An Examination of the Challenges of Post Occupancy Evaluation of University of Benin Staff Quarters, Benin, Nigeria

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ABSTRACT

The research examined the challenges of post occupancy evaluation of University of Benin Staff Quarters. It identified the problems associated with post occupancy evaluation of buildings. The data for this study was collected through structured questionnaires administered on occupants of the Senior and Junior Staff Quarters of the University of Benin which were 209 and 57 respectively. The data collected was analysed using descriptive statistics such as Frequency Distribution Table, Mann Whitney U and Factor Analysis. The study revealed that occupants of the Senior Staff Quarters opined that the major problem associated with Post Occupancy Evaluation (POE) was that POE is not regarded as part of an architect's "normal services (ranked 1st with mean value of 4.5303). The study further revealed that occupants of the Junior Staff Quarters were of the opinion that the major problem associated with POE was that POE does not fall into the skill set of any particular field of study (ranked 1st with mean value of (4.9200). It is therefore recommended that POE should be embedded into all construction projects to make built environment better and more collaborations should be encouraged among professionals in built environment.

Key Words: Post Occupancy Evaluation, University and Buildings

1.   INTRODUCTION

Post occupancy Evaluation (POE) is a way of providing feedback throughout a building's lifecycle from initial conception to occupation. Watson (2003) noted that post-occupancy evaluation is a systematic evaluation of opinions about buildings in use, from the perspective of users. According to Ajayi and Ekundayo (2006), education is widely accepted as a major instrument for promoting socio economic, political and cultural development in Nigeria. In the view of the importance and significance of education to every nation, Abisuga (2013) noted that educational buildings, facilities and its environment must be accorded with the highest premium for effective functioning and productivity. Thus, a completed and designed building in a higher educational institution should be able to perform its functions in the manner that will ensure satisfaction for its occupants and ensure effective function at all times (Nawawi and Khalil, 2008). Hence, like any other living species, humans are organisms adjusting to a dynamic, ever-changing environment, and the interactive nature of relationships between people and their surrounding should be considered in design of most educational buildings and facilities.

Evaluation and feedback are the foundations for the continuous improvement in building procurement sought by the Higher Education sector. Over time, several measures have been adopted towards solving the problem of

post occupancy evaluation of properties. Such methods amongst others include building monitoring to support the findings of the user surveys and assess the level of success of design strategies in meeting design performance targets or reference baselines (Teasdale, 2013). Preiser and Schramm (2002) noted that post occupancy evaluation has evolved in some form since people began occupying buildings. Its association with relatively systematic assessment of how well a building performs on explicit criteria is more recent, but has existed over the past 30 years, a technique by which design practitioners could learn from their past mistakes and successes alike. However, Post Occupancy Evaluation (POE) is confronted by a number of challenges such as not falling into the skill set of any particular field of study, fragmentation of the construction sector which does not allow easy adoption of POE amongst others. This study intends to examine the challenges associated with the use of POE in University of Benin, Nigeria.

2.   LITERATURE REVIEW

From an Architectural perspective, the Royal Institute of British Architects (1991) – RIBA's Research Steering Group defined Post-Occupancy Evaluation as "a systematic study of buildings in use to provide architects with information about the performance of their designs and building owners and users with guidelines to achieve the best out of what they already have". According to Baird (2001), POE is a generic term for the assessment of existing buildings and facilities. It assesses how good buildings match users' needs and identifies ways to improve the overall processes of erecting buildings to satisfy its intended purpose (Olatunji, 2013). Preiser (2002) noted that the U.S Federal Facilities Council described "Post-Occupancy Evaluation as a process of systematically evaluating the performance of buildings after they have been built and occupied for some time".

Ilesanmi (2016), researched on post-occupancy evaluation and resident's satisfaction with public housing in Lagos, Nigeria. The methodology involves an expert rating appraisal conducted by four evaluators and a survey of residents' satisfaction. Ten performance criteria were developed and used in assessing the characteristics of the residential environments. Data relating to residents' satisfaction were obtained by means of structured questionnaire administered 806 household heads. The data were analysed using descriptive and inferential statistics. The study revealed a gap in quality between the medium and low-income estates. The results also showed that 62 per cent of the physical characteristics of the residences are highly correlated with residents' satisfaction (r = 0.62).

Adewunmi et al. (2011) also carried out a POE on the facilities of postgraduate student hostels in Nigeria. The findings of their study revealed that the respondents of the study were satisfied with cleanliness, lighting, comfort and noise levels, among others. Furthermore, Yewande *et al.* (2011), undertook a study on Post-Graduate hostel facilities in the University of Lagos, Nigeria, and problems constraining the use of POE in Nigeria indicated that there is inadequate implementation of regulations needed to ensure that the conditions of buildings are improved. Jiboye (2012) examined post occupancy evaluation of residential satisfaction in Lagos. The data elicited was analysed using Chi-square. The result of the study revealed that the quality of certain physical characteristics in the housing environment is imperative thereby influencing the level of residents' housing satisfaction

Oladiran (2013) conducted a POE study on eleven students' hostel accommodation and their users' satisfaction in the University of Lagos. The objectives of the study are to investigate students' hostel accommodation and

their users' satisfaction, to examine the additional facilities provided in the hostels, to pinpoint the problems of the users and that of the facilities managers in managing the hostels. The population of the study is the students of the University of Lagos and the facility managers; while the sampling frame is the student's resident in the institution-owned hostels and the facility managers of such hostels in the main campus of the University. Descriptive and inferential statistics tools were used to analyze the data. The study revealed that the content of hostels accommodation in the University of Lagos includes bathrooms, common rooms, bedrooms, reading rooms, kitchen and fixtures. There is also a sparse availability of laundry, pantry and meeting room in some of the hostels. The level of satisfaction of the users with the hostels accommodation is "good" in term of noiselessness, indoor temperature, natural lighting, ventilation and water supply; while it is "fair" with electrical fittings, space, cleanliness and comfortability. This study will add to the existing body of knowledge on the challenges associated with POE of institutional buildings.

3. METHODOLOGY

The data for this study was obtained from occupants of the Junior and Senior staff quarters of the University of Benin, Nigeria. As ascertained in the record book of The University, there are 209 and 57 staff living in the Senior and Junior Staff Quarters, totalling 266 occupants and the entire population was adopted as the sample size as suggested by Isreal (2003) cited in Adebisi, Oletubo, Alade, and Ekpekpe (2017) which noted that the entire population would have to be sampled in a small population to achieve a desirable level of precision. Descriptive statistics in form of frequency distribution table and Mann Whitney U were adopted to analyse the data gathered.

4. DATA ANALYSIS AND DISCUSSION OF RESULTS

This section of the study presents the analysis of data collected from the study area and the discussion of results using various statistical tools such as frequency, mean score and standard deviation for ranking.

4.1 Questionnaire Administration

Table 1: Number of Questionnaires Administered and Retrieved

Respondents	Number Administered	Number Retrieved	Percent
Occupants of Senior Staff Quarters	209	132	63.15
Occupants of Junior Quarters	57	50	87.7
Total	*266*	*182*	*68.42*

Source: Field Survey, 2021

Table 1 therefore shows the number of questionnaires distributed and retrieved. Out of the 209 questionnaires administered on the occupants of Senior residential staff quarters at the UNIBEN, 132 were retrieved representing 63.15%. On the other hand, 50 out of the 57 questionnaires administered on the occupants of the junior staff residential quarters were retrieved representing 87.7%. On a general note, 182 out of the 266 administered questionnaires on the target population were retrieved representing 68.42%. This suggests a fair rate of response, thus giving sound footing for further analysis.

4.2   Background Information of the Respondents

Table 2: Socio-Economic Characteristics of the Occupants of Senior and Junior Residential Staff Quarters at the UNIBEN

Socio-Economic Characteristics	Occupants of Senior Staff Quarters		Occupants of Junior Staff Quarters	
	Frequency	Percent	Frequency	Percent
MARITAL STATUS				
Single	12	9.1	8	16.0
Married	115	87.1	41	82.0
Divorced	5	3.8	1	2.0
Widow	-	-	-	-
Widower	-	-	-	-
Total	*132*	*100.0*	*50*	*100.0*
GENDER				
Male	123	93.2	47	94.0
Female	9	6.8	3	6.0
Total	*132*	*100.0*	*50*	*100.0*
AGE				
18-26 Years	9	6.8	3	6.0
27-34 Years	21	15.9	7	14.0
35-42 Years	72	54.5	28	56.0
Above 43 Years	30	22.7	12	24.0
Total	*132*	*100.0*	*50*	*100.0*
EDUCATIONAL QUALIFICATION				
O.N.D	-	-	-	-
H.N.D	-	-	-	-
B.Sc	50	37.9	26	52.0
M.Sc	42	31.8	24	48.0
PhD	40	30.3	-	-
Total	*132*	*100.0*	*50*	*100.0*
DURATION OF OCCUPATION OF THE PROPERTY				
1-5 Years	39	29.5	13	26.0
6-10 Years	54	40.9	18	36.0
11 - 15 Years	39	29.5	19	38.0
16 Years and Above	-	-	-	-
Total	*132*	*100.0*	*50*	*100.0*

Source: Field Survey, 2021

Table 2 presents the result for the socio-economic characteristics of the occupants of senior and junior staff residential quarters at the UNIBEN. Majority (87.1%) and 82.0% of the respondents of the senior and junior residential staff quarters are married. About 77.2% and 80% of the senior and junior staff quarters were 35 years and above, all having a minimum of higher education qualification. Also, above 70% and 78% of the senior and junior residential staff quarters' occupants had lived in the quarters for 6 years and above. These characteristics infer that the respondents were mature, knowledgeable who had occupied the residential quarters long enough. Thus, the information so supplied by them for this study can be relied upon.

4.3   CHARACTERISTICS OF THE STAFF QUARTERS IN THE UNIVERSITY OF BENIN.
The characteristics of the staff quarters which are the focus of this current research were further examined and the result of the study is as presented in Tables 3 and 4.

Table 3: Number and Description of the Residential Staff Quarters in the University

S/N	Staff Quarters	Number/Total
	SENIOR STAFF QUARTERS	
1	Professorial Quarters with Boys Quarters	15
2	A Quarters with Servers' Quarters	50
3	B Quarters with Servers' Quarters	81
4	6 No Blocks of 3 Bedroom flats at Ugbowo with Servers' Quarters	36 No Flats
5	3 Bedroom flats at EDPA Ugbowo with Servers' Quarters	11 Nos Flats
6	3 Bedroom Flats at G.R.A with Servers' Quarters	16 Nos
	Sub Total	*209*
	JUNIOR STAFF QUARTERS	
1	2 Bedroom Flat	44 Nos Flats
2	One Bedroom Flat	13 No
	Sub Total	*57*
	GRAND TOTAL	*266*

Source: field survey, 2021

The result from Table 3 revealed that there were two (2) categories of residential staff quarters at the UNIBEN which are for the Senior and Junior Staff respectively. The Senior residential staff quarters comprise of the detached houses with servants' quarters attached which were 15 units in number while there were 50 units of blocks of flats (A Quarters) with servers' quarters and 81 units of block of flat (B Quarters) with servers' quarters. The senior staff quarters also have 6 blocks of 3 bedroom flats at Ugbowo with servers' quarters making a total of 36 flats. There are also 3 bedroom flats at gbowo with servers' quarters making 11 units of flats and 3 bedroom flats at G.R.A with servers' quarters which comprises 16 units of flats. In total, the senior staff quarters have a total of 209 units. The junior staff residential quarters have 44 units of 2 bedroom flats and 13 units of one bedroom flats totalling 57 dwellings units which brings the total number of residences to 266 units. This shows that there is a relative spread in the types of residential properties within the residential staff quarters of the UNIBEN giving room for inclusive post occupancy evaluation of residential property types.

4.3   THE PROBLEMS ASSOCIATED WITH POST OCCUPANCY EVALUATION OF BUILDINGS

The research further examined the problems associated with post occupancy evaluation of buildings in University of Benin Staff quarters and the result is as presented in Table 3.

Table 3: Mann Whitney U Test of Difference on the Problems Associated with Post Occupancy Evaluation

Problems Associated with Post Occupancy Evaluation	Occupants of Senior Staff Quarters			Occupants of Junior Staff Quarters			Mann Whitney U Test			
	Mean	Std. Dev	Rank	Mean	Std. Dev	Rank	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
POE is absent in most institution buildings in Nigeria	3.3788	.84284	6th	4.4800	.50467	13th	936.000	9714.000	-8.207	.000**
Problems associated with disagreed and reliable indicators	3.4318	.64433	4th	4.8000	.40406	3rd	330.000	9108.000	-9/965	.000**
the problem of who ought to pay for the service and the question of when to conduct a POE	2.7727	.89606	18th	4.6600	.47852	5th	221.000	8999.000	-10.054	.000**
Professionals are unwilling to welcome other professionals to undertake a POE of their work.	2.6742	.95307	22nd	4.3400	.51942	15th	487.000	9265.000	-9.176	.000**
Self-preservationist stance of various professionals	2.7955	.87142	17th	4.1000	1.03510	20th	1185.000	9963.000	-6.924	.000**
Time taken as well as the period to conduct the POE	3.3939	.69631	5th	4.5800	.49857	7th	682.500	9460.500	-8.898	.000**
Cost implication of the POE process	2.8409	.83647	15th	4.1200	.93982	18th	1105.500	9883.500	-7.212	.000**
Segregation from professional curriculums	2.4924	.97680	25th	4.2800	.83397	16th	635.000	9413.000	-8.625	.000**
omission from present delivery expectation	3.0000	.74136	12th	4.6200	.60238	6th	422.000	9200.000	-9.472	.000**
Potential liability of the owner	3.2727	.79205	7th	4.6800	.47121	4th	472.000	9250.000	-9.420	.000**
POE does not fall into the skill set of any particular field of study.	3.0455	.72957	9th	4.9200	.27405	1st	70.000	8848.000	-10.657	.000**
Consideration of future maintenance requirements	3.0379	.80462	10th	4.8200	.38809	2nd	180.000	8958.000	-10.215	.000**
the absence of POE specialists"	3.0455	.78986	9th	4.2200	.81541	17th	1152.000	9930.000	-7.136	.000**
the uncertainty and difficulties in the selection of indicators and feedback techniques have slowed their adoption	2.5909	.89915	23RD	4.5000	.73540	11th	429.500	9207.500	-9.312	.000**
The fragmentation of the construction sector does not allow easy adoption of POE	3.4394	.65682	3rd	4.5200	.67733	8th	956.000	9734.000	-7.940	.000**
The non-existence of a 'one-size fits all POE' does not exist	2.5303	1.0296	24th	3.6400	.69282	25th	1387.000	10165.000	-6.272	.000**
defending professional integrity	2.6970	.97244	20th	4.1000	.76265	20th	938.500	9716.500	-7.711	.000**
time and skills	3.0682	.86663	8th	4.5200	.67733	8th	699.000	9477.000	-8.543	.000**
fragmented incentives and benefits within the procurement and operation processes	2.9015	.90680	13th	4.1200	1.00285	18th	1263.000	10041.000	-6.717	.000**
lack of agreed and reliable indicators	2.8030	1.1487	16th	3.6800	.62073		1970.000	10748.000	-4.422	.000**
potential liability for owners	2.4470	1.0062	26th	4.0400	.87970	22nd	850.000	9628.000	-7.940	.000**
exclusion from current delivery expectations	2.8485	.92038	14th	4.5000	.73540	11th	597.500	9375.00	-8.798	.000**
exclusion from professional curricula.	2.2955	1.0392	27th	3.5800	.78480	26th	1216.500	9994.500	-6.784	.000**
absence of POE on the educational curriculum as a barrier to POE adoption	2.7045	1.0964	19th	3.9800	1.03982	24th	1273.000	10051.000	-6.631	.000**
a gradual phasing out of POE in real estate education	3.0152	.95697	11th	4.4200	.92780	14th	890.000	9668.000	-7.782	.000**
POE is not regarded as part of an architect's "normal services	4.5303	.87753	1st	4.0400	1.19455	22nd	2435.000	3710.000	-3.195	.001**
professional liability	4.4015	.87248	2nd	4.5200	.67733	8th	3152.500	11930.500	-.532	.595

Source: field survey, 2021

The result from the study revealed that occupants of the Senior Staff quarters opined that the major problems associated with POE include; POE is not regarded as part of an architect's "normal services (4.5303); professional liability (4.4015); The fragmentation of the construction sector does not allow easy adoption of POE(3.4394); Problems associated with disagreed and reliable indicators (3.4318) and Time taken as well as the period to conduct the POE (3.3939) which have been ranked 1st, 2nd, 3rd, 4th and 5th respectively.

From the occupants of the junior staff quarters perspective, the major problems associated with post occupancy evaluation include POE does not fall into the skill set of any particular field of study (4.9200); Consideration of future maintenance requirements (4.8200); Problems associated with disagreed and reliable indicators (4.800); Potential liability of the owner (4.6800) and the problem of who ought to pay for the service and the question of when to conduct a POE (4.6600) which have been ranked 1st, 2nd, 3rd, 4th and 5th respectively.

Table 3 further showed the results of the Mann Whitney U test of difference and the result revealed that there are significant differences in the opinions of the respondents on the problems associated with post occupancy evaluation.

5. Research Findings

This paper examined the challenges of post occupancy evaluation of University of Benin Staff Quarters, Benin. The study revealed that occupants of the Senior Staff quarters opined that the major problem associated with Post Occupancy Evaluation (POE) is POE is not regarded as part of an architect's normal services. On the other hand, from the perspective of the Junior Staff Quarters, the major problem associated with POE is that POE does not fall into the skill set of any particular field of study. This study further revealed that there is a significant difference in the opinion of occupants of senior and junior staff quarters in regards to the problems encountered in the use of POE.

6. CONCLUSION

This study examined the challenges encountered in the usage of post-occupancy evaluation of senior and junior residential staff quarters of UNIBEN, Nigeria. The study revealed that occupants of the senior and junior staff quarters opined to POE usage confronted with problems such as POE is not regarded as part of an architect's "normal services, POE doesn't fall into the skill of any particular field amongst others. Enlightenment and awareness programmes should be undertaken on POE and more collaborations should be encouraged among professionals in the built environment.

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