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## A HOLISTIC APPROACH TO AIRPORT FACILITY MANAGEMENT PRACTICE IN NIGERIA

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### **Abstract**

*A thorough revamp of airport facilities management practice in Nigeria is highly vital and important for airport management. In light of this, this research developed a holistic approach for managing airport facilities in Nigeria. Surveys and on-site observations of airport facility management practices in Lagos Airport were used to gather the study's data. According to the study, the majority of respondents are from a variety of professions, including engineers, Estate Surveyors, and Valuers amongst others. Additionally, the study found that the primary airport facility management strategy was a hybrid approach that combined in-house and outsourced facility management tactics. The study also provided a framework for enhancing airport facilities management practices in Nigeria and underlined the significance of a Facility Manager as the principal overseer of all airport operations. The study also made a call for the recognition and appointment of Estate Surveyors and Valuers as the Airport Facility Manager who would be responsible for ensuring the smooth, effective and efficient operation of the airport's services and facilities only after completing the required training. Therefore, it was recommended that the Federal Airport Authority of Nigeria (FAAN), the Nigerian Institution of Estate Surveyors and Valuers (NIESV), the Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) and other pertinent agencies should support the active participation of Estate Surveyors and Valuers in Airport Facility Management (AFM) and work to improve Airport Facility Management practice in Nigeria.*

**Keywords:** *Airport, Airport Facility, Airport Facility Management, Facility, Facility Management*

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### **Introduction**

Facility Management (FM) is the art and science of managing people, facility resources and services to support an organization's operations while working to meet business objectives. Similarly, Price and Akhlagi (1999) defined FM as the art and science of management with a strategic function that entails three levels of functions; namely, operational, tactical, and strategic levels to achieve a stated purpose. However, majority of nations continue to misunderstand FM, mistaking it for maintenance management. It is therefore not strange that the FM notion that is employed in different countries is interpreted and viewed in a variety of ways.

When compared to other facility management aspects, airport facility management is a fairly difficult task because of the numerous activities and tasks that are required to be performed by the Facility Manager. Facility management practice in airports and airport management in

general is a very complicated process whose efficiency depends on the coordination of numerous operations, including taxiing, gate departures and arrivals among others (Diana, 2010 and Ramadan, 2013). Also, various entities, including airlines, air crews, handling agents, engineering support, fuel, catering, safety and security services, amongst others are involved in these complicated interaction procedures. Towards this, Classen and Rudolf (2015) noted that efficient management and performance of airport facilities demand a more comprehensive approach to facility management due to the numerous activities and interactions.

Airport facility management (AFM) is diverse and has a wide range, according to Pitt (2001), making it a significant challenge in the field of facility management. Therefore, even though many of the facilities may be present in some cases, their ineffective administration due to a lack of professional training and experience may impede effective management of such. For instance, Onwuanyi, Oyetunji, and Eyakwanor (2018) pointed out that Nigerian airports have developed a bad reputation in terms of service quality and facilities because it has been observed in many airports in Nigeria that the facilities that are supposed to ensure smooth airport operations are insufficient and non-functional as a result of inadequate facility management practice.

Conversely, Cable and Davis (2004) noted that a strong facility management practice offers necessary support to the organizational goal, greater cost efficiency, realization of future facility management requirements amongst others. However, a poor facility management on the other hand could result into inadequate facilities to support functioning, excess facilities without contributing to the organizational performance, cost inefficiencies, inadequacy and unavailability. For effective airport facility management, it is thus imperative that adequate consideration must be given to the nature of the facility management approaches and facility manager.

In every airport, Facility Managers are responsible for overseeing daily operations while also looking for opportunities to incorporate new ideas to increase productivity and cut costs. Unquestionably, a thoughtful approach to facilities management would propel the airport's expansion and growth. Therefore, facility management practice and policies in managing airport services and facilities could come in the form of different business models which can be used to deliver the growing FM function. Such models include integrated business units, empowered business units (which "sell" their services to the corporation), internal profit centers, and independent FM service providers (third-party provider) (Gaya, 1997; Ytsma, 1997). Irrespective of the various models, it is imperative that the role of the Facility Manager and its activities must be clearly identified and ought to be a professional to enable adequate management of the airport facilities and services.

Over the past ten years, the strategic importance of the FM role in airports has increased. According to Pitt (2001), AFM is a significant component of an airport's future revenue and includes both aeronautical and non-aeronautical services (Brown and Pitt, 2001). Thus, in order to operate airports and the larger built environment, FM must overcome numerous strategic and competitive difficulties. The strategic and competitive direction of FM, as well as its significance to airports, must be clearly identified and understood.

In Nigeria, there are six main aviation stakeholders who are saddled with general airport management and operations; they include The Nigerian Civil Aviation Authority (NCAA), Federal Airport Authority of Nigeria (FAAN), Nigerian Airspace Management Agency (NAMA), Accident Investigation Bureau (AIB), Nigerian Meteorological Agency (NIMET), and Nigerian College of Aviation Technology (NCAT). Utilizing and adapting all these agencies into airport management

is crucial to maintaining adequate airport facility management. Hence, Jacoby (2019) noted that in presenting solutions for airports facility management, several methods are taken into account which serves as alternatives to solving different problems arising from facility management. As similar to other facility management strategies, Myzatul (2007) highlighted three methods for the delivery of facility management services; namely, outsourcing, in-house management and the hybrid. Barrett (1995) and Atkin and Brooks (2005) noted that the mode of sourcing adopted by an organization depends on a number of criteria's, including the priorities and goals defined by the business among others.

As a result of the strategic importance of AFM, many airports are outsourcing their FM contracts as a response to the always shifting external environment, the growing and evolving usage as well as nature of airport facilities. Accordingly, AFM is thought by some to still be in its infancy, going from a more straightforward process of building management to a more holistic approach involving the management and administration of a diverse array of facilities (Edum-Fotwe et al , 2003 ; Price and Pitt, 2010). Even in Nigeria, airport facility management practice continues to be under-developed and the Nigerian FM practitioners however, still don't fully understand the special FM practice strategies needed to create value and generate effective facilities policies in airports because it has not been a notable area of facility management practice in the country.

The problem however, is the effective combination of numerous processes, areas, services, functions and technology an airport uses to maximize passenger security, comfort, and convenience which require several distinct professional training and knowledge. Thus, Airport Facility Managers must be well educated, enlightened and versed in all areas of airport facility management practice. All things been equal, it is critical to remember that facility management practices are crucial to the smooth operation of airports. Hence, this research calls for a holistic approach of airport facility management practice in Nigeria with a view to enhancing effective airport operations, improving performance, satisfaction, rankings amongst other benefits.

## **Literature Review**

### **Airport Facility Management (AFM)**

Wells and Young (2004) noted that although airports have only been around for about a century, they have grown swiftly, transitioning from simple landing grounds to key transportation hubs for people and goods. Therefore, Freestone and Baker (2011) pointed out that airports have progressed from being a piece of infrastructure for a transportation facility to a commercial hub, and finally to Airport Cities and Aerotropolis, as they have evolved into profit-oriented businesses over the course of the last few decades. The growth and development of airports have further necessitated adequate management of the facilities through Airport Facility Management (AFM) practices.

AFM includes all areas of surface, building and property management. It serves as the basis for all other AFM projects (Pitt *et.al*, 2011). Airport facilities were divided into aeronautical and non-aeronautical services by Brown and Pitt (2001). FrankfurtAFM (2003) and MunichAFM (2003) further categorize airport facility management (AFM) into technical, infrastructure, commercial, and space management. Information management, building and property management, civil services, procurement and logistics management, and legal services were the five categories Pitt *et.al* (2011) used to categorize airport facilities management.

To ensure adequate coverage of the management of airport facilities for effective management, efficiency, performance and impact, this study would take into account a total generalization of the various categories of airport facility management services.

### **Airport Facility Management Approaches**

According to Jacoby (2019), airport facility management services can be offered via outsourcing, in-house and hybrid management strategies. According to many definitions, outsourcing is the "contracting-out" of previously internal services to an external service provider as a way to improve organizational performance and efficiency (Steane and Walker, 2000; Monczka et al., 2005; Li and Choi, 2009).

The internal sourcing on the other hand occurs when a service is offered by a dedicated resource person who is in direct employment with the organization. According to Barrett and Baldry (2003), the service is given to a dedicated in-house resource wholly engaged by the client company under the standard terms of an employment contract. The hybrid facility management approach however, involves a combination of the in-house and outsourced facility management approaches.

### **Review of Related Literatures**

The impact of facilities management on achieving sustainable airport development and expansion was studied by Brown and Pitt (2001). According to the study, facilities management is crucial to making sure that any further airport growth is viable. Investigating the profession of facilities management, a conceptual evaluation framework measuring the potential field of influence of the airport facilities manager was created. The framework described was intended to help readers understand the FM's role in relation to airport facilities; in addition, the analytical method that underpins it may also be used to create evaluation models and analyze the FM's influence on other facilities.

Pitt *et. al* (2011) examined the growing usage of strategic alliances in facilities management. The study noted that the most recent trend of collaboration between organizations to provide airport facilities management (AFM) can be seen as a networking activity. Hence, the study examined the creation and management of alliances as well as its enhancement in a bid to increasing the strategic potency of contracts. Strategic alliances, according to the study, are diverse and complex in nature; hence, improvement in strategic strength for FM and AFM can be seen in their improved strategic positioning, increased efficiency, increased environmental benefits and better usage of privatization benefits.

With a focus on the Lagos Murtala Muhammed International airports, Onwuanyi, Oyetunji, and Eyakwanor (2018) also conducted a study on professionalizing service delivery in Nigeria's public buildings utilizing facilities management. The study utilized the 2015 global survey and ranking of international airports and found that quality service delivery has not received adequate and determined attention in the airport. It also found low managerial capacity including an inappropriate, bureaucratic management model that has failed to implement modern business techniques and recognize the significance of the human element in that specific environment. Also, in Lagos, Patunola-Ajayi (2019) examined the challenges associated with the administration of airport facilities at Murtala Muhammed Airport in Lagos, Nigeria. Using weighted mean score and factor analysis, the research found that high costs, managerial capability issues and high

maintenance expenses are among the key challenges associated with airport administration and management.

In their evaluation of the facilities management issues facing the aviation industry in Nigeria, Oladejo, Sado, and Uche (2021) found that inadequate safety and security, managerial bureaucratic bottlenecks, poor employee quality, and outdated equipment were the main issues. Based on the study's findings, the findings give workable recommendations; benchmarking, ongoing professional development/training programs, accurate record-keeping and evaluations, the provision of suitable incentives and awards, ongoing supervision, and checks and balances are a few of these.

### Study Area

Murtala Muhammed Airport is situated in Ikeja, Lagos State, Nigeria and it is the primary airport serving Lagos and the nations of Nigeria. In addition, it is also the largest international airport, the busiest and most frequently used airport with business hubs for regional airlines. There are three terminals there: local, chartered/MM2, and international terminals. The airport is situated at 10 kilometers North-West of the city's core at latitude 6°34'38" and an east longitude of 3°19'16". The International Civil Aviation Organization (ICAO) code is DNMM, and the International Air Transport Association (IATA) code is LOS. The busiest airport in Nigeria, Murtala Muhammed International Airport is situated on hundreds of hectares of land between the settlements of Ikeja, Agege, Shasha, Ejigbo, Mafoluku, and Oshodi in Lagos State.

### Research Methods

The research method used for the study is survey research while the airport facility managers at the Murtala Muhammed Airport, Lagos, Nigeria were the study's target population. For the purposes of this study, about 200 facility managers employed by the Federal Airport Authority of Nigeria and other airport operators for the management of the various services within the three (3) terminals of the airport make up the sampling frame of the Facility Managers of Murtala Muhammed Airports. Using sample size reduction formular, 133 facility managers were targeted while structured questionnaires was distributed to the set of respondents of which 107 (80.45%) were collected and analyzed using descriptive statistics and weighted mean scores.

### Data Analysis and Discussions

#### Characteristics of Airport Facility Managers

The research examined the socio-economic and general characteristics of the Facility Managers in Murtala Muhammed Airport, Lagos, Nigeria which was presented in table 1 below.

**Table 1: General Characteristics of Airport Facility Managers**

General Characteristics of Airport Facility Managers		Frequency	Percent
	<b>Position in the Firm</b>		
	Principal / Managing Partner	-	-
	Supervisors	24	22.4
	Head of Department	25	23.4
	Facility Manager	48	44.9
	Technician	10	9.3

<b>Total</b>	<b>107</b>	<b>100.0</b>
<b>Gender</b>		
Male	93	86.9
Female	14	13.1
<b>Total</b>	<b>107</b>	<b>100.0</b>
<b>Age Distribution</b>		
Below 30 Years	6	5.6
31 - 40 Years	39	36.4
41 - 50 Years	50	46.7
51 - 60 Years	12	11.2
61 Years and Above	-	-
<b>Total</b>	<b>107</b>	<b>100.0</b>
<b>Educational Qualification</b>		
O.N.D.	4	3.7
H.N.D.	32	29.9
B.Sc / B. Tech	48	44.9
M.Sc / M. Tech	13	12.1
PhD	5	4.7
Others	5	4.7
<b>Total</b>	<b>107</b>	<b>100.0</b>
<b>Number of Years of Practice as a Facility Manager</b>		
1 -10 Years	30	28.0
11 - 20 Years	58	54.2
21 - 30 Years	19	17.8
31 Years andAbove		
<b>Total</b>	<b>107</b>	<b>100.0</b>
<b>Profession</b>		
Estate Surveyors and Valuers	5	4.7
Engineers	32	29.9
Accountants	2	1.9
Others	68	63.6
<b>Total</b>	<b>107</b>	<b>100.0</b>
<b>Availability of a Certification/Training in Airport Facility Management</b>		
Yes	69	64.5
No	38	35.5
<b>Total</b>	<b>107</b>	<b>100.0</b>
<b>Regularity of Involvement in Airport Facility Management Practice</b>		
Regularly	60	56.1
Often	16	15.0
Very Often	31	29.0
Rarely	-	-
<b>Total</b>	<b>107</b>	<b>100.0</b>

Source: field survey, 2022

The examination of the characteristics of the Facility Managers in Murtala Muhammed Airport, Lagos was reported in Table 1. The respondent's position showed that Facility Managers make up 44.9% of the respondents. The percentages of supervisors and department heads are 22.4% and 23.4% respectively. Technicians on the other hand, make up 9.3%. Also, the gender breakdown of Facility Managers revealed that 13.1% of them are women while 86.9% are men. The gender distribution thus indicated a significant male predominance of those employed as facility managers in airports, requiring a significant involvement of women in the facility management practice of airports in Lagos. The respondents' age distribution also revealed that 36.4% of respondents were between the ages of 31 and 40 years, while 46.7% of respondents fell within the age range of 41-50 years. 11.2% of the respondents are between the ages of 51 and 60 years.

The respondents' educational backgrounds revealed that 44.9% of the respondents held a B.Sc. or B.Tech. degree while 29.9% held an H.N.D degree. In addition, 12.1% of respondents have an M.Sc. or M.Tech. degree while 4.7% have a PhD or a related degree, such as a postgraduate diploma or a Master's in Business Administration amongst other airport related certifications. Accordingly, the research showed that 54.2% have practiced as a Facility Manager between 11 and 20 years while 28.0% have worked in the field for between 1 and 10 years.

The study also revealed that the majority of respondents are from different professions making up 63.6% of the respondent while engineers represent 29.9%. In addition, 4.7% of Facility Managers are Estate Surveyors and Valuers; indicating a wide array of professional involved in airport facility management. In addition, the research showed that most of the Facility Managers representing about 64.5% of the respondents have certification /training in Airport Facility Management while 35.5% of the respondents do not have any form of certification or training in Facility Management. It is thereby noted that there is a need for adequate training of Airport Facility Management practice so as to enhance Airports services and operations. The research further showed that 56.1% of the respondents are regularly involved in Airport facility management while 29.0% are very often involved in airport facility management practice.

### Facility Management Approach Adopted in the Management of Airport Facilities

**Table 2: Facility Management Approach Adopted in the Management of Airport Facilities**

Facility Management Approach	Mostly Adopted	Adopted	Undecided	Not Adopted	Mostly Not Adopted	Mean	Std. Dev	Rank
In-House FM Approach	200	220	36	-	-	4.2617	.64919	1 <sup>st</sup>
Out-Sourced FM Approach	145	204	9	-	-	4.0187	.72660	2 <sup>nd</sup>
Hybrid FM Approach	305	184	-	-	-	4.5701	.49739	3 <sup>rd</sup>

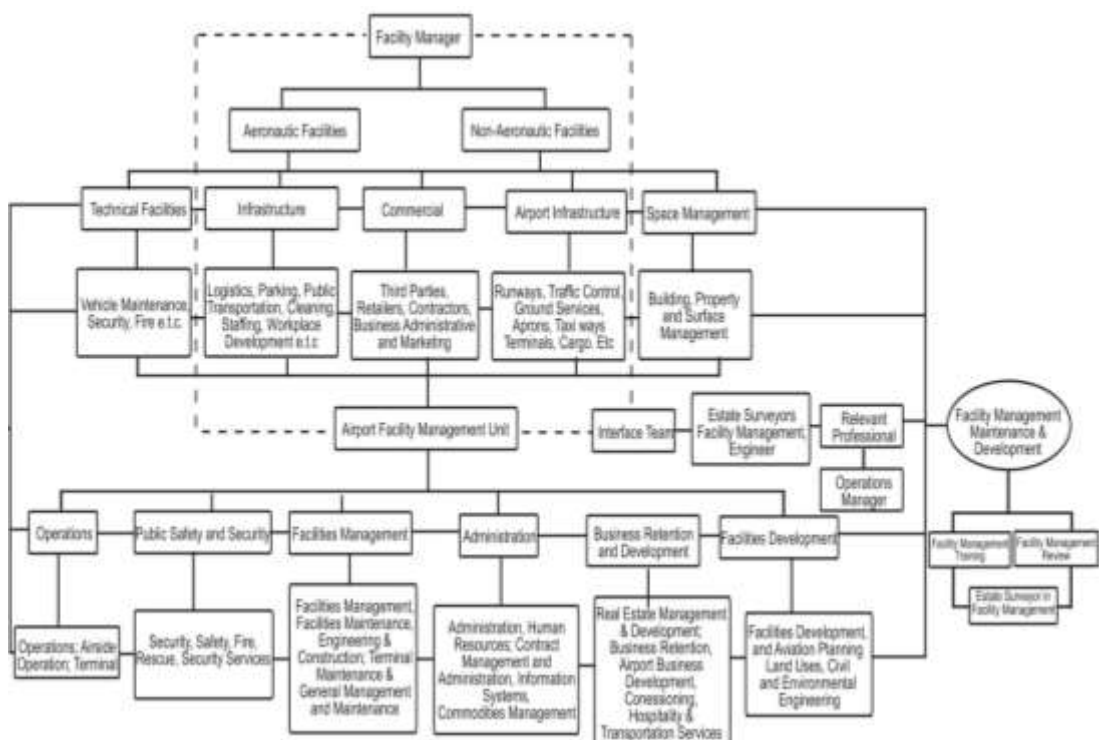
**Source: Authors Field Survey, 2022.**

The research also looked at how airport infrastructure and services are managed using a facility management approach. The study revealed that the hybrid approach, which included in-house and out-sourced facility management strategies was the most widely used, coming in first place with a mean score of 4.5701. This was closely followed by the in-house strategy, which came in

second place with a mean score of 4.2617 while the outsourced FM technique came third with a mean score of 4.0187. The use of the hybrid facility management approach is further supported by the substantial staff at FAAN, which is tasked with a wide range of duties under ten (10) directorates, including human resources, administration, airport operations, legal services, engineering and maintenance, projects, finance and accounts, cargo development, aviation security services, and commercial and business development. More so, several allied companies are involved in the process through outsourcing of different services such as foreign airlines, cargo agents, aviation fuel suppliers, air transporters, in-flight catering, ground handlers e.t.c.

**Framework To Improving Airport Facility Management Practice In Nigeria**

The research further developed a framework to improving the airport facility management practice in Nigeria. The framework is as shown in the fig below.



**Fig 1: Framework To Improving The Airport Facility Management Practice In Nigeria**

Source: Authors Field Survey, 2022

Figure 1 above illustrates the framework for improving airport facility management practices in Nigeria. There is no doubt that the complexity of airport operations necessitates adequate management and facility management services, which can only be provided by a well-trained and professional Facility Manager. The research emphasized the significance of the role of a Facility Manager as the head of all airport operations, both aeronautic and non-aeronautic. The management and upkeep of all the various airport amenities, including the technical, infrastructural, commercial, airport, and space management facilities and services, will consequently fall under the purview of the Facility Manager. The airport Facility Management unit, which is divided into the following units: operations, public safety and security, facilities



management unit, administration, business retention and development as well as facilities development would aid in the achievement of an efficient airport facility management practice. The Facility Manager is also in charge of the facility Management unit which also comprises operations, public safety and security, administration, business retention and development and facilities development. A skilled Airport Facility Manager is expected to have the necessary expertise, management, and experience. Therefore, it is envisaged that designating a Facility Manager as the primary manager of airport services, facilities, and administration can further increase these airports' efficacy. The Facility Management unit and team, which is made up of an Estate Surveyor, engineers, and other pertinent specialists involved in airport administration procedures, acts as an interface team to oversee all the many aspects of airport facility management practice. A team that is directed by an Estate Surveyor and Valuer as the Facility Manager may effectively manage the many classifications of facilities into technical facilities, infrastructure, commercial, airport infrastructures, and space management.

The team led by an Estate Surveyor and Valuer as the Facility Manager can manage all the various aviation and non-aviation operations in an airport effectively for higher and better performance. The Facility Manager will ensure the smooth operation, effective operation, and efficient operation of the airport's services and facilities only when and after he has received the necessary training in airport facility management.

### **Conclusion and Recommendations**

The expansion of the Nigerian aviation industry, airport development, efficiency, and general realization of huge potentials of airports all depend on the improvement of airport facility management practices being improved. Accordingly, the research highlighted the role of Facility Managers in providing proper coordination of all airport facilities and services and presented a holistic approach to airport facility management in Nigeria.

It must be said categorically that airport facility management is a rapidly expanding area of expertise within general facility management. The lack of numerous airport-related trainings and educational opportunities in Nigeria, however, has resulted in a poor level of knowledge of airport facility management among Facility Managers, of whom Estate Surveyors and Valuers are major members. The following suggestions are intended to assist in improving airport facility management practice in Nigeria and are in line with the request for active involvement of Estate Surveyors and Valuers in Airport Facility Management (AFM).

- i. In order to improve the performance of the facilities and users' satisfaction through the adoption of adequate facility management practices, the Federal Airport Authority of Nigeria (FAAN), the Nigerian Civil Aviation Authority (NCAA), and other stakeholders in the airport and airline industry should ensure adequate upgrade and maintenance of all airport facilities and services.
- ii. The administration of the various airport services and facilities must be carried out to guarantee the professionalism and knowledge of the airport facility management unit.
- iii. Additionally, it is essential that the staff members of the various offices receive training in airport facilities management procedures and programs in order to raise their level and professional service orientation.
- iv. Through training programs, MCPDs, Conferences, and workshops on airport facility management techniques, the Nigerian Institution of Estate Surveyors and Valuers (NIESV) and Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) should ensure adequate education, sensitization, and awareness.
- v. Additionally, NIESV and ESVARBON should collaborate with researchers to improve airport facilities management procedures and to assure the formation of learning centers for procedures specific to airports.

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