

Research Article

Rethinking Federal Airports Remodeling for Passenger Safety and Security in Achieving the Millennium Goal of the Industry

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Abstract: The 9/11 episode set the ball rolling for security in aviation industry in the world. The study looks at the remodeling of federal airport in Nigeria for passenger safety and security in achieving the millennium goal of the industry. Structural functionalism was adopted as the theoretical framework of the study. To carry out the task, the paper employed quantitative method of data analysis with the aid of questionnaire to elicit information. The study found that successive governments in Nigeria have made significant financial investments in the aviation industry in an effort to enhance travel conditions, passenger safety, employment opportunities, efficiency, and passenger confidence. However, the effectiveness of the remodeling task is been hinder by a number of factors amongst human capital deficiency, inappropriate funding, uncoordinated effort and infrastructural deficit. The paper concluded by suggesting the need for effective human capital development, provision of adequate and appropriate fund, unity of purpose among the airport staff and provision of modern and critical needed infrastructural facilities. Well-organized and efficient safety supervision process ensures both the immediate user advantages and the broader economic benefits of Air Transport International (ATI) investments.

Keywords: aviation; passenger; remodeling, safety; security

1. Introduction

The economy all over the world depends to a large extent on transportation which reinforces the prosperity of cities by bridging the demand and supply. Beside telecommunications, air transport represents the sectors that epitomize globalization in an economy as well as in socio political worldwide. Hence, aviation becomes a potent vehicle for attracting and sustaining investment globally (Daramola, 2015). Since the liberalization of airline entrance into the business in 1985, when private airlines were allowed to enter and guarantee the creation of new nodes and routes, air traffic in Nigeria has increased dramatically (Daramola, 2015).

Nigeria, with over 78 countries under bilateral air services agreements, is currently the most populated country in Africa and a prominent destination for major international carriers. Safety oversight clearly stands out as the most critical Air Transport International component. Security and safety of passengers has therefore become sacrosanct in the industry, as Nigeria aviation industry is not an exception.

International Civil Aviation Organization (ICAO) has persistently given priority to safety and security (ICAO, 2015), as the major indicator for safety remains reduced accident rates. Effective safety oversight helps to identify safety threats in the industry and consequently advise on needed interventions. Specific areas in need of intense safety oversight in the Nigerian aviation industry include but not limited to enforcement of Standards and Recommended Practices (SARPS) for airline operators, Air Navigation Services, passenger security and passenger efficient movements at airports.

Objective of the Study

The general objective of the study is to provide empirical insight of the remodeling of Federal Airport of Nigeria with a view to understanding its linkages with safety and security of the passengers in an attempt to achieve the millennium goal of the industry.

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Statement of the Hypothesis

1) Ho: A lack of professionalism at Federal Airport is not one of the major challenges of the industry.

Hi: A lack of professionalism at Federal Airport is one of the major challenges of the industry.

2) Ho: Effective safety oversight will not help to identify safety threats in Federal Airport.

Hi: Effective safety oversight will help to identify safety threats in Federal Airport.

1.1 Conceptual Clarification

The term aviation generally signifies operation of aircraft according to the Merriam-Webster's Collegiate Dictionary (2002). It talks about operation of aircraft, where air transport is being operated. The dictionary of aviation clearly brought out the different and the relationship between those related concepts, according to it, an airport is defined as a civil aerodrome intended for the takeoff and landing of general public passenger aircraft as well as freight aircraft (Crocker, 2007). Murtala Muhammed Airport in Lagos, Nigeria and London Heathrow Airport are good examples of airports in the world.

For the purpose of clarity, Airport authority according to Crocker (2007) "referred to the organization responsible for the running of an airport", as the staff responsible for managing the day to day running of the aviation industry. Aircraft is a unique word that has no plural form. It is a machine that is able to travel through the air (Crocker, 2007). It is the air transport equipment that is responsible for carrying of passengers and their belonging from one place to the other. It could be within state of nation (domestic) or from one country to another which is referred to as international. It is the major component of aviation industry. Examples of aircraft are airplanes, gliders, balloons, airships, helicopters, etc.

A sense of safety has always been the major preoccupation of homo-sapiens from the time immemorial (Omah, 2013). The nature of man has always been to put the concern for his safety above other issues. According to Naidu (2003), security is therefore a state in which something's existence has been safeguarded and maintained. It includes every aspect of human endeavour. It alludes to security, the absence of risk or danger, defense against sabotage, infiltration, espionage, and theft.

Security is a societal state in which people's well-being is essentially guaranteed. It's linked to sentiments of assurance, security, and confidence. It entails taking steps to protect people, things, and resources from threats, risks, and dangers of this kind (Ekanola, 2011 and Adebayo, 2011). According to Imobighe (2011), security is broadly defined as the absence of danger or threat to a nation's capacity to defend itself, advance its core values and legitimate interests, and improve the wellbeing of its citizens.

Airport security became a paramount issue after what is known as 9/11 disaster, and more importantly with the wave of increasing air terrorist activities that use various means to achieve their ulterior motive such as plane hijacking, bombing, cyber threat to mention a few. Airport safety and security entails using all available tools to prevent violence and the threat of violence in any form be it structural, psychological, or physical. The connection between airport security and passenger safety in general must be emphasized.

Everybody should feel comfortable at the airport. At a number of locations, including the staff entrance in the terminal, where you are searched for forbidden items, both passengers and employees are subject to checks. All individuals, regardless of age or gender, security personnel or pilots, are required to go through this screening. For safety reasons, any item passenger wants to bring, including hand luggage, and tools, is likewise inspected (Eindhoven Airport, 2010).

1.2 Theoretical Framework

The study's theoretical basis was derived from structural functionalism. In sociology and anthropology, structural functionalism is a comprehensive worldview that views society as a structure made up of interconnected pieces (Subedi, n.d.). Functionalism looks at the whole structure of society by analyzing how its institutions, norms, habits, and traditions work. By emphasizing the connections between many institutions that comprise a society, such as the government and its branches, organs, agencies, organizations, education, religion, ethnicity, etc. Structural functionalism also explains why the society functions as it does.



With its comprehensive grasp of society, structural functionalism proves that social structures are a group effort to meet societal needs. Moreover, it states that a variety of actions must be taken to guarantee that specific demands are satisfied in order for social life to endure and flourish in society. In line with the thought of Chukwuemeka (2004), the structural functionalist paradigm posits that individuals or groups of individuals provide essential services in diverse organizations that align with societal norms.

According to Omisore, Eri and Paul (2014), one of the main tenets of structural functionalism is that society is composed of institutions or groups that are compacted, share norms, and have their own unique cultures. According to structural functionalism, society cannot operate properly unless it is organized in the most natural and effective way possible. Being an offspring of Decree 9 of 1996, the Federal Airports Authority of Nigeria is an organized agency that was formally brought into existence by Act of the Nigerian National Assembly No. 52 of 1999 (as amended).

As the Federal Airports Authority of Nigeria is a public organization tasked with facilitating air transport services for all the institutions and groups that comprise the society known as Nigeria, hence the application of structural functionalism theory in this study is appropriate and suitable. The size need for any group to be included in a social institution is emphasized by structural functionalists, and the Federal Airports Authority of Nigeria is big enough to meet this requirement.

The Federal Airports Authority of Nigeria is portrayed in this study as a government institution tasked with specific mandates. Functionalism views society as a whole in terms of the roles played by each of its constituent parts. As such, FAAN, a part of the Federal Government of Nigeria, uses its established goals, visions, missions, and functions to accomplish its institutional aims

2. Materials and Methods

The paper adopted quantitative research approach. In view of this, the research design is the survey method. To carry the task, the work employed the use of questionnaire with a view to obtain adequate information from the respondents. Murtala Muhammed Airport, Lagos was selected as the population of the study been one of the central and leading Federal Airport in the country. Fifty (50) staff and fifty (50) passengers totaling one hundred (100) people making the sampling size, were randomly selected among the population for administration of questionnaires. The questionnaire was structured with guidelines to enable each respondent to tick appropriate option that portrays his/her opinion on each statement.

The Statistical Package for Social Sciences (SPSS) of Inferential Statistics version, which uses chi-square analysis to analyze data obtained from surveys, was the method used by the researcher to analyze the data. Chi-square is the statistical technique to be applied in order to evaluate the hypothesis, where:

$$X^2 = \sum \frac{(O-E)^2}{E}$$

X^2 – Chi-Square

\sum = Summation

O = Observed frequency

E = Expected frequency

The study's data, particularly the questionnaire responses, were gathered and shown in a table with absolute values and comparative percentages that could be further examined and explained. The proposed statements were also tested towards proving or disproving the hypothesis.

3. Literature Review

3.1 Safety Oversight in Nigerian Aviation

Safety oversight is the process by which states guarantee the efficient application of the safety-related Standards and Recommended Practices (SARPS) and related processes found in the Annexes to the convention on ICAO documents. It guarantees that the national aviation authority maintains a safety standard that is at least as high as that specified by the SARPS at the level of international regulation. Therefore, the cornerstone of secure international aviation operations is the individual state's obligation to oversee safety. However, the safety

of international civil aviation operation is automatically threatened when one contracting state lacks the necessary safety monitoring (ICAO, 2006).

Safety oversight clearly stands out as the most critical Air Transport International component given the fact that that it encompasses monitoring of all other ATI in addition to overseeing airlines who are the primary users of ATI. Effective safety oversight helps to identify safety threats in the industry and consequently advise on needed interventions. There is thus a crucial need to strengthen safety oversight in Nigerian aviation. Series of interventions were put in place to shore up safety performance in the industry following the deluge of air mishaps between the periods of 2004 and 2008 which witnessed nine accidents with 328 fatalities.

Despite the returned of a favorable verdict of category 1 status for Nigeria by International Aviation Safety Assessment (IASA) certification in 2010, the industry witnessed three more crashes involving a total of 180 fatalities precisely between years 2012 and 2013. Though category 1 status of IASA certification was retained in 2014. Hence, IASA certification is not enough, but the need to sustain interventions on safety performance and as well positioned the performance for constant refinement.

Ensuring safety operations represents a critical success factor in the aviation industry as corroborated by IASA assessment. Civil Aviation Authorities are in fact assessed based on their procedures for licensing carriers in the industry. A number of measures were implemented to improve industry safety performance in the wake of the plethora of aviation accidents following a model that will function as the foundation for standard operating procedures.

For the safety and security of federal airport to be all inclusive and workable, there must be a template that will serve as a basis for standard operating practices. For that reason, the Federal Airport Authority and the Washington State Department of Transportation (WSDOT) have established the following general safety guidelines according to WSDOT Manual (2009):

- It is necessary to restrict Airport runway closures.
- The control of aircraft use near construction sites to minimize disruptions to maintenance or construction operations is a must.
- The provision of appropriate safety training to airport personnel who access areas containing hazardous materials or activities are all important considerations.
- When the runway is closed or restricted, work should be done within a designated airport safety area, with approval from the airport manager beforehand.
- To guarantee safe operations at the airport, the Airport Manager is authorized to cease operations and relocate personnel, equipment, and materials when break the rule of the game.
- The decision to issue a Notice to Airmen (NOTAMs) shall rest with the Airport Manager.

3.2 Remodeling Federal Airport in Ensuring Airport Security

Part of the remodeling activities for the purpose of passengers' safety and security in the federal airport must encompass the following security activities that has been tested and certified to forestall the activities of notorious group in the airport:

3.2.1 Registered Traveler Program

The program's primary goal is to persuade frequent travelers to volunteer for a criminal background check in exchange for expedited airport screening. In order to verify identities, the program mandates that fingerprints and iris scans be obtained at the security stations. Upon identity verification, participants can proceed through security more quickly and with fewer inspections. According to Harrison (2004), this approach will essentially expedite airport traffic while allowing guards to screen passengers more thoroughly.

Developing safety and security capabilities by providing non-lethal equipment and training and helping security forces detailed in the airport to be more precise in their use of force. This could happen by welcoming expert in aviation discipline from countries like US, UK, Spain to train Nigeria airport security forces in special skills to combat anti-safety element in addition to direct involvement of the experts. They can as well help in financing the training.



Nigeria security forces detailed in airport need to cooperate with other regional and global forces in combating airport enemies. The monitoring and surveillance capabilities of federal airport need to be improved. In fact, the monitoring and surveillance units of other experienced countries may be particularly useful.

Additionally, high-quality intelligence is required to support counterterrorism efforts; security officers can only receive this kind of training by being trained in the science and techniques of intelligence. Gathering intelligence in Nigeria is deficient as observed by former Inspector General of Police Alhaji Ibrahim Coomassie in a July 2011 report (Soniya, 2011). However, effort of Institute of Security, Nigeria in collaboration with Human Resource Development Centre, University of Lagos is commendable by running a specialist course on Intelligence and Security Investigation. It will be appropriate for Nigeria Government to embrace the effort of the institute by promoting it.

Another means of securing airport is penetration. Penetration is a clandestine activity involving the use of trained agent to infiltrate target establishments and installations for the purpose of obtaining information. Trained agent can be sent to the midst of any suspected notorious group by pretending to be a sympathizer to the terrorist group, and leaking their secret to the authority of the airport. This will help the security men to be at alert and repel their evil intention, or eventual arrest of such notorious group.

There is also need to employ and use of forensic science to investigate airport crime; this field of study interacts with the legal system. The use of forensic science in security operations, according to Ogundipe (2011), serves both offensive and defensive intelligence needs in areas including the detection of terrorist, economic sabotage, espionage, arsonist, and robbery activity. Holistically, development of the field of forensic science in our universities and research institutes through adequate and sustained finance will aid the investigation process of the suspected notorious in detection link anti-safety and anti-security issue in airport.

3.2.2 Unity of Command

For military and paramilitary forces to achieve unity of purpose, unity of command becomes the recommended doctrinal approach. The ultimate goal of these agreements is to provide the forces with a monopoly on the lawful use of force inside the airport while also establishing effective control. A structured command and control system should be used to provide one leader authority over all the forces involved in airport security.

Electronic Devices will also be an added advantage in monitoring and identification of any suspected notorious group within and around the airport. Mounting of Closed Circuit Television (CCTV) device in all the strategic locations in the airport and extension to the outside part of north, south, east and west of the airport. Adetona and Salawu (2006) define CCTV as a flexible surveillance system that restricts the receivers or monitors that can receive images to those that are directly connected to the point of origin via a coaxial cable, microwave link, or other transmission medium. It is believed that the wave of criminality will be reduced to barest minimum if the device is adopted in federal airport. Video tape, miracode and computer sketch are other modern technology that can aid checking of menace of criminality.

3.3 Related Benefits of Federal Airport Remodeling

The following are some of the few benefits derive from federal airports remodeling:

- 1) *Improved Travel Conditions:* Enhancing travel circumstances as a result of investing in airport infrastructure may have broader effects on the network by stimulating demand, influencing it, and raising the caliber and dependability of airport services.
- 2) *Passenger Safety:* Passenger safety is the most critical benefit of ATI investment and it is the core of this study.
- 3) *Socio-economic Spill-Overs Accessibility:* Enhancing an airport's accessibility is the aim of infrastructure investment in airports. One way to quantify accessibility is the number of social or economic events that are reachable through the transportation network. Hence, remodeling will grow the labour, tourism, and/or manufacturing markets, which will boost competition and/or centralization.
- 4) *Employment:* Established Jobs and jobs shifted are among the effects of airport infrastructure building, operation, and maintenance on employment. Techniques that enable the evaluation of the direct, indirect, and induced employment effects of airport infrastructure projects could be used to measure the effects of construction. Jobs connected to the upkeep and operation of airport infrastructure, both direct and indirect.

5) *Efficiency*: By increasing their production and distribution, productivity advantages could be realized through time and cost reductions, dependability and accessibility gains, and improvements in airport infrastructure. Therefore, it may be argued that airport infrastructure projects have an effect on labour productivity and private capital, and consequently on the nation's total economic growth.

6) *Efficient landside services* reduce passenger total journey time. The Common Use Self Service (CUSS) technology is used at some processing points. In many cases, check-in may be done online, thus reducing stop points for passengers at the airports. Self-bag drops and automated baggage handling equipment are making airports smarter and reducing passenger processing time globally. Passenger security checks have also become less intrusive with the use of semi-automatic thermo conductive scanners. These new technologies serve to improve travel conditions for passengers.

7) *Airside services, security and safety services* when properly designed and functional boost passenger confidence to embark on air travel and may improve patronage of air transport in an airport.

4. Results and Discussion

4.1 Analysis and Interpretation of the Data Gathered Through Survey Questionnaire

This section focuses on the presentation, analysis and interpretation of data collected through the use of questionnaires. The information was extracted from the selected sample of one hundred (100) respondents of Murtala Muhammed in Lagos Nigeria respondents (Table 1).

Table 1. Analysis of Questionnaire Administered

Variables	Frequency	Percentage
Returned	95	95
Unreturned	05	05
Total	100	100

Source: Author Field Survey, 2023

Ninety-five (95) copies out one hundred questionnaires distributed were returned while five (5) were not returned. Thus, the percentage was based on the ninety five (95) questionnaires returned.

4.1.1 Distribution of Responses According To Bio-Data Information

This subsection presents bio-data information of the respondents using six bio-data information, namely sex, age, marital status, academic qualification, occupational distribution and the relationship to the airport.

Table 2. Bio-Data Information of the Respondents

Sex	Frequency	Percentage
Male	55	57.9
Female	40	42.1
Total	95	100

Age Group	Frequency	Percentage
18-29	15	15.8
30-39	30	31.6
40-49	30	31.6
50 and above	20	21
Total	95	100

Marital Status	Frequency	Percentage
Single	35	36.8



Married	45	47.4
Divorced	10	10.5
Widow/Widower	05	5.3
Total	95	100

Academic Qualification	Frequency	Percentage
Secondary Education	30	31.6
Tertiary Education	40	42.1
Post Graduate Education	25	26.3
Total	95	100

Occupation Distribution	Frequency	Percentage
Civil/ Public Service	40	42.1
Student	20	21
Business	35	36.8
Total	95	(99.9) 100

Relationship to the Airport	Frequency	Percentage
Staff	48	50.5
Passenger	47	49.5
Total	95	100

Source: Author Field Survey, 2023

Table 2 showed that 57.9% of the respondents were male while 42.1% were female on gender distribution. On age difference of the respondents, it was observed that 15.8% were between age bracket 18-29, 31.6% falls within age bracket 30-39 and 40-49 respectively while 21% fall within age bracket 50 and above. The breakdown of marital status revealed that 36.8% were single, 47.4% were married and 10.5% were divorced while 5.3% were either widow or widower.

The table above showed that 57.9% of the respondents were male while 42.1% were female on gender distribution. On age difference of the respondents, it was observed that 15.8% were between age bracket 18-29, 31.6% falls within age bracket 30-39 and 40-49 respectively while 21% fall within age bracket 50 and above. The breakdown of marital status revealed that 36.8% were single, 47.4% were married and 10.5% were divorced while 5.3% were either widow or widower.

Further, as depicted above on academic qualification, 31.6% of the respondents had secondary education, 42.1% had tertiary education while 26.3% had post graduate education. On the occupational basis, 42.1% and 21% of the respondents were civil servants and students respectively, while 36.8% were in businesses related occupation. The table showed that 50.5% of the respondents were airport staff while 49.5% were passengers on the relationship of the respondents to the airport.

4.2 Presentation of Data According To Variables



This subsection presents the analysis of data according to the variables. It provides empirical insight of the remodeling of federal airport, which is the core of the paper. The study used a 5-Point Likert Scale to analyse table 3 and 4 below.

4.2.1 Related Challenges of Safety Oversight in Federal Airports

The result of related challenges of safety oversight in federal airports is presented in the table below.

Table 3. Related Challenges of Safety and Security Oversight in Federal Airports

SN	Related Challenges of Safety and Security Oversight in Federal Airports	SA	A	SD	D	U	Mean	Rank
1	A long-standing obstacle to Federal Airport Authority of Nigeria has been insufficient fund.	31.6	42.1	12.6	10.5	3.2	2.88	1
2	Famine of professionalism at Federal Airport Authority of Nigeria is one of the major challenges of the industry	42.1	21	15.8	10.5	10.5	2.73	2
3	The majority of Federal Airports' low passenger volume impedes the aviation industry's infrastructure growth.	21	47.4	15.8	10.5	5.3	2.68	3
4	In Nigeria, the single owner 'stand-alone' syndrome still permeates the provision of airline services.	26.3	36.8	14.7	16.8	5.3	2.61	4
Grand Mean							10.9	
Criterion Mean							2.73	

Source: Author Field Survey, 2023

Regarding associated safety and security challenges, the data revealed that 31.6% and 42.1% of respondents strongly agreed and agreed, respectively, that long-standing obstacle to Federal Airport Authority of Nigeria has been insufficient fund, while 12.6% strongly disagreed, 10.5% disagreed, and 3.2% were neutral. In a similar vein, it was found that 21% of respondents agreed, 15.8% disagreed, 10.5% strongly disagreed, and 10.5% were neutral, with 42.1% strongly agreed that famine of professionalism at Federal Airport Authority of Nigeria is one of the major challenges of the industry.

In addition, 21% strongly agreed, 47.4% agreed, 15.8% strongly disagreed, 10.5% disagreed, and 5.3% were neutral regarding the claim that the majority of Federal Airports' low passenger volume impedes the aviation industry's infrastructure growth. It further showed 26.3% of the respondents strongly agreed that the single owner 'stand-alone' syndrome still permeates the provision of airline services in Nigerian, 36.8% agreed while 14.7% and 16.8% strongly disagreed and disagreed respectively. However, 5.3% did not succumb to any option.

4.2.2 Policy Direction of Remodeling of Federal Airports

This segment concerns the policy direction of remodeling federal airports in achieving the goal of the industry. The table 4 quantitatively presents the analytical result.

Table 4. Policy Direction of Remodeling of Nigeria Airports

SN	Policy Direction of Remodeling of Nigeria Airports	SA	A	SD	D	U	Mean	Rank
5	It is imperative that governments and service providers acknowledge the significance of possessing a lucid comprehension of their respective obligations for safety and security compliance.	31.6	52.6	-	10.5	5.3	2.95	2
6	Strict adhering to the existing International Civil Aviation Organization provisions by Federal Airport Authority of Nigeria will overcome the obstacles related to safety and security in a dynamic environment.	28.4	43.2	12.6	9.5	6.3	2.75	3
7	Effective safety oversight will help to identify security threats in	47.4	42.1	-	10.5	-	3.26	1



	the aviation industry.							
8	There is need to strengthen safety oversight in federal aviation industry for safety and security purposes.	26.3	42.1	15.8	5.3	10.5	2.68	4
Grand Mean							11.64	
Criterion Mean							2.91	

Source: Author Field Survey, 2023

In line with policy direction of remodeling of federal airports, the table above revealed that 31.6% and 52.6% of the respondents strongly agreed and agreed respectively that governments and service providers acknowledge the significance of possessing a lucid comprehension of their respective obligations for safety and security compliance, 10.5% disagreed and 5.3% were entirely of no opinion to the statement. Also 28.4%, 43.2%, 12.6% and 9.5% of the respondents strongly agreed, agreed, strongly disagreed and disagreed respectively that strict adhering to the existing International Civil Aviation Organization provisions by Federal Airport Authority of Nigeria will overcome the obstacles related to safety and security in a dynamic environment, while 6.3% respondents were indifferent.

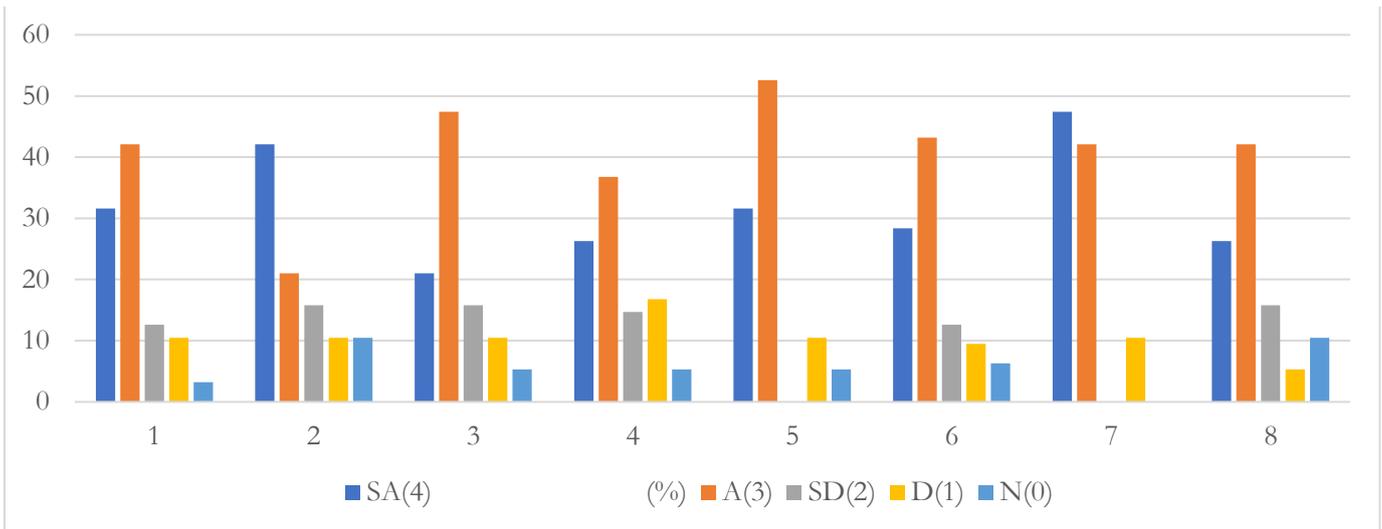
Similarly, above table indicated that 47.4% and 42.1% of the respondents strongly agreed and agreed respectively that effective safety oversight will help to identify security threats in the aviation industry while 10.5% disagreed to the claim. In addition, 26.3% of the respondents strongly agreed that there is need to strengthen safety and security oversight in Nigerian aviation industry for safety and security purposes. 42.1% respondents were in agreement, 15.8% strongly disagreed, 5.3% disagreed and 10.5% were aloof to the contested opinion (Table 5).

Table 5. Summary of the Result According to Tables 3 and 4 of Research Statements

Variables	SA(4)	A(3)	SD(2)	D(1)	N(0)	Mean	Rank
	(%)						
1	31.6	42.1	12.6	10.5	3.2	2.88	3
2	42.1	21	15.8	10.5	10.5	2.73	5
3	21	47.4	15.8	10.5	5.3	2.68	6
4	26.3	36.8	14.7	16.8	5.3	2.61	8
5	31.6	52.6	-	10.5	5.3	2.95	2
6	28.4	43.2	12.6	9.5	6.3	2.75	4
7	47.4	42.1	-	10.5	-	3.26	1
8	26.3	42.1	15.8	5.3	10.5	2.68	6
Ground Mean						22.54	
Criterion Mean						2.82	

Source: Author Field Survey, 2023

Figure 1 represents histogram of the summary of the result of research statements according in line to the table 5 above.



Source: Author Field Survey, 2023

4.3 Testing of the Hypotheses

The chi-square (X²) method is used in this section to examine the previously stated hypotheses. A frequency table is initially constructed in order to compute the expected frequency. Chi-square is the statistical technique that will be applied to test the hypothesis.

$$\text{Where: } X^2 = \sum \frac{(O-E)^2}{E}$$

Where X² – Chi-Square

∑ = Summation

O = Observed frequency

E = Expected frequency

H₀ stands for the null hypothesis and H_i for the alternative hypothesis during the hypothesis proofing process. In line with the decision rule, “If the calculated X² is less than the critical (X² from the table),” the null hypothesis is accepted and the alternative hypothesis is rejected.

4.3.1 Hypothesis 1: Based on Statement 2

H₀: Famine of professionalism at Federal Airport Authority of Nigeria is not one of the major challenges of the industry.

H_i: Famine of professionalism at Federal Airport Authority of Nigeria is one of the major challenges of the industry.

Table 6: The table shows the analysis of the respondents on research hypothesis 1 of the study.

Table 6. Analysis of the Respondents on Research Hypothesis 1

Variable	Frequency	Percentage
Strongly Agree	40	42.1
Agree	20	21
Strongly Disagree	15	15.8
Disagree	10	10.5
Neutral	10	10.5
Total	95	99.9 (100)

Source: Author Field Survey, 2023

$$\text{Expected frequency} = \frac{\text{No of Observed Frequency}}{\dots}$$



No of Variable

95

5 = 19

Table 7 demonstrates the analysis of the Chi-square of the respondents on research hypothesis 1 of the study.

Table 7. Analysis of Chi-square (X^2)

Variables	O	E	O-E	[O-E] ²	[O-E] ² /E
Strongly Agree	40	19	21	441	23.21
Agree	20	19	01	01	0.05
Strongly Disagree	15	19	-4	16	0.84
Disagree	10	19	-9	81	4.26
Neutral	10	19	-9	81	4.26
Total	95				32.62

Formula for degree of freedom = r-1
= 5 – 1 = 4:

Decision: Since chi-square calculated X^2 is 32.62 which is greater than critical X^2 of 9.448, we reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1), which state that “famine of professionalism at Federal Airport Authority of Nigeria is one of the major challenges of the industry”.

4.3.2 Hypothesis II: Based on Statement 7

H_0 : Effective safety oversight will not help to identify security threats in Nigeria aviation industry.

H_1 : Effective safety oversight will help to identify security threats in Nigeria aviation industry.

Table 8 presents the analysis of the respondents on research hypothesis II of the study.

Table 8. Analysis of Respondents on Research Hypothesis II

Variable	Frequency	Percentage
Strongly Agree	45	47.4
Agree	40	42.1
Strongly Disagree	-	-
Disagree	10	10.5
Neutral	-	-
Total	95	100

Source: Author Field Survey, 2023

Table 9: It shows the analysis of the Chi-square of the respondents on research hypothesis II of the study.

Table 9. Analysis of Chi-square (X^2)

Variables	O	E	O-E	[O-E] ²	[O-E] ² /E
Strongly Agree	45	19	26	676	35.58
Agree	40	19	21	441	23.21
Strongly Disagree	-	19	-19	361	19
Disagree	10	19	-9	8	4.26
Neutral	-	19	-19	361	19
Total	95				101.05

Formula for degree of freedom = r-1
= 5 – 1 = 4:

Decision: Since the calculated value (101.05) is greater than table value (9.844), we reject the null hypothesis (Ho) and accept alternative hypothesis (Hi), which state that “Effective safety oversight will help to identify safety threats in Nigeria aviation industry”.

Based on the statistical testing of stated hypotheses, it is however worthy to conclude that famine of professionalism at Federal Airport Authority of Nigeria is one of the major challenges of the industry. However, effective safety oversight will help to identify safety threats in Nigeria aviation industry.

5. Related Challenges of Federal Airport Remodeling

Federal Airport Authority of Nigeria (FAAN) is saddled with the responsibility of managing Nigeria airports. Having recognises the significances of aviation industry as a potential means for attracting and sustaining investment globally, the federal government embarked on the remodeling of federal airport for passenger safety and security. However, the effectiveness of the remodeling initiative is been hinder by a number of threats amongst:

1. **Human Capital Deficiency:** A major obstacle in federal airport inability to meet its safety oversight functions has been identified as the lack of requisite competent human capital (NASI, 2012). Moreover, accident occurrences in aviation have been linked significantly to Human errors (Li and Harris, 2006 and Daramola, 2014), and so the quality of human capital carrying out the oversight functions becomes critical.

2. **Inappropriate Funding:** Inadequate funding of the agency make it difficult for the establishment of comprehensive air navigation and safety agencies across federal airports in the country. Funding is clearly an issue, the lean financial capital available is a major challenge for the establishment, and hence it hinders the agency to properly fulfill her mandate. Until 2010, civil Aviation has not been receiving the attention which government gives to other ministries and agencies that are deemed more important.

3. **Uncoordinated Effort:** The inefficiencies in the oversight process due to lack of co-ordination is another bottleneck to the safety oversight function in Nigeria aviation. Most of the departments in airport seem lack unity of purpose, thereby promoting unilateralism against multilateralism which is the best doctrine of decision making in the management.

4. **Lack of Adequate and Effective Enforcement:** Compliance with international standards in the functioning and running of federal airport industry is another challenge facing aviation industry in Nigeria. Availability of law is not complete without adequate obedient and compliance, and enforcement when needed.

5. **Infrastructural Deficit:** This has also been tipped as one the major deficiency of aviation industry in Nigeria. This identified factor is a setback to passenger safety and security. Modern infrastructural facilities critically needed at different points in time are inadequate

6. Conclusions

The events of September 11, 2001 widely known as 9/11 have brought about issue regarding safety and security to society. The unexpected event has become the beginning of safety and security in the aviation industry. The number of damages done by aircraft crash in Nigeria aviation industry in the recent year cannot be quantified in terms of death recorded and properties destroyed which management lapses and nature of government bureaucratic were favour to responsible for.

The analysis reveals that the federal government of Nigeria, along with the airport authority, launched several national, regional, and international initiatives to tackle the issue. It was established that the transformation agenda of the administration of Goodluck Jonathan led the country aviation industry to be rated in group 1 in 2010 and 2014 respectively. Due to the fact that safety and security regulations and economic liberalization are intertwined of federal airport, safety and security of both the industry and the passengers must be prioritise among other things.

The complete overview of the study shows clearly that safety and security of aviation industry must be put into consideration above all other things for the industry to attract passengers. Involvement of expert in aviation industry from developed countries is sacrosanct as dedication and commitment of all stakeholders in Nigeria and in the industry in particular is highly needed.

7. Recommendations

In view of the outcome of this study, the following recommendations are made:



1. There is need for effective human capital development in all federal aviation industry. The process of providing safety oversight is in fact hinged almost entirely on the quality of human capital in the industry. Sustained human capital development is essential to ensure cutting edge professionalism among the staff of aviation industries. Strengthen human capital at federal airport industry through training is key.
2. Provision of adequate and appropriate fund for the running of aviation industry by federal government. The government ought to support public-private partnerships (PPPs) in order to provide funding for the efficient operation of the sector. In allocating the available resources, priorities need to be well ordered.
3. Unity of purpose among the federal airport security architecture and other managerial staff is a necessity to forge ahead in achieving the desired remodeling. Unity of purpose will help the staff to establish effective control within the airport.
4. The authority must be positioned to ensure enforcement of and compliance with international standards in the functioning and running of airport industry.
5. Identification and addressing of infrastructure components with the most critical needs at different points in time.

References

- Adedayo, A. (2011). Elections and Nigeria's National Security. In I. O. Albert et al. (Eds.), *Democratic Elections and Nigeria's National Security* (pp. 23-46). Ibadan: John Archers Publishers Ltd.
- Adetona, S. O., & Salawu, R. I. (2006). *Electronic Security System*. Lagos: Concept Publications.
- Crocker, D. (2007). *Dictionary of Aviation*. London: A & C Black Publishers Ltd.
- Daramola, A. Y. (2007). *An Assessment of Domestic Air Services in Nigeria's Deregulated Airline Industry*. NISER Monograph Series.
- Daramola, A. Y. (2014). *Aviation Accidents in Nigeria and Implications for Improved Safety Management Systems*. NISER Monograph Series.
- Daramola, A. Y. (2015). *Priority areas for transport infrastructure development in Nigeria*. Ibadan: NISER.
- Eindhoven Airport. (2010). *Manual Safety & Security*, Eindhoven Airport, Commercial Services & Corporate Communications.
- Ekanola, A. B. (2011). New Security Paradigm and the Imperative for Philosopher Kings in Political Offices in Nigeria. In Albert, I. O. (Ed.) *Democratic Elections and Nigeria's National Security*. Ibadan: John Archers Publishers Ltd.
- Federal Airports Authority of Nigeria (FAAN) (1990-2011) Annual Traffic Report. FAAN, Lagos, Nigeria.
- Harrison, C. (2004). EDS, Unisys Hired to Test Registered Traveler Program for Airline Security. *The Dallas Morning News*, June 17, 2004. Knight Ridder/ Tribune Business News, 2004.
- Imobighe, T. A. (2011). *Civil Society and Ethnic Conflict Management in Nigeria*. Ibadan: Spectrum Books Limited.
- International Civil Aviation Organization (ICAO). (2006). *The Establishment and Management of a State's Safety Oversight System*. Safety Oversight Manual Part A. Doc9734AN/959.
- International Civil Aviation Organization (ICAO). (2015). *Priority Safety Targets and Associated Metrics for the ICAO*. https://www.icao.int/safety/documents/icao_safety_report_2015_web.pdf
- Li, W. C., & Harris, D. (2006). Pilot Error and its Relationship with Higher Organizational Levels: HFACS Analysis of 523 Accidents' Aviation. *Space and Environmental Medicine*, 77, 1056–1061.
- Merriam, W. (2002). *Collegiate Dictionary*, 10th Edition. Springfield, Massachusetts, USA.
- Naidu, M. V. (2003). Human Security: Issues of Conceptualization. In Hallsworth (Ed.) *Perspective on Human Security*. BACS.
- Nigeria Aviation Safety Initiative (NASI). (2012). *The Future of Nigeria's Aviation Industry*. NASI.
- Ogudipe, O. T. (2011). Forensic Science and Criminal Investigation. In Ogudipe, T. O and Adebayo, A. (Ed) *The Science and Skills of Security Investigation*. Lagos: Concept Publications.
- Omah, E. (2013). Mechanisms of Conflict Transformation: The Nexus between Conflict, Security and Development. In Albert I. O. and Ezelebor W. A. (Eds.) *Managing Security in a Globalised World. Society for Peace Studies and Practice*. Abuja: John Archers Press Ibadan.
- Omisore, O., 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*, 2(2), 193-202.
- Soniya, T. (2011). Nigeria: Boko Haram – Why Security Agencies Have Failed. <https://allafrica.com/stories/201107201234.html>
- WSDOT Manual (2009). Chapter 3: Airport Safety and Security Guidelines. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=4a35b70c1fa8e4e0ee00529271bf7880bd7ad10b>