User's Satisfaction Of Higher Educational Buildings In Nigeria: A Case-Study Of Nnamdi Azikiwe University Awka

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Abstract—**Buildings are important facilities which stand to represent a substantial percentage of most tertiary institutions assets, user needs and operating costs. Buildings are also key functional assets in educational institutions; therefore the assessment of user's satisfaction of these valuable assets is very vital. However, in spite of the crucial role of these buildings in the education and construction sector of the economy, most educational buildings in Nigeria are in duplicable conditions as a result of poor performance. Presently, studies on user's satisfaction of buildings have not been conducted in sufficient details for educational buildings in Nigeria, particularly buildings at Nnamdi Azikiwe University Awka. The research is aimed at developing a detailed assessment of user satisfaction of higher educational buildings in Nnamdi Azikiwe University Awka main campus to improve practice and design protocols. The study was carried out at Awka, the main campus of the University. A total of 240 Questionnaires were returned for both the staff of the higher institution and the students. The sample techniques involved both purposive and stratified random sampling. The study reveals that lack of assessment of user satisfaction of completed and occupied buildings impacts negatively on learning and working experiences in the target institution. The study also reveals the need for effective indoor environmental quality enhancement in the building. The study has established a basic level of awareness and understanding among construction practitioners that user satisfaction assessment can be used as a tool for delivering strategic objectives in the management of educational buildings.**

Keywords—User's Satisfaction; Higher Education; Buildings.

I. INTRODUCTION

Quality of life is defined as a person's perception on his/her life and used synonymously with the concepts such as satisfaction and pleasure from life, well-being, living conditions, and happiness [1]. The higher education system as any other organization is trying to improve the quality of learning and its efficiency in the face of rising operating costs and increasing user satisfaction. In the past, not much effort was made to find out which specific factors are important to user satisfaction for product improvement but today, although it has become an acceptable norm and there exists increasing recognition that users are important in assets management, construction industry have been unable to effectively capture users' habits, traditions or reflect these in the product processes resulting to mismatch in product performance with user objective [2]. The quality of facilities in a learning environment determines the performance of the teacher's and the student's. If the facilities are inadequate or dysfunctional then the learning process will be hindered and academic productivity will decrease. The physical environment of universities should be catered for to improve the performance of staff and students since their productivity depends on their facilities and supporting services. The state of the physical estate of higher institutions is an indicator of strategic facilities management [3].

Buildings are systematic; they have many interacting systems and subsystem, both as part of the physical infrastructure and how human activity is organized within and in relation to them [4]. This implies that buildings constitute substantial percentages of educational activities. Hence, their performance level is very crucial to educational effectiveness. Most building facilities lack critical performance elements in their design and this impact significantly on user satisfaction in educational institutions. Higher educational buildings in Nigeria

have failed to achieve the aim for which they were constructed and in recent time it has not been deemed important to assess the overall satisfaction of the users of these higher educational buildings.

The primary purpose of buildings is to provide occupants with conducive, safe, comfortable, healthy and secured indoor environment to carry out different kinds of activities ranging from work, study, leisure and social interactions. In order to achieve this purpose, buildings are designed, planned, constructed and managed based on standards and specifications established by governments, professionals and experts who are supposed to have adequate knowledge of users' needs and expectations. Studies [5 and 6] have however shown that sometimes these standards and specifications do not conform to the changing needs and expectations of users; and thus users are not always satisfied with the performance of their buildings.

Therefore, assessment of user satisfaction is used to constantly examine the extent to which buildings are effective and efficient in meeting the needs and expectations of users [7, 8, 9, and 10]. Among other functions, user satisfaction relates clients' goals set by experts to the measurable effects of buildings on the users and surrounding environment [11]. It also helps in understanding how occupants feel about their buildings, and thus provides basic information on users' needs, preferences and satisfaction [12]. Put succinctly, user satisfaction primarily seeks to improve the quality of design, construction and management of buildings and by extension, promotes sustainable built environment. Therefore, the need for user satisfaction assessment to be part of the research agenda of architects and other professionals in the building industry cannot be overemphasized.

Consequently, most of the higher education buildings are not fit for the purposes for which they were erected. In line with the above, [13] lamented that students and teachers have become disinterested and apathetic to goals of learning. The unfit buildings have led to unproductive learning environments in the Nigerian university system [4]. The implication of this is that the learning environment in our universities is unhealthy which results to sick building syndromes in the users of the buildings as result of the indoor air quality.

Moreover, there is little or no consideration given to Internal Environmental Quality (IEQ) during the design and construction stage in higher education buildings. And due to this, facilities in educational institutions are inadequate for effective learning and teaching. All these constitute a problem that needs to be addressed by this research.

The study is limited to assessment of some of the higher educational buildings in the main campus area of Nnamdi Azikiwe University, Awka Anambra State, Nigeria. Any building under construction or yet to be occupied as at the time of this research was not studied. Buildings such as; classroom blocks, library, student hostel blocks, auditorium, offices, laboratories/workshops. These buildings were completed and occupied for at least twelve months and have been operated for full seasonal cycle (Dry and raining season). Basically students, academic staff, and non-academic staff can be categorized as users since they make use of the services and products provided by the university.

A. Overview of Higher educational system in Nigeria

Education is a fundamental tool for the construction of a knowledge economy and society in all nations [14]. Through its capacity to augment productivity, it increasingly constitutes the foundation of a country's competitive advantage. Education is a weapon of progress and success that touches the life of every individual, both young and old. Consequently, the teaching and learning of education, take place in buildings. This implies that, building represents a substantial percentage of most educational institutions assets [4].

However, the challenges of finance, efficiency, equity, equality and governance have frequently slowed down the potential of education to fulfil this responsibility in developing countries. These challenges are compounded by rapid changes in technology, globalization of trade and labour markets [15]. Nigeria's formal education system follows a 6-3-3-4 structure. This means that the duration of secondary education is six years made up of two three-year cycles and tertiary education for an average of four years. The basic policy with regard to structure, curriculum and school year is centrally determined. Other areas of educational delivery are modified to suit local requirements. Tertiary education in Nigeria is offered in universities, polytechnics and teacher training colleges.

The Federal Ministry of Education is responsible for the harmonization of educational policies and procedures of all states of the federation through the National council of education (NCE). The NCE is the highest policy making body in educational matters in the country and consists of the Federal minister of Education and all the state commissioners for education. It is assisted by the Joint Consultative Committee (JCC) on Education which is composed of all the federal and state directors of education, chief executives of education, parastatals and directors of university institutes of education. The committee is headed by a director of the Federal Ministry of Education and it advises the NCE on a wide variety of educational issues. The National Universities Commission (NUC) is a parastatal under the Federal Ministry of Education. It is responsible for the

development of universities in the country. In 2010, the university sector accounts for an enrolment of 1.25 million students or 52% of the total higher education system [16].The Nigerian higher education system, as of year 2020 consist of 170 universities; 79 polytechnics; 89 colleges of education; 26 monotechnics; 36 colleges of agriculture; 36 college of health technology. The Federal Ministry of Education oversees education policy as a whole, while the National Universities Commission regulates the activities in the university sub sector of the higher education industry [17].

Table 1: Higher Education Institutions in Nigeria as at 2020

TYPES	PUBLIC	PRIVATE	NUMBER
University	91	79	170
Polytechnic	35	44	79
College of Education	69	20	89
Monotechnics	24	2	26
College of Agriculture	36	-	36
College of Health Tech.	30	6	36
Total	321	143	472

Source: https://www.nuc.edu.ng, https://www education.gov.ng, https://www.nbte.gov.ng

B. User satisfaction based on performance evaluation of the buildings

Satisfaction studies cut across a wide range of disciplines in the management and social sciences as well as the built environment. Generally speaking, satisfaction is a subjective evaluation of the performance of products or services in meeting the needs and expectations of users or customers [18, 19 and 20]. It compares the benefits or values users or customers derive to that expected when a product or service is consumed. In a nutshell, satisfaction is a measure of the difference between the actual and expected performance of products or services in meeting users' needs and expectations from the users' or consumers' perspective during or after a consumption experience. In fact, according to the expectancy-disconfirmation theory, which most studies on satisfaction draw on, this means that if the performance of a product or service meets users' or customers' needs and expectations, the user or customer is said to be satisfied with the product and/or service, and vice versa [18].

Buildings like any other products are designed and constructed with lots of expectations by clients, professionals, users and the community. To clients, buildings require huge capital investment and are expected to bring returns on investment, while to professionals (e.g. architects, builders and engineers) buildings are products of their creativity and imaginative thinking. On the part of users and community, one crucial expectation is that buildings will meet their needs and aspirations by supporting their daily activities [11] and ultimately improve the aesthetic quality of the built environment. To this end, [9] noted that building performance evaluation (BPE) assesses all aspects of a building by identifying the major weaknesses and strengths of buildings from the end user's perspective [11 and 10], BPE contributes to improving the quality of buildings and building projects delivery process [11 and 8].

When a decision to procure a building is being considered, there are three factions of people involved; the designers, the clients and the end-users. Traditionally, there has been very little communication between the end-user and the other two groups. The designers and clients have made decisions without consulting the end-users who there-after found that the new buildings do not meet their needs and this leads to costly alterations of such buildings [21]. Success of a building is determined by the extent to which it meets the functional requirements of the end-user.

C. General user satisfaction elements of a building

The elements of building are those aspects of facilities that are measured, evaluated and used to improve buildings [11]. The variables considered in the evaluation process include functionality, accessibility, productivity, cost-effectiveness, aesthetics, flexibility and adaptability, health and safety, security and environmental concerns [22]. Building user's satisfaction therefore depends on the extent to which the building meets the expectations of the user in terms of the above measures and they further provide a framework which can track design decisions from the outset through to completion and occupation.

Functionality: Functionality is a property given to an artifact in order to create a practical effect [23].Functionality of educational buildings pertains to space needs and requirements, system performance as well as durability and efficient maintenance of building elements [4].The functional elements of the building directly support the activities within it, and they must be responsive to the specific needs of the organizations and users, both quantitatively and qualitatively. Functional elements deal with the fit between the building and the academic' activities. Therefore, clients' organizations and activities should

be supported by the performance of a wide range of functional building attributes and elements such as access, parking, spatial capacity, utilities, communications, Change /growth/ circulation, equipment etc. [24] argue that buildings functionality is a measure of the extent to which the space supports core business.

Accessibility: Accessibility of the built environment is paramount to the creation of a socially inclusive society [25]. Buildings and the environment facilitate social activities for everyone including disabled and older people. If some people are excluded from facilities that provide education, employment, entertainment and other services, then, discrimination will not only occur but also opportunities for integration will completely be eroded. Simply put, if disabled become unnecessarily dependent on others for support in using the built environment, integration will be lost. An inclusive building design considers peoples diversity and removes unnecessary barriers and exclusions in a way that benefits all.

Productivity: Productivity link users' activities and satisfaction with the physical environment [26].This deal with the perceptions and psychological needs of the users and how they interact with the facility, as there is undoubtedly an association between the productivity and behavior of the organization's most important asset, its users, and the effectiveness of the building which they occupy [27]. It is therefore important that the organization provides accommodation which satisfies the needs of the users throughout the facilities management life cycle. Issues such as privacy, security, the symbolism of buildings, social interactions, perceptions of density etc. are to be included in the assessment as productivity elements.

Cost effectiveness: Cost effectiveness is frequently assessed on the basis of the degree of competitiveness achieved in the procurement of services [28]. This means the selection of building elements on the basis of life-cycle costs. It means weighing options during concept design development and value engineering, basic cost estimating and budget control. The economics of building has become as complex as its design. Clients today require cost-effective buildings but this can be interpreted differently depending on interests and objectives. As an administrative and operational function, facility management performance will always be under pressure to reduce costs [29].

Health, Safety and security: The design and construction of safe and secure buildings is the primary goal of clients, designers and facilities managers. Health and safety in building evaluation elements refers to the physical protection of occupants and assets from man-made and natural disasters [30]. For educational buildings, [31] explains

that provision of portable water ensures that drinkable water is available to staff and students in an adequate number of locations; sanitary spaces means clean and separate spaces for men and women, functioning toilets which are available in sufficient numbers and locations; fire safety which means space for a functioning fire alarm system and egress for building occupants; emergency lighting refers to adequate space for a functioning emergency lighting system; secure design means space that protects the physical security of the building occupants and their belongings.

Flexibility and adaptability: In the life of the building, building evaluations are conducted to identify the reactions to changes, for example, deterioration of the building and functional change. Evaluations such as these, will often provide details of a specified time frame of activities to take place, and help to overcome the immediate problems of the built environment. The aspects of this area of project evaluation are history, planning intention, reasons for any delays-impact on organizational disturbances, expansion needs, tolerance/loose fit, preservation/adaptability. Users are becoming less tolerant of deficient or unsuitable buildings, and therefore may require identifying the changes to the existing building cycle.

Environmental Sustainability: This refers to the environmental performance of building elements and strategies. A major consideration in today's energy conscious world is the design of buildings that are environmentally responsible. [32] stated that sustainable building designs should demonstrate a commitment to innovation, use of passive design elements and active systems, materials, finishes and selections with the ultimate goal of eliminating any foot print on the environment. Design decisions on educational buildings should consider issues relating to optimization of energy use, site potential, protection and conservation of water, enhancement of indoor environmental quality and optimal maintenance practices.

Internal Environmental Quality: The internal environmental qualities of any building have a good role in determining the rate of satisfaction of the end users. [33] Carried out an indicative assessment of the existing indoor environmental qualities (i.e. thermal, acoustical, visual comfort and indoor air quality) of student housing facility at the campus of King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia. A user satisfaction survey was developed to obtain the students qualitative feedback on their experience with the designed indoor environment. The study found that the student residents were satisfied with the five main performance categories identified. Some interesting contentions about the physical aspects of learning spaces include:

Air Quality, Heating and Temperature: Temperature, heating and air quality are the most important individual elements for student achievement [34]. According to [35], ventilation and maintenance problems can trigger asthma, lethargy, an inability to concentrate, and drowsiness in students because allergens are not effectively removed from the atmosphere in the classroom, and high temperatures or inconsistent temperatures make students drowsy and sick or irritable. These problems are partially the result of building tighter buildings to counteract the loss of heat. The Environmental Protection Agency (EPA) identifies some such conditions as Sick Building Syndrome (SBS). Students and lecturers with asthma or allergies suffer the most when exposed to mould and mildew, but even those with no apparent sensitivity to these conditions suffer from lethargy from the buildup of carbon dioxide due to poor ventilation, and all suffer when the temperature is inconsistent between classes, or when classrooms are consistently too warm or too cold [36, 35]. [37] Asserted that these factors may affect not only the performance but also the overall health of students. "students in 'sick buildings' have been found to exhibit clear signs of sensory irritation, skin rashes, and mental fatigue – all factors with the potential of decreasing the ability of students to perform" [37].

Thermal comfort has been linked to academic achievement in several studies. Thermal conditions below optimum levels affect dexterity, while higher than optimal temperatures decrease general alertness and increase physiological stress [37]. McGuffey [38] set the threshold of thermal comfort at 80 degrees F. Temperatures above 80 degrees F tend to produce harmful physiological effects that decrease work efficiency and output. [38].Temperature is also implicated in studies of sick building syndrome.

Acoustics: Good acoustics are a key to learning, but noise from the outdoors, mechanical noise, and noise generated from within the classroom because of the hard concrete block walls and concrete floor; make it difficult for students to learn. When acoustic quality in the classroom is poor, students may not be able to completely understand instructions from the lecturer, causing frustration, and poor performance [39]. [39] added that students with learning disabilities are at a greater risk of suffering the effects of poor acoustics in the classroom, but that teachers are also affected. "They may have to speak loudly to overcome background noise and may be less inclined to repeat information" [39]. HVAC blowers and breakout noise, caused by air vibrating in metal ductwork, are common sources of background noise. Chronic noise exposure impairs cognitive functioning, with numbers of studies finding noise-related reading problems, deficiencies in pre-reading skills, and more general cognitive deficits. [40].

Lighting: Natural light has been found to profoundly influence the body and mind by affecting our circadian rhythm, according to [35]. "It can alter our mood and is a major source of Vitamin D, required for strong bones and healthy teeth" [35]. Students exposed to maximum daylight were found to have learned much faster. A study by [41] indicated that both attendance and achievement were better in schools with full-spectrum light or full-spectrum with UV enhancement. Lighting has been linked to student behaviors as well as performance Students in the full-spectrum lit classrooms settled down more quickly and paid more attention to their teachers [42].

Colour: Colour remains the topic of some of the most optimistic claims about morale and efficiency. According to some research, the choice of the best use of colours is dependent on the age of students, as well as differences between males and females (males – bright colours, females – softer). Much research findings about colour is conflicting, and remains hotly debated [40].

II. STUDY AREA

Nnamdi Azikiwe University is one of the existing federal universities in Nigeria. According to [4], the university is known to be one of the fastest growing universities with vase development schemes and investments in building structures. In line with its growth rate, there has been serious increase in the rate of construction, from various access roads, to different type of buildings like, classroom blocks, lecture theatres/auditoriums, laboratories, workshops, libraries, hostels, and offices, recreational and medical centres. A significant proportion of the university's annual budget (about 12 percent) is spent on the development [4]. The writer maintains that, the built-up areas of the university have increased approximately by 40 percent over the last five years (2005-2010). Presently, studies on the users satisfaction of buildings have not been conducted in sufficient details for educational buildings in Nigeria particularly buildings in Nnamdi Azikiwe University Awka. This therefore, constitutes a problem and motivation for this research to ensure that value for money spent in the development of the university is maximized.

The University has a population of over twenty thousand students for both full time and part time programmes. The programmes are organised into 10 faculties, namely; Faculty of arts; Faculty of education; Faculty of engineering; Faculty of environmental sciences; Faculty of Health sciences; Faculty of law; Faculty of management sciences; Faculty of medicine; Faculty of natural sciences; and Faculty of social sciences. Other departments and units exist in the non-academic section of the university including the

academic and physical planning units; and building and works department. The staff strength is over ten thousand. Various development schemes and investments are already placing the institution as a leading University in South East Nigeria. The building and physical planning units design and manage the university buildings and provide a wide range of services that are essential to the development, operation, maintenance and care of estate premises, including engineering services. The university has a large estate but relatively little residential accommodation for the students because it was initially established as a non-residential institution. The efficient operation and management of buildings therefore constitute a challenge to the varied age as new constructions go on often in the university premises.

Physical facilities in terms of educational buildings include Libraries, Laboratories, workshop, offices, hostel blocks and conference hall etc.

> **1)   Classroom blocks:** These are blocks where classes of students are taught and other academic activities take place.

> **2)   Lecture   Theatres/Auditoriums:** They are large rooms or buildings where lectures are given and other public activities. They are specifically designed and constructed to slop, with rows of seats.

> **3)   Laboratories:** Buildings used for scientific and technological research, testing and experiments for practical skills.

> **4)   Workshops:** These are buildings were practical skills are taught and acquired, aimed at acquiring the intended manipulative skills and competences.   They are also, where things are made and repaired using tools and machines.

> **5)   Libraries:** Libraries are buildings where collectives of books, tapes, newspapers journals etc are kept, for people to read study and borrow.

> **6)   Hostels:** In this content, they are buildings that provide accommodation to students.

> **7)   Offices:** Offices are buildings or rooms, provided with chairs and desks for people to work.

These buildings in their totality make up an educational building.

III. METHODOLOGY

A total number of 266 questionnaires were distributed to both the staff and students of the university based on a stratified random sampling. Out of this number, 240 questionnaires were completed and returned which constitutes 90.2%. The rest of the questionnaires were either not properly completed or returned uncompleted. The Table below shows the population distribution of the respondents and the percentage response to the questionnaires.

Table 2**:** Population distribution of questionnaires and percentage response for each user

Group	Number of Questionnaires Distributed	Number of Questionnaires Received(responses)	Percentage distribution to total responses
Students	166	150	90.36%
Academic Staff	40	38	95%
Works and Services department	30	28	93.3%
Physical planning unit	10	8	80%
Bursary department	20	16	80%
Total	266	240	90.2%

SOURCE: Researcher's field work, 2020

IV. Data Analysis and Discussion

The respondents were asked questions relating to the indoor environmental quality. The responses to the question are made to check the rate of user's satisfaction to indoor environmental quality to the desired level and address such environmental issues as air quality, temperature, ventilation, room acoustics and lighting. Respondents were required to rate each variable or aspect of the indoor building environment on SS = Strongly Satisfied; S = Satisfied; N = Neutral; D = Dissatisfied; and SD = Strongly Dissatisfied. The responses are again presented and analysed in the following tables 2:

Table 3: **Aspects of Indoors Environmental Quality**

Aspects of indoor environment quality of the buildings	SS = Strongly Satisfied; S = Satisfied; N = Neutral; D = Dissatisfied; and SD = Strongly Dissatisfied.				
	SS	S	N	D	SD
	Ratings in percent (%)				
Air Quality	30	35	25	3	7
Ventilation	5	10	30	20	35
Temperature	8	5	15	32	40
Room Acoustic	6	9	20	35	30
Natural Lighting	45	30	20	2	3
Color	12	30	15	35	8
Artificial Lighting	25	33	26	10	6

Source: Researchers Field work, 2013.

Table 3 above shows that the users are strongly dissatisfied with temperature (40 percent) aspect of the indoor building environment. This is followed by ventilation (35 percent) and the room acoustic (30 percent). Most of the respondents are strongly satisfied with the natural lighting, with the highest rating of 45 percent. This is followed by air quality rated (30 percent). The dissatisfaction with temperature can be attributed to the tropical weather in the study area. Artificial lighting was rated highly as satisfied at (33 percent). The respondents are not satisfied with room acoustics which is rated as dissatisfied (35 percent). This means that the sound-carrying ability of the rooms is not acceptable and therefore needs improvement. It can be seen from the same table that the respondent's opinion about colour is much on satisfied (30 percent) and dissatisfied (35 percent). Modern university must design buildings and create spaces that attract students and one of the physical characteristics of a teaching and learning environment is the use of colour [4]. It is obvious from the respondent's responses that the building colours in the university should be made more attractive. The conclusion drawn from the Table is that the aspects of indoor building environment that is not satisfactory does not encourage effective teaching and learning in the university system.

Table 4: General Assessment of Buildings by the users

S/N	Assessment	Highly Adequate (5)	Adequate (4)	Inadequate (3)	Highly Inadequate (2)	Not sure (1)	Mean Score	Rank
1	General accessibility	5	15	35	45	-	2.81	6
2	Natural Lighting Comfort	25	60	15	-	-	4.10	1
3	Fitness for purposes	10	10	40	40	-	2.95	3
4	Improved quality and efficiency of work	5	15	35	40	-	3.0	2
5	Environmental sustainability	10	10	40	40	-	2.90	5
6	Provide adequate safety and security	5	15	35	45	-	2.80	7
7	Enhances teaching and learning	10	10	40	40	-	2.90	4
8	Artificial Lighting comfort	5	15	35	45	-	2.75	8
9	Increased Productivity	10	10	40	40	-	2.90	3
10	Aesthetics	5	5	30	55	5	2.50	9
11	How clean is the building	10	10	30	50	-	2.80	4

SOURCE: Researcher's field work.

The table 4 above shows that natural lighting comfort is adequate and ranked first. This implies that there are adequate provision of doors and windows that bring light in the buildings. Improved quality and efficiency of work is inadequate and ranked second. Fitness for purpose and increased productivity are ranked third. It implies that the buildings are not adequately fit for the educational purpose. "How clean is the building", and "enhances teaching and learning" were both ranked forth. According to respondent's assessment, environmental sustainability was ranked fifth. The "general accessibility" was ranked sixth and considered highly inadequate. It implies that the building is not generally accessible by the disabled users. "Aesthetic" was ranked least by the student users, as they consider the aesthetic aspect of the buildings highly inadequate for the present building

pattern. "Provides adequate security and safety" was ranked seventh in the assessment.

V. IDENTIFICATION OF BUILDING USER SATISFACTION ASESSMENT MEASURES AND BEST PRACTICES

The review of related literature and case study in this paper revealed and identified the key assessment measures and best practice criteria as fitness for purpose, accessibility, maintenance, adaptability and flexibility, funding/cost effectiveness, comfort/satisfaction, productivity, aesthetics, security, health and safety. The study did not reveal additional measures or best practices. Analyses of qualitative and quantitative data showed that the key measures for determining how well a building satisfies the users in the institutions is through the indoor environmental quality. However, there was neither a comprehensive benchmark instrument nor a national data base for the measurement of user satisfaction in educational buildings.

Generally, fitness for purpose in educational buildings is all broad and this includes accessibility to all including vulnerable and disabled users. The criteria for this include student's capacity; that is, sufficient learning spaces and support facilities to accommodate at least 95 percent of the student enrolment; learning spaces in terms of flexibility of classrooms, libraries, workshops and laboratories, comfortable spaces; for example, furniture, lighting, noise and temperature, new technologies, social spaces, staff spaces and community use. It also relates to operational layout; this refers to cost effectiveness, management and operational systems, feedback loops and design selection involving users. Educational buildings must also be symbolic and visually pleasing in terms of aesthetics.

VI. CONCLUSION

From the research it can be concluded that educational institutions are in the core business of knowledge impartation and advancement of learning. This is made possible through the use of space provided by buildings. The condition and functionality of the buildings is therefore critical for educational effectiveness. Assessment of user satisfaction of educational buildings ensures that buildings meet the infrastructural challenges of educational institutions to satisfy the users. This implies that the efficiency of buildings is not actualised in terms of occupancy costs but rather with respect to user's satisfaction. This study has shown that the level of perception and awareness of user satisfaction is low and thereby causes poor satisfaction in terms of quality standards and user expectations.

The general conclusion that can be drawn from the study therefore is that there is no systematic ways of assessing the user's satisfaction of educational buildings. If the user needs are to be satisfied, a detailed assessment and feedback mechanism must be put in place and frequently implemented.

VII. RECOMMENDATIONS

Based on the results of this study, the following recommendations are made as effective means of improving the user's satisfaction of buildings in the educational institutions Nigeria.

- The higher institutions should establish clear objectives of what the institutional buildings should be and communicate the plan to the parties involved in building service delivery. This will help the institutions to gather information on user needs or stakeholder expectations and implement them.

- It is recommended that design and construction professionals rethink the current practice of disbanding or quitting the stage once the building projects are completed.

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