

## **ACCESSING THE IMPACT OF AVIATION SECURITY ON THE ECONOMIC GROWTH OF NIGERIA**

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### **Abstract**

*The aviation industry plays a significant role in the global economy. A secured air transport services enhance and stimulate connectivity in trade, tourism, political and cultural links between states. The research aims to access the impact of aviation security on the economic growth of Nigeria. The specific objectives are: to access passengers' perception of security service in Nigeria airports, determine the effect of airport security on the utility for air travel, and describe the new technologies maximizing airport security as well as proffer possible ways of promoting airport security in Nigeria. The research employed a descriptive survey design relying on a review of literature and questionnaires distributed to respondents to justify the objective of the research. It was found that the security in Nigeria airport leaves much to be desired, though on the growth path. The research calls for increased security consciousness in the Nigeria Airport given the security challenges, especially the Boko Haram insurgencies bedeviling the countries, and required that the government enhance new and innovational trends in aviation security to maximize airport security in the country.*

**Key Words:** *Aviation Security, Air Transport, Accessing, FAAN, Nigeria Air*

### **1. Introduction**

Transport has played a catalytic role in the movement of people, goods, and services, leading to economic and social transformation of many nations. Development and diversification of the transport system have had a case for expansion, intensification of production, and circulation of goods. With each stage of development of human society, a certain mode of transportation has been developed or adopted (Nistor & Popa, 2014). Air transport is one of the fastest modes of public transport which connect international boundaries. Air transport allows people from different countries to cross international boundaries and travel to other countries for personal, business, medical, and tourism purposes. Although air transport provides the fastest means by saving time

of journey, another very important aspect is the facilities and comfort level of the passengers (Tiwari & Prasad, 2019).

The air transport mode is defined by four basic elements: airlines, commercial transport aircraft, the air space used for their flights, and the infrastructure required to supporting their operations, like airports and ATM (Air Traffic Management) facilities (Benito and Alonso, 2018). Air transport infrastructure integrate all the ground facilities needed to support airline services with adequate level of safety, reliability, and economy. The two main elements of those facilities are airports and air navigation services. Airport are ground infrastructures placed generally close to the city they serve, acting as interchange centers of different transport modes and including many commercial services that take advantage of the great numbers of the passengers going in and out through the terminals. Air transport infrastructure collaborates to optimize the performance of the flights, trying to adapt flight itineraries to the operating aircraft and routes requirements, and minimizing delays both in flight and on the ground (Benito & Alonso, 2018).

While flying has always been one of the safest ways to travel, thanks to its wide-ranging international regulatory frameworks, aviation incidents have an outsize impact on the public consciousness. From recent airport attacks in Brussels and Istanbul to the shooting down of MH17 over Ukraine, horrifying images are more powerful than reassuring statistics (Kaspersen, 2016). Aviation is a target for terrorist intent on destroying the freedom that is at the heart of the business, and socioeconomic activities. Since the dawn commercial aviation, terrorists have used the air transportation system to both commit their attacks and to attack the system as a target in its own right. Airport in particular have stood out as relatively ‘soft’ target for terrorist attacks. While aircraft have been hardened as targets over recent decade with the gradual addition of enhanced security measures, airport by nature have had to remain in public areas, at least partly accessible to anyone, hence making them preferred targets (Duchesnrau & Langlois, 2017). Perpetrators have used the full range of possibilities to attack airports, from mass killing using grenades and automatic weapons to small homemade bombs exploding in parking lot garbage bins without injuring anyone. Attacking an airport is generally viewed as a substitute for attacks on airliners-a “poor’s man’s” hijacking, a simpler way to make political point without running the risk (Jenkins, 1989). Airport attacks are acts in which individuals or installations on airport ground are violently and specifically targeted. Target can include terminals, check-in counters, boarding gates, passenger areas, vehicles, parking lots, and other equipment or buildings, but excluding aircraft themselves,

Terrorist group perceive attack against international civil aviation as an effective way to cause substantial loss of life, economic damage, and disruption. Because of the global and interconnected nature of the international civil aviation industry, the member state of all regions is potentially vulnerable to such attacks (Counter-Terrorism Committee Executive Directorate (CTED,2017). CTED (2017) expressed particular concern that terrorist groups may be actively seeking ways to defeat or circumvent international civil- aviation security measures and to identify and exploit perceive gaps or weakness and stressed the need for State to introduce appropriate countermeasures. Recent attacks against airports in Belgium, Turkey, and the United States, the explosion of a terrorist bomb aboard Daallo Airlines flight 159, and other recent terrorist attacks

according to the council are stark reminders of landside attacks, the threat posed by insiders and airport staff, and the use of increasingly sophisticated improvised explosive devices are all significant concerns. The international aviation sector also faces several new and emerging risk and threats. The use of information and technology (IT) for malicious purposes is a global threat. The global civil aviation community depends on IT systems for its daily operations, and as that dependence continues to grow, critical civil aviation infrastructures will become increasingly vulnerable to malicious IT-based attacks.

### **Current Challenges and Future Trends of Airport Security**

According to statistical website, commercial airline carried an estimated 4.3 billion passengers on scheduled flights in 2018, with more than 4.5 billion people anticipated to fly in 2019. In 2009, nearly 2.5 billion passengers flew commercially, meaning airlines and airports have seen a passenger traffic increase of 80 percent, or 2 billion people, over the last 10 years. The increase in airlines passenger traffic bring many challenges with it, such as just how airports, aviation security companies and government transportation security agencies will efficiently handle so many travelers. In truth, airport is already bursting at the seams in terms of passenger traffic, and airports and airline will need to be at the top of their game to handle billion of more passengers annually. Airport and aviation security infrastructures will also present significant challenges to airport in the future, especially those in U.S. As noted by research, how increased airline passenger traffic will be smoothly and efficiently processed through airport security checkpoints pose an urgent problem. Fortunately for airports and airlines as well as government transportation security agencies, improve aviation technologies now exist. These technologies can serve as a stopgap to enhance passenger security screening numbers until a more permanent security infrastructure, especially regarding permanent facilities is created.

In the U.S., research shows that the Transportation Security Agency has been working on several passenger screening technology improvements. Facial recognition and advanced imaging technologies, to name just two initiatives, hold the promise of being able to process many more airline passengers, through TSA checkpoints than is currently the case. TSA has also rolled out automated screening lanes, or ASLs at over 16 major airports, with more to come as the technology prove itself. These ASLs incorporate an array of innovative technologies that not only enhance the passenger security experience but also provide better security faster. Many of the screening functions that were previously performed manually are now completed via automated processes and with very impressive accuracy rates.

Overseas as well as in the U.S. other technologies that are greatly speeding passenger security screening and reducing lines include Thru vision's next-generation people screening products. The company's TSA- vetted and approved technologies can process between 500 and 2,000 people per hour, depending on associated consolidated operations ("Con-Ops"). The system also detects all types of prohibited items, no matter how small or discreetly concealed they are. What is particularly impressive about Thruvision's tech is that it doesn't require any physical searching of passengers and can be set up and then disassembled and rapidly moved to other areas at airport and various venues when needed. New technologies are changing the security landscape. Several airports are now running a remote security screening. Integration of security system is proving

challenging at all levels. At the organizational level, new technologies have implications for future recruitment, training, and workforce structures. From a wider security perspective. There remains a divide between cyber and physical security within organizational structures, a separation not recognized by those seeking to disrupt our operation. Finally, was seen at a screening level, particularly with mass public screening landside, a need for better understanding of how different technologies, process, and skills should be integrated for best effect (international Airport Review, 2017)

### **Empirical Study of Airport Security**

There is a paucity of study into the security in Nigeria airports, however, few scholars have tried to examine elements relating to security at the airport terminals. A study by Ryoichi et al., (2016). Analyze the perception of airport safety by travelers, and how its related to satisfaction with passenger screening experiences and the perception of public transit safety. It uses the Omnibus Household Survey data collected by the U.S. Bureau of Transportation Statistic and estimates a structural equations model. It finds a positive relationship between the perception of Public Transit Safety and Screening Safety. A lack of experience with using public transit is also found to contribute to travelers perceiving lower levels of Screening Safety.

Suleiman (2012) examined air transportation in Nigeria and discovered that there is loose security at airport in Nigeria, with the absence of solid perimeter fencing at some airports in the country, which allowed grazing by the runway of some airports. For example, in 2005 an Air France flight crashed on cows on the runway of Port Harcourt International Airport, killing seven of them and damaging the landing gear of the aero plane (Agbo, 2008). Besides, the roads leading to some airports such as those at Owerri and Port Harcourt are not secured, as armed robbers and militants attack travelers (Agbo, 2008). The Isolo Expressway leading to Lagos International airport also witness armed robbery incidents. These robbery incidents occur due to loosen security along the roads leading to airports that need to be secured for the safety of travelers and their properties. There are also petty thieves in some airports who capitalize on the loose security to break into visitor's cars and carry handy belongings (Suleiman, 2012).

Abraham, Obioma, Ogunnumesi, and Imad (2017) examine the effect of airport touting from passenger's perspective using the Nnamdi Azikiwe International Airport Abuja. Using several analytical tools such as descriptive, multiple regressions analysis, and one-way analysis of variance (ANOVA) to assess identifiable characteristics. A self-administered questionnaire was designed to capture responses from both passengers and touts, to obtain a balanced view on the issue. Around two hundred (200) were distributed across two terminals, one hundred and eighty (180) responses were retrieved back. The results revealed that most of the touts operating at this airport are males, while only a quarter were females, only a few of them had higher education. They engaged themselves in all sort of activities carry passenger's luggage, make a reservation for their taxis and hotels, purchase and resell airline tickets at the airport. Besides, they extorted money and collect illegal fees from passengers, engaged in stealing and intimidating passengers, and most of them sampled were pleased with the profession. The majority of passengers sampled were unsatisfied with the touts' activities and the current law on touting.

It is seen from the previous works covered that security around and inside the airports, requires an evaluation with aim of better positioning the airport to serve the users better, ensuring proper security of life, valuables and the safety of the overall operation on the airport as an invaluable transportation terminal.

## **Methodology**

The study adopted a descriptive survey design which is most appropriate where the study seeks to describe the characteristics, of a certain group and as well estimate the proportion of people who make certain predictions. The design was chosen for this study due to its ability to ensure minimization of bias and maximization of reliability of evidence collected. This research sought to gain information from the airport users in Nigeria, particularly, Murtala Muhammed International Airport (MMIA). Lagos as it relates to issues by the current study. The Murtala Muhammed International Airport Lagos (MMIA) was chosen as it commands the highest passenger traffic among every other airport in the country. Security as well is highly beefed up at the airports given its strategic position in the international movement of passengers and freight services, leading to intense operational activities and a myriad of other airport services.

According to Mugenda (1999), the target population is defined as “The totality of cases of people, organization or institutions which pose certain common characteristics that are relevant to the study”. This research sought to gain information from the airport users in Nigeria as it relates to issues by the current study. A survey of the airport security services and security infrastructure of the airports is the basis for the justification of the objective of the study. Primary data was obtained through the uses of structured interviews and questionnaires. The questionnaires were pre-tested to check that it would collect relevant information and that the wording was clear. The responses from this pilot study were analyzed and the feedback was used to improve the wording of the final research questionnaire. The questionnaire was administered for a week through face-to-face interviews with respondents. The result was presented using inferential statistics arranged in frequency tables and percentages.

## **Result and Discussion**

### **Questionnaire Analysis:**

Questionnaires were required in the study as an instrument for primary data collection as required in the study. The questionnaires were completed by 201 respondents comprising the passengers traveling through the international airport, it was also important to note that more than 60% of the respondents had flown on international flights for at least 5 years. This is aimed to minimize research bias and to ensure the research objectives were dully justified. The questionnaire by the end of fieldwork was screened for eligibility, out of 400 questionnaires that were designed and distributed, a total of 201 questionnaires were received. 190 were rejected because they were not filled properly, and 201 that was left was used to carry out the statistical analysis. Table 1 below presents an analysis of the questionnaire.

### **Table 1; questionnaire Analysis**

Questionnaire	Quantity	Percentage
Distributed	400	100%
Valid	201	51%

Source; Fieldwork, 2023

## 5.2 Data Presentation and Description

A general summary of respondents 'responses to certain question in the questionnaires and a few information of the respondent is presented and described below, it is also important to note that the information and responses of the respondents were categorized according to the airport used for the study.

### 5.2.1 Demographic Distribution of Respondents by Age and Sex

The summary of the spread, showing the frequency and percentages of the age and sex of respondents based on the range was presented in both table and figure.

**Table 2: Age Distribution of Respondents**

Age	Frequency	Percent	Cumulative Percent
18-24	37	18.4	18.4
25-35	61	30.3	45.7
36-50	60	29.9	75.6
50+	43	21.4	100.0
<b>Total</b>	<b>201</b>	<b>100.0</b>	<b>100.0</b>

(Field Survey, 2023)

The information in the table 1 was presented in Figure 1 for better understanding. Thus, Figure 1 show that the respondents are either 18 years of age or above.

**Table 3: Gender Distribution of Respondents**

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	117	58.2	58.2	58.2
Female	84	41.8	41.8	100.0
<b>Total</b>	<b>201</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(Field Survey 2023)

The distribution in the Table 2 show that male has a slight dominance over the female. This is understandable as men tend to travel more than women especially in Lagos state where commerce is very high. The summary in percentage was further explained in Figure 2.

**Table 4: Airport Users' Perception on Level of Security in Term of Equipment and Personnels in the Nigeria Airports**

<b>Research Questions</b>	<b>Scale</b>	<b>Frequency</b>	<b>Percentag e</b>	<b>Cumulative Percentage</b>
1. Nigerian airport have standard perimeter fencing to guide against the illegal entrance and access to runway	Strongly Disagree	106	53.0	53.0
	Disagree	45	22.0	75
	Undecided	14	7.0	82.0
	Agree	24	12.0	94.0
	Strongly Agree	12	6.0	100.0
	<b>Total</b>	<b>201</b>	<b>100</b>	
2. The equipment available is of the latest technology and adequate to maintain standard security	Strongly Disagree	60	30.0	30.0
	Disagree	45	22.0	52.0
	Undecided	14	7.0	59.0
	Agree	40	20.0	79.0
	Strongly Agree	42	21.0	100.0
	Total	201	100.0	
3. Security personnel are well trained morally and otherwise to guide airport users with quality service.	Strongly Disagree	99	49.0	49.0
	Disagree	45	22.0	71.0
	Undecided	17	9.0	80.0
	Agree	24	12.0	92.0
	Strongly Agree	16	8.0	100.0
	<b>Total</b>	<b>201</b>	<b>100.0</b>	

**(Field Survey, 2023)**

The distribution in Table 3 shows that majority of the users strongly disagreed that, the airport perimeter is properly fenced to ensure there is no illegal entrance and access to the runway of the Nigeria airports. Similarly, a great number of the respondents disagree that equipment available in Nigeria airports is of the latest technology and adequate to maintain standard security. While almost 50% of the respondents strongly disagree that security personnel are well trained morally and otherwise to provide airport users with quality service.

In summary, over 50% of the targeted population of the respondents strongly disagree and disagree with being satisfied with the overall level of security present at the airport. This shows that passengers perceive security screening as being very poor and lackluster, this is worrying sign as this shows that they are loopholes that can be exploited in doing so putting lives and properties at risk.

**Table 5: The effect of airport security on the utility of air travel**

<b>Research Question</b>	<b>Scale</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Cumulative Percentage</b>
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4. The level of security consciousness by security personnel is adequate for traveler's safety	Strongly Disagree	104	52.0	52.0
	Disagree	43	22.0	74.0
	Undecided	15	8.0	82.0
	Agree	23	11.0	93.0
	Strongly Agree	16	8.0	100.0
	<b>Total</b>	<b>201</b>	<b>100.0</b>	
5. The security present at the airport is adequate to combat any security threat	Strongly Disagree	60	30.0	30.0
	Disagree	54	27.0	57.0
	Undecided	33	16.0	73.0
	Agree	37	18.0	91.0
	Strongly Agree	17	9.0	100.0
	<b>Total</b>	<b>201</b>	<b>100.0</b>	
6. Perceived airport insecurity would affect the choice of travel	Strongly Disagree	105	52.0	52.0
	Disagree	45	22.0	74.0
	Undecided	14	7.0	81.0
	Agree	24	12.0	93.0
	Strongly Agree	15	7.0	100.0
	<b>Total</b>	<b>201</b>	<b>100</b>	

**(Field Survey, 2023)**

The analysis in the Table 4 above shows that over 50% of the respondents strongly disagree that the level of security consciousness by security personnel is adequate for traveler's safety. Also 57% of the respondents cumulatively disagree that security present at the airport is adequate to combat any security threat. 74% of the respondents cumulatively disagree that perceived insecurity in the Nigeria airports would affect the choice of travel.

In summary, perceived insecurity in the Nigerian airports in terms of lack of security consciousness and security gadgets will affect the passengers' utility for air travel. Hence it will give room for passengers to consider other modes of transport such as road as well as rail transport which is already moribund in the country. Invariably this will lead to a rise in the pressure already existing on the road due to an upsurge in the road traffic as traffic would to a large extent be diverted to the road. Consequently, road accidents and other insecurity issues characterized by road transport in the country would be on the increase.

**Table 6: The perception of airport users over misconduct of security agencies in the Nigeria Airport**

Research Questions	Scale	Frequency	Percentage	Cumulative Percentage
	Strongly Disagree	26	13.0	13.0

7. Touting among the security agencies have a negative impact on aviation in Nigeria	Disagree	15	7.0	20.0
	Undecided	10	5.0	25.0
	Agree	55	27.0	52.0
	Strongly Agree	95	47.0	99.0
	<b>Total</b>	<b>201</b>	<b>99.0</b>	
8. Unchecked cargo movement constitute to security risk in Nigeria	Strongly Disagree	30	15.0	15.0
	Disagree	21	10.0	25.0
	Undecided	20	10.0	35.0
	Agree	52	26.0	61.0
	Strongly Agree	78	39.0	100.0
	<b>Total</b>	<b>201</b>	<b>100.0</b>	
9. Janitorial service agent constitute to security risk in Nigerian Airport	Strongly Disagree	61	30.0	30.0
	Disagree	49	24.0	54.0
	Undecided	17	8.0	62.0
	Strongly Agree	38	19.0	81.0
	Agree	36	18.0	99.0
	<b>Total</b>	<b>201</b>	<b>100.0</b>	

**(Field Survey, 2023)**

The distribution in the Table 6 shows that majority of respondents strongly agree and agree that touting activity among the security agencies impact negatively on aviation in Nigeria. Similarly, a great number of respondents strongly agree that unchecked cargo movement constitute to security risk in the Nigeria. However, over 81% of the respondent strongly disagree that Janitorial services agent constitute security risk in the Nigeria Airport.

**Table 7: The possible ways of improving security in the Nigeria Airport**

Research Questions	Scale	Frequency	Percentage	Cumulative Percentage
10. Significant investment in new technology	Strongly Disagree	10	5.0	5.0
	Disagree	20	10.0	15.0
	Undecided	18	9.0	24.0
	Agree	53	26	50
	Strongly Disagree	100	50	100
	<b>Total</b>	<b>201</b>	<b>100.0</b>	
11. Protection of airport infrastructure through the uses of surveillance and monitoring system	Strongly Disagree	8	4.0	2.0
	Disagree	13	6.0	10.0
	Undecided	36	18.0	28.0
	Agree	44	22.0	50.0
	Strongly Agree	100	50.0	100.0

	Total	201	100.0	
12. Provision of screening scanning and tracking devices	Strongly Disagree	4	2.0	2.0
	Disagree	12	6.0	8.0
	Undecided	20	10.0	18.0
	Agree	45	22.0	40.0
	Strongly Disagree	120	60.0	100.0
	<b>Total</b>	<b>201</b>	<b>100.0</b>	

### (Field Survey, 2023)

The analysis on the table above shows that about 74% of the respondents strongly agree and agree that significant investment in new technologies is desirable to curtail security threats in the Nigeria airports. Thus, the evolving nature of the security threat facing the aviation industry will require significant investment in the development of new technologies and have implication for overall security planning procedures.

Similarly, over 50% of the respondents believe that the protection of airport infrastructure through the uses of surveillance and monitoring system will help to forestall security threats. Thus, screening, scanning, and tracking device area where technological innovations are adding to combined identification solutions for goods and persons. Biometric technologies can automate the identification of people by one or more of their distinct physical or behavioral characteristics. The main type of biometric data includes fingerprints, face recognition, iris recognition and vascular recognition. The protection of airport infrastructure through enhanced (and intelligent) surveillance systems will go a long way to combat surety threats.

Over 80% of the respondents agree and strongly agree that the provision of screening, scanning, and tracking devices will help to checkmate security threats in the Nigerian airports. Thus, protection of airport infrastructure is a key aim of aviation security systems relating to the protection of airport infrastructure is to control the access of people moving into or out of protected areas, such as physical building, sensitive area within the airport terminals, and information systems through the uses of surveillance and monitoring systems. Surveillance is a central element of airport security management and takes place through several means, from intelligent video surveillance to the use of biometric tools for checking the identity of airport workers with secure access rights.

### Conclusion

The air transport industry plays a significant role in the global economy. Secure air transport services enhance connectivity in trade, tourism, political and cultural links between states. Because of this, the study assesses airport security in the Nigeria airport with Nnamdi Azikiwe International Airport Abuja in focus. The objectives were; to examine airport user's perception of the level of security in terms of equipment and personnel in Nigerian airport; determine the effect of airport security on the utility of air travel, and proffer possible ways of promoting airport security in Nigeria. To achieve the stated objectives, data from a primary source through questionnaire and

in-depth oral interview was utilized. A total of two hundred and one (201) questionnaires which were properly completed by the users of the air transport facilities was used for the analysis. The questionnaire was designed with the uses of Likert's 5-scale model of Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagreed. The collected data was analyzed with the simple percentage method. Based on the empirical results, it was found that security in Nigeria airport does not exhibit the high level of professionalism required for their job. The security facilities and equipment at the airport also do not meet passengers' expectations. They are not enough to service the airport security need efficiently; many new modern security innovations are yet to be seen and employed in the Nigeria airport. Thus, the overall security service situation of the Nigeria is very unsatisfactory and need to be improved towards international competition. The utility to travel by air is greatly impacted by perceived airport insecurity. Deduction from the foregoing analysis would mean that the Nigeria airport is on the growth path. Although she is not yet there in terms of the security, there is exist hope and capability for better future.

Based on the conclusions of the research, the following recommendations were deemed necessary;

Security at the airport must be approached with utmost seriousness and dogged commitment to ensuring the safety of the passengers, airport infrastructures, and the economy. The Nigerian government must give due attention to the training and retraining of the airport personnel. This is because human intelligence has been acknowledged as the most basic resource in combating insecurity. Training is also necessary to shape the attitude of the security personnel towards security consciousness and alertness. The security personnel as well needs to see their job as a service to humanity and not just a means to an end. This is because they must understand that the wealth of the nation by their service and the safety of lives of many to a large extent is entrusted to their hands. Federal Airport Authority of Nigeria (FAAN) should enhance and invest in new security measures and modern devices developed to stop more elaborate and intelligently planned actions by terrorists, banditry and other security threats.

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