Ode, Ayetoro, Owo, Nsukka, Umahia, Owerri, Afikpo, Ekpoma, Benin, Azaire, Potuskum, Ankpa, Ayingba, Okene, Katsina, Gusau, Bernin Kebbi, etc., are towns without the passage of railroad service but became business and social centres based on exclusively motor vehicles.

Just as the development of railroads and road networks have been highly strategic factors in the development of cities, so is aviation. The uniqueness of air transport is in the limitless skyways, absence of the right of way and the natural provision of the route. Worthy of note is that aviation has registered a substantial growth rate and this has made the composition of the total traffic to differ significantly from what it has been. "Over time, air travel has diffused from the rich to the masses, from the early to the later developed nations. It has shifted from being a luxury good for the elite to a necessary business need, mass transportation, and to international tourism" (Neufville, 2013:11). Hence, "the air transport industry's most important economic contribution is through its impact on the performance of other industries and as a facilitator of their growth. It affects the performance of the world economy, improving the efficiency of other industries across the whole spectrum of

economic activity – referred to as catalytic or 'spin-off' benefits" (ATAG, 2020:9). Observably, these include:

i. facilitation of world trade;
ii. indispensability for tourism, principally for remote and Island destinations;
iii. boosting of global economic productivity;
iv. supply chain improvement and efficiency;
v. fastest enabler of national and international integration;
vi. spurring of innovation, Research & Development and encouragement of effective networking and collaboration among international organisations; and
vii. Provision of "consumer welfare benefits to individuals in terms of the increased availability of travel connections, and for local airport communities."

Hammoh (2016) and PAUL (2022) argues that the civil aviation sector globally plays fundamental economic roles in any national development as it catalyzes growth and stimulation of investments. For instance, airports are considered as a driver of local and international economic development tool as well as any nation's status symbols. Thus, the role of the civil aviation sector cannot be underrated in the struggle to reposition the Nigerian economy and national development. Simply put:

> As of 2012, it involves about 2.5 billion airlines passengers' worldwide plus large amounts of cargo. Its annual revenues are more than the US $0.5 trillion (one million dollars). The world airlines operate approximately 12,400 major jet aircraft, valued in the hundreds of billions of dollars. The annual investments in airport infrastructure come to about $10 billion a year. To put these figures in perspective, the industry moves the equivalent of well over a third of the world's population every year, and its revenue are close to 40% of the gross domestic product of the United States (ATAG, 2018).

According to International Air Transport Association (IATA) (2016) quoted in The Punch Editorial (2017:20), a properly developed aviation industry contributes to the national economy by supporting hundreds of thousands of jobs, stimulating tourism and hospitality sub-sectors, facilitating skills and technology acquisition and projecting image. This is corroborated by Ladan (2012) and Zippel (2017) that despite the downturn experienced in the sector, the commercialisation of air transport is known to be cyclic and steadily on increase. Zippel (2017:17) concisely with figure 1 projected that "a throughput of about 40 million passengers and 1.5 million tons of freight per year are quite common at today's large airports, and industry experts predicted that the number of air passengers will double." This can be supported by figure 2.3 that air traffic increased from 0.4 passenger traffic flow in 1969 to 0.8 in 2019 due to awareness creation amongst the travelling public.

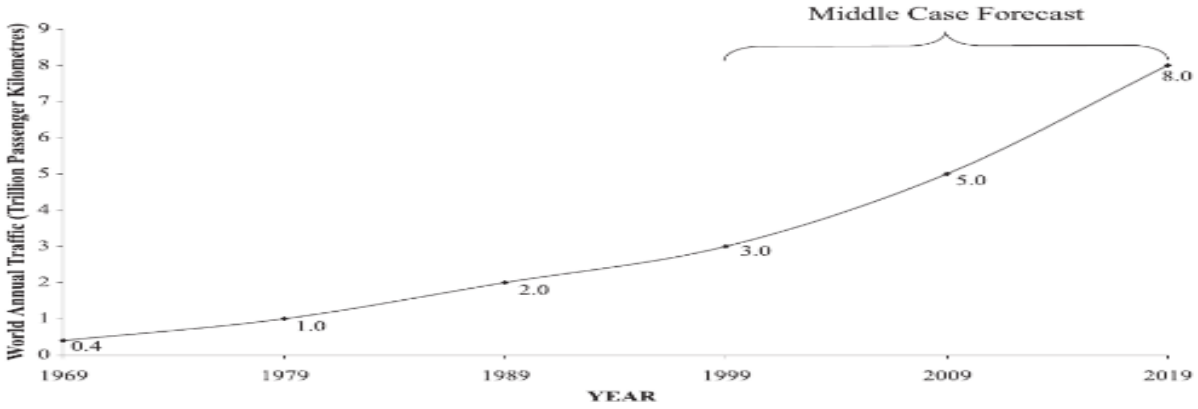

Figure 1: World Annual Passenger Traffic Forecast.

Source: ICAO (2020).

According to Collins & Funatsu (2000), civil aviation business has matured with the handling of passengers due to sales of ticket which has reached a turnover of $1billion and one billion travellers

annually. These revenues provide finances for more acquisition and maintenance of aircraft, airport management and passenger facilitation, safety and security services, and job generation and personnel retention. Also;

As a further example of the scale of commercial aviation, the aircraft maintenance, repair and overhaul (MRO) sector alone have a turnover of nearly $30 billion/year and is growing at an annual rate of some 3%. This activity is sufficiently large that there is a world-wide system for licensing airframe and power plant (A&P) technicians, and specialized A&P schools for training new staff (Collins & Funatsu, 2000:636).

It can be reemphasized therefore that the importance of air transport to the shaping of both socio-economic and demographic patterns of Nigeria cannot be demeaned. In a succinct report of Wells (2007) and ATAG (2018), the uniqueness of air transport is demonstrated in massive job creation, trade enhancement connectivity and networking, tourism, important lifelines for many communities and rapid disaster response and also with 12 million passengers, 120,000 flights and $18.8 billion worth of goods carried. According to Collins (2016), these advantages inherent in air transport over land transport was the brain behind the federal government of Nigeria's huge investment in the nationwide construction of aerodromes and terminal buildings during the oil boom era, in the 1970s.

From the foregoing, it is discovered that each of the new modes of transport emerged to reinforce the socio-economic advancement of cities. Therefore, civil aviation is deemed to expand this development and make it a continuous one. Dobruszkes (2011) and Yin, Bertolini & Duan (2015) identify three steps involved which are the;

i. development of new mode of travel and creation of a national network linking the principal cities,
ii. paralleling railroad and railway growth, and the development of smaller communities with the larger ones, and
iii. Contribution to national development and the opening up of inaccessible regions by other means.

Globally, Castro (1995) stresses that the development of a fast and safe transportation system is recognised by multinational corporations as a paramount economic, cultural, and technological force of modern times. Air transport has been observed to be the most preferred transportation structure to others because the airplane has the uniqueness of overcoming and maneuvering the terrain of natural barriers (Froesch & Prokosch, 1946; Janecek, 1987; Sray, 1994; Gilewitch, 2014; Mzali, 2018). Thus, aviation has immensely contributed to;

i. global economic prosperity;
ii. major world employment generation sector;
iii. substantial provision and investment in critical infrastructure and social services; and
iv. Mitigation of its environmental impact.

The foregoing discourse reveals that aviation business has demonstrated the capability of emergence as one of the pivotal movers of economic development for Africa at large, sub-Sahara Region and the transformation of Nigeria into an aviation hub..

3. Research methods

This paper adopts a descriptive research design. Burns and Grove (2009) cited by Oni, Ibietan & Deinde-Adedeji (2020) maintained that "descriptive research design provides vivid depiction of a situation as it naturally happens and enables researchers to make judgment on current practice. Through this design, there is ability to make description, summarization, validation and report the situational activities and nature of" the development of transportation and civil aviation sector in Nigeria. In another development, this method provides us an opportunity to do a critical analysis of already obtained information as per the subject in discourse. Relevant literature was carefully selected and review was sensibly done using a "Systematic Review Approach." Amoo et al (2019); Udoh, Folarin & Isumonah (2020) and Oni et al (2020) were examples of studies that used this approach.

The adoption of this method lies the objective of this study which is to integrate existing findings in literature that transportation and civil aviation development have been chronological-product of several policies and programmes of successive governments in Nigeria.

Literature from peer reviewed and reputable journals, related authorized public, local and international organisations documents that are fundamental to the subject of the development of transportation and civil aviation sector in Nigeria were carefully pin-pointed and analysed thematically in the research. Several high impact factor journals indexed in Scopus, Sage, Web-of-Science, EBSCO, etc. were consulted with keywords through google scholar, Mendely, Researchgate, academia.edu, and amongst others. Keywords like transportation, civil aviation, development policy, public programmes, aviation agencies, etc. were search threads. This according to Oni et al (2020) will allow data that are gathered from the numerous sources to be "evaluated and compared to make replicable, valid and current description and inferences in a logical sequence."

4. Research results

4.1 The Composition and Synergy of Nigerian Civil Aviation Parastatals

Collins & Funatsu (2000) see aviation as a sector that its global ownership and operation is majorly by commercial companies that are privately owned and managed who formed a seamless network of engineering designing, manufacturing, maintenance, repairs, marketing, financing, insurance, media, and others. Fadugba, Oluwajana, Busari, & Oyedepo (2015) and Demuren (2017) elucidate that there cannot be security and safety in the Nigerian air transport sector in particular and the world in general if the major regulatory functions being played by the public aviation agencies in collaboration with airlines to sustain public belief is deemphasized.

Global civil aviation derives its composition, structure and regulatory framework from the International Chicago Convention organized by the ICAO which gave birth to outline rules and regulations popularly revered in aviation as "The ICAO Annexes" that guides its activities (Lyle, 1995; Abeyratne, 1994). According to the NCAP (2013:10), "at the national level, every ICAO Member State is expected to domesticate its primary aviation legislation that empowers the conduct and oversight of civil aviation activities within its territory." However, such an attempt must not deviate from Standard and Recommended Practices (SARPs). The emphasis on constant adherence to the annexes by all stakeholders in the industry is to pursue the achievement of safety and security fundamentals of the civil aviation sector of the economy. In figure 2, the civil aviation activities in Nigeria are done through the Federal Ministry of Aviation which synergizes and functions through the following agencies.

NCAA is vested with the responsibility for safety oversight of the aviation industry in accordance with all international conventions and agreements, government policies and ICAO SARPs.

NAMA is responsible for the provision of air navigation services, air traffic services, aeronautical telecommunication services and aeronautical search and rescue in accordance with Nigeria Civil Aviation Regulations (NCARs).

FAAN is responsible for airports development and management.

NCAT provides Aviation Related Training, Research and Consultancy Services for Air Transport Service Providers and Allied Businesses.

NiMET is responsible for the provision of meteorological services to the aviation, marine, energy, agriculture and water resources sectors. It prepares and interprets government policy on meteorological and climate services.

NSIB is responsible for accident prevention, investigation of any accident or incident arising out of or in the cause of air navigation and occurring in or over Nigeria or occurring to Nigerian aircraft elsewhere in accordance with ICAO Annex 13. It also has responsibility of family assistance for victims of air accidents and incidents.

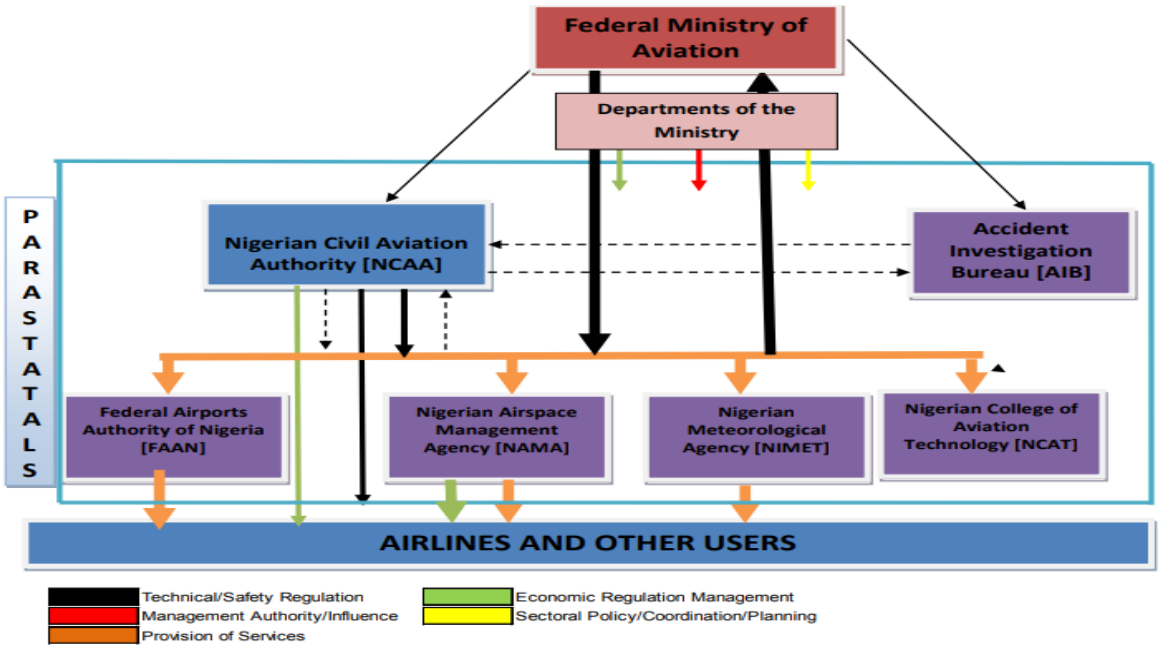

Figure 2: Organogram and Synergy among of Nigeria Civil Aviation Institutional Structure. *Source: NCAP (2013).*

From figure 2 above, it is noteworthy that the task of keeping the air transport sector safe is complex and onerous. It implies keeping all the professionals in the sector working in sync to deliver quality services, and strict compliance with SARPs (NCAA, 2018). This posits safety in the aviation industry as a never "done and dusted" affair.

On this note, we state that there is no "Bus Stop" in the air and emergencies are always dangerous. As Okigbo (1986); STEHMANN (2002) and Fadugba (2019) observe, there cannot be an increase in safe and profitable passenger travel services to, from and in space without the collaboration of people, companies, and organisations with experience of space activities. The agencies built a lasting synergy and collaboration to create a civil aviation structure that will bring about an increase and efficiency in air transport safety and security, operations, marketing, and commercial activities. The parastatals developed an integrated system of joint network planning and policy, service levels harmonisation, and integration of data processing to develop the Nigerian civil aviation sector.

4.2 The Identified Challenges with Aviation Safety and Security in Nigeria

Notwithstanding the numerous socio-economic benefits that civil aviation offers, the sector has never been free of security threats and safety challenges in the world over. These threats and challenges emerge in the form of terrorism attacks from hostile nations which have resulted in the incidences of aircraft hijack and rage, destruction and damage, and shooting of explosive devices at the aircraft and airports facilities (Sweet, 2008; Elias, 2009; Abeyratne, 2011a; Abeyratne, 2011b; Krull, 2016). It also includes the acts of violence in the skies by unruly behaviour towards crew members and disruption of passengers' peace. These acts of criminality have been on the increase in propensity and sophistication (Atonko, 2020).

In the same development, the issue of disasters, be it air, water, building collapse, bridge collapse road accident, train derailment, flood disasters, erosion among other mishaps, we encounter in the society hardly give warning signals before they occur (Onumajuru, 2008; Mulero-Pázmány, Stolper, Van Essen, Negro & Sassen, 2014; Oliver, Calvard, & Potočnik, 2017). Hence, security and safety are major challenges contending the development and sustainability of air transportation in the world because of patronage. This is buttressed by IATA's estimation that the "total passenger numbers will double in less than 20 years and reach a staggering 7.3 billion people by the end of 2034" (MECCTI, 2018).

Moreover, the loss of life, wanton destruction of property and socio-economic damages have created the concept of "Aerophobia" in civil aviation today. For this reason, "aircraft design is concerned with minimizing the chance of failure, pilots are trained with safety as a primary consideration, and generally, air travel is closely regulated" (Fadugba, Oluwajana, Busari, & Oyedepo, 2015:81). As Shankman (2014) notes, "in 2013 there were some 36.4 million flights and 16 fatal accidents. If you were flying on a jet aircraft, your chances of being involved in a major accident were one in 2.4 million. And among the three billion passengers that flew (the equivalent of about 40% of the world's population), there were 210 fatalities." Accordingly, the safety record is the fundamental foundation of the global civil aviation sector with anticipated safety improvement measures at all times (National Civil Aviation Review Commission (US), 1997; Wiegmann & Shappell, 2001; Dahlstrom & Nahlinder, 2009; Oster Jr, Strong & Zorn, 2013; World Health Organisation, 2015).

From the foregoing, Nigerian civil aviation like its counterpart in other regions in the industry perceives safety as the priority and a major concern in Africa's air transport sector given its impact on the industry and national economies though aviation accidents are rare occurrences, and the risk of death or serious injury by air travel is minuscule (Gill & Shergill, 2004; Akil, 2008; Ewulonu, 2008 cited in Onumajuru, 2008 and Rodrigues & Cusick, 2012). However, the rate at which air accident records casualties in terms of lives and property is unimaginable. For instance, Fadugba, Oluwajana, Busari, & Oyedepo (2015:88) pinpoint the history of air accidents in Nigeria and referred it to 'black days.' They posit that "the first major air crash in Nigeria's aviation history is that of a Federal Government-owned VC-10 aircraft on the 20th of November, 1969. It was flying in from London and crashed as it prepared to land at the then Ikeja Airport. All 87 passengers and crew were killed."

Nevertheless, following the turbulence period in the Nigerian aviation industry, safety issues have been given greater attention by the ICAO and safety patterns of the IATA. According to Belai (2008), the fatal air accident rate in Africa was "by some measures as high as nine times the global average." He posits further that ICAO initial audits are based on her Annexes 1, 6 and 8 and Comprehensive System Approach audits, covering all safety-related Annexes. It also indicates that for Africa, there is ineffective implementation of critical safety management strategies which are twice as high as the rest of the world, and which is responsible for incessant accident and incidence.

Under this development, we identified the following as causes of the safety challenges that result in air accidents and incidences in the Nigerian civil aviation sector.

i. Nigeria as dumping ground for old and abandoned aircraft.
ii. Excessive political interference by the government and critical stakeholders.
iii. Poor and compromising SARP, security and safety regulatory standard.
iv. Technical manpower deficit.
v. Uncodusive business environment and policies.
vi. Unpredictable weather condition.

For example, Fadugba et al (2015:83) maintains that "…a combination of skyrocketing costs of maintaining old aircraft and Europe's strictly enforced aviation regulations are forcing aircraft out of European airspace and into developing countries like Nigeria." They said, ICAO with other African states and other partners have pivotal roles to play in addressing these identified challenges using dedicated safety for Africa referred to as the AFI Implementation Plan which is expected to reduce the accident rate in Africa by 90% at the end of the year 2023.

5. Prospects for further research development

This study offers opportunity for researchers to specifically study the contributions and advancement of transport and aviation to the development of the economy of Nigerian sub-nationals (States and Local Government Areas).

6. Conclusions and Recommendations

From the preceding, the Civil Aviation Policies are formulated to create a platform that will facilitate the development of the overall aviation sector and set a stage for "the way forward and prospects of the aviation industry, set new paradigms in air travel standards which will provide consumers with appropriate protections without affecting the ability of airlines to set service levels in a competitive market" (NCAP, 2013). In summary literature reveals the fundamentals in aviation policy formulation and implementation.

Further to the above discourse, the following recommendations are put forward.

i. The provision of transport and aviation infrastructural development should be prioritised in both annual and supplementary budget of Nigeria.

ii. The NCAA should not compromise ICAO Annexes and SARPs for both the operators and airliners in the procurement and importation of aircrafts and other aviation operating tools.

iii. There should be training and retraining of aviation personnel to close the gap of manpower deficit. This is necessary for a country like Nigeria as an emerging aviation business community.

iv. There should be continuous provision and maintenance of Instrument Landing System (ILS) equipment the Federal Government through NAMA for appropriate weather forecast to avoid incidences and accidents due to bad weather condition.

v. The government and development partners are strongly encouraged not subvert safety and security assurance in the transport sector activities by their actions and inactions, because they are the hallmark of transportation business.

References:

1) Abeyratne, R. (2011a). The Beijing Convention of 2010 on the suppression of unlawful acts relating to international civil aviation: An interpretative study. Journal of Transportation Security, 4(2), 131 – 143.

2) Abeyratne, R. (2011b). The Beijing Convention of 2010: an important milestone in the annals of aviation security. Air and Space Law, 36(3). 24 – 45.

3) Abeyratne, R. I. R. (1994). The Legal Status of the Chicago Convention and its Annexes. Air and Space Law, 19(3), 113 – 123.

4) Adesanya, A. (2010). Bringing the Nigerian railways back on track: challenges and options. Ibadan: National Centre for Economic Management and Administration, Seminar Series, November.

5) Akil, K. (2008). The huge ICT potentials in Africa's air transport market. Aviation Business Journal, 1(1), 24 – 25.

6) Albert, E.C. (2016). Assessment of urban transportation problem in Akure, Nigeria. Journal of Logistics and Transport, 8(1), 43 – 53.

7) Aluko, O. K. & Ogunleye, O.S. (2019). Towards public transport improvement in the Lagos megacity: Lessons from the Bogota's experience. Global Scientific Journals, 7(5), 138 – 149.

8) Amoo, E. O., Olawole-Isaac, A., Ajayi, M. P., Adekeye, O., Ogundipe, O., Olawande, O., Ogundipe, A., & Ogundipe, A. (2019). Are there traditional practices that affect men's reproductive health in sub-Saharan Africa? A systematic review and meta-analysis approach. Cogent Social Sciences, 5(1), 1677120. https://doi.org/10.1080/23311886.2019.1677120

9) Ananaba, W. (1969). The trade union movement in Nigeria. Benin-City: EthiopePublishing Corporation.

10) ATAG (2018). Aviation benefits beyond boarders. Geneva: Air Transport ActionGroup.

11) ATAG (2020). Economic and social benefit of air transport. Geneva: Air Transport Action Group.

12) Atonko, M. (2020). Aviation safety and security under the Nigerian Civil Aviation Act 2006: A critique. International Journal of Comparative Law and Legal Philosophy, 1(2), 123 – 132.

13) Aun, I. I. (2013). Airport development and socio-economic development of Nigeria. Journal of Research in National Development, 11(1), 195 – 205.

14) Belai, H. (2008). AFI implementation and the ICAO standard. Africa's Journal of Aviation Development, October – December.

15) Bonser, M. P. (2019). Global aviation system: Towards sustainable development. International Journal of Aviation, Aeronautics, and Aerospace, 6(3), 1 – 12.

16) Buhr, K. (2012). The inclusion of aviation in the EU emissions trading scheme: Temporal conditions for institutional entrepreneurship. Organization Studies, 33(11), 1565 – 1587.

17) Burinskienė, M. (2009). Editorial new methodology for sustainable development towards sustainable transportation system. Baltic Journal on Sustainability, 15(1), 5 – 9.

18) Castro, R. (1995). Corporate aviation management. Southern Illinois: University Press.

19) Collins, L. (2016). Towards revitalizing the dormant airports. Air Transport Quarterly, 3(7), 12 – 22.

20) Collins, P. & Funatsu, Y. (2000). Collaboration with aviation –The key to commercialisation of space activities. Acta Astmnautica, 47(2– 9), 635-646.

21) Dahlstrom, N., & Nahlinder, S. (2009). Mental workload in aircraft and simulator during basic civil aviation training. The International journal of aviation psychology, 19(4), 309 – 325.

22) Davis, D. E., & Altschuler, A. (2018). T ransforming Urban Transport. London: Oxford University Press.

23) Demuren, H. (2017). Nigerian civil aviation must restrategise. The Aviation Today, 2:3 – 4.

24) Dobruszkes, F. (2011). High-speed rail and air transport competition in Western Europe: A supply-oriented perspective. Transport Policy, 18(6), 870 – 879.

25) Dodson J., Li T., Sipe N. (2018). The socioeconomic equity dimensions of a transition in suburban motor vehicle fuel and technology, In T. Moore, F. de Haan, R. Horne, & Gleeson B. (eds), Urban Sustainability Transitions: Theory and practice of urban sustainability transitions. Singapore: Springer.

26) Effoduh, O. (2013). Aviation reforms in Nigeria: How well so far? Abuja: Nigerian Institute of Advanced Legal Studies, 1 – 19.

27) Elias, B. (2009). Airport and aviation security: US policy and strategy in the age of global terrorism. CRC Press.

28) Faajir, A. & Zidan, Z. H. (2016). An analysis of the issues and challenges of transportation in Nigeria and Egypt. The Business & Management Review, 7(2), 18 – 29.

29) Fadugba, N. (2019). The LAAC Conference: Stakeholders push for effective aviation policy. Aviators Africa. Retrieved fromhttp://theaviatorsafrica.comon 8/12/19.

30) Fadugba, O. G. Oluwajana, S. D., Busari, A. A. & Oyedepo, O. J. (2015). Post-Independence Evaluation of Air Transport Safety in Nigeria. European International Journal of Science and Technology, 4(4), 81 – 92.

31) FGN (2010). Nigeria at 50: A compendium, official and authoritative book about Nigeria. Abuja: 1st October Publishing.

32) Froesch, C., & Prokosch, W. (1946). Airport planning. New York: John Wiley and sons, Incorporated.

33) Fuseini, I. & Kemp, J. (2015). A review of spatial planning in Ghana's socio-economic development trajectory: A sustainable development perspective. Land Use Policy, 47: 309 – 320.

34) Gilewitch, D. A. (2014). Military operations in the hot desert environment: Military geosciences in the 21st century. Accessed from books.google.com on 11/10/19.

35) Gill, G. K., & Shergill, G. S. (2004). Perceptions of safety management and safety culture in the aviation industry in New Zealand. Journal of Air Transport Management, 10(4), 231– 237.

36) Hammoh, M. (2016). Creating leeway for private sector impact in Ghana. Aviation & Allied Business Journal, October – November.

37) Ibiloye, E. O. (2016). British colonial policy as push factor in inter-ethnic migration in Nigeria 1893-1930. World Scientific News, 50:131-147. Accessed from www.worldscientificnews.com on 28/11/19.

38) ICAO (2020). Economic Contribution of Civil Aviation. Retrieved from https://www.icao.int on 15/5/2021.

39) Illson, J. (2013). Developing a Global safety strategy that responds to States' varying needs. The ICAO Journal, 68(5), 6 – 9.

40) Janecek, F. P. (1987). How Space-The Fourth Operational Medium-Supports Operational Maneuver. Army Command and General Staff Coll Fort Leavenworth Ks School of Advanced Military Studies. Retrieved from apps.dtic.mil on 12/12/19.

41) Krull, K. E. (2016). The Threat Among Us: Insiders Intensify Aviation Terrorism (No. PNNL-25689). Pacific Northwest National Lab (PNNL). Richland, WA: United States.

42) Ladan, S. L. N (2012). An analysis of air transportation in Nigeria. Journal of Research in National Development, 10 (2), 230 – 237.

43) Lindsay, L. A. (1998). 'No need... to think of home'? Masculinity and domestic life on the Nigerian railway, 1940–61. The Journal of African History, 39(3), 439 – 466.

44) Lyle, C. (1995). The future of international air transport regulation. Journal of Air Transport Management, 2(1), 3 – 10.

45) MECCTI (2018). Current Challenges in the Airline Industry. Retrieved fromhttps://www.mecabincrew.com/ on 20/12/19.

46) Mulero-Pázmány, M., Stolper, R., Van Essen, L. D., Negro, J. J., & Sassen, T. (2014). Remotely piloted aircraft systems as a rhinoceros anti-poaching tool in Africa. PloS one, 9(1), e83873. Retrieved from https://journals.plos.org/plosone/article on 24/11/19

47) Mzali, S. (2018). Nigeria Aviation in 2018. Oxford Business Group Editorial, August, 13. Retrieved from https://oxfordbusinessgroup.com/blog/souhir-mzali/focus-reports/nigeria-aviation-2018 on 21/04/21

48) National Civil Aviation Review Commission (US). (1997). Avoiding aviation gridlock & reducing the accident rate: A consensus for change. America: National Civil Aviation Review Commission.

49) NCAA (2018). Safe skies. Ikeja-Lagos: Nigerian Civil Aviation House.

50) NCAP (2013). The federal government of Nigeria: National Civil Aviation Policy. Abuja: The Federal Ministry of Aviation.

51) Neufville, R. D. (2013). Airport systems: Planning, design, and management (2nd Ed.).America: McGraw-Hill Education LLC.

52) Odeleye, J. A. (2012). Politics of Rail Transport Development in Developing Countries: Case of Nigeria. Journal of Civil Engineering and Architecture, 6(12), 16 - 30.

53) Odua, S. A. (2012). The revamping of Nigerian aviation industry: A brief address. Abuja: Federal Ministry of Aviation.

54) Ogbeidi, M. M. (2006). The Aviation Industry in Nigeria: A Historical Overview. Lagos Historical Review, 6: 133 – 147.

55) Ogunbodede, O. & Odetunde, C. (2016). Current status of civil aviation in Nigeria. International Journal of Aviation Management, 3(1), 26 – 27.

56) Ogunjimi, O. & Oluwatoki, J. A. (2014). Safety management and aviation industry in Nigeria, 1969-2009. Retrieved from https://independent.academia.edu/ on 12/3/19.

57) Ogunsanya, A. (2014). Transportation: Maker and breaker of cities, In M.Y. Aminu, K. I. Gbadamosi & J. A. Ojekunle (ed), Perspectives of urban transportation policy and planning. Kaduna: RA Thomas Ventures, 4 – 55.

58) Okigbo, P.N.C. (1986). New strategies for the future growth of the Nigerian economy, In S. Chime (ed.), Policy and Strategy. Kuru-Jos: National Institute for Policy and Strategic Studies, 1 – 10.

59) Okonjo-Iweala, N. (2014). Reforming the unreformable: Lessons from Nigeria. Cambridge-London: The MIT Press.

60) Oliver, N., Calvard, T., & Potočnik, K. (2017). Cognition, technology, and organizational limits: Lessons from the Air France 447 disaster. Organization Science, 28(4), 729 – 743.

61) Omisore, O. R., Eri, K. & PAUL, S. O. (2014). Federal Airports Authority of Nigeria (FAAN): A chronological description of its functionality in the aviation industry. Journal of Good Governance and Sustainable Development in Africa (JGGSDA), 2(2), 193-2. Accessed from http://www.rcmss.com

62) Oni, A. A., Ibietan, J. & Deinde-Adedeji, G. O. (2020). E-consultation and the quest for inclusive governance in Nigeria, Samuel Oni, Cogent Social Sciences, 6: 1823601.

63) Onokala, C. (2015). Transportation development in Nigeria: The journey so far and the way forward. The 97th Inaugural Lecture of the University of Nigeria, Nsukka.

64) Onokerhoraye, A. G. (1978). The urban system and national integration in Nigeria. Journal of Black studies, 9(2), 169 – 180.

65) Onumajuru, B. (2008). A case for search and rescue commission. Journal of Total Transport, 1(11), 1 – 10.

66) Orski, C.K. (1980). The future of automobile. Transatlantic perspective, 2: 2 – 8.

67) Oshin, O. (1992). Population movement, urbanization and national integration: The historical role of railways in the United States and Nigeria. Nigerian Journal of American Studies, 2: 68.

68) Oster Jr, C. V., Strong, J. S., & Zorn, C. K. (2013). Analyzing aviation safety: Problems, challenges, opportunities. Research in transportation economics, 43(1), 148 – 164.

69) PAUL, S. O. (2019). National civil aviation development strategy and socio-economic growth in Nigeria. International Journal of Social Sciences and Humanities Reviews 9(1), 159 – 171,

70) PAUL, S. O. & Ofuebe, C. (2019). Aviation roadmap and development of airports in Nigeria. Journal of Good Governance and Sustainable Development in Africa, 5(1), 1-24.

71) PAUL, S., & Ofuebe, C. (2024). The Value Addition of National Civil Aviation Policy Implementation to Airport Development in Nigeria: A Qualitative Assessment. International Journal of Aviation, Aeronautics, and Aerospace, 11(3). Accessed from DOI: https://doi.org/10.58940/2374-6793.1910

72) Riverson, J., & Carapetis, S. (1991). Intermediate means of transport in Sub-Saharan Africa. World Bank Technical Paper, 161.

73) Sakulyeva, T. (2019:2). Transport demand as a function of the state of a transport network. Management Transport Journal, 7(3), 47 – 53.

74) Shankman, S. (2014). 3 Biggest Challenges Facing the Global Aviation Industry. TRANSPORT Airlines, Oct 14. Accessed from https://skift.com/2014/10/14/ on 22/12/19.

75) Sikainga, A. A. (2010). Organized Labor in Contemporary Sudan: The Story of the Railway Workers of Atbara. South Atlantic Quarterly, 109(1), 31 – 51.

76) Sray, J. (1994). Mountain Warfare: The Russian Perspective. Foreign Military Studies Office US Army Combined Arms Command. Retrieved from pdfs.semanticscholar.org on 14/11/19.

77) STEHMANN, O. (2002). Aviation: Combining network synergies and competition — the Commission's approval of the LH-AuA Alliance. Competition Policy Newsletter, 3: 1 – 5, December.

78) Stephens, M. S., Ikeogu, V., Stephens, O. B., & Ukpere, W. I. (2014). Empirical analysis of the contribution of the aviation industry to the Nigerian economy. Mediterranean Journal of Social Sciences, 5(3), 115 – 128.

79) Sweet, K. (2008). Aviation and airport security: Terrorism and safety concerns. CRC Press.

80) The Punch (2017). Airports' concession: FG must get it right. The Punch Editorial, 41(21,532), 20, Wednesday, September 27.

81) Udoh, O. D., Folarin, S. F., & Isumonah, V. A. (2020). The influence of religion and culture on women's rights to property in Nigeria. Cogent Arts & Humanities, 7(1), 1750244. Retrieved from https://doi.org/10.1080/23311983.2020. 1750244 on

82) Von Den S. E. (2006). National interest and international aviation (I). The Nertherlans: Kluwer Law International BV.

83) Wells, A. T. (2007). Air transportation: A management perspective. Hampshire, UK: Ashgate Publishing, Ltd.

84) Wiegmann, D. A., & Shappell, S. A. (2001). Human error analysis of commercial aviation accidents using the human factors analysis and classification system (HFACS) (No. DOT/FAA/AM-01/3,). United States. Office of Aviation Medicine.

85) World Health Organisation. (2015). Global status report on road safety 2015. World Health Organisation.

86) Yin, M., Bertolini, L., & Duan, J. (2015). The effects of the high-speed railway on urban development: International experience and potential implications for China. Progress in Planning, 98: 1 – 52.

87) Zippel, B. (2017). The importance of total integrated airports automation. International Journal of Airports and Airline Development, 41(8), 15 – 19.