Innovations

# Effect of Air Safety Operations on Performance of Air transport Business in Nigeria

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***Abstract***

*Nigeria aviation sector of the economy has witnessed some air mishaps in recent times hence the urgent need for this study. The study's main objective is to determine to what extent flight safety operations, firefighting, and rescue activities affect the Nigerian air transport Business. This research used a descriptive survey and quantitative approach to data gathering based on the evaluation of documents and materials in order to meet its goals. 200 employees of Federal Airport Authority Abuja were selected to make up the study's populace. The study's findings were drawn from the research work, which came to the conclusion that Nigeria's air transportation Business is positively and significantly impacted by air safety operations which showed a positive relationship. The implication of this conclusion is that while the air safety operations and practices of Federal Airport Authority of Nigeria (FAAN), other regulatory bodies, and air transport companies have significantly reduced the number of aircraft crashes in Nigeria, air safety operations still need to be strengthened. Additionally, the research found a significant and advantageous connection between Nigerian firefighting operations and the air transportation business. This result showed that in Nigeria, air operations are favorably and substantially correlated with firefighting operations. This indicates that while the firefighting effort is moving in the correct way, it still requires work. The finding recommends that government should encourage safety operations by equipping the federal Airport Authority of Nigeria and other regulatory agencies with state of arte safety equipment and gadgets for the safety of Nigeria air space. The air space government regulatory agencies should ensure that aircrafts that are outdated and obsolete should have no business with Nigerian airspace.*

***Keyword:*** *Air safety operations, Firefighting, Federal Airport Authority of Nigeria, air transport Business, Performance*

## Introduction

### 1.1. Background to the Study

It is impossible to overstate the importance of the transport industry to Nigeria's socioeconomic growth (Adesanya, 2004). In other words, among other things, the efficacy and efficiency of a country's transport system, which allows for the mobility and accessibility of passengers and products, would decide the standard of performance of the sector. The foundation of urban living is active transit. It plays a crucial role in determining how easily people, products, and services can move around in an urban or commercially viable

area. The ability to transfer information, raw materials, finished goods, and the economic existence of the people from one location to another is made possible by transportation (Rodrigue, 2013).

The availability of transportation services and facilities contributes to the decline of destitution. It doesn't need to be emphasized that without sufficient transportation infrastructure and services, different governmental initiatives to reduce poverty will fail. It is challenging to imagine achieving the goals of ubiquitous healthcare and education without first establishing sufficient transportation infrastructure (Puri, 2003). Strong economic and political connections between areas in the same state are maintained through the human-powered transportation of cargo and finished goods from one unusual place to another. Having a good transit system is crucial for economic growth. It encourages component movement and brings down trade expenses. Additionally, it encourages market integration, opening up opportunities for price fluctuation reduction and resource reallocation in accordance with competitive advantage. Through its use as a direct input in the production process, investments in transportation infrastructure can also affect the productive capability by expanding such resources (Oyesiku et al, 2013).

The world's industrialized nations have experienced geometric development, and the air transportation system, which is acknowledged as the quickest of all forms of transportation, is primarily to blame. According to reports, there are more than two thousand (2,000) carriers flying over twenty-three thousand (23,000) planes between roughly three thousand seven hundred (3,700) airports worldwide (Aerospace Global Report, 2011). As a result, the aviation industry serves as the entry point for any country looking to grow, facilitating commerce, globalization, and the growth of the tourist industry. It is essential for fostering foreign direct investment (FDI) (Stephens, et al, 2014). As a result, it can be said that the sector is essential to the expansion of the business and of the country. Additionally, it was noted that as the developing countries expand, so will their desire for air travel as their people become more monetarily independent thanks to rising discretionary income. The development of the business will be further fueled by the construction of air transportation infrastructure in these developing nations. Air transport is one of the industries that best exemplifies globalization globally in both an economic and socio-political sense, along with telecoms. When compared to other infrastructure sectors like roads, water and sanitation, etc., the combination of quick technological advancement, industry consolidation, the low-cost carrier business model (LCC), the presence of adequate pricing mechanisms, and consumer willingness to pay for secure, affordable services have created opportunities for air travel to grow commercially (Button, 2006). A significant business in and of itself, air travel also contributes significantly to broader political, social, and economic processes. Like with most modes of transportation, the need for its services is drawn from the wants and requirements to achieve some other end goal. Lack of aviation transportation can impede effective development, just like a lack of any other economic input (Nwaogbe et al, 2013). Speed, time, and distance are the three main factors that make air travel superior to all other forms of transportation. In terms of weight, air travel has a significant worth. Additionally, it is favored when access via other means is problematic. (especially in riverine or mountainous regions). The structure of air travel consists of many interconnected components. Through the airways and other airports with which it trades aircraft, each airport is linked to the system. But in Nigeria, its GDP portion is still discernible (Aderamo, 2006). Over the past thirty years, there has been a rise in demand for aviation transportation services in Nigeria. The physical and fiscal expansion of towns across the nation has led to an increase in passenger, aircraft, and freight travel. Air travel makes it easier to make quick links between Nigeria's various economic zones. The variety of resource endowment between the North and the South, according to (Ogunbodede, 2006), is a significant driver of the expansion of aviation travel in Nigeria. However, Nigeria's private aviation industry has not yet reached its maximum potential. This might call for increased service quality, competitive pricing, and improved airport facilities (Chikwe, 2002). Previously, efforts were made to raise the caliber of aviation transportation services. To promote participation from the private sector, the aviation transportation industry needed to be liberalized. The Government has significantly reduced its involvement in commercial airline operations over time. To close the funding deficit in investments

to meet the rising demand and boost the managerial and practical effectiveness of air services, the private sector has participated in domestic air services (Puri, 2003). Prior to liberalization, the Nigerian aircraft industry was known for its erratic, inefficient, and poorly result-oriented services. However, following liberalization, Nigeria's aviation industry entered a new phase of expansion and development. The more dormant Nigerian aircraft sector attracted more attention and investment under the deregulation system. Additionally, the local and foreign terminal's air operation underwent significant changes from the previous model. Additionally, international carriers use the country's terminals as centers for operations on flights both inside and outside of regions. However, as a consortium engaged in terminal construction, local aircraft operations profited from deregulation and privatization. The new terminal's upgraded comforts and accommodations resulted in better passenger services. In actuality, compared to the time prior to liberalization, Nigerian flight services have improved and become more uniform. Nigeria has recently experienced a number of air transportation mishaps as a result of disregard for air safety procedures and guidelines. This issue has persisted for a while, which is what inspired this research. Many airlines have abandoned safety standards, endangering Nigerians' ability to travel safely. Some of them continue to fly on old aircraft, and Nigerian terminals lack proper safety procedures. The study's main objective is to determine to what extent flight safety, firefighting, and rescue activities affect the Nigerian air transport Business.

## Review of Literature

### 2.1. Conceptual Framework

Air travel is perfect for coordinating supply lines, which boosts the economy's general effectiveness. According to Hummels (2006), in 2004 the cost elasticity of aviation transportation decreased significantly from 0.43% to 0.045%. That is, doubling the distance shipped in 1974 led to a 43% rise in plane transportation expenses, but in 2004 there was only a 4.5% increase. Additionally, it was suggested by Aizenman (2004) and Schaur (2006) that managing the volatility of global demand could be accomplished through aviation transportation. Organizations can wait until the recognition of demand shocks before settling on the amounts to be distributed because air shipments take hours rather than weeks. For businesses or groups, air transportation cargo offers a practical means of absorbing demand shocks. The quality of the aviation transportation system can be improved with the aid of effective shipment methods, which also boosts local and foreign trade, business, and economic development of a country. According to Limao and Verables (2001), a 10% rise in transportation expenses results in a 20% decrease in trade volume. Additionally, it has been found in recent research that a 10% rise in time results in a 5%–8% reduction in the volume of bilateral commerce. Swan (2007) also noted that since 1970, the expense of producing flights has decreased at an average rate of about 1%. The ad valorem cost of air freight, or the transportation expense required to move a dollar of goods or consignments of air transport has decreased by 40% between 1990 and 2004 as shipments are more valuable and lighter in weight. This is because aviation freight, which accounts for about 40% of the worth of global commerce, is becoming increasingly significant in cargo logistics. Many nations have made the decision to place high-tech areas and special economic zones close to runways. If speed, time, and distance are your top concerns, air travel has a distinct edge over all other forms of transportation.

In terms of weight, air travel has a significant worth. Additionally, it is favored when access via other means is problematic (especially in riverine or mountainous regions). The structure of air travel consists of many interconnected components. Through the airways and other airports with which it trades aircraft, each airport is linked to the system. But in Nigeria, its GDP portion is still discernible (Aderamo, 2010). Over the past thirty years, there has been a rise in demand for aviation transportation services in Nigeria. The physical and fiscal expansion of towns across the nation has led to an increase in passenger, aircraft, and freight travel.

The pace of physical development in the nation has been accelerated by the establishment of states and the requirement for them to develop their main cities in order to fulfill their socioeconomic obligations. Air travel

makes it easier to make quick links between Nigeria's various economic zones. The variety of resource endowment between the North and the South, according to Ogunbodede (2006), is a significant driver of the expansion of aviation travel in Nigeria. The new civilian administration also sees the air transport sector as a crucial hub in the endeavor to attract foreign investors and, as a result, close the gap between the amount of domestic investment capital that is accessible and what is needed (Adeyemi 2001).
Despite being more recent in Nigeria than the road and railway modes, aviation travel has made a major addition to the growth of the country's transportation system. For instance, in 1988, there were 3,093,000 internal passengers. In 1998 and 2004, it reached 4,618,000 and 6,424,000, respectively (Aderamo 2006a). In a similar vein, flying cargo and letter delivery had been in high demand (FMT 2004). All of these point to a rising desire for aviation transportation services in the nation. It is practical to prepare for increased demand for aviation transportation services in Nigeria. More research on the desire for passenger transport will be extremely helpful to the aviation sector. Any aviation organization's ability to predict the future and create effective plans will have a significant impact on its long-term performance. This essay's goals are to investigate how air travel affects economic growth in Nigeria as well as to inspire businesses involved in the aircraft industry.

### 2.2. Impact of Air Transport on Economy

In two other ways, the aviation industry has made significant contributions to the global and Nigerian economies. The taxation imposed on Gross Value Added, to start (recall that it is equal to the sum of profits and wages). In terms of generating income and providing the public services required for the international transportation of products and services, the aviation industry supports the government. Secondly, by making a one-time expenditure and using more sophisticated technology systems for operations and upkeep.

### 2.3. Air Safety and Firefighting Operations

The tragedy of air accidents is such that every nation hopes it won't occur in its territory. The saddest aspect is that lives are lost, but it also harms the reputation of the nation, the carrier, and the aviation sector. There are many reasons why planes crash, including pilot error, air traffic controller error, design flaws, missed maintenance opportunities, sabotage, or severe weather. Plane crashes happen between the time passengers aboard the aircraft and when they disembark, and they usually result in fatalities or serious injuries to the passengers (Eze 2021). Additionally, it raises the danger level of the nation and results in a rise in aircraft insurance premiums. Therefore, the civil aviation authority, carriers, airport administrators, and others constantly make concentrated efforts to ensure that a nation maintains a good safety reputation.

The Nigerian Air Force's (NAF) Beechcraft King Air B3501 was involved in the country's most recent aircraft mishap, which occurred in 2021. The complete crew of this military aircraft, which was carrying seven members of the Nigerian Air Force, perished in the accident on February 21, 2021 while en route from Minna to Abuja, Federal Capital Territory, as a result of an engine failure.

The Beechcraft King Air A3501 of the Nigerian Air Force (NAF) fell in 2021 as well. The NAF Beechcraft King Air fell on May 21, 2021, as it was flying from Nnamdi Azikiwe International Airport in Abuja to Kaduna International Airport in Kaduna State. Four crew members and seven guests, including Gen. Ibrahim Attahiru, the head of army staff at the time of the event, made up the eleven people on board. Nobody managed to survive. Out of the six Beeachcraft King Air 3501s in the NAF force, this was the second to fall. In October 2013, there was yet another aircraft accident featuring fixed wings (Nuhu 2021). Recently, industry representatives gathered in Lagos to discuss how to maintain and enhance Nigeria's strong safety record in aviation. The Accident Investigation Bureau Nigeria (AIB-N) arranged the conference in collaboration with

the League of Airport and Aviation Correspondents (LAAC), where senior agency officials and aviation specialists discussed methods the sector could increase safety.

The Director-General of the Nigerian Civil Aviation Authority (NCAA), Nuhu (2021), urged aviation stakeholders in his keynote speech to work together to maintain the safety of Nigeria's airspace in order for the nation to maintain its positive track record and growing reputation as one of the countries in Africa that has maintained a high standard of aviation safety. He pointed out that the Quorum Helicopter accident of 2020, which killed three crew members on board, was the only major event with deaths the industry had documented in the previous five years. He claimed that the coordination of all interested parties, airlines' dedication to operating airworthy equipment, and NCAA's effective regulatory environment, which ensures operators uphold the high safety standards set forth by the International Civil Aviation Organization (ICAO), which has given the nation a good safety rating in addition to the nation being certified with Category 1 safety status by the ICAO, made it possible to maintain that high standard (FAA).

The Director General stressed that industry players must not let up on doing the right thing in order to prevent accidents and save lives while presenting his paper at the conference on the prevention of human factors in aviation mishap occurrences. "Neither do we want to make a mistake or have blood on our palms. The public's safety is the Nigerian Civil Aviation Authority's top priority, which we must ensure through our safety supervision and joint accountability with authorized organizations and employees. We must abandon the reputation of being a reactionary society in favor of one that is proactive and preemptive. We must prevent latent problems, such as those related to human mistake, from developing into incidents and mishaps.

A review of the Commercial Aviation Safety Team (CAST)/ICAO Common Taxonomy Team (CICTT) taxonomy for occurrence categories reveals that there is no category of these occurrences ascribed to "Human Factors," despite the widespread industry belief that at least 70% of aviation accidents are caused by human factors. Meanwhile, thorough analyses of the various CICTT categories will demonstrate that people actually participate in or interact with all of the occurrence categories. The Safety Management Systems (SMS) classifies the aforementioned statement as a misconception because, at various stages of design, production/manufacture, organizational, operational, and maintenance processes and procedures, humans (especially frontline personnel) interact with nearly all probable causes of aviation accidents. "Matching the Man (Person) to the Job and Matching the Job to the Man under the Prescribed Conditions" is the basic and finest way to define human factors. By prepping, adapting, allowing, equipping, and conforming the person to execute the given task in order to achieve the design and anticipated goals, it is implied that the person is compatible with the work. Any mismatch will cause human mistake and is a sign of a mishap, according to Nuhu. Although the rate of accidents is one per million takeoffs, Olateru (2020) emphasized that aircraft is still the safest mode of transit and advocated that safety ratings be raised. He asserted that it is crucial to take all steps possible to significantly reduce the human factor failure in air transportation and that human factor knowledge could be used to lessen the likelihood of errors and create systems that are more error tolerant and resilient. These, he said, are crucial for an effective and secure aviation business. "There are many different variables and perspectives that can be used to categorize the causes influencing the accident rate in flight travel. Dependence on human action or failure, technological factors, and meteorological factors is the most inclusive and likely the most transparent method of categorization."As far as organizational or legislative flaws go, they could also play a significant role in supporting the aforementioned factors, primarily as a result of lax obedience to legislative requirements or improper management of resources related to aviation operations.

Air mishaps have a variety of reasons. Given the rapid growth occurring in almost all areas of aviation, there are fewer air mishaps now that they aren't as common. However, this growth is increasing system complexity and the seriousness level, all of which must be handled by people, according to Olateru.

According to him, in order to significantly improve air transportation safety, attention must be paid to the incidents that happen the most frequently, such as CFIT (Controlled Flight Inter Terrain), airport breaches and overruns, and aircraft loss of control. "It is also important to focus on the phases of flight, especially at its

beginning (takeoff) and end," the AIB Commissioner added (Landing). When analyzing the evolution of accidents, it is evident that despite the tremendous advancements made in the field of air travel, its safety has not improved to the pleasure of the public, with the causes being recognized as incomplete methods of understanding and appreciating the human element. Olusegun Koiki, Chairman of the Multimodal Investigative Bureau of the LAAC, emphasized the importance of maintaining the emphasis on human factors in air accident investigations because it plays a critical role in safety in the international aviation sector and would lower the rate of accidents. According to him, "one small mistake brought on by inadequate procedures or miscommunication can result in catastrophic events, including loss of life."

Permit me to take this chance to repeat that, if the federal government truly wants better transportation for the nation, it is necessary to change the Act currently in place establishing the AIB to include the investigation of other forms of transportation - intermodal investigation is the way to go. "AIB as a company has done a commendable job of assuring safer airspace for aviation travel in Nigeria. Other forms of transportation, including road, train, and marine, should be included in AIB's constitutional obligation. An inquiry report's trustworthiness will suffer if the inspector also serves as a detective or regulator. "The National Assembly should approve the present Nigeria Safety Investigation Bureau (NSIB) Bill. Through distinct, effective, and efficient probes of accidents and severe incidents involving any mode of transportation within Nigeria or elsewhere where Nigeria's interests lay, the passage of this bill will strengthen safety in all forms of transportation in Nigeria (Adesanya, 2004).

### 2.4. Causes of Air Craft Accidents

Some key variables that could cause accidents have been recognized by industry partners as being poor contact between cockpits and the control center, loss of situational awareness, a lack of training, subpar facilities, fatigue, poor flight crew judgment, and staff upkeep issues. To reduce the number of accidents and incidents that result from human error in aviation travel, they observed that some of these issues must be addressed. Agoro (2021), president of the National Air Traffic Controllers Association (NATCA), laments the lack of instruction and bad communication, and he suggests building new facilities to help the situation in the airspace. He explained that some of the newly introduced technologies are not being used by carriers, and even their staff members have not received the required training to make them acquainted with the latest advancements. "We have been urging the administration and NAMA as the service provider to do more on the problem of communication. Poor communication can sometimes come from air stations as well as ground apparatus, but most of the time; these are the kinds of issues that can lead to incidents or mishaps. In order to prevent human factor-related accidents, Agoro stated that "even now that we have data exchange that has to do with the CPDLC (Controller, Pilot Data Link Communication), not all the airlines are compliant with that and not all the controllers have gone through the training." The agent of the Airline Operators of Nigeria (AON), Captain Akin George, reaffirmed Agoro (2021)'s remark by claiming that Nigeria's communication system is at best weak. "Nigeria's transportation infrastructure is quite underdeveloped; this issue has persisted for the past 10 to 15 years. We make one progress after solutions are implemented, and within a month or two, things return to normal. We have been discussing human factors today, and we are aware that communication is one of the most important components. As of right now, there is very little contact between planes and the services leaving Kano for Lagos. It is exceedingly weak if you are operating from the eastern part of the nation, leaving Calabar, Uyo, or Port Harcourt, and heading towards Kano. In most instances, you will need to get another aircraft to depend on for intelligence. George explained, "Now, while all of this is happening, the airplane does not stay in one spot and so you have a dynamic scenario, which for me, stays high risk, and that is one of the areas we need to handle as quickly as possible in order to minimize the risk.

### 2.5. The Firefighting and Rescue Services Rules

The duties of Fire and Rescue Authorities are defined by Act 2004 (FRAs). In order to protect life and property in the event of a fire in their area, extinguishing fires in the area, rescuing and protecting people in the event of a road traffic collision and rescuing and protecting people in the event of other emergencies are the four main responsibilities for FRAs. In order to evaluate danger in their jurisdictions and safeguard the health and safety of their employees, FRAs must also gather information. The Government is also responsible for creating the Fire and Rescue National Framework, which defines the Government's high level goals and aims for FRAs, according to the Fire and Rescue Services Act of 2004. Priorities set forth in the National Framework for FRAs include identifying and evaluating the complete spectrum of probable fire and rescue-related risks that their regions confront, planning for prevention and protection measures, and responding to occurrences. To effectively offer their service, they properly collaborate with their communities and a variety of local and international partners. owe communities an explanation of the services they offer. The FRA's obligation to respond to crises as a type 1 responder is outlined in the Civil Contingencies Act of 2004.

### 2.6. Fire Safety Awareness

The University of Texas at Austin, (2023) stated as follows:
Regardless of where you reside, there are basic fire safety precautions you should adhere to. You can make your home safer and more secure for you, your friends, and your family by taking the time to examine the accompanying fire safety advice.

**Escape Plans**

You should always have an escape strategy because fire is a danger in any structure, regardless of whether you sleep, study, or work there. Your safe exit relies on instant warning from smoke detectors and careful preparation of escape routes because you might need to flee within a few minutes of a fire starting.

**Escape Plan Basics**

- Include two escape routes in each area of your escape strategy.
- Choose a place to gather outside the structure.
- Check that smoke alarms have been put so that they can provide early detection and notice and give you enough time to carry out your exit strategy.
- In your route of journey, check that doors can be opened from the inside in all circumstances.
- Check that doorways in your route of journey can be opened without a key from the inside. Note whether any residents who are disabled or old will need help during an evacuation.
- Run a roll call to make sure everyone has left the premises.
- Until the fire service advises you that it is safe to enter the structure again, stay outside.
- Your strategy needs to be practiced a lot!

**If a window serves as your backup escape path…**

- We must abandon the reputation of being a reactionary society in favor of one that is proactive and preemptive. We must prevent latent problems, such as those related to human mistake, from developing into incidents and mishaps.
- A review of the Commercial Aviation Safety Team (CAST)/ICAO Common Taxonomy Team (CICTT) taxonomy for occurrence categories reveals that there is no category of these occurrences ascribed to "Human Factors," despite the widespread industry belief that at least 70% of aviation accidents are caused by human factors.

- Make sure the window cannot be used as a backup escape path due to sloped terrain, the location of the window, or other reasons.

**Smoke Alarms**

Every year, hundreds of house fires occur in the United States, resulting in about 3,000 fatalities. The majority of people slumber between the hours of 11:00 p.m. and 7:00 a.m., so nearly half of these fatalities were caused by fires that were recorded during that time. Because of this, installing smoke detectors in bedrooms may be the most crucial measure to take in order to avoid fire-related fatalities in residential structures.

**Smoke Alarm Basics**

- Install gas alarms in each chamber, at least one.
- Install more smoke detectors near beds in the halls and public spaces.
- Install smoke alarms on every floor of your house, at a minimum.
- Make sure your home's smoke alarms are interconnected so that activating one of them will also activate the others.
- Try to use smoke detectors that are fueled by the structure's electrical system and have a battery backup. But if this kind of smoke detector is not accessible, battery-operated models are unquestionably preferable to none at all.
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**Smoke Alarm Installation**

- Whenever feasible, put smoke alarms on ceilings and place any that are placed on walls at least four inches below the ceiling.
- Place any smoke detectors that are mounted on walls no lower than 12 inches from the top of the wall.
- To ensure proper operation of the device, smoke alarms should not be installed in the corners of rooms, next to heating or cooling ducts, or near ceiling fans.
- Smoke alarms should also not be installed in kitchens or restrooms to avoid erroneous alerts.

**Smoke Alarm Maintenance**

- By hitting the alarm's test button, you should test smoke detectors at least once per month.
- The non-replaceable 10-year batteries in smoke detectors are made to last for up to 10 years. If the smoke detector chirps to indicate that the charge is low, immediately replace it.
- Any other form of battery-powered smoke detectors require a new battery at least once per year. Replace the battery immediately if the alert chirps to notify that it is low.
- Replace smoke detectors every ten years.

**Candles and Incense**

Although they are exposed fires that present a fire risk, candles and incense are frequently used to set the mood or support the celebration of special occasions. The bedroom is the typical location for candle fires, and many of them start when lamps are neglected. Be careful when celebrating with exposed flames during the winter holidays and New Year's Eve as these are periods when candle fires are most common.

**Candle and Incense Basics**

The best choice is to not have candles or burning incense in your house because they are exposed flames.
Never let candles or incense burn while unsupervised, and always put them out before exiting the room or turning in for the night.
Away from drapes, garments, books, newsprint, and other combustible materials, keep candles and incense.
Keep combustible substances away from lamps and incense. (i.e., alcohol, oil, etc.)
Use sturdy candle stands that won't easily turn over, are large enough to catch wax drips, and are made of non-combustible materials.

Trim candle flames to 1/4 inch, and keep them at this length for the duration of the light.
Extinguish votives and other enclosed candles before the last half inch of wax begins to melt, and extinguish taper and pillar candles when their wax melts down to within two inches of the container.
When there are outages, use lamps rather than candles, and whenever feasible, avoid bringing lit candles with you.

**Cooking**

The majority of house fires and domestic fire accidents are caused by cooking fires. The majority of these fires, which are primarily caused by unattended cooking, begin when common domestic objects like grease, paper, cupboards, and drapes catch fire.

**Cooking Safety Basics**

- Never leave food heating on the stove unsupervised, and keep an eye on food cooking in the oven.
- Keep your kitchen neat and clear of anything that could easily catch fire, such as fabric (curtains, potholders, towels, etc.), paper (cookbooks, food containers, newspapers, etc.), and plastic. (food packaging, storage containers, etc.)
- When preparing, roll up your arms or wear short, snug sleeves to prevent your clothing from unintentionally catching fire on the stove's burners.
- A potholder, oven glove, and cover should always be available.
- To prevent scalding when the wetness in the fabric warms up, never use a wet potholder or oven glove.
- Never use an extension cable with a microwave, and never heat up metal vessels or tinfoil.
- Keep kids and dogs away from the kitchen.

**National Fire Protection Association information sheet on cooking safety for 2021.**
**If a stovetop fire occurs:**

- Put on an oven mitt and douse the flames by gently sliding the cover over the pan if the fire is tiny and confined therein.
- Turn off the stove, but wait until it is fully cold before removing the cover.
- Never use water to put out a grease fire.
- Never spray a fire extinguisher onto a pan fire because doing so could cause smoldering oil to splatter out of the pan and cause the fire to expand.

**In the Event of Oven Fire**

Turn off the heat and shut the oven door to avoid setting yourself and your clothing on fire.
Call the fire service, exit the building, and alert the other residents.

**In the Event of Microwave Fire:**

- Keep the microwave door closed
- Unplug the microwave to remove the source of heat
- Notify other occupants, and evacuate the building
- Call the fire department

**Smoking**

Smoking materials are the primary source of fire-related fatalities in the United States, which is a lesser-known truth compared to the respiratory health risks associated with smoking. Mattresses and bedding, upholstered furnishings, and floor coverings are the materials that catch fire most frequently in these deadly fires.

**Smoking Fire Safety**

- Smoke outside to avoid endangering others.
- Never smoke in bed, near oxygen tanks, while intoxicated, or after taking medications or other substances that make it difficult for you to manage smoking materials safely. Instead, use deep, broad ashtrays on a sturdy surface.
- Before dumping cigarettes and ashes, make sure they are put out by soaking them in water.
- Keep matches and lighters out of the sight and reach of children. Check under sofa pillows and other areas where people smoke for butts and ashes that may have dropped out of sight.
- Consider using smokes that are fire-safe, as they are less likely to start flames.

**Vaping and Electronic Cigarette**

UT Austin's campus became tobacco-free on April 9, 2012, and vaping and electronic cigarettes are also prohibited. There is still a danger of a fire and/or explosion even though statistically there is a lower possibility of a fire than a conventional fire.

**Electricity Fire**

When used improperly, electrical distribution equipment presents severe fire safety risks, some of which are even deadly.

**Electrical Safety Basics**

- Never use electrical equipment near baths, showers, or areas with standing water. Protect electrical receptacles with plastic safety covers if there are young children in the house.
- When operating near water and electricity, use ground fault circuit interrupter (GFCI) safety to avoid electric shock. This means that the kitchen, laundry room, restroom, and exterior areas should all have GFCIs installed.
- Replace or fix any electrical cables that are worn, unsecured, or have other damage.
- If any switches feel heated, turn off the circuit and have it examined by an electrician.

Notice any switch plates that appear to be tarnished; this could be a sign that the cabling behind the switch plate is overheating.

Recall that signs of possible wiring issues include dimming or flickering domestic lights, a TV image that gets smaller, frequent fuse blowouts, or frequently tripping circuit breakers.

Place lanterns on flat surfaces, far from combustible materials, and with light bulbs that are the same power as those specified on the lamps.
Multi-USB devices are usually discouraged on campus and are not permitted. They are prone to burning, and the Consumer Product Safety Commission has recalled numerous examples of these gadgets due to safety issues.

**Extension Cords and Surge Suppressers**

- Never substitute an extension cable for permanent wiring, and stay clear of running them through doors or under rugs.
- Verify that surge suppressors and power strips can support the tasks you intend to use them for. Plug power strips and surge protectors straight into a wall outlet.
- Do not combine power strips or surge breakers. Prevent overloading circuits by not putting in too many things at once.
- Avoid using "cube taps" and other gadgets that let multiple machines be plugged into a single socket, and attempt to only put one high-wattage item into each outlet.

**Halogen Lighting**

- Since halogen lamps work at much greater temperatures than standard light bulbs, avoid using them whenever feasible.
- Make sure the halogen light is positioned so it cannot come into touch with any garments, drapes, or other combustible materials if you use them.
- Keep halogen lights and their cords away from busy areas, and switch them off when you leave a room for a long time.

**Heating Safety**

Winter house fires are most frequently caused by heating apparatus, which is also the second most common cause of home fires overall. Fireplaces, wood fires, movable space heaters, and permanent space heaters are examples of heating apparatus. Portable space heaters are involved in close to half of all fatalities linked to residential heating equipment accidents. Read more about heater safety and heed the advice listed below.

**Heating Basics**

- Have a licensed expert examine your home's heating system every year.
- Ensure that all gas and wood-burning heating appliances are released to the building's external.
- If your house uses gas or wood-burning equipment, think about putting a carbon monoxide detector in a prominent position outside of each bedroom.

**Fireplaces and Wood-Burning Stoves**

- Use correctly seasoned wood to lessen creosote buildup in fireplaces and stoves.
- Have wood-burning stoves, fireplaces, and chimneys examined and cleaned on a regular basis.
- Allow ashes to cool before taking them from a fireplace or furnace.
- Dispose of ashes in a metal receptacle.
- Protect fireplaces with a robust shield to stop sparks from shooting into the room.

**Space Heaters**
Keep a 36-inch distance between space heaters and flammable objects.
Every time you exit the room or go to bed, turn off portable space warmers.

**Laundry**
When discussing the subject of house fire safety, laundry equipment is frequently neglected. However, because they use energy, combustible clothing, and extremely hot temps, washing machines present a significant fire danger. Dryers that are not correctly maintained are to blame for the overwhelming majority of laundry fires.

**Dryer Safety Basics**
- Have a seasoned expert setup and maintain your machines.
- Have an expert examine gas-powered washers and dryers on a regular basis to make sure the gas pipe and its link are secure.
- To prevent overloading the outlet, which could trip circuit breakers or explode fuses, make sure the dryer is connected into a socket that can handle its electrical requirements.
- Avoid placing any boxes, garments, or other combustibles near the machine.
- Turn off the machine before exiting the house.

**Lint Filters**
- Don't use the drier if it doesn't have a lint screen.
- Lint is removed from the area surrounding the dryer cylinder, and lint screens are cleaned before or after each use.
- Make sure the dryer exhausts to the outside or into a listed water trap.
- Check the area around the dryer for lint buildup, paying particular attention to the area behind the dryer. Inspect the flexible exhaust duct (if your dryer has one), and clean out lint buildup as needed.

**Gasoline**
Numerous thousand home fires are started by fuel each year, many of which end in injury or even death. It is useful to keep in mind that gasoline is a volatile substance that continuously emits flammable fumes. These clouds are heavier than air and tend to collect at the lowest spot in an area. These vapors stretch out across the room after being discharged inside a structure, descend to the floor, and are likely to start a flash fire if they come into touch with an ignition source.

**Gasoline Safety Basics**
- Never let toddlers handle gas, and keep it out of their sight and reach
- Never use gasoline as a cleaning product or in the house, and never use gasoline to clean mechanical components.
- Never substitute fuel for kerosene or diesel when lighting a fire in cooking barbecues or barbeque areas.
- Avoid using or storing fuel close to sources of ignition, such as gas-fired water heaters with a pilot spark.
- When using technology (including all gadgets with batteries or links to electrical outlets), adhere to all manufacturer's directions.
- Clean up spillage right away, and dispose of cleaning supplies correctly.

**In the Event of Gasoline**

- Immediately leave the vicinity and dial 911 for the fire service.
- Do not try to put out the flames.
- Don't try to halt the fuel from flowing.

**Gasoline Storage**

- Never store gasoline in glass, plastic milk bottles, or other non-reusable plastic receptacles; instead, keep it outside in a carport or shed.
- Keep gasoline in a container that is securely closed and made of metal or plastic that has been produced and authorized especially for storage of gasoline.
- Only keep the fuel required to run your tools and equipment in storage.

**Fueling and Handling Gasoline**

- Avoid smoking while using fuel.
- When refueling vehicles and machines, exercise care. Never refuel anything inside, and wait until it has cooled before doing so.
- To avoid the development of a static charge, place portable petroleum containers on the ground before filling them, and only fill them outside.
- Additionally, never fill portable containers inside a car or in a pickup truck's cargo.
- Even though it's uncommon, this action leaves your body with an electrical charge that could set fire to something, particularly in dry weather.

**Research Methodology**

Descriptive survey methodology was adopted for this study. The study's methodology was appropriate because it aimed at determining how Nigeria's aviation transportation industry would be affected by air safety, firefighting, and rescue operations. This research used a quantitative approach to data gathering based on the evaluation of documents and materials in order to meet its goals. The material for this study came from both secondary and primary sources. The main sources of data, on the other hand, according to Asika (1990), are self-generated and include experimental designs, case studies, poll data, focus groups, participant observation data, etc. (Burns and Grove, 2003:19).The study's population is a collection of people or an aggregate of things about which the scholar is interested in learning more about in order to conducts The researcher arbitrarily chose 200 Federal Airport Authority of Nigeria, Abuja employees to make up the study's populace.

**Data Presentation and Analysis**

The researcher printed and distributed 133 questionnaires, but only 120 were perfectly answered and returned which is about 90% return rate and this was used for the study. Consequently, the responses of the 120 questionnaires were subject to different statistical analysis and results presented in table formats and percentage for easy understanding. Research question and test of hypothesis was analyzed using multiple regression and correlation approach using SPSS version 20. Utilizing frequency, percentage, and mean inferential statistics, the study's data were statistically examined. The cut-off point for the Likert scale's mean was set at 2.50, making it simple to ascertain whether a particular opinion was shared by the respondents or not on the subject understudy.

**Analysis of Research Questions**

Department "A": Personnel Data of Respondents

**Table 1: Age Distribution of Respondents**

| Age | No. Of Respondents | Percentage (%) |
|---|---|---|
| 18-28yrs | 35 | 29.16 |
| 28-38yrs | 42 | 35 |
| 38-48yrs | 23 | 19.17 |
| 48-58yrs | 20 | 16.67 |
| **Total** | 120 | 100 |

*Source: Field Survey, 2023*

The age distribution table in this instance shows that the age range of 18 to 28 years was represented by 35 respondents, or 29.16%, the age range of 28 to 38 years by 42 respondents, or 35%, the age range of 38 to 48 years by 23 individuals, or 19.17%, and the age range of 49 years and older by 20 respondents, or 16.67%. This is a statistical presentation and analysis of the data included in the age distribution table.

**Table 2: Academic qualification of respondents**

| Academic Qualification | No of Respondents | Percentage% |
|---|---|---|
| SSCE | 40 | 33.33 |
| NCE/OND | 30 | 25 |
| HND/B.SC | 35 | 29.17 |
| MSC | 15 | 12.5 |
| PhD | - | - |
| **Total** | 120 | 100 |

*Source: Field Survey, 2023*

Upon the demonstration of data analysis, it is an honest information that 40 respondents were holders of SSCE certificate, representing 33.3%, NCE/OND pulled respondents, which represent 25%, HND/BSC has 35 respondents, which scores 29.17% while MSC certificate holders were 15, which is a representation of 12.5% whereas PhD certificate, could not produce any respondent and percentage. The table shows the statistical result of academic qualification distribution table of the study.

**Analysis of Research Questions**

Department "B":

I. Research Question 1: What impact do flight safety activities have on the Nigerian aviation industry? Research question one was answered with questionnaire item 1,2,3,4

**Table 3:** T**o ascertain the effect of air safety operations on air transport business in Nigeria?**

| S/N | Items Of The Questions | SA | A | SD | D | UND | Mean | Remark |
|---|---|---|---|---|---|---|---|---|
| 1 | The expansion of Nigeria's aviation transit industry has benefited from increased air safety. | 45 (37.5) | 40 (33.33) | 10 (8.33) | 20 (16.67) | 5 (4.17) | 3.76 | Sign |
| 2 | Air safety operations have increased the profit margins of air transport businesses in Nigeria. | 50 (41.67) | 33 (27,5) | 17 (14.17) | 9 (7.5) | 11 (9.16) | 3.75 | Sign |
| 3 | Air safety operations has reduced the number of air accidents or crashes in Nigeria | 17 (14.17) | 50 (41.67) | 33 (27.5) | 11 (9.16) | 9 (7.5) | 3.05 | Sign |
| 4 | Air safety operations in Nigeria need improvement for better services | 30 (25) | 25 (20.83) | 10 (8.33) | 30 (25) | 25 (20.83) | 3.29 | Sign |

*Source: Field survey 2023*

Note: Figures in parenthesis are percentages: (SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagreed and UND = Undecided)

According to Table 3, 37.5% of respondents strongly concurred with item 1, 33% agreed, 8.3% strongly objected, 16.7% disagreed, and 4% were unsure. The average answer, 3,76, suggests that the respondents agreed with the concept completely. According to item 2, there were 41.6% who highly concurred, 27.5% who agreed, 14% who strongly disagreed, 7.5% who disagreed, and 9.1% who were unsure. The significant mean answer of 3,75 suggests that respondents fully concurred with the concept.

In item 3, the result show that 14.17% strongly agreed, 41.6% agreed 27.5% strongly disagreed, 9.2% disagreed and 7.5% where undecided. The mean response of 3,05 is significant and implies that the respondents totally agreed with the construct.

In item 4, the result show that 25 % strongly agreed, 20.8% agreed 8.3% strongly disagreed, 25 % disagreed and 20.8% where undecided. The mean response of 3.29 is significant and implies that the respondents totally agreed with the construct.

From the general response it is clear that all response is above 2.5 cutoff and hence respondents agreed thatthere is significant effect of air safety operations on air transport business in Nigeria.

**Research Question 2:** What impact does battling fires have on Nigeria's aviation transportation industry?

Research Question Two was addressed with questionnaire item 5,6,7

**Table 4: To determine the effect of firefighting on Nigeria's air transport business**.

| S/N | Items Of The Questions | SA | A | SD | D | UND | Mean | Comment |
|---|---|---|---|---|---|---|---|---|
| 5 | Firefighting services of federal Airport authority of Nigeria is effective and efficient for air transport operations. | 50 (41.67) | 33 (27.5) | 17 (14.17) | 9 (7.5) | 11 (9.16) | 3.75 | SIGN |
| 6 | The lack of firefighting equipment is affecting air Nigeria air safety operations | 35 (29.17) | 45 (37.5) | 20 (16.67) | 10 (8.33) | 10 (8.33) | 3.54 | SIGN |
| 7 | Firefighting operations of Federal Airport Authority of Nigeria is has reduced air transport business accidents in Nigeria | 30 (25) | 30 (25) | 25 (20.83) | 25 (20.83) | 10 (8.34) | 3.15 | SIGN |

*Source: Field survey 2023*

Note: Figures in parenthesis are percentages

: (SA = Strongly agree; A = Agree; D = Disagree; SD= Strongly disagree and UND =

Undecided)

According to Table 4, of those who responded to item 1, 41.6% firmly concurred and 27.5% agreed. 7.5% of respondents disagreed, 14.1% firmly objected, and 9.2% were unsure. The average answer of 3,75 is noticeably higher than the cutoff, indicating that all respondents agreed with the concept completely. According to item 2, 29.1% firmly concurred and 37.5% agreed. 8.3% disagreed, 16.7% firmly opposed, and 8.3% were unsure. The average answer of 3.54 is noticeably higher than the cutoff, indicating that all respondents concurred with the construct completely.

Results for item 3 indicate that 25% firmly concurred and 25% agreed. 8.3% were unsure, 20.8% disapproved, and 20.8% firmly disagreed. The significant mean answer of 3, 15 suggests that the respondents fully concurred with the construct.

**Research question 3**: What impact does a rescue mission have on Nigeria's aviation transit industry?

Research Question Three was answered with questionnaire 8,9,10

**Table 5: To identify the extent rescue operations affect air transport business in Nigeria**

| S/N | Items Of The Questions | SA | A | SD | D | UND | Mean | Comment |
|---|---|---|---|---|---|---|---|---|
| 8 | Rescue operations in Nigeria air space is effective and efficient | 50 (41.67) | 33 (27.5) | 9 (7.5) | 17 (14.17) | 11 (9.16) | 3.81 | SIGN |
| 9 | Rescue operations in Nigeria has increase air safety of air transport business in Nigeria | 35 (29.17) | 45 (37.5) | 10 (8.33) | 20 (16.67) | 10 (8.33) | 3.62 | SIGN |
| 10 | Rescue operations have reduced air transport accident in Nigeria. | 33 (27.5) | 50 (41.67) | 119 (9.16) | 17 (14.17) | 9 (7.5) | 3.64 | SIGN |

*Source: Field survey 2023*

Note: Figures in parenthesis are percentages

: (SA = strongly agree; A = Agree; D = Disagree; SD= strongly disagree and UND =

Undecided)

According to Table 5, of those who responded to item 1, 41.6% firmly concurred and 27.5% agreed. 7.5% of respondents disagreed, 14.1% firmly objected, and 9.2% were unsure. The average answer of 3, 81 was noticeably above the cutoff, indicating that all respondents endorsed the concept. There were 29.1% who strongly concurred with item 2, 37.5% who agreed, 16.7% who strongly disagreed, 8.3% who disagreed, and 8.3% who were unsure. The fact that the mean answer was 3.62, which is considerably higher than the cutoff, suggests that the respondents wholeheartedly concurred with the construct.

27.5% strongly concurred, 41.6% agreed, 9.1% strongly disagreed, 7.5% disagreed, and 8.3% were unsure about item 3. The significant mean answer of 3, 64 suggests that the respondents fully agreed with the concept.

### 4.3 Testing of Hypothesis

The hypothesis formulated in chapter one will be tested using the collected data from field survey. Three hypotheses were set to guide this study. Hypothesis testing will be carried out in the order below: restatement of hypothesis, result of analysis, comparing result with decision rule, validating the hypothesis to accept or reject.

**Statement of Hypothesis**

i. **Test of Hypothesis One:** H1 There is significant effect of air safety operations on air transport business in Nigeria

In testing the above hypothesis we use the result of simple linear regression between Air safety operations and transport business in Nigeria.

Table 3: T**o ascertain the effect of air safety operations on air transport business in Nigeria**

| **Model Summary** | | | | | |
|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .990[a] | .980 | .979 | .55833 | 1.344 |
| a. Predictors: (Constant), X4, X2, X3, X1 | | | | | |
| b. Dependent Variable: Air safety operations | | | | | |

| **ANOVA[a]** | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | 1713.317 | 4 | 428.329 | 1374.005 | .000[b] |
| | Residual | 35.850 | 115 | .312 | | |
| | Total | 1749.167 | 119 | | | |
| a. Dependent Variable: Air safety operations | | | | | | |
| b. Predictors: (Constant), X4, X2, X3, X1 | | | | | | |

| **Coefficients[a]** | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .688 | .164 | | 4.192 | .000 |
| | X1 | 1.330 | .154 | .463 | 8.618 | .000 |
| | X2 | .906 | .136 | .337 | 6.641 | .000 |
| | X3 | .044 | .094 | .017 | .474 | .636 |
| | X4 | .570 | .107 | .195 | 5.336 | .000 |
| a. Dependent Variable: Air safety operations | | | | | | |

*Source: SPSS Result output (Version 20)*

The analysis's findings showed that there is a significant (P0.0000.05) connection between aviation safety procedures and the airline industry. R is 0.990, R2 is 0.980, modified R2 is 0.979, p-value 0.000, and F-stat. 1374.00 are all taken from the model report. The findings showed that changes in the amount of air transit businesses account for 98% of the variation in air safety operations (R2 = 0.980). With the exception of item 3 (the escalating rate of the air transport company), all of these include items and constructs for air safety operations are significant and favorably signed (P0.635> 0.05, 0.044).

The dependent variable (air safety operations) and the independent variables (identifying the air transport business, providing solutions to air safety operations problems, and providing a logical solution to the air transport business, P 0.0000.05, 1.330, P 0.0000.05, 0.905, and P 0.0000.05, 0.057) have a strong relationship based on the estimated parameters.

Applying the decision rule, we deny the null hypothesis—that there is no significant connection between air safety operations and air transport business—and accept the alternative because the p-Value of our regression

result is 0.0000.05. The alternative theory, according to which there is a beneficial and noteworthy connection between air transport operations and safety operations, is one we can embrace.

**Test of Hypothesis Two**

**Hypothesis Two:** There is significant and positive effect between firefighting on air transport business in Nigeria

In testing the above hypothesis we use the result of a simple linear regression between the factors that attracts foreign investment and foreign investment.

Table 4.7: **To determine the effect of firefighting operations on Nigeria's air transport business**.

| **Model Summary** | | | | | |
|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .987[a] | .974 | .974 | .62101 | 1..222 |
| a. Predictors: (Constant), X7, X5, X6 | | | | | |
| b. Dependent Variable: Firefighting operations | | | | | |

| **ANOVA[a]** | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 1704.430 | 3 | 568.143 | 1473.183 | .000[b] |
| | Residual | 44.736 | 116 | .386 | | |
| | Total | 1749.167 | 119 | | | |
| a. Dependent Variable: Firefighting operations | | | | | | |
| b. Predictors: (Constant), X7, X5, X6 | | | | | | |

| **Coefficients[a]** | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.408 | .164 | | 8.582 | .000 |
| | X5 | 1.048 | .144 | .390 | 7.285 | .000 |
| | X6 | 1.468 | .154 | .544 | 9.520 | .000 |
| | X7 | .172 | .094 | .068 | 1.840 | .068 |
| a. Dependent Variable: Firefighting operations | | | | | | |

According to the analysis's findings, there is a substantial (P0.0000.05) connection between aviation transportation activities and firefighting efforts. R is 0.987, R2 is 0.974, modified R2 is 0.974, p-value 0.000, and F-stat. 1473.00 are all taken from the model report. The outcome showed that with R2 0.974, variations in firefighting activities account for 97.4% of variance in the air transport industry. Except for item 7 (Firefighting operations of Federal Airport Authority of Nigeria is has reduced air transport business accidents in Nigeria), which was not significantly (P 0.068> 0.05, 0.172) affected by firefighting operations, all included items/constructs for the air transport business are significant and positively signed.

The estimated values show a strong correlation between the independent factors and the dependent variable (firefighting operations): Nigeria's aviation industry (P0.0000.05, 1.408)

Applying the decision rule, we deny the null hypothesis that there is no significant connection between firefighting activities and the air transport industry because the p-Value of our regression result is 0.0000.05. We'll take the alternative. We support the alternative theory that there is a substantial connection between aviation transportation operations and firefighting operations.

**Test of Hypothesis Three:** There is significant effect of rescue operation on air transport business in Nigeria

The relationship between rescue missions and the Nigerian airline industry will be analyzed to verify this theory.

**Correlations**

| | | RQ1 | RQ2 | Air transport Business in Nigeria |
|---|---|---|---|---|
| Rescue operations | Pearson Correlation | 1 | .989** | .982** |
| | Sig. (2-tailed) | | .000 | .000 |
| | N | 120 | 120 | 120 |
| Air transport business | Pearson Correlation | .989** | 1 | .950** |
| | Sig. (2-tailed) | .000 | | .000 |
| | N | 120 | 120 | 120 |
| Air safety operations | Pearson Correlation | .982** | .980** | 1 |
| | Sig. (2-tailed) | .000 | .000 | |
| | N | 120 | 120 | 120 |

**. Correlation is significant at the 0.01 level (2-tailed).

The findings above demonstrate that in Nigeria, rescue missions and air transport company are positively correlated. Effective and efficient rescue operations lead to 98.2% (P 0.000, 95% confidence interval) of instances of aviation transport company. In Nigeria, there is a significant connection between aviation cargo operations and rescue operations.

The outcome further demonstrated that there is a significant correlation between rescue operations and air Transport Company in Nigeria, as a rise in rescue operations is associated with a reduction in air transport fatalities by 95% (p0.000, 95% confidence interval).

We reject the null hypothesis and adopt the alternative that there is a significant connection between rescue missions and air Transport Company in Nigeria based on the results of the correlation analysis (P 0.0000.05) at the 5% level.

### 4.4. Discussion of Results

The first test of the hypothesis revealed that air safety activities have a favorable and positive impact on the Nigerian aviation industry. This finding is consistent with (Adesanya, 2004) observation that air safety activities and businesses have a favorable correlation. According to the findings, the government should support safety initiatives by providing the federal airport authority of Nigeria with tools and instruments for ensuring the security of the country's airspace.

The outcome of the second test of the hypothesis demonstrates that in Nigeria, there is a substantial and favorable connection between aviation cargo operations and firefighting operations. This result is consistent with those of Rasmussen and Strohein (2005) who found that firefighting activities have a beneficial and substantial impact on the Nigerian air transport industry.

The third test of the hypothesis revealed a substantial and favorable connection between aviation travel in Nigeria and rescue missions. This indicates that effective and efficient relief operations boost acceptance and use of air travel as a practical method of transportation and a practical business strategy. This result is consistent with Dike's (2009) assertion that successful rescue efforts are favorably linked with the Nigerian aviation industry.

## 5.0. Conclusion

The study's concludes based on the empirical analysis that Nigeria's air transportation business is positively and significantly impacted by air safety operations. The implication of this conclusion is that while the Federal Airport Authority of Nigeria (FAAN), other regulatory bodies, and air transport companies have significantly reduced the number of aircraft crashes in Nigeria, air safety operations still need to be strengthened. Additionally, the research found a significant and advantageous relationship between Nigerian firefighting operations and the aviation cargo industry. This result showed that in Nigeria, air operations are favorably and substantially correlated with firefighting operations. This indicates that while the firefighting effort is moving in the correct way, it still requires improvement. Finally, the study's revealed a substantial and favorable connection between aviation transport in Nigeria and rescue operations. The study, generally concludes that even though the study discovered a significant and positive relationship between air safety operations and air transport business in Nigeria, the Federal Airport Authority of Nigeria (FAAN) need to urgently improve with their air safety operations as well as update their air safety and firefighting equipment to modern technology to guarantee air safety in air transportation business.

### 5.2. Recommendations

As a result of proper probing into the topic at stake in this aspect, the researcher in the field deemed it very necessary to provide recommendations so that there will be solutions to the problems in which the research exercise tends proffer solutions to. At this level, the recommendations of the work rested upon these underlying ideas:

1. The finding recommends that government should encourage safety operations by equipping the federal Airport Authority of Nigeria and other regulatory agencies with state of arte safety equipment and gadgets for the safety of Nigeria air space

2. The air space government regulatory agencies should ensure that aircrafts that are outdated and obsolete should have no business with Nigerian airspace.

3. Every airline and aircraft must observe a complete checklist before taking off.

4. Government must ensure that the airports are in good shape in line with the global best practices to guarantee safety.

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