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# EFFECTS OF FACILITY MANAGEMENT ON SERVICE DELIVERY OF SELECTED SEAPORTS IN NIGERIA

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## ABSTRACT

The study focused on determining the effect of facility management on service delivery of selected seaports in Nigeria. Objectives of the study were: to determine the effect of space management on service quality of seaports in Nigeria, to examine the relationship between workplace programming and responsiveness of Nigerian seaports, and to determine the extent to which support services management affects customer experience in Nigerian seaports. In this work, descriptive research design was applied, making use of a structured questionnaire as instrument of data collection. Source of data was mainly primary sources. The population of the study comprised Warri (Old and New) Ports, Escravos Light House, Koko, Burutu and Sapele Ports in South-South Nigeria. Specifically, the study holistically surveyed all 97 employees across the ports under study. Hypotheses were subjected to testing using Pearson Product Moment Correlation Coefficient and Spearman Rank Order Correlation Coefficient to establish the relationship between the variables. The study found that there was significant positive effect of space management on service quality in the organizations under study ( $r = .88$ ;  $p < 0.05$ ), it was found that the relationship between workplace programming and responsiveness was significantly positive ( $r = .98$ ;  $p < 0.05$ ), it was also found that to large extent, support services management affected customer experience in Nigerian seaports ( $r = 0.705$ ;  $p < 0.05$ ). On the basis of research findings, the study concluded that the effect of facility management on service delivery of Nigerian seaports was significantly positive. The adoption of space management through contemporary Information and Communications Technology systems, giving adequate priority to the workplace in a bid to boost responsiveness to customer orders, and a system of innovation in seaport practices for sustainable maintenance and procurement programmes were recommended.

**Keywords:** Facility Management, Seaport Service Delivery, Support Services Management

## 1. INTRODUCTION

Facility management is the integration of different specialist areas of maintenance, performance, risk management, energy and operations management, space management, staff development and information technology (Shohet, 2006) towards the attainment of the business goal. By so doing, it combines real estate, their surroundings and services for the realization of core business of the enterprise. The facility management discourse evokes critical considerations such as what can be done to attain the business goal, what can be done to improve employee contribution to the organization, what measures could be utilized in retaining and enlarging clientele, where and how could resources be expended to achieve a greater, if not optimum return?

This role is widely acknowledged as researchers (Handy, 2012; Mbachu and Phipps, 2013) have considered space management and level of support services management, as a cornerstone of facility management in business organizations. It is noteworthy that FM is in

existence in Nigerian Seaports given the concession to companies for the lease, procurement and management of NPA facilities on a Build, Operate and Transfer (BOT) model. However, the extent to which these variables that constitute professional facility management functions could impact on service delivery in Nigerian seaports are quite unclear and is yet to be established in indigenous literature.

Preliminary investigation shows that reported comparable poor service quality and lack of competitiveness of seaports in Nigeria and the customer dissatisfaction therewith cannot be separated from failure of the ports to attain their core values of efficiency, customer satisfaction, safety and security, and improved responsiveness. Therefore, an empirical assessment of the relationship between business development management and employee engagement in Nigerian seaports has become a matter of particular interest especially towards enhanced customer satisfaction in the industry. The essence of the study lies in the fact that Nigerian seaports have failed to live up to their vision and mission of being the leading Port in Africa and delivering efficient Port service in a safe, secure and customer friendly environment respectively. Thus, the study presents an empirical investigation into the relationship between professional facility management and service delivery of Nigerian seaports.

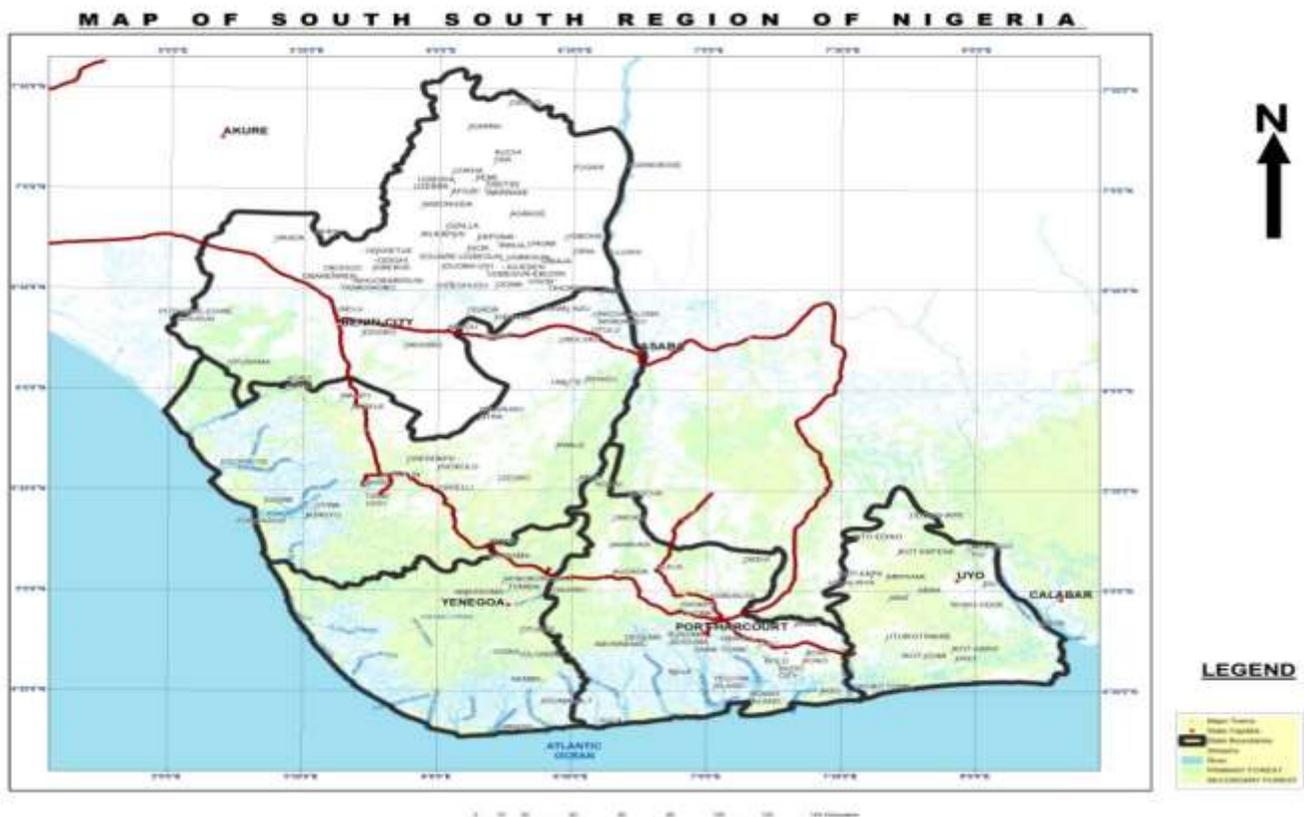
## 1.1 Research Objectives

The aim of the study is to determine the effects of facility management on service delivery of selected seaports in Nigeria towards the attainment of their core values. The specific objectives of the study are:

1. To determine the effect of space management on service quality of seaports in Nigeria.
2. To examine the relationship between workplace programming and responsiveness of Nigerian seaports.
3. To determine the extent to which support services management affects customer experience in Nigerian seaports.

## 1.2 Study Area

The study is domiciled in the South-South geographical zone of Nigeria and studies the seaports in the area as shown in Figure 1:



**Figure 1: South-South Geographical Zone of Nigeria**  
Source: Office of the Surveyor-General of the Federation (2018)

## 2. REVIEW OF RELATED LITERATURE

### 2.1 Conceptual Framework

#### 2.1.1 Facility Management

Facility Management is a recent phenomenon and as a result, has taken a lot of meanings. Many however have perceived Facility Management in terms of conventional property management functions. What has been acknowledged by those concerned is the potentially comprehensive view of facilities management. Some definitions give much more prominence to the management of buildings and their functioning rather than the management of buildings for business and people. University of Arts London (2013) defines FM as the provision of support services needed to deliver safe, secure and operational environment required for the effective production of an organization's core product (in this case adequate security). Lending credence, United States Library of Congress (1992) sees the concept as a coordination of the organizational environment with the staff of the organization, and the business operations of the organization.

The two definitions see FM as a facilitator of safe and efficient business processes which are consistent with the goals of establishing the business. However, it is conspicuous that technological processes such as Information and Communication Technology remains missing in these definitions. Contrarily, FM is an integrated approach to the operation, maintenance, improvement and adaptation of organizational buildings and facilities so as to create an environment that strongly supports its primary objectives (Barret and Baldry, 2003). One might argue that 'adaptation' may allow for the integration of ICT, and if so, then this definition have addressed the ICT puzzle. Yet, there are reasons why this study may not adopt them as a working definition of facility management. They seem to revolve around the functions of operations (services), property and Information and Communication Technology management. By so doing, it negates the importance of the human capital in the organization without which no FM will be successful.

Offering a way out, the International Facility Management Association (IFMA) summarized FM as an integration of People, Process and Place (Patanapiradej, 2016). The implication here is that FM has been incompletely viewed as an integration of: operations and employee in the workplace. Ewurum, Fidelis-Umeh and Emoh (2015) argue that any definition of FM may be limited without adding performance. Their argument stressed that the integration becomes terribly isolated without the sure goal of improving organizational performance. This study agrees with the inclusion of 'performance' in IFMA's 3Ps of facility management based on the belief that it ensures that there is adequate focus on the end game.

The study thus adopts the view of Ewurum et al. (2015) and Ewurum, Odenigbo and Ezema (2017) that, FM is "an evaluation and integration of human capital, operations and the work environment towards value creation in consistence with the primary objectives of the organization". The study in this regard offers a comprehensive definition of facilities management as the integration of real estate, workplace facilities, business and technological processes, and the human capital for the realization of the core business of the enterprise. This is adopted as the conceptual framework of FM for the study.

In our analysis of the effect of FM on service delivery of seaports in Nigeria, the study utilized relevant proxies for the two variables. Prior to a discussion on service delivery of seaports, it is pertinent to discuss the FM proxies that the study utilized. These are space management, workplace programming, and support services management.

##### 2.1.1.1 Workplace programming (wp) (computer aided facility management)

Gattiker and Goodhue (2004) define workplace programming as information system package that configures and integrates information and information-based processes within and across functional areas in organizations. Kelly, Coffey and Parks (2000) are of the view that this system automates and structures an organization's business processes by furnishing reference models and process templates across the enterprise. In agreement, Stevenson (2007) concurs that WP is the generic term used for facility management software that include modules such as production, finance, marketing and human resources and that allow companies to plan their goods and services. Lending credence, Loundon (2009) stresses that WP is a packaged business software system that lets an organisation automate and integrate the majority of its business processes, share common data and practices across the enterprise and produce and access information in a real-time environment.

The various functions typically supported by the system include manufacturing, management, inventory, shipping, logistics, distribution, invoicing, and accounting. Some solutions now embed customer relationship management functionality (Njihia and Mwirigi, 2014). A wide variety of business activities that include sales, marketing, billing, production, inventory management, human resource management, and quality control also depend on these systems. Put simply, WP system is a business management system that comprises integrated sets of comprehensive software which can be used, when successfully implemented to manage and integrate all the business functions and facilities within an organization (Sharp, Shehab and Supramaniam, 2007). This implies that Workplace Programming (WP) is

a framework for organizing, defining, and standardizing the business processes necessary to effectively plan and control an organization so the organization can use its internal knowledge to seek external advantage. The study adopts this definition as the conceptual framework of WP due to its simple and yet comprehensive approach, and relevance to the facilities management discourse.

### *2.1.1.2 Support services management*

Amaratunga, Kulatunga and Baldry (2005) define facility management as “a process by which an organisation plans, delivers and sustains excellent support services in a quality environment to meet strategic business objectives at best cost”. These support services were identified as mail services, catering services, car fleet, reception, office administration, refuse disposal, travel arrangement, vending, security, furniture, car park management etc. Abba (2014) avers that ensuring that these support services are available and adequately rendered in the right form, right quality and at the right cost, to yield the desired results of the organisation is the task of facility management.

While each organization varies in terms of relevant support services, their role in attaining the set goals of the organization is crucially important. Durodola (2011), on application of facility management in the hotel industry, opines that support services management and space management are the core components of facilities management. The study aligns with this thought as it adopts support services management as a proxy for FM in the seaport industry.

### *2.1.1.3 Space management*

The growth of large national and international organisations, together with improved communications, mobility of people, and information technology, means that attention has now begun to focus more on the connections between buildings and people. Handy (2012) argues that two of the most common services provided under the FM umbrella are master facility documentation and space management which he believes is essentially needed by every facility. The process begins with the establishment of architectural base plans, which also include reflected ceiling plans. MEP (mechanical, electrical, and plumbing) drawing information is then overlaid to the architectural base plans – system by system. Mechanical drawings include ductwork and hydronic (HVAC) water. Electrical includes power, lighting and systems (mainly fire alarm). Plumbing includes domestic water, sanitary (waste and vent), and med gas.

With the ARCHIBUS Web Central application, system zones can be highlighted along with the shutoff points that control the systems. This puts vital information that operations, maintenance and facility directors need in one central location. So, space management begins with an inventory that conveniently exposes all the spaces to be included in planning. The layouts are documented to scale in CAD or BIM. This helps simplify the information, so it can be used to plan for maintenance and repairs in a budget. From there, an organization can identify information like space use per floor. In view of this, the study within its first objective will attempt to infuse information and communication technology processes in analyzing the relationship between space management employee efficiency in Nigerian seaports.

## **2.1.2 Service Delivery**

The dependent variable of the study is service delivery and the choice of service delivery as a goal of facility management is supported by the works of Lucas (2016), Gebauer, Edvardsson and Bjurko (2010). Observably, the highly competitive business environment ensures that organizations go to great lengths to differentiate themselves from one another. Concurring, Gebauer et al. (2010) see service delivery as a prerequisite for organizational excellence and business performance. This implies that service delivery not only refers to organizational practices but also relates to the approach and attitude of both organization and employees. With respect to seaports, Pitilakis (2011) argues that service delivery is measured by service quality, responsiveness and customer experience. These constructs are discussed as follows:

### *2.1.2.1 Service quality*

The vast majority of research into port performance has focused on service delivery (Whittle, 2012). As services are intangible, heterogeneous, inseparable and perishable, the measurement of service quality is more difficult and different compared to that of product quality (Sureshchandar, Rajendran and Kamalanabhan, 2001). The conceptualization, measurement and modelling of service quality, therefore have received considerable attention in the services marketing literature. Studies have looked at measures for service delivery like rate of tons or containers per hour loaded onto ships, or the terminal's performance on other criteria, such as trucking services, gate congestion, availability of stevedore services, and so on, that are deemed to influence effectiveness of port services in determining the long-term success of the port. This means a shift toward understanding and better meeting customer needs that go beyond basic efficiency and effectiveness by assessing the effectiveness of port organizations using a set of effectiveness measures applicable to seaports. First, they have to be determined.

The essence of service quality in the service delivery literature is evident in our introduction which regrettably exposed the poor service delivery in Nigerian seaports. This fact is particularly important in the context that many ports around the world are now attempting to implement green port initiatives, with little or no evidence that Nigerian ports are following in this wake. In response, Thai (2008) developed and validated a measurement model (ROPMIS) to explore the concept of service quality in maritime transport. This model consists of the following six dimensions: Resources, Outcomes, Process, Management, and Image and Social responsibility. The model incorporated newly developed elements, such as management-, image-, and social responsibility-related quality dimensions, on the basis of a comprehensive review of various service quality dimensions and factors in previous studies.

This makes the model more applicable to the maritime industry as it incorporates the image and social responsibility aspects that are critically important in port service delivery (Thai, 2008). The study adopts this model as a measurement tool for service quality in Nigerian seaports due to its management integration which bears relevance to the facilities management discourse.

### 2.1.2.2 *Customer experience*

The study identifies the role of the customer in service delivery with the inclusion of customer outcomes as a proxy for service delivery in seaports. The literature in marketing, retailing and service management historically has not considered customer experience as a separate construct. Instead researchers have focused on measuring customer satisfaction and service quality (Verhoef, Langerak, and Donkers, 2007). However, it is not that customer experience has never been considered, but it has generally been seen as an outcome of service delivery, which means that it is related to the services provided to the customer in a positive manner. Studies in the transportation sector, including aviation (Anderson, 2009) and high-speed railways (Cao and Chen, 2011) reveal a positive relationship between service delivery and customer experience.

Building from these insights, recent definitions of customer experience show that it originates from a set of interactions between a customer and a product, a company, or part of its organization, which provoke a reaction. This experience is strictly personal and implies the customer's involvement at different levels (rational, emotional, sensorial, physical, and spiritual)" (Gentile, Spiller, and Noci, 2007). A second and related definition is that customer experience is the internal and subjective response customers have to any direct or indirect contact with a company (Meyer and Schwager, 2007). Direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer; while indirect contact most often involves unplanned encounters with representatives of a company's products, service or brands.

Adding to the foregoing, we submit that the customer experience construct is holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer. It includes elements of customer intelligence, account management and continuous improvements (Susi and Jawaharrani, 2010). Successful service delivery works on the basis that the customer is a part of the creation and delivery of the service.

### 2.1.2.3 *Responsiveness to customer demand*

Literary works on responsiveness to customer demand has raised issues such as flexibility and agility of a port. Agility is interpreted as using market knowledge and a virtual corporation to exploit profitable opportunities in a volatile market place (Gunasekarana, Laib and Cheng, 2007). Likewise, the roles that flexibility plays in improving supply chain efficiency of seaports has been examined in extant literature (Reichhart and Holweg, 2007). This is characterized by the practice of build-to-order production and rapid-fire order fulfillment which has aided supply chain responsiveness of ports to volatile demand (Sharif, Irani and Lloyd, 2007).

With respect to agility and flexibility issues, a responsive port service could then be defined as, "a network capable of creating wealth to its stakeholders in a competitive environment by reacting quickly and cost effectively to changing market requirements." (Gunasekaran et al., 2007). Sukati et al. (2012) argue that effective responsiveness is characterized by operation system responsiveness, logistic process responsiveness and supply network responsiveness. The study goes further to utilize these elements as proxies for determining the relationship between workplace programming and responsiveness of Nigerian seaports.

## 2.2 **Empirical Review**

Extant studies on the nexus between facility management and service delivery in seaports generally appear relatively scanty. This section covers a review of relevant empirical works on the discourse.

Ogbo, Onekanma and Ukpere (2014) advanced the research regarding the relationship between effective space management and organization performance in the seven-up bottling company, Ninth Mile Enugu. Their major objective was to bring to fore the importance of effective inventory control system on organizational performance as it relates to the bottling company. A total of eighty-three

respondents constituted the sample for the study. Four research questions and Four hypotheses were generated and tested at 10% (that is 0.10) significant level using descriptive statistics and non-parametric test (chi-square). The result of the analysis showed that flexibility in space management is an important approach to achieving organizational performance.

With respect to workplace programming and responsiveness, Otchere, Anaa and Quansah (2013) worked on an assessment of the challenges of organizational responsiveness in the Cocoa industry using Cocoa farmers in Ashanti Region of Ghana. The study sought to examine the major constraints which inhibited effective response to customer demand in the industry. The study adopted adductive (inductive and deductive) approach with the administration of interview and questionnaire to collect quantitative data from farmers. The target population for the research covered five districts out of the twenty-seven districts in the Ashanti region. The regions which comprise Atwima Mponua, Atwina Nwabiagya (Nkawie), New Educbiase, Offiuiso, and Ahafo Awo South districts were selected randomly.

A sample size of 230 was pooled from the Ashanti region out of a total population of 8,000,000 cocoa farmers in Ghana. This also represented the number of copies of the questionnaire sent out which however, fetched a return of 81%. The study found that the challenges of organizational responsiveness were poor technological innovations, lack of information sharing and poor integrated database. The relative importance index run on the mean factors indicated that all the factors of internal, customers and supply integration were important for all the groups. The study further revealed that the best way of enhancing organizational responsiveness is to start from functional integration which is internal to external integrations.

On effect of Support Services Management (SSM) on customer experience within the context of FM, May and Pinder (2014) examined the impact of SSM on patient outcomes. They hypothesized on the extent to which practicing NHS Support Services Managers thought that the contribution of SSM could be measured in terms of health outcomes. Using a questionnaire which was distributed to NHS facilities from the majority of NHS trusts in England and Wales, they found that in general, there is little or no evidence from pre-existing research to prove the contribution of SSM in terms of health outcomes. However, in spite of this 59% of SS Managers in the NHS believed that the contribution of SSM could be measured; yet only a relatively small number of Trusts (16%) have attempted to measure the contribution of SSM. The analysis of their secondary data does not show any conclusive evidence of a correlation between SSM and health outcomes.

From the review, it is evident that few works had been written about the management of seaports generally in Nigeria especially with reference to facility management. The review suggests that most current literature on FM in Nigeria are mainly preliminary and pedagogic; addressing issues such as definitions and scope, and few applications to education, healthcare and hospitality sectors. The application of the practice to seaports enjoyed minimal attention in the literature. The study toes a different path in going further to determine the effect of facility management on service delivery of seaports in Nigeria using the Niger Delta region as study area.

### **3. METHODOLOGY**

The research design used in this study is the descriptive research design. The study analyzed data from primary sources. The population of the study comprised Warri (Old and New) Ports, Escravos Light House, Koko, Burutu and Sapele Ports in South-South Nigeria. Specifically, the study surveyed all 97 employees across the ports under study as obtained from Nigeria Ports Authority. The essence is that the officers are best placed to ascertain the relationship between facility management and employee and organizational service delivery of the ports. However, the customers are in the best position to ascertain the effect of support services management on customer experience.

Since it is normally impossible for the researcher to reach the entire population of seaport customers, the Freund and Williams formula was used to determine the sample size of 384 seaport customers. A structured questionnaire which was designed to focus on issues of facility management and service delivery of seaports in Delta Ports (Warri zone) Nigeria was utilized. Hypotheses were tested with Pearson Product Moment Correlation Coefficient and Spearman Correlation Coefficient to establish the relationship between the variables.

### **4. RESULTS**

#### **4.1 Hypothesis One**

Our goal is to determine the effect of space management on service quality of seaports in Nigeria. Based on the outcome, Pearson Correlation was employed.

**Table 1: Correlations**

		Space Management	Service Quality
Space Management	Pearson Correlation	1	.889**
	Sig. (2-tailed)		.000
	N	88	88
Service Quality	Pearson Correlation	.889**	1
	Sig. (2-tailed)	.000	
	N	88	88

\*\* . Correlation is significant at the 0.05 level (2-tailed).

The result in the correlation Table 1 shows that there is significant positive effect of space management on service quality in the organizations under study (r = .88). The correlation coefficient shows 0.889. This value indicates that correlation is significant at 0.05 level (2tailed).

### 4.2 Hypothesis Two

Our goal is to analyze the relationship between workplace programming and responsiveness of Nigerian seaports. Pearson Product Moment

Correlation was used in testing the hypothesis at 5% level of significance.

**Table 2: Correlations**

		Workplace programming	Responsiveness
Workplace programming	Pearson Correlation	1	.988**
	Sig. (2-tailed)		.000
	N	88	88
Responsiveness	Pearson Correlation	.988**	1
	Sig. (2-tailed)	.000	
	N	88	88

\*\* . Correlation is significant at the 0.05 level (2-tailed).

The result in the correlation Table 2 shows that the relationship between workplace programming and responsiveness is significant (r = .98).

This value indicates that correlation is significant at 0.05 level (2tailed).

### 4.3 Hypothesis Three

The goal is to determine the extent to which support services management affects customer experience in Nigerian seaports. Spearman Rank

Order Correlation was used in testing the hypothesis.

**Table 3: Spearman Correlation**

**Correlations**

			SSM	CE
Spearman's rho	SSM	Correlation Coefficient	1.000	.705**
		Sig. (2-tailed)	.	.000
		N	88	88
	CE	Correlation Coefficient	.705**	1.000
		Sig. (2-tailed)	.000	.
		N	88	88

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

Table 3 shows the result of the Spearman's rank correlation analysis. The estimated Spearman's rank correlation coefficient ( $r$ ) 0.705 is high and shows that a strong relationship exists between support services management and customer experience. The positive sign of the correlation coefficient shows that the extent to which support services management is positively related to customer experience is large.

#### 4.4 Discussion of Results

In this section, the discussion revolved around the objectives of the study as presented in chapter one. The findings made in this work were compared with findings made in other related studies to determine the level of consistence or disparity with the results of the study.

##### Research Objective 1

To determine the effect of space management on service quality of seaports in Nigeria.

The result in the correlation Table 1 shows that there is significant positive effect of space management on service quality in the organizations under study ( $r = .88$ ). The correlation coefficient shows 0.889. This value indicates that correlation is significant at 0.05 level (2tailed).

The findings synchronized with Ogbo, Onekanma and Ukpere (2014) who advanced the research regarding the relationship between effective space management and organization performance in the seven-up bottling company, Ninth Mile Enugu. Their major objective was to bring to fore the importance of effective inventory control system on organizational performance as it relates to the bottling company. A total of eighty-three respondents constituted the sample for the study. Four research questions and Four hypotheses were generated and tested at 10% (that is 0.10) significant level using descriptive statistics and non-parametric test (chi-square). The result of the analysis showed that flexibility in space management is an important approach to achieving organizational performance.

##### Research Objective 2

To examine the relationship between workplace programming and responsiveness of Nigerian seaports. The result in the correlation Table 2 shows that the relationship between workplace programming and responsiveness is significant ( $r = .98$ ). This value indicates that correlation is significant at 0.05 level (2tailed).

The study disagrees with the work of Otchere, Anaan and Quansah (2013) on an assessment of the challenges of organizational responsiveness in the Cocoa industry using Cocoa farmers in Ashanti Region of Ghana. The study sought to examine the major constraints which inhibited effective response to customer demand in the industry. The study adopted adductive (inductive and deductive) approach with the administration of interview and questionnaire to collect quantitative data from farmers. The target population for the research covered five districts out of the twenty-seven districts in the Ashanti region. The regions which comprise Atwima Mponua, Atwina Nwabiygya (Nkawie), New Educbiase, Offiuiso, and Ahafo Awo South districts were selected randomly.

A sample size of 230 was pooled from the Ashanti region out of a total population of 8,000,000 cocoa farmers in Ghana. This also represented the number of copies of the questionnaire sent out which however, fetched a return of 81%. The study found that the challenges of organizational responsiveness were poor technological innovations, lack of information sharing and poor integrated database. The relative importance index run on the mean factors indicated that all the factors of internal, customers and supply integration were important for all the groups. The study further revealed that the best way of enhancing organizational responsiveness is to start from functional integration which is internal to external integrations.

##### Research Objective 3

To determine the extent to which support services management affects customer experience in Nigerian seaports.

Table 3 shows the result of the Spearman's rank correlation analysis. The estimated Spearman's rank correlation coefficient ( $r$ ) 0.705 is high and shows that a strong relationship exists between support services management and customer experience. Therefore, to a large extent, support services management affects customer experience in Nigerian seaports.

The finding does not tally with a study conducted by May and Pinder (2014) who examined the impact of SSM on patient outcomes. They hypothesized on the extent to which practicing NHS Support Services Managers thought that the contribution of SSM could be measured in terms of health outcomes. Using a questionnaire which was distributed to NHS facilities from the majority of NHS trusts in England and Wales, they found that in general, there is little or no evidence from pre-existing research to prove the contribution of SSM in terms of health outcomes. However, in spite of this 59% of SS Managers in the NHS believed that the contribution of SSM could

be measured; yet only a relatively small number of Trusts (16%) have attempted to measure the contribution of SSM. The analysis of their secondary data does not show any conclusive evidence of a correlation between SSM and health outcomes.

## 5. FINDINGS, CONCLUSION AND RECOMMENDATIONS

### 5.1 Findings

In consistence with the objectives of the study,

1. It was found that there was significant positive effect of space management on service quality in the organizations under study ( $r = .88$ ;  $p < 0.05$ ).
2. The study found that the relationship between workplace programming and responsiveness was significantly positive ( $r = .98$ ;  $p < 0.05$ ).
3. The study also found that to large extent, support services management affects customer experience in Nigerian seaports ( $r = 0.705$ ;  $p < 0.05$ ).

### 5.2 Conclusion

On the basis of research findings, the study concluded that the effect of facility management on service delivery of Nigerian seaports was significantly positive.

### 5.3 Recommendations

1. The study recommends the adoption of space management through contemporary Information and Communications Technology systems as it has been found to improve service quality.
2. It is therefore recommended that seaport operators and stakeholders have a serious rethink on their appreciation and adoption of facility management from the perspective of a cohesive, professional and all-encompassing approach and give adequate priority to the workplace in a bid to boost responsiveness to customer orders.
3. The study recommends a system of innovation in seaport practices to constantly ensure that maintenance and procurement programmes that comply with the service level agreement.

### 5.4 Contribution to Knowledge

In wake of few indigenous studies in seaport facility management, the study contributes to knowledge with the conclusion that effect of facility management on service delivery of seaports in Nigeria is significantly positive.

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