

A STUDY OF THE RELATIONSHIP BETWEEN THE OFFICE BUILDING PERFORMANCE AND USER PRODUCTIVITY IN ANAMBRA STATE, NIGERIA

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**Abstract** – Public office buildings around the globe accommodate large numbers of staff who work for the public interest. Indisputably, healthy working environment encourages healthy working style and reduces absenteeism at work. In other words, staff comfort and outputs depend on amongst other things, their work environment. Office worker productivity is one of the critical factors that made an organization to survive in a tight industry competition. This study aims at establishing the relationship between the performance of public office buildings and user productivity in Anambra state. The findings revealed that the performance of the office buildings negatively affects the user productivity by 60.94%. This implies that the condition and performance of the office buildings is not favourable to the occupants work output. The study recommends that the Government maps out adequate recourses for carrying out regular performance evaluation as well as engaging facilities management professionals to take charge of the management of public buildings since the process takes holistic view of the dynamics between people, process and environment. This will enhance worker productivity by creating a conducive, efficient and comfortable environment in carrying out the organizational core business.

**Keywords:** Public office building, user productivity, performance evaluation, facilities management.

## 1.0: INTRODUCTION

Building is considered a necessity to mankind. According to Okolie (2011), buildings are systemic; they have many interacting systems and subsystems both as part of the physical infrastructure and how human activity is organized within and in relation to them. Therefore, buildings facilities must be fit for purpose.

Office buildings have been developed in response to the need to plan, coordinate and administer formal activities in all organizations. According to Mayaki (2005), the most compelling argument for improving building efficiency and performance may be found in the relationship between occupant comfort and worker productivity. Productivity relates to the occupants well-being (physical and psychological comfort) including building elements such as air distribution /ventilation, lighting, workspaces, systems and technology (NIBS, 2009). Productivity of the office staffs therefore can be determined by assessing the performance of their workplace. (Mahbob, S., Kamaruzzaman, N., Salleh, N., & Sulaiman, R. (2011) which is defined as actions that contribute to organizational goals and that are under the individual's control (Rotundo, 2002). According to a knowledge work economy, people are the engines that keep organizations growing, adapting, improving and innovating. Thoughtful well designed workplace can be a powerful tool for supporting employees' wellbeing and productivity. Hence, a collateral benefit which supports productivity will also enhance employees' health and wellness, this shows their interrelatedness. According to Preiser (1995), given the nature of today's work processes, the challenge is to figure out how the workplace can better support human comfort and output and how the workplace can support all of the different activities involved with work such as collaboration, creativity, innovation, deep thinking and mentorship. According to Heerwagen (1998), one way to better understand the nature of human performance is through a definition used by organizational psychologists, who believe it is enabled through a blend of ability, motivation and opportunity in which performance is a function of the above three factors acting together.

Heerwagen, (1998) further stated that ability has to do with whether a person has the capacity to do a task. Motivation refers to a measure of whether a person wants to do it, while opportunity is about accessibility. This implies that a person cannot do a task if he or she is not given a chance or denied access to necessary resources or amenities. So, the above framework looks at human performance as being influenced by multiple factors which reflects the difficult and variable nature of our work today. However, all these factors must be supported by the work environment in order to ensure comfort and best work output.

According to Heerwagen (1998), a building can positively affect the **ability of an office worker** by providing comfortable ambient conditions, by enabling individual control and adjustment of conditions, and by reducing health and safety risks. Negative impacts on ability to do work are associated with conditions that are uncomfortable, distracting, hazardous or noxious. It can positively affect **motivation** by providing conditions that promote positive, effective functioning, psychological engagement and personal control. Continuing, a building can also affect **opportunity** by providing equitable access to conditions that reduce health and safety risks, equitable access to amenities and compensatory design options where inequities exist and are difficult to eliminate entirely.

Fanger (2000) pointed out that in a manmade built environment; comfortable working environment plays a vital role to improve efficiency, workability, quality of life, wellbeing and level of satisfaction of a user (Fanger 2000). According to Fanger (2000), the indoor environmental quality (IEQ) has a major and positive impact on the performance of the office worker (Fanger, 2001), and the IEQ should be acceptable to all the users in the office building (Frontczak, 2011).

According to Okolie (2011), to ascertain how well a building is serving the needs of the occupier or to identify any major deficiencies in its overall performance, building performance evaluation is very crucial. Building performance evaluation (BPE) is therefore used to constantly examine the extent to which buildings are effective and efficient in meeting the needs and expectations of users (Liu, 1999, Kim .S, Yang .Y, Yeo M, Kim, K. 2005; Van der Voordt, & Maarleved, 2006; Nawawi & Khalil, 2008).

Building performance evaluation is therefore a diagnostic tool which allows facilities managers to identify and evaluate critical aspects of a facility in order to develop design guidance and criteria for future facilities. So, integral to the BPE process is Facilities Management which encompasses a vast spectrum of perspectives about people, organizations and change processes to realize organizational goals and achieve user requirements from a facility.

**2.0: THE STUDY AREA**

The study area is Anambra State and it is comprised of 21 Local Government Areas. These Local Government Areas include Aguata, Awka North, Awka South, Anambra East, Anambra West, Anaocha, Ayamelum, Dunukofia, Ekwusigo, Idemili North, Idemili South, Ihiala, Njikoka, Nnewi North, Nnewi South, Ogbaru, Onitsha North, Onitsha South, Orumba North, Orumba South and Oyi making up the three (3) senatorial zones- Anambra North, South and Central.

Anambra State boundaries consist of Enugu State in the East, Delta State in West, Kogi State in North and Imo State in the South. The State is located within latitudes 6° 15'N and 7° 00'N and longitudes 6° 45'E and 7° 15'E. Anambra State as shown in Figure 1 and is located in the South Eastern geopolitical zone of Nigeria.

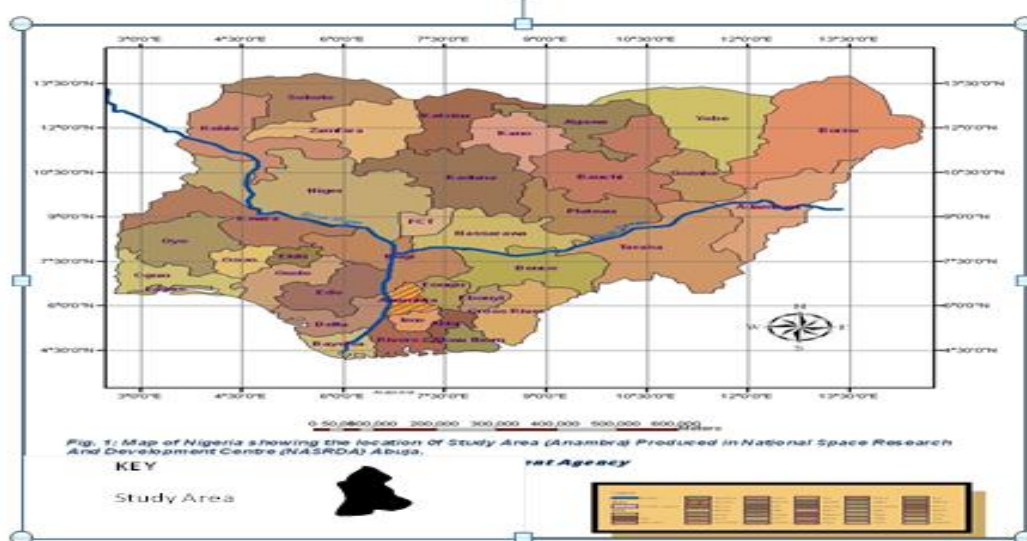


Figure1.1 Map of Nigeria, showing Anambra State (Study Area)

Source: National Space Research and Development Agency (2013)

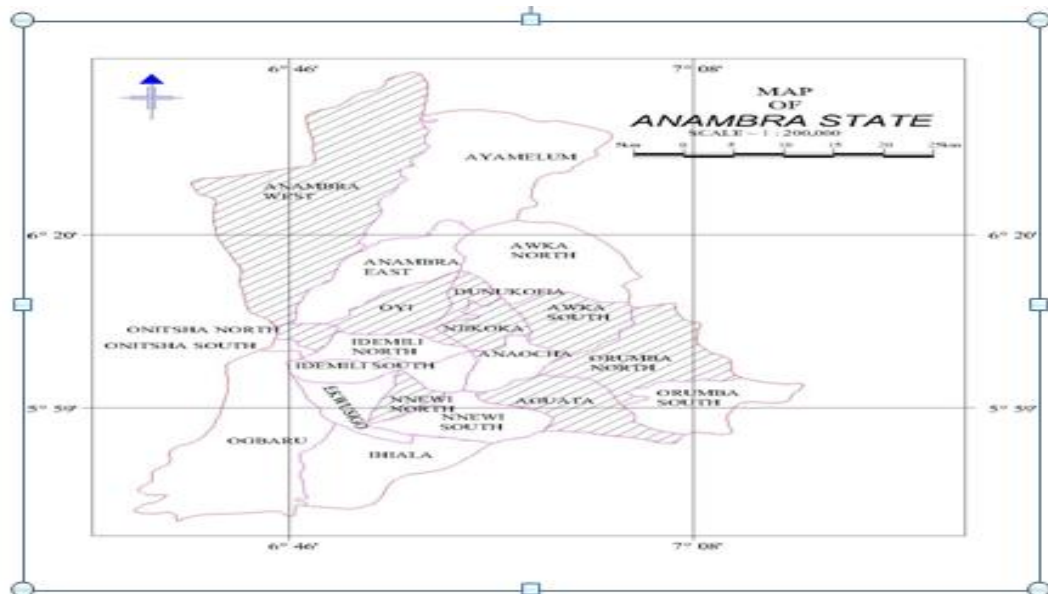


Figure.1.2: Map of Anambra Showing the selected Local Government Areas.

Source: Surveying Department, Nnamdi Azikiwe University, Awka.

3.0: MATERIALS AND METHOD

Data for the research were sourced through primary and secondary means. The study adopted the survey research method for data collection. The sample technique involved the simple random sampling applied on a targeted population of 3,267 staff of the Anambra state secretariat buildings. The sample size of 360 was determined using the Taro Yamane Formula. With the aid of SPSS software version 16, data were analyzed using simple percentages, frequencies and mean score.

4.0: RESULTS AND DISCUSSION

Table 1.1 Staff Strength of the Targeted Nine Local Government Areas

LGA	Admin.	Finance	Edu/Soc	Health	Agric	BPRS	Works	Total
Aguata	121	85	37	97	15	3	23	381
Anambra West	102	67	26	81	13	7	48	344
Awka South	209	129	56	105	24	11	27	561
Dunukofia	122	67	36	69	13	5	25	337
Nnewi South	74	35	17	77	14	6	14	237
Njikoka	113	120	56	109	28	16	26	468
Orumba South	60	32	17	70	19	4	16	218
Onitsha North	129	101	44	106	15	5	34	454
Oyi	79	35	28	78	14	4	29	267
<b>Total</b>								<b>3,267</b>

Source: Anambra State Local Government Service Commission, Awka.

Table 1.2 Agreements with Requirements for an Office Building

S / N	Building attributes	SD		D		Not Sure		A		SA		Mean	Remark
		F	%	F	%	F	%	F	%	F	%		
1	Adequate thermal comfort	3	0.8	4	1.1	2	0.6	117	32.5	234	65.0	4.5972	Agree
2	Access to nature, view and daylight	2	0.6	2	0.6	2	0.6	138	38.3	216	60.0	4.5667	Agree
3	Sensory change and variability	1	0.3	1	0.3	8	2.2	130	36.1	220	61.1	4.5750	Agree
4	Colour	2	0.6	2	0.6	1	0.3	216	60.0	139	38.6	4.3556	Agree
5	Noise control	0	0	1	0.3	0	0	139	38.6	220	61.1	4.6056	Agree
6	Privacy in an office	4	1.1	16	4.4	58	16.1	72	20.0	210	58.3	4.3000	Agree
7	Accessibility	2	0.6	3	0.8	0	0	140	38.9	215	59.7	4.5639	Agree
8	Human factor and ergonomics	0	0	0	0	3	0.8	151	41.9	206	57.2	4.5639	Agree
9	Good indoor air quality	0	0	0	0	5	1.4	149	41.4	206	57.2	4.5583	Agree
10	Choice of office	1	0.3	10	2.8	33	9.2	104	28.9	212	58.9	4.4333	Agree
11	Convenience/ toilet facility	0	0	0	0	0	0	128	35.6	232	64.4	4.6444	Agree
12	Environmental sustainability	1	0.3	1	0.3	0	0	126	35.0	232	64.4	4.6306	Agree
13	Energy and power	0	0	0	0	0	0	134	37.2	226	62.8	4.6278	Agree
14	Health and safety	0	0	0	0	0	0	148	41.1	212	58.9	4.5889	Agree
15	Aesthetics	0	0	0	0	6	1.7	142	39.4	212	58.9	4.5722	Agree
16	Adequate security	0	0	0	0	0	0	150	41.7	210	58.3	4.5833	Agree
17	Flexibility and adaptability	0	0	0	0	0	0	141	39.2	219	60.8	4.6083	Agree
18	Functionality in general	0	0	0	0	2	0.6	142	39.4	216	60.0	4.5944	Agree

Source: Researcher’s field survey, (2017)

It could be observed from table 1.2 that almost all the respondents agreed that the listed building attributes are requirements for an office building with a minimum mean score of at least 4.5 in favour of each attributes. This apparently implies that the above attributes are requirements for an Office Building according to the views (responses) of the respondents.

Table 1.3 The Extent to which the condition or performance of office building affect performance in the offices?

S/ N	Office operations	V Low		Low		Critical		High		V High		Mean	P er ce nt
		F	%	F	%	F	%	F	%	F	%		
1	Organizing office	17	4.7	15	4.2	190	52.8	112	31.1	26	7.2	3.3194	66

	operations and procedures													.388
2	Controlling correspondences	38	10.6	55	15.3	145	40.3	108	30.0	14	3.9	3.0139	60.278	
3	Designing filling system	104	28.9	126	35.0	98	27.2	20	5.6	12	3.3	2.1944	43.888	
4	Receiving official phone calls	120	33.3	141	39.2	62	17.2	25	6.9	12	3.3	2.0778	41.556	
5	Typing documents and filling	20	5.6	32	8.9	154	42.8	102	28.3	52	14.4	3.3722	67.444	
6	Receiving and sending mails	82	22.8	94	26.1	84	23.3	74	20.6	26	7.2	2.6333	52.666	
7	Schedule appointments	74	20.6	82	22.8	105	29.2	99	27.5	0	0	2.6361	52.722	
8	General administrative functions	7	1.9	10	2.8	141	39.2	112	31.1	90	25.0	3.7444	74.888	
9	Managing and administering budgets	11	3.1	14	3.9	150	41.7	121	33.6	64	17.8	3.5917	71.834	
10	Processing applications for government benefits	10	2.8	20	5.6	164	45.6	120	33.3	46	12.8	3.4778	69.556	
11	Bookkeeping	102	28.3	124	34.4	86	23.9	34	9.4	14	3.9	2.2611	45.222	
12	Operating office machines	30	8.3	40	11.1	120	33.3	115	31.9	55	15.3	3.3472	66.944	
13	Communication processing	14	3.9	18	5.0	147	40.8	122	33.9	59	16.4	3.5389	70.778	
14	Organizing maintenance procedures	12	3.3	97	26.9	123	34.2	108	30.0	20	5.6	3.0750	61.500	
15	Others specify	7	1.9	11	3.1	184	51.1	140	38.9	18	5.0	3.4194	68.388	
<b>Cluster mean and percent</b>												3.047	60.937	

Source: Researcher's field study (2017)

Table 1.2 presents the extent to which the conditions and performance of office building affects the user performance (respondents) in the study area. The table reveals that the respondents had the lowest effect of performance in designing filling system with a percentage of about 43.888% while it affected their performance highly in general administrative functions with 74.888%. The overall extent to which the respondents were affected is 60.937%. This means that the general building performance greatly affect user performance.

## 5.0: CONCLUSION AND RECOMMENDATIONS

- 1) The performance of the state public buildings has largely affected the performance and general office operation of the staff/ users.
- 2) There is also an observed relationship between the state public office building performance and the user productivity.

Based on the findings of the research, the following recommendations are made as effective and efficient measures of meeting user needs and satisfaction in public office buildings in Anambra State.

- (1) There is need for the government to regularly carry out building performance evaluation to ascertain how well public office buildings are serving the needs of the user and to identify major deficiencies in its overall performance through feedbacks from users.
- (2) The Government should map out adequate recourses for engaging facilities management professionals to take charge of the management of public buildings as the process takes holistic view of the dynamics between people, process and environment. Hence, it will create a conducive and comfortable environment in carrying out the organizational core business.

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