An Analysis of the Impact of Airline Service Capacity on Passenger Patronage in Developing Economies: Empirical Evidence from Nigeria

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Abstract

The worldwide airline industry has been significantly impacted by the COVID-19 pandemic in recent times. But significantly in Nigeria, the airline industry has recorded low profitability, lower service standards, increased missed trips, flight cancellations, low patronage, reduced passenger satisfaction and stiff competition induced by the COVID-19 pandemic. The patronage of an airline is determined by the airline's capacity to satisfy passengers with a variety of service qualities. The study has examined the effects of airline service capacity on passenger patronage in Muritala Muhammed Local Airport, Lagos State, Nigeria the biggest economy in Africa. The study adopted a survey research design and the population for this study comprises all users of the existing functional domestic airline operators having their hubs in Muritala Muhammed airport, Lagos state, Nigeria which is 62,340 according to the aircraft arrival and departure log for March 2022 documented by the Nigeria Airspace Management Agency (NAMA). The Research Advisor Table was adopted in determining the sample size, which was given as 382 with a confidence level of 95% and a margin error of 5%. Considering the provision for a non-response rate, 115 was added to the sample size which is at 30% of the sample size. A total of 497 copies of the structured questionnaire were administered to passengers waiting in the lounges at the MMA domestic airport who intended to travel with any of the four domestic airlines operating in Lagos state Nigeria as at July 2023. The study used a proportionate stratified sampling technique to draw a convenient sample for the study. A response rate of 97.76% was achieved in the study representing 480 copies of the questionnaire filled and returned for analysis. Data collected were analyzed using descriptive and inferential statistics such as frequency distribution and percentage point and the hypothesis was analyzed with the use of regression analysis. Findings from the regression analysis show that the coefficient of the independent variable "Airline service capacity" is positive and significant ($\beta = 0.515$, $p < 0.01$), indicating that there is a significant relationship between airline service capacity and passenger patronage. The study concluded that airline service capacity had positive effects on passenger patronage in Muritala Muhammed Local Airport, Lagos State, Nigeria. The study recommends airlines should invest in airport infrastructure to improve service quality and enhance passenger satisfaction, which can lead to higher patronage and better airline performance.

Keywords:

Airport service quality, Aviation industry Nigeria, Flexibility, Passenger satisfaction, Reliability

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INTRODUCTION

The demand for air transportation is projected to increase over the next three decades (Yue & Byrne, 2022). The aviation sector is projected to be one of the highest revenue earners the world over according to a review of previous literature (Waribugo & Chiedu, 2021). Despite the enormous importance of the airline industry and its benefits such as the promotion of trade, tourism, innovation and the creation of employment, its growth and development have been an issue made evident in literature (Garaus, & Hudakova, 2022; Tiernan, Siobhan, Dawna, Blaise & Waguespack, 2008; Saleh & Migdadib, 2018; Waribugo & Sylva, 2021) The airline operations are faced with numerous issues. For example, in the U.S., Air Traffic control technology is obsolete and it is generally agreed that it should be updated. Currently, the global aviation industry is struggling with health safety challenges occasioned by the coronavirus (COVID-19) pandemic (Olubiyi, 2022a; Waribugo & Sylva, 2021). Several issues have been raised concerning the poor operations carried out by the airline industry of sub-Saharan Africa, including Nigeria. The substandard quality of key infrastructure in African airports poses a challenge to both domestic and international airlines. According to an article published by West Africa Weekly on July 2023, some airlines, sadly, operate only one aircraft which has led to their pilots working more than the required monthly hours. According to Adebukola and Fagbemi (2019), many Nigerian airlines have only a few aircraft in their fleet. If investment into airline service capacity infrastructure is low and demand is greater than capacity, there will be an increase in passenger congestion and delays in take-off by airlines which will eventually lead to an increased cost in airline operations and loss of economic benefits and this is evidently an issue in today's airline operations. Africa scores about 19% of total accidents on the planet (Waribugo & Sylvia, 2021). According to an article published by West Africa Weekly on July 2023, unethical safety practices that are noticed within the Nigeria aviation industry include: (i) persuading aircraft engineers to sign certificates of release for servicing airlines even when the air crafts are not air-worthy, (ii) reprimanding and penalizing pilots who want to be strict on the rules of safety. Such unethical practices are issues that have gradually become a norm in the industry. Furthermore, some stowaway incidences and robbing of cargo compartments have been reported owing to the loose security structure at the airports and compromising attitude of security personnel. Another issue affecting airline operations is flexibility. The persistent increase in the cost of fuel is one issue that has affected flexibility by airlines. A major operating expense for airline companies is fuel costs and labour cost which keeps increasing with every year. With labour representing about 75% of all non-fixed costs of an airline operation. Fuel cost to a large extent has a great impact on the airline CASM (Cost per Available Seat Mile) and to manage this resource some airlines employ diverse strategies, one of which relates to derivatives known as fuel hedging. (Jean-Paul & Rodrigue, 2020). This study is aimed at determining the effect of airline operations on passengers' satisfaction at the Muritala Muhammed local airport, Lagos state, Nigeria. The issues raised in the background of this study have resulted in the reduction of economic activities and a negative balance sheet coupled with the inability of the industry to respond to prosperous opportunities that promote growth. Not being satisfied can also make passengers begin to search for an alternative airline that will provide them with maximum satisfaction - a shift in demand, eventually leading to high competition among airlines. When passengers are satisfied with the services rendered by an airline, they tend to remain with that airline which in turn leads to more income for the airlines (Barros, Wanke, Nwaogbec, & Azad, 2017; Garaus, & Hudakova, 2022). Like any other sector, airlines need to understand areas of their operations that need to be worked upon to ensure optimum passenger satisfaction. When every influencing member of the organization has a complete understanding of passengers' needs and requirements, a remarkable customer experience is achieved by passengers.

LITERATURE REVIEW

Historical Context of the Airline Operations in Nigeria

The aviation industry in Nigeria has a remarkable historical evolution. The history of aviation in Nigeria is dated as far back as 1925 in Kano when the Royal Air Force (RAF), a British pilot made a safe landing on a horse race course in Kano that was breathtaking, making it the first aviation activity in Nigeria. In the early 1930s, an

enterprising pilot also made a flight in a seaplane between Lagos and Warri with a few fare-paying passengers. This activity eventually led to an annual business for a few years giving rise to the need for more airplanes. With this development taking place, a representative of the Air Ministry in London visited Nigeria to inspect what could then be appropriately described as a "runway" which actually led to the creation of six points in Nigeria used for plane landing namely Maiduguri, Oshogbo, Lagos, Minna, Kano and Kaduna. In August 1958, the Nigerian federal government in partnership with the British Office of Aviation Control (BOAC) and Elder Dempster lines formed the West African Airways. As of 1930, both civil and military aircraft of Great Britain had started transporting mail and passengers to cities like Lagos, Bauchi, Kano, Osogbo, Sokoto, and Minna. Thereafter, in 1935, the British Imperial Airways began full operations in Nigeria. Shortly after this, more cities like Azare, Bauchi, Benin, Bida, Biu, Brass, Bussa, Gboko, Gusau, Katsina, and Kebbi were identified by the Air Ministry of London as viable sites for airline operations (Federal Civil Aviation Authority, 1995). Shortly after, air operations that linked Lagos, Port Harcourt, Enugu, Jos, Kaduna, and Kano operated up till 1946. The Muritala Muhammed Airport was formally known as Lagos International Airport. It was during the construction of the new international terminal in 1976 that it was renamed after a former Nigerian military head of state - Muritala Muhammed. The International terminal was designed after Amsterdam Airport, Schiphol in the Netherlands. The new terminal was officially opened for operational activities on 15 March 1979. Currently, the ground facilities of the comatose national carrier have been annexed by Arik Air. Muritala Muhammed Airport has an international and a domestic terminal, which is about one kilometre apart from each other. Both terminals share the same runways. The domestic terminal used to be known as the old Ikeja airport while international operations moved to the new international airport when it was commissioned for international activities. The Muritala Muhammed airport is the hub for most Nigerian airlines including the largest airline in the country - Air Peace. The domestic operations were moved to the old Lagos domestic terminal in the year 2000 after a fire outbreak. A new domestic privately funded terminal known as the Muritala Muhammed local airport was constructed and commissioned on 7 April 2007. The Muritala Muhammed local airport (MMA2) is privately owned by Bi-Courtney Aviation Services (BASL) and offers domestic flights within Nigeria. It is a modern airport with adequate facilities.

Airline Operations

Airline operations are the execution of airline scheduling systems that are complex, and this is usually influenced by several factors such as the efficiency of the safety and security measures present at the airport and also the airline itself, the airline service capacity, the infrastructures present at the airport and the flexibility of the airline. The most important aspects of airline operations affecting the airline service encounter are the airline scheduling strategy and airport services. In general, airlines have total control over encounter operations, while airport service operations are out of airlines' control (Alkhatib & Migdadi, 2018; Garaus, & Hudakova, 2022). Airline operations are geared toward facilitating the execution of airline schedules, and the movement of passengers, baggage, and cargo. Airline operations at airports can be categorized into two classes - first, is the activities on the landslide. Second, is activities on the air side of an airport. Airline operations on the landslide involve passenger check-in, baggage check-in, connecting passenger/baggage processing of cargo, and goods handling. While airline operations on the air side involve services rendered by an airline during the flight (Alkhatib & Migdadi, 2018). Airline operation is an essential dimension that has a remarkable impact on passenger satisfaction and passenger's willingness to repurchase or give positive feedback about a certain airline (Alkhatib & Migdadi, 2018). Airline operations are a set of perceived attributes of the services provided by airlines which has a significant impact on passenger satisfaction (Alkhatib *et al.* 2018), whether these services are provided during the pre-flight, airside or post-flight level. These attributes are related to the full-service package characterized by an airline which includes - safety and security, infrastructure, flexibility, and airline service capacity. (Alkhatib & Migdadi, 2018). Airline operations are the main source of an airline's competitive advantage and support all other areas within the airline industry. Airline service capacity and airline scheduling are the key strategies of effective airline operations. Other strategies or sub-variables of airline operations such as infrastructure,

safety and security, and flexibility (ticketing cost) are more supportive in nature (Alkhatib & Migdadi, 2019) Considering the various definitions and explanations given above by earlier researchers, the author will be defining airline operations as all the activities an airline has to undergo before the boarding of passengers.

Airline Service Capacity

There are numerous ways to define airline service capacity but commonly, airline service quality is defined as the extent to which a service meets the needs or expectations of customers (Lewis, 2010). Airport service quality is the measurement of standard of level of service of an airport and how well it meets customer expectation(Nwaogbe, Akorede, Omoke, & Eru,2021). Thus, airline service capacity can be defined as the difference between customer expectations and actual service received. If expectations exceed performance, perceived quality is subpar and customer dissatisfaction results (Parasuraman *et al.,* 1985; Lewis, 2010). The capacity decision of an airline is one of the most important operational decisions of an airline; it is a long-term commitment that sells the system's output and therefore affects the ability of the system to meet future demand and stand against competition from other airlines. The capacity decision affects most of the operating and capital costs. Moreover, it comprises most of the basic operational decisions. For airlines, the capacity strategy consists of several requirements that an operations manager must make decisions about. These requirements include • equipment (planes), space (seats) • flight range (number of countries and destinations) and employee skills (number of employees (Alkhatib & Migdadi, 2018). On the other hand, too much capacity for the existing demand results in empty seats (known as spill) or, more often, in lower prices. This challenge is daunting, because demand in each market varies substantially by hour of the day, day of the week, and season, and with the business or economic cycle. (Alkhatib & Migdadi, 2019). Therefore, an operation manager must try to match the demand in each market with capacity, flight frequency, and aircraft size bearing in mind that if an airline is unable to provide enough capacity to meet periods of peak demand, definitely such an airline is at risk of losing passengers to competitors, a loss known in the aviation industry as spill. This situation creates excess capacity during lower-demand periods. According to Nwaogbe, Akorede, Omoke, & Eru,(2021) service quality can be measured by some service quality indicators in the aviation industry, they are: a. Hourly capacity; b. Gate departure delay; c. Taxi departure delay; d. Customer satisfaction; e. Baggage delivery time; f. Security clearing time; g. Border control clearing time; and h. Check-in gate time.

Patronage

Patronage is a situation where an individual displays a deliberate effort in choosing products and services that will satisfy his or her needs through the process of considering situations that he feels would be beneficial and relatively satisfying amid possible challenges that will possibly be faced in the course of fulfilling his desires (Adiele & Etuk, 2018; Garaus, & Hudakova, 2022). In Nigeria, patronage can be considered from two aspects: conditional and unconditional patronage. Unconditional patronage is commonly linked to expectations that are not necessarily tied to financial reward such as preference for issues that are effectively and psychologically oriented, particularly one that gives them joy and satisfaction. Conditional patronage is common to goods and services that an individual deliberately maximizes to suit his economic needs. When expectations become less than benefits received quantitatively, the extent of patronage might fluctuate and will definitely depend on the available alternatives (Adiele & Grend, 2016). This explains why individuals can display unconditional attachment and affection towards objects or persons (Adiele & Grend, 2016). In the aviation industry, patronage entails the deliberate decision of an individual to consistently fly with a particular airline instead of flying with another airline. More so, Patronage can be viewed from the perspective of being inductive in nature. This means that the level of patronage is influenced by some external conditions that prevail at a given time. This dimension of patronage dominates the business and service industry and it contributes to the array of literature on patronage (Adiele & Etuk, 2017). Other researchers have classified patronage into forms different from that of Adiele and Grend (2016). The two types of patronage suggested are based on behavioral and emotional loyalty on the goods and services in view. Behavioral loyalty refers to regular shopping with a particular retailer while emotional loyalty

refers to the customers' concern towards a certain retailer based on past buying experience and customer service experience. For both behavioral and emotional patronage models, increased satisfaction should increase patronage. When passengers are not satisfied, passengers have the option to express their complaints to the competitor (Abbas, Nour, Diana & Issam 2014; Barros, Wanke, Nwaogbec, & Azad, 2017). Therefore, there should also be other factors besides satisfaction that have a certain impact on patronage (Kevin, Lestari & Pratiwi, 2018). Patronage represents a top priority of success and profit in the aviation industry. Satisfaction does not automatically lead to patronage; it requires a step-by-step process. Steps as used here describe passengers going through different phases such as awareness, exploration, expansion, commitment, and dissolution. Patronage can be considered to be a byproduct of passenger satisfaction. Passenger satisfaction leads to continued patronage of a particular airline brand. Patronage will increase significantly when satisfaction is accomplished at a certain level, passenger loyalty will decline automatically if the satisfaction level drops to a certain point. Moreover, highly satisfied passengers tend to be more loyal than merely satisfied passengers. Overall, it is clear that there is a significant positive relationship between passenger satisfaction and patronage. Patronage leads to an increase in both sales and profit. (Nenem, Graham, & Dennis, 2020).

THEORETICAL REVIEW

New Customer Satisfaction Theory

The new customer satisfaction theory was birth following the shortcomings of the old customer satisfaction theory. The new customer satisfaction theory was introduced by Fred Reichheld in 2003 in his book titled Driving Good Profit and True Growth. This theory assumes that there are three basic laws the motivators and hygiene in the field of customer satisfaction obey: First, the watershed that divides customer dissatisfaction from customer satisfaction is customer expectation. All factors within the customers' expectations are the hygiene, only the factors beyond the customers' expectations can be called motivators. The motivators are the factors totally different from the existing ones and impressed the customers deeply with pleasant surprise and excitement. Customers look forward to motivators subconsciously even though they never think they deserve them. So in the case of the occurrence of motivators, the customers are undoubtedly motivated and as such could not resist sharing (her) magnificent experiences with others, recommending the brand to friends besides repurchasing. This satisfactory mood blazed by strong motivators is real satisfaction leading to customer loyalty. Second, because of the psychological characteristic of customer expectation, the motivators and the hygiene can mutually transform. Customer expectation is dependent on many factors such as advertisements, corporate reputations, actual and potential demands of the customers, the price of the products or the service, and every purchasing or consumption experience adjusts the customer's expectancy. Due to the constant change of customer expectations, the motivators that originally evoked customer satisfaction may degrade to the hygiene that can only eliminate customer dissatisfaction. Third, because the enterprises and customers view things from different perspectives; therefore they may have different understandings of the same thing. For example, many managers of airlines see ticket fare as the most important factor affecting passenger satisfaction, meanwhile many are concerned about the comfort the plane provides and punctuality. So airlines should confirm the hygiene and motivators by careful investigation and try to analyze questions from the perspective of passengers. Usually, we can confirm the aggregate of factors to be evaluated by investigating in advance and soliciting the experts' opinions, and then recognize what hygiene and motivators wow a customer by further statistical analysis. Generally speaking, the motivators will gradually become hygiene since customer expectation always rises. So, the transformation is usually unilateral, and exceeding customer expectations becomes more and more challenging for all enterprises.

EMPIRICAL REVIEW

Relationship between Airline Service Capacity and Passenger Patronage

In many current and past studies, scholarly discourse is developed for shedding light on the impact of airline service capacity on passenger patronage in many contexts. Empirically, the impact of airline service capacity on

passenger patronage is mixed. Chinonso and Ejem (2020) assessed the airport service quality (ASQ) in Nigeria using the SERVQUAL Model from both the perspectives of the airlines and air transport passengers as major consumers of airport services in Nigeria. Nnamdi Azikiwe International Airport (NAIA), Abuja, and Murtala Muhammed International Airport (MMIA), Lagos were used as the case studies. The results of the study indicate that from both the perspectives of the airlines and air passengers, the airport service quality (ASQ) in both airports is low and cannot meet the service quality expectations of both airlines and passengers. However, the results show that the MMIA, Lagos offers a higher quality of airport services than the NAIA, Abuja. Ogwude , Ejem , Obioma, and Nwaogbe (2021) investigated the quality of service provided for air travel in Nigeria and the level of satisfaction of passengers with the service encountered. This was done by focusing on both the airports and the airlines as service providers. In that way, the study captures much of the effects of the organizational culture, employee behavior, and general norms that influence passenger satisfaction. Domestic travel in Nigeria was examined, with data obtained from well-structured questionnaires to evaluate the effect of airport services on infrastructure. Their study revealed that the level of service at Nigerian airports needs to be improved so as to encourage passengers to use the airports and as well reduce many queues at baggage collection areas. The air travel industry is currently challenged in a recessed economy resulting in lower service standards, lower patronage, increased missed trips, flight cancellations, passenger complaints, and faltering loyalty. Ahmed, Vveinhardt, Warraich and Hasan (2020) examined the economic aspects of business operations of the airline industry vis-a-vis organizational staff experience and passenger loyalty. Warraich and Hasan (2020) carried out this study by adopting a structured questionnaire to collect sample data from 200 respondents from university students and households of Pakistan who are customers of the airline industry. The researchers employed five independent variables, namely, response time, complaint resolution perfection, executives' attitude, brand image, and responsiveness to complaints, and went further to use the descriptive analysis and SEM-based approaches; namely, confirmatory and exploratory factor analysis for estimation purposes. The findings of the undertaken study demonstrated that the resolution of complaints, timely response, and responsiveness to complaints had a significant and positive influence on the satisfaction of passengers and loyalty of clients using international airline services, and this leads to the economic prospects of business operation in the airline industry. However, customer relationships, executives' attitudes and brand loyalty do not have a significant influence on passenger satisfaction and customer loyalty. Thus, it was concluded that staff experience has a positive effect on passenger satisfaction and customer loyalty and increases the economic aspects of business operations in the airline industry. Iqbal and Khalid (2018) investigated the impact of airline service quality and price on passengers' satisfaction, loyalty, and patronage intentions. Using data collected from Pakistani passengers, they find that airline service quality has a significant positive effect on passenger satisfaction and loyalty, which in turn has a positive effect on their patronage intentions. Additionally, they discovered that price has a significant negative effect on passenger satisfaction, but a non-significant effect on loyalty and patronage intentions. Overall, the study highlights the importance of service quality in building passenger loyalty and patronage. Several studies examining the effect of airline operation on passenger satisfaction have been carried out in other countries, for example, Archana and Subha (2012) carried out such study in India, Huang (2009) in Taiwan, Malaysia, Ahadmotlaghi and Pawar (2012) India and Mohsan *et al.* (2011) in Pakistan. There have also been studies on airline operations on passenger satisfaction in Nigeria as discussed in previous paragraphs. A lot of research has concentrated on airline operation on passenger satisfaction especially on international airlines with analysis on more than one airport comparing one airport to the other and none of such studies has had to consider airline operations and passengers in view to a particular airport. Hence, this study will examine the effect of airline operations on passenger satisfaction at the Muritala Muhammed local airport, Lagos state, Nigeria. The findings of this study contribute to the body of knowledge on passenger patronage in the airport setting in developing economies, particularly in Nigeria the largest economy in Africa. Moreover, recognition of key drivers of passenger patronage and satisfaction will provide valuable implications for the aviation industry.

Research Question: What is the effect of Airline Service Capacity on Passenger Patronage at Muritala Muhammed local in Lagos state, Nigeria?

RESEARCH OBJECTIVES

- To evaluate the impact of Airline Service Capacity on Passenger Patronage at Muritala Muhammed local airport, Lagos state, Nigeria.
- To examine the effect of Airline Service Capacity on Passenger Patronage at Muritala Muhammed local in Lagos state, Nigeria.

HYPOTHESIS OF THE STUDY

$H_{1:}$ There is no significant relationship between Airline Service Capacity and Passenger Patronage *in* Muritala Muhammed Local Airport, Lagos State, Nigeria.

Conceptual Model

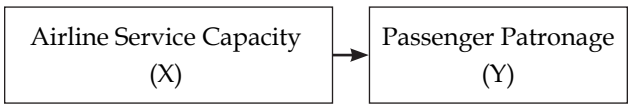

Figure 1: Authors' Conceptual Model

The model sheds light on the relationship between airline service capacity and passenger patronage which is the research framework. The independent and dependent variables for this research are Airline Service Capacity(X) and Passenger Patronage (Y) respectively.

Model Specification

The model sheds light on the relationship between airline service capacity and passenger patronage which is the research framework. Given, the mathematical derivative function which gives the value of the slope at any value (x----------$x_{n)}$ since intuition explains that as $\Delta x \rightarrow 0$, then $\Delta y \rightarrow 0$. This can be deduced mathematically since passenger patronage is a function of airline service capacity:

$y=f(x_1\text{----------}x_n)$.

$y_{1i}=\alpha_0 + {}_{1x1} + \mu_i$ ……Regression Equation

METHODOLOGY

The research context is the aviation industry and the study adopted the survey research design. The justification for adopting the survey is due to its usefulness in assessing the thoughts, opinions, and feelings of different groups of individuals and allowing them to give more valid and honest feedback on the area of study. This paper relied on the prior study methodology of Olubiyi (2023a); Olubiyi (2023b);Olubiyi, Adeoye, Jubril, Adeyemi, and Eyanuku, (2023), Adeyemi, and Olubiyi, (2023). Olubiyi, Egwakhe, and Akinlabi (2019), Olubiyi, Egwakhe, and Egwuonwu, (2019), Olubiyi, Egwakhe, Amos, and Ajayi (2019), Olubiyi, Lawal, and Adeoye, (2022). Olubiyi (2019), Olubiyi, Lawal, and Adeoye, (2022), Olubiyi, (2022a), Olubiyi, (2022b), Olubiyi, Jubril, Sojinu, and Ngari, (2022), Ukabi, Uba, Ewum, & Olubiyi, (2023) and Uwem, Oyedele, and Olubiyi, (2021). Olubiyi, Jubril, Sojinu, and Ngari, (2022), Olubiyi, (2022), Uwem, Oyedele, and Olubiyi, (2021) with cross-sectional have adopted this method in their respective studies and found it useful. The population for this study comprises all users of the existing functional domestic airline operators having their hubs in Muritala Muhammed airport, Lagos state, Nigeria which is 62,340 according to the aircraft arrival and departure log for March 2022 documented by the Nigeria Airspace Management Agency (NAMA). The Research Advisor Table was adopted in determining the sample size, which was given as 382 with a confidence level of 95% and a margin error of 5%. Considering the provision for a non-response rate, 115 were added to the sample size which is at 30% of the sample size. A total of 497 copies of the structured questionnaire were administered to passengers waiting in the lounges at the MMA domestic airport who intended to travel with any of the four operating airlines in Lagos state Nigeria in July 2023. For the purpose of this study, a proportionate sampling technique was used in selecting each member that made up the sample size. Proportionate sampling is a form of stratified sampling in which one draws the sample size of a study from a strata in the proportions that are observed in the larger population. According to Olannye (2006), stratified random sampling is a method for getting representative samples from a heterogeneous population. This strategy entails dividing the target population into homogenous groups that are mutually exclusive and do not overlap, known as strata (Yomere & Agbonifoh, 1999). Therefore, this technique was

employed in selecting the respondents from passengers of each airline to be surveyed. This ensured that every element of the strata had an equal chance of being selected from the population and therefore prevented bias against any member of the population strata. This decision was supported by the fact that stratified random sampling approaches create less sampling error than other sampling techniques/methods.

Table 1: The Distribution of the Study Population into Strata, 2023

Airlines	Population	Sample Size	Percentage
Air peace	28,577	204	40.84
Arik	12,250	127	25.65
Dana	14,444	110	22.17
Greenlight Africa	7,069	56	11.34
Total	62,340	**497**	100

The research instrument adopted in this study is the close-ended structured questionnaire. The close-ended structured questionnaire allows the researcher to ask inquisitive questions and is often fast, cheap, and self-administered (Akinshipe, 2018). The construction of the questionnaire follows the funnel approach by starting with customary questions such as demographic information and sequentially proceeding to specific questions on the dependent and independent variables. The questionnaire comprised three sections. Section A contains a question that discloses the background information of passengers (demographic characteristics) such as gender, age, marital status, educational qualification, and income. Section B covers the multi-dimensional variables of airline operations while section C, considers 20 items on multi-proportional variables measuring passenger satisfaction. The items in the questionnaire were broken down as follows - one item for demographic - 5 items each for airline operations sub-variables and 5 Items each for passenger patronage Sub-variables.

DATA ANALYSIS

Response rate is the percentage of people who responded and administered copies of the questionnaire in the survey. The researcher distributed 497 copies of the questionnaire to the respondents: From the 497 copies of the questionnaire distributed by the researcher and trained research assistants, a total of 480 copies of the questionnaire were filled and returned for analysis representing a response rate of 97.76%. The rest were either unreturned or had missing responses, the detail of the responses is shown in Table 2

Table 2: Response Rate

Response Rate	Frequency	Percentage
Filled and returned complete	480	97.76%
Incomplete or unreturned	17	2.24%
Total	497	100%

Source: Researchers' computation

The respondents were required to rate their level of responses about airline service capacity and passenger patronage on a scale of (Very Low) to 6 (Very High). The results are presented in Table 3 followed by an analysis and interpretation.

Table 3: Linear Regression on Effect of Airline Service Capacity on Passenger Patronage Dependent Variable: Passenger Patronage and independent variable: Airline Service Capacity

Dependent Variable: Passenger Patronage						
Model β		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		Std. Error	Beta			
1	(Constant)	9.428	1.036		9.097	0.000***
	Airline service capacity	0.558	0.047	0.515	11.911	0.000***
R^2 = 0.265						
Adjusted R^2 = 0.263						
F-stat = 141.862 (0.000)***						
Durbin-Watson stat. = 1.576						
*** p<0.01, ** p<0.05, * p<0.1						

Source: Researchers' Field Results

DISCUSSION

This study sought to examine the effect of airline service capacity on passenger patronage at Muritala Muhammed local in Lagos state, Nigeria. The finding of the hypothesis revealed that airline service capacity significantly affects passenger patronage at Muritala Muhammed local in Lagos state, Nigeria. The finding further supports the work of Nwaogbe, Akorede, Omoke, and Eru, (2021) that examined the airport service quality of some selected airports in the northern Nigeria. The study focuses on experienced passengers traveling through the domestic and international wing of each airport in the study area. The study findings show that there

is a statistically significant relationship between customer satisfaction and level of service. This is in line with the work of Iqbal and Khalid (2018), Rafiq & Jafaar, (2007) and Nwaogbe, Ogwude, & Ibe, (2017). The regression analysis in Table 3 shows that the coefficient of the independent variable "airline service capacity" is positive and significant ($\beta = 0.515$, $p < 0.01$), indicating that there is a significant relationship between airline service capacity and passenger patronage. Specifically, an increase in airline service capacity is associated with an increase in passenger patronage by 0.515. The R-squared value of 0.265 indicates that airline service capacity is 26.5% of the variance in passenger patronage while the adjusted R-squared value of 0.263 indicates that airline service capacity is 26.3% of the total variance in passenger patronage. Also, the Durbin-Watson statistic of 1.576 indicates that there is no issue of autocorrelation while the F-statistic of 141.862 is significant at the 0.01 level. Therefore, the null hypothesis, which states that airline service capacity does not affect passenger patronage, is rejected in favour of the alternative hypothesis, which suggests that there is a significant positive relationship between airline service capacity and passenger patronage.

The research result showed that the coefficient of the independent variable "airline service capacity" was positive and significant ($\beta = 0.515$, $p < 0.01$), indicating that there was a significant relationship between airline service capacity and passenger patronage. Specifically, an increase in airline service capacity was associated with an increase in passenger patronage by 0.515 and the F-statistic of 141.862 was significant at the 0.01 level indicating rejection of the null hypothesis that airline service capacity does not affect passenger patronage in favour of the alternative hypothesis that there was a significant positive relationship between airline service capacity and patronage. This outcome was in line with Iqbal and Khalid (2018) found out that airline service quality has a significant positive effect on passenger patronage and satisfaction including loyalty, which in turn has a positive effect on their passenger patronage.

CONCLUSION AND RECOMMENDATIONS

The major findings from the regression analysis show that the coefficient of the independent variable "airline service capacity" is positive and significant ($\beta = 0.515$, $p < 0.01$), indicating that there is a significant relationship between airline service capacity and passenger patronage. Based on the findings of the study, the following recommendations are made: airports and airlines should prioritize safety and security measures to improve staff experience, which can lead to better job satisfaction and productivity. Airlines should invest in airport infrastructure to improve service quality and enhance passenger satisfaction, which can lead to higher patronage and better airline performance. Airports and airlines should focus on service flexibility to enhance airport service reliability and passenger satisfaction. This can be achieved by airport managers and airline managers designing effective strategies that prioritize flexibility to enhance overall airport services and passenger satisfaction. Airlines should increase their capacity to attract more passengers and improve their patronage. This can be achieved by investing in new aircraft, expanding their route network, and improving their service quality to enhance passenger satisfaction and continued patronage

The findings suggest that improving safety and security measures, airline infrastructure, service flexibility, and airline service capacity can enhance service quality, reliability, and passenger experience, which can lead to increased patronage by passengers. The study highlights the importance of considering these factors in airport service design and management to improve overall service quality and enhance passenger satisfaction and loyalty. Additionally, the study provides evidence to support the existing literature on the positive effects of safety and security, airline infrastructure, service flexibility, and airline service capacity on airport service quality and passenger satisfaction.

LIMITATIONS AND FUTURE STUDY DIRECTION

This study has some limitations, which are duly noted. However, it is believed that a few of them can serve as valuable stepping stones for future research. The study is limited to a single airport in Lagos, Nigeria. This may not be representative of other airports in the country, as airport infrastructure, airline operations, and passenger behaviour can vary significantly depending on location. The sample size is less than five hundred (500) which is

too small to generalize the relationship between airline service capacity and passenger patronage in Nigeria. A larger sample size would be more representative of the population and could provide more accurate results. A focus on different airports within Nigeria might yield further insights. It is recognized that the findings and implications of this paper are situated within Nigeria, and primarily aviation industry-focused, which may limit the generalizability of the findings. Therefore, the cross-sectional nature of the paper prevents the authors from making strong claims of causality. The study could be expanded with similar studies conducted across large industries or publicly traded companies in Nigeria or other countries. Nonetheless, the limitations of this research, can be recognized as research gaps for future studies, and further replicated studies across different samples, regions, and countries are recommended.

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