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Effect of Facility Management Practice on Airport Facilities and Services in Lagos, Nigeria

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Abstract

Efficient management and maintenance is a key factor in the success of airport operations and services. Therefore, this study investigated the effect of facility management practices on airport services and facilities at Murtala Muhammed Airport in Lagos, Nigeria. The passengers at the three airport terminals' were randomly sampled and the study found that public agencies, concession companies including other airlines and operators were in charge of managing the airport facilities. The Correlation Analysis's findings also revealed a statistically significant relationship between facility management practices and the facilities at the three (3) terminals of the airport. The results of the Kruskawalis test on the direct, indirect, and induced effects of facility management practices on airport facilities and services revealed that the differences are statistically significant based on the opinions of the passengers. The study came to the conclusion that effective facilities management practices have a great deal of potential to enhance airport efficiency, overall operations and service quality. In order to improve airport service operation and infrastructure as well as improved global rankings of Nigerian airports, it was recommended adequate facility management practice with relevant professionals should be adopted in Nigerian airports.

Keywords: Airports, Airport Facilities, Airport Management, Facilities, Management, Facility Management.

Introduction

It is widely understood that air travel is essential for international trade, national growth, and market expansion. Thus, airports are important parts of air transportation and offer a number of services that are necessary to the aviation business; in addition airports are also seen as a symbolic and cultural hub for a country because they operate as travellers' initial point of contact with another nation, area, or country (Lohmann and Duval, 2014). In addition, airports also act as economic drivers for the regions in which they are situated, bringing in money, jobs, capital investments and tax revenues on their own. In line with this, there are airports in every region with their infrastructures (airstrips, apron space, ground transportation hubs, freight warehouses, taxiways, passenger terminals and services such as air traffic control towers, security, fire and safety on the airfield and handling amenities) amongst others which are required for airplanes to take off/ land & for passengers to switch from land to air transportation modes (Seyanont, 2011). It is therefore imperative to note that a country's level of airport management and standards is important in generating the

first impression, which may affect tourists' opinions of the target nation or region as a whole.

In light of the vital role that airports and air transportation plays in a country's economy, Fadare and Adeniran (2018) believe that bad facility management practices have a considerable impact on the operation and utilization of air transportation services. Thus, in order to ensure overall operational efficiency and performance, which is crucial to the continuity of airport operations as well as user's satisfaction; skilled facility management is required due to the variety, complexity, and interconnectivity of airport activities. In order to improve airport operation and performance, Dennis (2012) also emphasized that the facilities management units of any airport must be adequate. However, Pitt (2001) noted that the various traits and broad scope of airport facility management, including air operations, fleet management, asset management, building management, parking management, environmental management, logistics amongst others make airport facility management a real challenge.

Therefore, in mitigating these challenges of airport management, a crucial element in the success of the airport is the facility management unit's capacity to oversee and maintain the facilities through efficient facility management procedures (Dennis, 2012). More so, the particular nature of airports, which consist of dynamic systems with ongoing interactions between internal and external forces, requires very strong facility management plans and procedures which are necessary around-the-clock and every day of the year (Marks, Rietsema and Al-Ali, 2015). Vickie Withnell Group (2016) added that effective asset and facilities management is crucial for the success of airport business and operations due to how diverse, intricate and interrelated airport activities are. Therefore, it becomes crucial to manage airport facilities effectively in order to deliver satisfactory performance, enhance airport services, operations and a positive impact on the users or passengers.

The airport facilities which include both aeronautical and non-aeronautical services can be grouped under airport facilities management (Brown and Pitt, 2001). Frankfurt AFM (2003) and Munich AFM (2003) further separated the responsibility for managing airport facilities into those in charge of the administration of technical aspects, infrastructure, commerce, and space. The classification used by Pitt, Van Werven and Price (2011) categorized airport facilities management to include civil services, property and building management, procurement and logistics management, and legal services. In either of the classifications, facility management prioritizes planning in each of these areas and serves as an internal coordinator for airports, working as a driver for effective operation. Nonetheless, Nigerian airports have not yet fully embraced the adoption and implementation of facilities management practices in airports.

In Nigeria, The Federal Airports Authority of Nigeria (FAAN) is primarily in charge for operating all commercial airports in Nigeria by providing services to travellers and airlines. Regardless of how an airport is owned and operated, an important and crucial fact is the usage, adoption and implementation of facilities management in airports. Today, it is

common to witness different organizations and administrators responsible with overseeing and running airports without adequate coordination, planning, control amongst others which are the foresights of facility management. Consequently, Pitt *et. al* (2011) asserted that facilities management methods in airports are essential because they boost capacity, draw additional major airlines, and offer top-notch facilities. On the other hand, the scenario is quite different in Nigeria, where several planes are grounded and large airlines are gradually scaling back their operations due to poor corporate facilities management standards and ineffective airport management strategies.

More so, majority of Nigeria's airport infrastructures require considerable management, maintenance, and restoration (Adeniran and Gbadamosi, 2017). Hence, the concerted efforts been made for the repairs and reconstructions of airport facilities were intended to enhance the country's transportation infrastructure without recourse to its effective management. In addition, these modifications typically do not take into account the administration of the amenities through efficient facility management.

The importance of a study of this nature cannot be over-emphasized and more specifically, considering the inherent inevitability of air travel and the clearly high level of risk involved; makes efficient airport facilities management practices essential for upholding a strong safety culture throughout airport operations. According to Enoma, Allen and Enoma (2009), the role of airport facilities management will depend on the earliest realization of its importance in supporting airport operation which is a major prognosis of this research. As a result, good facility management practices have become a global phenomenon in order to guarantee efficient airport operations.

Additionally, airport management, which is placed within the context of facility management, is without a doubt a distinct field of study with a fundamental base in management and operations science requiring adequate reviews, understanding and implementation of same. Also, facility management, which is crucial to the performance of airport operations, includes a variety of activities, disciplines, and resource combinations; thus a review of such practices as it affects airport services and amenities in Lagos, Nigeria is imperative considering that the profession of facility management in Nigeria is still in its infancy, developing and has many potential applications.

Statement of Problem

The failure or unreliability of air transport services as a result of inadequate facility management practice can significantly hamper its operation and usage (Maha and Juliana, 2016). Furthermore, Onwuanyi, Oyetunji, and Eyakwanor (2018) noted that the facilities that are expected to ensure efficient airport operations in many airports in Nigeria are insufficient and some are non-functional, leading to a somewhat debatable reputation of Nigerian airports in terms of the quality of service and facilities. More so, majority of Nigerian airports are rated 2 stars in the Guide to Sleeping in Airports (2019) and Skytrax (2019) ratings, which indicates that the airports perform at a lower quality level in some cases below the industry average across multiple rating areas.

In light of this, Atalian (2019) pointed out that many airports throughout the world operate inefficiently as a result of inadequate facility management practice. Thus, necessitating the implementation of adequate facility management practices as well as efficient methods with the goal of streamlining workflow during security screening, check-in, cost-saving, traditional passenger support (check-in, ushering, ticketing, etc.), and luggage handling (sorting, transfer, and luggage recovery), amongst other things. However, there are still untapped potentials for these processes in Nigerian airports.

Inadequate facility management methods, inefficient design, and non-compliance with international norms and standards, according to De Newfville and Odoni (2003) and Karzan (2016), do have an impact on airport users and operations. Nwaogbe (2018) also pointed out that the infrastructure and service delivery at the majority of airport terminals are in poor state. Poor maintenance practices by numerous airlines, government organizations, and other organizations have severely affected airports and the aviation industry, which has resulted in low productivity as well as the alleged grounding of some airlines and aircrafts in Nigeria

Research Objectives

In view of the above discussions, the objectives considered in this paper are to

i. identify the body / agency responsible for facility management practice in the airport
ii. examine the correlations between facility management and airport facilities in the study area; and
iii. assess the effects of facility management practice on airport facilities and services in the study area.

Literature Review

Concept of Air Transportation and Airports

According to De Neufville and Odoni (2013), one of the most significant modes of transportation is air travel, which enables the movement of people, goods, and information by aircraft over air routes set up by appropriate authorities between airports and predetermined locations. An airport is therefore defined as a parcel of land with structures, infrastructure, and equipment that are utilized entirely or partly for takeoff, landing, and other related operations. Hence, the size and scope of an airport's facility depends on the type and volume of flights that use it as a base; the amount of air traffic that passes through it (cargo, courier, postal, and travellers); the variety and number of flights operated; the length of runaway, approach, and departure-area protection e.t.c. An airport's infrastructure and other supporting components make up its operational system (Vreedenburgh, 1999).

International Air Transport Association (IATA) (2015) pointed out that the term "airport" has no official definition and the International Civil Aviation Organization does not also state a universal definition. As a result, it defined an airport as a location where passengers can

change from a surface mode to an air mode and the idea of inter-modal processing is thus introduced by this definition.

Effect of Airport Facilities Management Practice

The primary types of economic effects produced by airports are defined in "Estimating the Regional Economic Significance of Airports" (1986 and 1992), as well as the 2011 FAA report, "The Economic Impact of Civil Aviation on the U.S. Economy." These effects have also been related to the efficiency of airport facility management and therefore includes:

1. **Direct effects:**

Environmental impacts are a direct result of airport operations by management, tenants, and supporting and complementary sectors. Economic multipliers are frequently employed to assess the indirect and induced effects of expenditure in the economy after surveys are used to estimate the economic activity directly attributed to the airport. Job creation, payroll, and productivity are all directly impacted by airport operations on the economy.

2. **Indirect effects:**

Indirect effects are the result of air traveler's expenditures, excluding ticket and other expenses direct payments made to airlines or travel brokers. The following areas see sales, salaries, and employment as a result of visitor spending:

i. A place to stay for travelers (hotel, motel, etc.)
ii. Retail establishments, quick food restaurants, pubs, and restaurants are a few examples of food and beverage providers.
iii. Recreation, pleasure, and the arts (museums, theaters, amusement parks)
iv. Travelers' activities, including tour operators and other tourist services.
v. Transportation on the ground (to and from airports)
vi. Additional purchases made both inside and outside of airports for products and services (souvenirs)

3. **Induced Effects:**

The results of spending by direct and indirect workers and by the industries that were noted which includes induced impacts are used to measure the aforementioned direct and indirect affects (also known as main impacts). Induced economic consequences include things like payroll effects flowing to ancillary businesses, direct and indirect sales, and so on.

Review of Related Literatures

Tae, Nicole and Chunyan (2005) researched on privatization, corporate ownership, and ownership types in connection to the effectiveness of the biggest airports in the globe. According to the data, airports with a majority of private investors, all of which are headquartered in Europe and Oceania, imposed substantially lower aeronautical tariffs

than other airports but also generated significantly greater profit margins (56%) than airports with other ownership structures. The findings thus offer some proof that monopoly pricing was not a result of airport privatization.

Three (3) Scottish airports were utilized as case studies by Enoma *et. al.* (2009) to examine airport designs for security and safety (Glasgow, Edinburgh and Aberdeen International Airports). The study focused on ways that facilities management may improve airport security and safety. The study's findings demonstrated that no two airports are same due to variations in their dimensions, modes of operation, passenger demographics, and airline destinations, among other factors.

Pitt *et.al* (2011) looked into the intricate coalitions that control airport facilities and their difficulties with rivalry. Using a content analysis of different airport facility management, the study discovered certain inherent problems in airport facility management agreements, such as inter-firm competition and airport competition, as well as managerial complexity in airport facility management alliances.

The performance of airport terminal amenities was evaluated by Sakti (2012) using Indonesia's Soekarno International Airport as an example. In the study, the importance-performance analysis was employed to investigate the respondents' perceptions of the airport terminal. The study found that the areas for baggage claim and baggage inspection indicated having an impact on service users' satisfaction; however, the study found that the airlines' ticketing office, supporting services, and concourse had no bearing on the interest or satisfaction of service users; however, these areas needed maintenance.

In Nigeria, Isaac (2013) looked into the relationship between airport infrastructure and socioeconomic development. The correlation was evaluated using Spearman Rank Correlation Coefficient and the findings demonstrated a connection between the expansion of airport infrastructure and the socioeconomic development of the country.

Additional research was done on the examination of the issues and challenges with transportation in Egypt and Nigeria by Avanenge and Zizi (2016). The primary transportation problems were identified in the research using secondary sources which included the lack of a clear air transportation policy, bad management, out-dated infrastructure, insecurity, and aviation crashes, among others.

In another research, Adeniran and Gbademosi (2017) explored concessioning as an approach for enhancing operational efficiency of Nigerian airports. In order to increase their level of efficiency, the research singled out Lagos and Abuja International Airports as the two principal airports in Nigeria that might be privatized or concessioned. Hence, airport privatization and concessioning have been recognized as important strategies to boost airport efficiency in industrialized countries. Fadare and Adeniran (2018) also compared publicly operated airport terminals and concessioned airport terminals in Lagos, Nigeria. The study evaluated the standard of airport services provided at Murtala Muhammed International terminal, Local terminal and M. M 2 which is under the control of a concessionaire. Its primary focus was Lagos, Nigeria. The survey found that because MMA2

provided better services than MMA1, respondents were happier with the calibre of airport services there. Using gap analysis for the characteristics of service quality, the study also discovered that respondents in international terminal were satisfied with the reliability attribute and the tangibles attribute, but respondents in M.M 2 were only satisfied with the reliability attribute.

Materials and Methods

The study region, Lagos, is situated in the South-Western Coast of Nigeria along the Bight of Benin, roughly between latitudes 6°40′ N and 4°30′ of the Equator and between longitudes 2°05′ W and 4°20′ E of the Greenwich Meridian. The State covers about 3,577 sq. km or 0.4% of the total land mass of Nigeria. In Ikeja, Lagos state, Nigeria, lies the Murtala Muhammed Airport, the selected airport used as the case study. It is Nigeria's and Lagos's main international airport, and it is the largest airport in the world. Regional airlines' commercial hub, the airport is also the busiest and most often utilized location in the area. The International wings, MM2 (Murtala Muhammed Airport) and local which are its three terminals, are located there. These three terminals are close to one another and have two shared runways that can accommodate small and medium jets, long-range jets, regional airliners, and large airliners.

A well-designed questionnaire was given to airport users, who primarily comprised of the passengers at the three (3) terminals, International Terminal, M.M. 2, and Local Terminals randomly in order to collect the data. The information gathered from the respondents was then used for this study. Major themes about the nature of facility management practice and its effects on airport facilities were elicited from the questionnaire. Descriptive statistics, a weighted mean score, Kruskawalis Test and Correlation Analysis were used to examine the study's data.

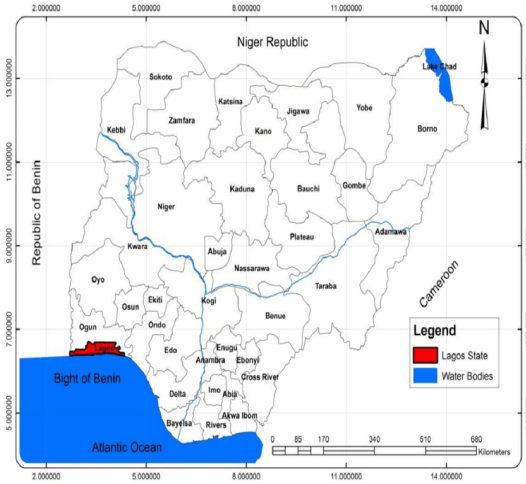

Fig 1: Map of Nigeria showing Lagos State

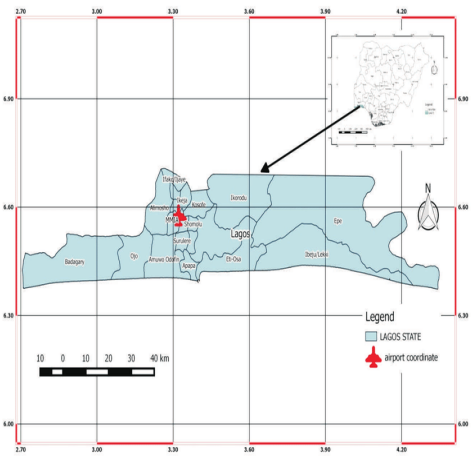

Fig 2: Map of Lagos State Showing Murtala Muhammed Airport

Source: Google Map (2022)

Body / Agency Responsible for Facility Management Practice in the Airports

Table 1: Body / Agency Responsible for Facility Management Practice in the Airports

Body/ Agency Responsible for Facility management of Airports	International		M.M 2		Local	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Individual Airlines and Operators	4	3.4	6	4.9	4	3.4
Public Authority e.g. FAAN	91	77.8	9	7.4	91	77.8
Both Public and Individuals	18	15.4	19	15.6	18	15.4
Concessioned Company	4	3.4	88	72.1	4	3.4
Total	***117***	***100.0***	***122***	***100.0***	***117***	***100.0***

Source: Field Survey, 2022

Having already established the importance of the contribution of the Federal Airport Authority (FAAN) as the Federal Government Agency responsible for the management of the airports; the research further examined the other bodies responsible for the practice of Facility Management practice in the three (3) selected terminals. The research showed that the respondents in the International terminal opined to the management of the terminal been solely the responsibility of public authorities representing 77.8% while 15.4% of the respondents opined to the joint participation of the public and individual airlines and firms. The research on the other showed that the M.M. 2 is managed by a concessionaire which is responsible for the management practice. The local terminal also demonstrated that the majority of the facilities are managed by the public sector. The study also found that a number of facility management firms are employed by the airport and given the duty of overseeing its various facilities and services.

Correlations between Facility Management and Airport Facilities in the Three (3) Terminals

Table 2: Correlations between Facility Management and Airport Facilities in the Three (3) Terminals

		Facility Management	International	M.M 2	Local
Facility Management	Pearson Correlation	1	.896**	.846**	.648**
	Sig. (2-tailed)		.000	.000	.000
	N		352	352	352

International	Pearson Correlation	1	.924**	.766**
	Sig. (2-tailed)		.000	.000
	N		352	352
M.M 2	Pearson Correlation		1	.698**
	Sig. (2-tailed)			.000
	N			352
Local	Pearson Correlation			1
	Sig. (2-tailed)			
	N			

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

Source: Field Survey, 2022

The study also looked at the relationships between facility management practices and the facilities at the airport's three terminals. The research's findings demonstrated that there are strong positive relationships between facility management practices and the facilities and amenities offered by airport terminals. Based on a general rule of thumb for effect of coefficient size, the research indicated a very high significant relationship between facility management practice and the airport facilities in the international terminal and the M.M. 2, while that of the local terminal indicated a moderate effect of facility management, with 0.91 to 1.00 denoting a very strong relationship and 0.41 to 0.70 relating to a moderate effect. Thus, it can be agreed that the nature of facility management practiced in the international and M.M. 2 terminal has resulted into a better airport service and facilities when compared with that of the local terminal.

Effects of Facility Management Practice on Airport Facilities and Services

The various effects of facility management practice on airports were also examined during the course of the research. The effects have been categorized into direct, indirect and induced effects and the results are as shown in the table 3 below:

Table 3: Effects of Facility Management Practice on Airport Facilities and Services

Effects of Facility Management Practice on Airport Facilities and Services	International		MM2		Local		Overall		Kruskawalis Test		
	WMS	Rank	WMS	Rank	WMS	Rank	WMS	Rank	Chi-Square	df	Asymp. Sig
Direct Effects											
Improved Airport Operations	4.5664	1st	4.4262	1st	4.5214	11th	4.5028	1st	4.112	2	.128
Enhanced Operational Flows	4.3009	2nd	3.9098	11th	4.4017	15th	4.1989	11th	2.135	2	.344
Effective Coordination of Airports	4.2920	3rd	3.9918	8th	4.5043	12th	4.2585	6th	4.185	2	.123

Management, Scheduling and Routing at Airports	4.0885	13th	3.8689	12th	4.5983	7th	4.1818	12th	21.309	2	.000
Airport Efficiency	4.2389	5th	3.8361	13th	4.6496	3rd	4.2358	9th	20.608	2	.000
Optimized Operations for Departure and Arrival	4.2566	4th	3.9180	10th	4.6239	4th	4.2614	5th	15.319	2	.000
Operational Effectiveness	4.1593	9th	3.9672	9th	4.4188	14th	4.1790	13th	6.916	2	.031
Productivity and Employment	4.1504	12th	4.0410	5th	4.4359	13th	4.2074	10th	7.789	2	.020
Increased Profitability	4.1947	8th	4.0000	7th	4.6581	2nd	4.2813	3rd	17.065	2	.000
Expansion into commercial and non-aeronautical sectors	4.0088	15th	3.8033	14th	4.6838	1st	4.1619	14th	32.208	2	.000
Advanced Level of Specialization	4.2124	7th	3.5820	15th	4.5385	9th	4.1023	15th	23.487	2	.000
Computer Generated and Electronic Documentation	4.2301	6th	4.0164	6th	4.6154	5th	4.2841	2nd	32.345	2	.000
Less formalities and Processes	4.1593	9th	4.0574	4th	4.5299	10th	4.2472	8th	9.455	2	.009
Reduced Time wasting and simplified Procedures	4.1593	9th	4.0738	3rd	4.6154	5th	4.2813	3rd	12.777	2	.002
Enhanced Satisfaction with Airport Services and Operations	4.0354	14th	4.1639	2nd	4.5726	8th	4.2585	6th	17.497	2	.000
Indirect Effect											
Revenue Growth	4.1770	9th	4.7295	5th	4.7094	2nd	4.5455	5th	44.066	2	.000
Increased Passengers/ Users	4.4159	3rd	4.7623	3rd	4.4957	7th	4.5625	4th	24.285	2	.000
Airport Retail Purchases	4.4690	2nd	4.7541	4th	4.6923	3rd	4.6420	1st	21.033	2	.000
Passenger Reports and Experiences	4.4159	3rd	4.7213	6th	4.7265	1st	4.6250	2nd	26.930	2	.000
Foods and Drinks	4.2389	8th	4.5984	8th	4.5812	4th	4.4773	7th	21.855	2	.000
Expanded Implementation of Technology	4.4779	1st	4.4262	9th	4.5556	5th	4.4858	6th	4.564	2	.102
Potentials for Business Agglomeration	4.3805	6th	4.2869	10th	4.3590	8th	4.3409	10th	1.465	2	.481
Enhanced Airport and Flight Operations	4.1327	10th	4.7049	7th	4.2222	10th	4.3608	9th	39.943	2	.000
Expanded Airline Services	4.2743	7th	4.7705	2nd	4.2906	9th	4.4517	8th	48.951	2	.000
Increased Air Destination, routes and airlines	4.3894	5th	4.9098	1st	4.5385	6th	4.6193	3rd	57.155	2	.000
Induced Effect											
Economic Impact	4.2478	6th	4.6557	4th	4.6239	4th	4.5142	2nd	44.882	2	.000
Growth in GDP	4.5487	1st	4.7787	2nd	4.1111	10th	4.4830	6th	18.781	2	.000
Direct and Indirect Sales	4.4248	2nd	4.2049	10th	4.3419	9th	4.3210	9th	.449	2	.799
Aid for Aviation Related Sectors	4.3894	3rd	4.5492	6th	4.3761	7th	4.4403	8th	10.629	2	.005
Enhanced Airport Ratings	4.1593	8th	4.7377	3rd	4.6154	5th	4.5114	3rd	44.384	2	.000
Increased International Travels and Destinations	4.3451	4th	4.5164	7th	4.7094	2nd	4.5256	1st	13.823	2	.001
Simplicity in movement	4.2743	5th	4.3115	9th	4.7863	1st	4.4574	7th	26.233	2	.000
Easy-to-do business	3.9912	10th	4.4098	8th	4.3675	8th	4.2614	10th	14.242	2	.001
Country Ranking around the Globe	4.0531	9th	4.9016	1st	4.5043	6th	4.4972	5th	74.405	2	.000
Superb Aesthetics	4.2212	7th	4.6230	5th	4.6410	3rd	4.5000	4th	21.405	2	.000

Source: Field Survey, 2022

The study also investigated how facility management practices affected the services and amenities offered at airport terminals, categorizing these effects as direct, indirect, induced, and inconsistent with regional effects. According to the overall ranking of the respondents' opinions, the study found that improved airport operations, which was ranked

first with a mean score of 4.5028, was followed by computer-generated and electronic documentation, which was ranked second with a mean score of 4.2472; increased profitability, less time wasted, and simplified procedures were both ranked third with a mean score of 4.2813. Also, optimized operation for departure and arrival was ranked fifth with a mean score of 4.2614.

Additionally, airport retail purchases (4.6420), passenger reports and experiences (4.6250), increased air destinations, routes, and airlines (4.6193), increased passengers/users (4.5625), and revenue growth (4.5455) were the first through fifth most significant indirect effects of facility management practices on airport services and facilities. On the other hand, the induced effects include an increase in international travel and destinations, which came in first with a mean score of 4.5256; economic impact, which came in second with a mean score of 4.5142; enhanced airport ratings, which came in third with a mean score of 4.5114; and excellent aesthetics, which came in fourth and fifth with scores of 4.500 and 4.4972, respectively. The Kruskwalis test results also revealed some statistically significant differences in respondents' opinions, with a p value ≤ 0.05.

Conclusion and Recommendation

Only when the facilities are managed and utilized to their fullest potential are airport development projects justified. However, a regular occurrence in most airports demonstrated that the infrastructure had deteriorated and was no longer able to handle the rise in air travel demand brought on by the expansion of the sector. There is no doubting that these issues are related to the poor facilities management and management strategies used in such airports. In order to improve standards, passenger satisfaction, and overall airport operations, it is crucial to remember that Nigerian airports require adequate management and inculcation of facility management practices. In light of this, numerous requests for the adoption of competent facility management have been made, leading to the involvement of private practitioners and the concession of some airports in Nigeria. Therefore, it is clear that implementing efficient facilities management practices has significant potential to improve airport effectiveness, general operations, and service quality.

Consequently, the study recommended the following:

i. The formation of facility management units with pertinent specialists where such are not available should be introduced irrespective of the body/agency responsible for the management of airport facilities.
ii. Since it has been established that facility management affects airport facilities, there should be incorporation of airport facility management skills and competences in airport operations.
iii. A review of the various effects through adequate facility management policies will result in the achievement of enhanced airport service operation and infrastructure as well as the increased global rankings of Nigerian airports.

Data Availability

The data for the study was gathered using a structured questionnaire which was distributed to the target populations in the three (3) selected terminals of the airport.

Conflicts of Interest

"The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper."

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References

Adeniran A.O. and Gbademosi K.T. (2017) concessioning a strategy for Nigeria's Airport Operational Efficiency Lessons from Developed Countries. *International Journal of Research in Industrial Engineering*. *6 (3) 228-245*.

Atalian (2019). The Important of Airport Facility Management. *Atalian Global Services*.

Avanenge, F.and Zizi, H. Z. (2016) An Analysis of the Issues and Challenges of Transportation in Nigeria and Egypt. *The Business and Management Review 7 (2) 18-29, 2016*.

Brown, A. W. and Pitt, M. R. (2001) Measuring the facilities management influence in delivering sustainable airport development and expansion. *Facilities 19 (5/6): 222 – 232*.

De Neufville, R. and Odoni, A. R. (2013) Airport Systems: Planning, Design and Management. *Mc Graw Hill Education, New York*.

Dennis, J. G. (2012) Denver International Airport Facility Management Performance Audit. *Office of the Audit Services Division City and County of Denver*.

Enoma, A., Allen, S. and Enoma, A. (2009). Airports Redesign for Safety and Security: Case Studies of Three Scottish Airports. *International Journal of Strategic Property Management (2009) 13, 103–116*.

Fadare, S. O. and Adeniran, A. O. (2018). Comparative Analysis of Public Operated Airport Terminal and Concessioned Airport Terminal in Lagos, Nigeria. *Discovery Journal, 54(272), August 1, 2018, 304-318.ISSN 2278-54569; EISSN 2278 -5450*

Frankfurt AFM (2003). Airport Facility Management. www.fraport.com/online/bereiche/en/jsp/ifm_airportfacilities.jsp;jsessionid

Guide to Sleeping in Airports.net (2019), Best and Worst Airports, *The Guide to Sleeping in Airports.net*.

IATA. (2015), Passenger Forecast - Global Report, Geneve, *available at: http://www.iata.org/publications/Pages/20-passenger-forecast.aspx 2015*.

Isaac, I. A. (2013). Airport Development and Socio-Economic Development of Nigeria. *JORIND 11(1), June, 2013. ISSN 1596-8308. www.transcampus.org/journals; www.ajol.info/journals/jorind*.

Lohmann, G., and Duval, D.T. (2014). Destination morphology: A new framework to understand tourism–transport issues? *Journal of Destination Marketing & Management, 3(3), 133–136*.

Maha, M. S. and Juliana, S. (2016). Environmental Sustainability Measures for Airports. *McGill Center for Research in Air and Space Law*.

Marks, A. Rietsema, K.Al-Ali, M. (2015) Airport Information Systems – Landside Management Information Systems. *Intelligent Information Management, 7, 130-138. Published Online May 2015 in SciRes. http://www.scirp.org/journal/iim. http://dx.doi.org/10.4236/iim.2015.73012*

Munich AFM (2003) www.munich-airport.de/DE/Areas/Business/Facilities/index.html.

Onwunayi, N., Oyetunji, A. K., and Eyakwanor, A. A. (2018) Professionalising Service Delivery in Nigeria's Public Buildings Using Facility Management: The Lagos Murtala Muhammed International Airport. *International Journal of Social Sciences and Management Research 4 (5)8-23. 2018 ISSN: 2545-5303* www.iiardpub.org**.**

Pitt, M. R. (2001). Strategic Direction in the Airport Business: Enabling or Disabling? *Facilities 19 (3/4): 150 – 156.*

Pitt, M., Van Werven, M. and Price, S. (2011) Airport Facilities Management Alliances: Problems of Competitiion and Complexity. *Journal of Retail & Leisure Property Vol. 9, 5, 391–400.* www.palgrave-journals.com/rlp/.

Sakti. A. A. (2012) Passenger Perception on Airport Terminal Facilities Performance. *International Journal of Engineering & Technology IJET-IJENS 12(02).*

Seyanont, A. (2011). Passengers' perspective towards airport service quality at Suvarnabhumi International Airport. *Journal of Social Transportation Traffic Studies 3 (32-41).*

SKYTRAX (2019). Skytrax Annual Survey. *Retrieved from* http://www.worldairportawards.com/

Tae, H. O., Nicole, A. and Chunyan, Y. (2005) Privatization, Corporatization, Ownership Forms and their Effects on the Performance of the World's Major Airports. *Sauder School of Business, University of British Columbia, Vancouver, V6T 1Z2, Canada*

Vickie Withnell Group (2016) GIS in Asset Management for Airport Transformation Programme. *Retrieved from* www.magworld.co.uk.

Vreedenburgh, M. C. L. (1999) Airport Operational Efficiency. ICAO Airport Privatisation Seminar Report. *Guatemala City, 13 – 16 December 1999.*