

Evaluation of Prototype Hostel Design: Users' Perspective

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Abstract:- Hostel designs globally tends to take a pattern of reproducing a sample in form of a prototype. There are various expectation from the users of these facilities especially students. The purpose of the study is to investigate prototype students' hostels in Bells University of Technology, Ota, Ogun State with a view to understanding the level of students' satisfaction. This research is limited to an institution with four number prototype hostel designs which will continually be reproduced in the future. Data gathering was done using survey method. Users of the hostels (students) were asked to report on their perceptions and experience of the design of the prototype hostel facilities via questionnaire. A sample size of 300 students were randomly selected. Building performance criteria were adopted through literature review and the satisfaction survey was based on the students' experience and feedbacks. Findings show that users of the prototype hostels are mostly youth ranging from 18 to 29 years old and are also mostly undergraduate students. The respondents rated the electricity supply and number of the rooms as very adequate with mean ratings of 4.22 and 3.84 respectively. The security measures put in place were however viewed as inadequate with a mean score rating of 2.45. despite its inadequacy, the student expressed satisfaction with the security/safety at 3.41 mean score as this allows them more freedom. Areas addressed are effective hostel facility design, maintenance guide and manual for users, as well as safety, and sanitary guide for users. These give clues to inform better performance of the buildings from users' perspective. This study provides students perspective of prototype hostel design with a view to improve future designs. The findings of this study will help management of institutions, and stakeholders involved in the design and construction of hostels to improve on the quality of hall of residences for the satisfaction of the end users (students).

Keywords:- Hostel, Perspective, Prototype, Satisfaction, Users.

I. INTRODUCTION

A hostel is accommodation specifically designed to accommodate students for living with attached facilities such as toilets, kitchen, laundry, communal lounge etc. [1]. Hostel designs are conceived as a measure to keep students within the learning environment to facilitate ease of access to educational facilities and services. [2] buttressed this assertion as hostel accommodation enables heterogeneous students to learn from

each other and thereby promoting peer interactions required for human development. [3] stated that the University residential environment affords students to participate in many social activities like sport, use of cafeteria and leadership training opportunities like student union and religion associations. Hostel facilities represent one of the core facilities in institution of higher learning. This was corroborated by [4] that student on-campus housing has been described as the bulk of the University built environment as it represents the largest facility asset of an institution. Hostels within academic learning are provided for diverse reasons. [5] opined that students housing offers security, privacy, adequate space and is meant to fulfil students' need and aspirations concerning housing. Beyond its shelter function, student hostels also create heterogeneous setting for social interaction and development.

[6] opined that the provision of hostel accommodations enables the students of diverse culture and exposures to come together and enhance their academic and behavioural attitudes. [3] revealed that hostel accommodation enhances academic success, improves students' social value through enhanced interactions (especially students from poor background), exposes students to resource management, and prepares students for self-reliance and leadership resilience. Invariably, the provision of student hostels extends beyond provision of shelter to include other social and cultural benefits to the student population. [7] noted that student housing is a contributory factor to students' all-round development in tertiary institutions. The housing provided is expected to meet certain minimum requirements which can be perceived through expression of happiness and satisfaction of the occupants. [8] indicated the need for the Government and University authorities to investigate the accommodation issues faced by the students because of shortage and poor-quality housing and how it could affect the students.

The need for the evaluation of students' hostel is to ascertain the building level of performance and ability to satisfy and meet the needs of the student population of Bells University of Technology, Ota, Ogun State, Nigeria. The value of a post-occupancy evaluation is to improve how buildings are constructed by reducing design and maintenance costs, enhancing occupant satisfaction, comfort, and performance, and to increase return on their investments. This evaluation differs from other types of building performance evaluations because it focuses on the needs and requirements of building occupants including health, safety, security, and functionality [9]. [10] noted that post-occupancy evaluation has widely been used in assessing user needs of buildings in

developed countries. However, there are still limited empirical works on post-occupancy evaluation of students’ hostel especially in private tertiary institutions. This therefore represents a gap in knowledge which this study intends to fill.

II. METHODOLOGY

The study carried out using survey research. Data was derived through questionnaire filled by students who reside in the prototype hostels. Observation was also carried out in the study area (Bells University of Technology, Ota, Ogun State). A total of 300 questionnaires were used for the purpose of data collection. 278 were dully filled and thus used for the data analysis representing approximately 92.6% of total questionnaires administered. A five-point Likert Scale was used for the purpose of this study to determine the condition of hostel facilities, adequacy of hostel facilities and the level of student satisfaction with their hostel. The questionnaire used in the study comprised four sections (A-D). Section A contained information on the socioeconomic characteristics (e.g., gender, age, academic level, financial support (sponsorship), and length of stay of respondents. Section B had questions related to housing characteristics such as the size of room, number of students per room, perimeter fencing, waste disposal, water supply. Section C elicited information from the respondents on hostel adequacy such as room, fire safety and security measures, electricity and water supply, sanitary/drainage, and open/green spaces. Section D of the questionnaire elicited responses from the respondents on satisfaction such as design and layout of hostels (bathroom, toilet etc.), safety & security of life and properties, facilities condition & availability (electricity, water), distance to other facilities (i.e., lecture, shopping area), room (ventilation, privacy, size, occupant number), maintenance & management, rules & regulations. Descriptive statistics were used to analyse data derived from the questionnaire, generating frequencies, percentages of the socio-economic characteristics of respondents, typologies and sizes of housing, and source and types of services of housing units. While correlation analysis was used to examine the relationship between the adequacy of the hostel and satisfaction.

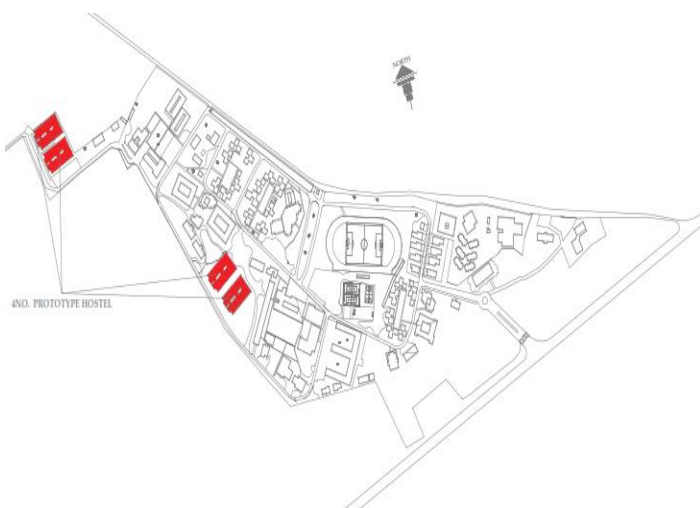


Figure 1: Map of Bells University of Technology, Ota showing highlighted location of the 4no. prototype hostels.

III. RESULTS AND DISCUSSION

➤ *Students’ Socioeconomic characteristics*

Table 1 shows the Students’ Socioeconomic characteristics in the survey. The age category of students within the University is presented. 55.8% of the respondents are male and 44.2% are female. This indicates that educational opportunities are available for both genders, and the study is gender inclusive. The age of student respondents across the prototype hostels in the Bells University of Technology, Ota are 4.7% for those less than 18 years, 87.8% for those who are 18 – 29 years old, and 7.6% for those who are 30 – 39 years. This shows that the dominant population of the institution are students between 18 – 29 years. The age cohort clearly indicates that respondents are young adults and are therefore expected to have in-depth understanding of the subject theme.

	Freq. N =278	%
<i>Sex of respondents</i>		
Male	155	55.8
Female	123	44.2
<i>Student Age Cohort</i>		
Less than 18 years	13	4.7
18 – 29 years	244	87.8
30 – 39 years	21	7.6
<i>Academic level</i>		
100 level	23	8.3
200 level	34	12.2
300 level	68	24.5
400 & 500 level (Final Year)	153	55.0
<i>Financial support (sponsorship)</i>		
Study loan	19	6.8
Parent	194	69.8
Scholarship	56	20.1
Self-Sponsor	9	3.2
<i>Length of stay of respondents</i>		
Less than 1 year	23	8.3
1 – 2 years	34	12.2
3 – 4 years	68	24.5
More than 4 years	153	55.0

Table 1 Students’ Socioeconomic characteristics

The students’ academic level indicates their present year of study in the institution across different fields. The academic level of the sampled students, as presented in Table 1, ranges from 100 level 8.3%, 200 level (12.2%), 300 level (24.5%), to 400 & 500 level (55.0%). This indicates that sampled students are drawn from all levels in the institution. It gives credence to the views of students, across different academic disciplines and levels considered in the study. Findings of the study established as presented in Table 1 that 6.8% students have support for their studies through study loan. Scholarship is accessed by (20.1%) of the sampled students at Bells University of Technology, Ota. Furthermore, 3.2% of the students sampled sponsor themselves for their studies in the institution while a total of 69.8% of the total sampled students are provided financial support by their parents.

3.1 Hostel Adequacy

The adequacy assessment data was derived from the questionnaire administered to sampled students at Bells University of Technology, Ota. Emphasis was placed on respondents' perception of level of adequacy of the attributes of their hostel. The mean score of hostel adequacy assessment indicated that room, fire safety measures, security measure, electricity supply, water supply, sanitary/drainage facilities and open space/green areas have mean value scores of 3.84, 3.64, 4.22, 3.76, 3.67, and 3.18 respectively (Table 2).

S/N	Attributes	Mean Score
1.	Room	3.84
2.	Fire safety measures	3.64
3.	Security measures	2.45
4.	Electricity supply	4.22
5.	Water supply	3.76
6.	Sanitary/drainage facilities	3.67
7.	Open space/green area	3.18

Table 2 Hostel Adequacy

Thus, shows that only one out of the 7 attributes investigated had a mean score up to 4.0. Meaning that the respondents perceived the facilities as adequate with electricity supply being the most highly rated with score of 4.22, this was buttressed by students' confirmation of consistent supply of electricity to the hostels from both public and private sources. However, regarding the level of adequacy of security in the hostels, the result of the analysis revealed that 62.2% of respondents perceived security as inadequate in the hostels with the least mean value score of 2.45.

➤ Student Hostel Satisfaction

The level of Satisfaction was examined with a set of 7 parameters, these are hostel design and layout, safety and security, facilities condition and availability, distance to other facilities, room (ventilation, size, and privacy), hostel maintenance and management, and rules and regulations. Figure 3 shows that the level of students' satisfaction was largely satisfactory in 5 parameters such as hostel design and layout, safety and security, facilities condition and availability, distance to other facilities within the University, and rules and regulations with mean value score of 3.38, 3.41, 3.74, 3.06, and 3.74 respectively. However, there is dissatisfaction with room (ventilation, size, and privacy), hostel maintenance and management with mean value score of 2.49 and 2.32 respectively. The level of dissatisfaction with the hostel maintenance and management among the respondents could be understandable as field survey of the hostel indicates situation of poor maintenance of physical components of hostel such as faulty plumbing and blocked drains (see plate 1 – 4). The overall satisfaction of student hostel indicated a low satisfaction at mean score value of 2.49.

S/N	Attributes	Mean Score
1.	Hostel design and layout	3.38
2.	Safety and security	3.41
3.	Facilities condition and availability	3.74
4.	Distance to other facilities	3.06
5.	Room (ventilation, size, and privacy)	2.49
6.	Hostel maintenance and management	2.32
7.	Rules and regulations	3.74

Table 3 Hostel Satisfaction

Correlation analysis using Person Product Moment was carried out to examine the relationship between hostel facilities condition, adequacy, and student hostel satisfaction. The result as shown in Table 4 reveals a positive correlation between the condition of facilities ($r=.038$), adequacy of facilities ($r=.073$), and student hostel satisfaction. This indicates that there is relationship between the condition of hostel facilities, adequacy and student hostel satisfaction. The positive relationship between these variables implies that as the condition of hostel facilities and adequacy improves the level of housing satisfaction of students with their hostel also improved. Basic deduction from the challenges of hostel facilities indicated detrimental implications on student productivity and academic performance. [1] and [4] opined that the availability of adequate student facilities especially hostels is one of the key factors that affects the overall academic performance of students on campus.

		Overall Satisfaction with Hostel
Hostel Facilities General Condition	Person Correlation	.038
	Sig. (2-tailed)	.532
	N	.278
General Adequacy Level of Hostel Facilities	Person Correlation	.073
	Sig. (2-tailed)	.223
	N	.278

Table 4: Facilities (Adequacy & Condition) and Hostel Satisfaction Correlations

IV. CONCLUSION AND RECOMMENDATIONS

This study examined student housing in Bells University of Technology, Ota, Ogun state, Nigeria. The result revealed that students are satisfied with a number of hostel attributes such as hostel design & layout, safety & security, facilities condition & availability, distance to other facilities, and rules & regulations but there is some level of dissatisfaction among the students with regards to the hostel attributes such as room (ventilation, size, privacy), and Hostel maintenance and management. The study established that facilities are in fairly good conditions. However, there are noted cases of hostel maintenance challenges which includes plumbing defects, unkept lawn, lack of perimeter fencing among others. There is a need to address these identified challenges and ensure conducive student housing environment. The study provides measure to address these challenges with the following recommendations.

- i. Provision of additional hostel facilities are required by the students.
- ii. There should be regular inspection and periodic maintenance to reduce the challenges and incidence of breakdown of facilities.
- iii. The University management need to erect perimeter fencing around the various hostel, this will ensure that the hostel security is further enhanced.
- iv. Reduce the level of room occupancy to avoid overcrowding which can contribute to an unhealthy environment, which could eventually cause the fast spread of some diseases especially viral diseases.

Finally, the understanding of users' adequacy assessment will provide vital information on management of existing hostel and information on new hostel development.

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