Global Journal of Business, Economics and Management: Current Issues

Volume 11, Issue 3,(2021) 192-205

www.wjbem.eu

An exploratory assessment of university staff housing facilities management and maintenance culture

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Suggested Citation:
Oyetunji, A.K. & Oluleye, B.I. (2021). An exploratory assessment of university staff housing facilities management and maintenance culture**.** *Global Journal of Business, Economics and Management: Current Issues. 11*(3), 192-205 https://doi.org/10.18844/gjbem.v11i3.5603

Received from; July 31, 2021, revised from; September 9, 2021, accepted from; November 17, 2021
Selection and peer review under responsibility of Prof. Dr. Andreea Iluzia IACOB, Bucharest Academy of Economic Studies, Romania.

Abstract
Staff housing and its attendant facilities are essential aspects that define tertiary institutions of learning's quality and aesthetics. This study examines facilities maintenance culture in the Federal University of Technology, Akure staff housing. The study adopted a survey research design. Data for the analysis were sourced from the staff housing occupants and the institution's facilities maintenance department. The data collected were analysed with descriptive statistics. Findings revealed that the maintenance culture adopted for the ICT services, aesthetics management and waste disposal is shambles and moribund. Furthermore, the factors impeding these facilities' qualitative maintenance include careless attitude, improper facilities usage by end-users, inadequate funding and use of inferior materials for replacements. It can be concluded that the university adopts a breakdown facility maintenance culture rather than a preventive approach, thereby making these facilities deplorable. The study recommends that proper budgetary for maintenance, manual maintenance and more maintenance equipment are adopted to improve the facility's upkeep.

Keywords: Facilities management, maintenance condition, maintenance culture, staff housing, assessment

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1. Introduction

In any tertiary institution, student housing is considered an imperative and vital component; nevertheless, the role of staff housing has continuously been underemphasised (Akinsanya & Adewusi, 2017). Oluwunmi et al. (2012) averred that staff housing is a significant component of any tertiary institution. Abdul-Lateef et al. (2011) pointed out that housing plays a key role in educational institutions' academic and research performance. Similarly, Aghimien et al. (2019) affirmed that quality education is always supported by educational stakeholders' comfortability, indicating a function of housing facilities' quality. On reflection, the quality of housing facilities is controlled by the level of maintenance provided. Just as a human being, Aghimien et al. (2019) stated that housing facilities need proper care to serve their intended purpose. Maintenance is the upkeep of housing in a state it would perform its expected function. Seeley (1987) noted that failure to carry out routine maintenance has a spill-over effect on the building components and the occupants. In retrospect, housing maintenance involves technical and administrative work planned and monitored for the building's functionality (Ali et al., 2010). Odediran et al. (2012) also submitted that deterioration often sets in from completion despite the recent rejuvenation in housing. These buildings' design and structure deteriorations often lead to skyrocket maintenance costs and reduce the building life. Ali et al. (2010) further stated that a maintenance program is essential to conserve the investment value, build standards and even generate income.

The 1998 senior staff regulation of the Federal University of Technology, Akure mandated all building occupants to maintain their dwelling units and ensuring proper sanitation. Despite this mandate, building maintenance has received insufficient attention. The buildings' maintenance manual hardly exists and those in existence were not complied with (Ogunmakinde et al., 2013). Often, building designers do not consider the life span and service quality of the individual material components to be used for a building before including them in the design. This has affected the functionality of many buildings. Furthermore, contractors often neglect their role during construction, pursuing a new tender instead of focusing on executing the one at hand (Adejimi, 2005). However, building maintenance has also significantly been escalated by building owners who are in that habit of keeping the maintenance cost very low. This habit will have a tremendous effect on the building's functionality (Ogunmakinde et al., 2013).

One of the reasons for carrying out housing maintenance is to preserve the building functions and its aesthetics (Adejimi, 2005). However, Nigeria's maintenance strategy has suffered a significant setback compared to the fast-developing world (Ahmed, 2000). Furthermore, according to Odediran et al. (2012) and Kunya et al. (2007), housing in Nigerian universities lacks proper maintenance culture. The authority often considers building new apartment units instead of upgrading the existing ones. According to Oluwunmi et al. (2012), a well-maintained and adequate staff housing significantly improves productivity. Similarly, Akinsanya & Adewusi (2017) noted that housing is a crucial part of human life and one of the human survival determinants. Therefore, qualitative and well-maintained staff housing has a significant effect on the staff well-being, productivity and the University. According to Adenuga and Iyagba (2005), no housing facilities can be void of maintenance activities. However, the maintenance work could be reduced through proper design and execution. The primary factor affecting the maintenance of buildings in Nigeria tertiary institutions is lack of skilled personnel and inadequate funding (Ajayi, 2014). Maintenance of staff housing is a vital aspect of attaining optimum efficiency in tertiary institutions in Nigeria. Countless studies have been conducted on the

maintenance of hostels and lectures halls in tertiary institutions. However, research on staff housing facility maintenance is sparsely available.

From the above, there is an attendant need for research efforts to ascertain the housing facilities' maintenance condition for tertiary institutions. Therefore, this research seeks to assess the maintenance culture of staff housing facilities in Nigerian universities using the FUTA as a representative case. The state of the housing facilities, factors affecting their maintenance condition and ways to improve the maintenance culture were the central information sourced in this study. It is believed that the various stakeholders involved in staff housing maintenance would adopt measures from this study to improve the care of staff housing.

1.1. Maintenance of staff housing facilities

Building maintenance refers to tasks undertaken to ensure that every component and facility is reinstated to the required standard (British Standard Institution 3811, 1984). Maintenance is essential in the life of a building. Bamigboye (2006) opined that maintenance is the process of restoring a facility's operating state at a reduced expense to enhance such a facility's life span. Similarly, Ajibola (2009) also submitted that maintenance is a routine activity to keep a building facility in a good repair state. However, building maintenance entails identifying defects correctly, recommending the best remedies, possessing adequate knowledge of materials used and properly integrating policies to ensure sustainability. These features' non-presence has resulted in building deterioration, which is usually evident by physical and aesthetic decay (Kolawole, 2002).

Furthermore, Owolabi et al. (2014) noted that maintenance work is an activity that helps sustain the building life. Building maintenance is, however, a joint effort in both the private and public sectors. Ofori et al. (2015) observed that good housing maintenance work is in three stages: Planning and design, construction and maintenance. Over the years, while trying to perfect maintenance, researchers have diverging ideas on how building maintenance can be classified. For instance, Yuseni and Abd-Samad (2013) observed that housing maintenance could be classified as corrective, predictable and emergency-corrective maintenance. However, Ofori et al. (2015) advocated that maintenance can be classified into planned and unplanned. The planned maintenance could be subdivided into preventive scheduled, condition-based, emergency, unpredictable and corrective maintenance. However, no matter when, why and how maintenance work is carried out, the most important thing is that it must be carried out correctly and follow quality standards.

Hassanain (2007) further submitted that a properly planned and maintained staff housing facility promotes better scholarly output and helps realise the broader university goals. Oluwunmi et al. (2012) also noted that in any tertiary institution of learning, the staff housing facilities should include air quality, solid waste disposal, fire extinguishers, kitchen facilities, drainage, lightening, painting and decoration, security, space, energy management, septic tank, ventilation, electricity supply, parking lots, street lighting, internet connection, reception, dining area, water supply, visitors' toilets, family lounge and main lounge. The provision of these facilities in good quality and adequate quantity within the University often results in better workers' performance, adds aesthetics to the environment and enhances the University's mission (Hassanain, 2007; Oluwunmi et al., 2012). Regrettably, most of these housing facilities are not adequate. The available ones are not well maintained by users and the facility maintenance personnel (Hassanain, 2007). Therefore, Adeni submitted that the government is

only interested in providing new staff housing facilities without maintaining existing ones. The appearance of staff housing and its facilities speaks aloud of the institution as a citadel of learning.

1.2. Factors impeding quality maintenance of housing facilities

There exist various studies on the maintenance of housing. However, little or research has been carried out on the factors affecting staff housing facilities' maintenance conditions. According to Assaf (1996) and Waziri and Vanduhe (2013), maintenance factors start from the design stage. The factors that could impact the qualitative maintenance of buildings include civil engineering designs, architectural designs, consulting or contracting firm's processes, building drawings, construction inspection, construction equipment and specifications. The issues associated with housing upkeep arise from the design (Adejimi, 2005). Adenuga et al. (2007), while investigating the maintenance of hospital buildings in Lagos, identified that insufficient fund is the primary factor responsible for poor maintenance management.

Ajayi (2014) examined the factors affecting Educational Trust Fund building's maintenance management in Nigeria tertiary institutions. The study found that lack of discernible maintenance culture and absence of planned maintenance programs impede such a building's maintenance. Other factors such as lack of successful maintenance programs, insufficient funds budgeted for maintenance, users attitudinal culture, misuse of facilities, use of poor quality components and materials, no adoption of appropriate maintenance cycle for buildings, persistent breakdown through indiscipline and ignorance, inadequate training and development of efforts, availability of facilities and resources for a maintenance operation, natural deterioration due to age and environment, lack of skilled personnel in the maintenance department and difficulty in the procurement of building component due to unavailable funds (Ajayi, 2014).

Ali et al. (2010) found that tenants' expectations, building materials, building services, building age and failure to execute maintenance at the right time are the primary factors influencing building maintenance costs in Malaysia. Zulkarnine et al. (2011) affirmed that the information about the building is a significant factor that determined the maintenance level of universities building. Zulkarnine et al. (2011) noted that critical success factors in building maintenance management practice for university sectors could be categorised as customers, internal processes, growth perspective, financial and learning. The proper integration of these perspectives can improve the maintenance culture of any university campus. Waziri and Vanduhe (2013) examined the factors affecting residential building maintenance in Nigeria. They identified nineteen factors affecting the maintenance of residential buildings, out of which lack of preventive maintenance, faulty workmanship, design resolution factor and the use of substandard materials were very significant factors affecting its effective care. Aghimien et al. (2019), while examining the barriers to the maintenance of private institutions building in Nigeria, found that unqualified workers characterise maintenance departments of private institutions while the building maintenance is predominantly affected by the design of the building, level of use, strategic policy, management strategy factors, funding and human resources.

2. Methods

The Federal University of Technology Akure begins in 1981 and presently with about 2261 staff. According to the Physical Planning Unit records, the University has 83 staff housing apartments to

accommodate junior and senior staff. A survey approach was adopted for this study. The survey method is deemed suitable for this research as it enables eliciting data from representative population samples. The technique is well-suited for obtaining data that describe the sample's composition (McIntyre, 1999). To assess the staff housing facilities' maintenance culture, data were collected through questionnaires administered to the Physical Planning Department and the Residents living in the staff quarters of the institution. These represent the sample from which information used in this study is obtained.

A closed-ended survey questionnaire was adopted for the data collection. This is based on the premise that it offers respondents a limited number of options to select their response. The questionnaire administration was adopted because it has low administration costs and can yield meaningful answers from an extensive survey (Gilham, 2015). The questionnaire is in two sections. Section A centred on respondents' socio-economic background.

The information provided in Section A enabled quality check to the data from the other section of the research instrument. Section B reflected questions on the maintenance culture of housing facilities, factors affecting their maintenance and the suggested ways to improve the facilities maintenance in the staff housing. A 5-point Likert scale was adopted in the study. A total of 74 questionnaires were distributed to the residents of staff accommodation. At the same time, 12 were administered to the Physical Planning Unit workers. Out of the 74 questionnaires administered to the staff housing residents, only 59 were retrieved. All the 12 distributed were recovered from the physical planning unit. All the retrieved questionnaires were then processed and formed the data used in the survey. The data so collected were then analysed using descriptive statistics and Mann–Whitney U Test.

3. Results and Discussion

Table 1. Background information of the staff of the physical planning unit

Background information	Frequency (%)	Frequency (%)	Frequency (%)
Sex	Male (60.9)	Female (39.1)	
Are you a facility or housing maintenance professional	Yes (40.3)	No (59.7)	
Have you been involved in maintenance work before been engaged in FUTA	Yes (27.6)	No (72.4)	
How many years have you used in the maintenance unit	1-3 years (75.2)	4-6 years (10.5)	7-9 years (14.8)

The background information result shows that 60.9% of the physical planning unit workers are male while 39.1% are female. It was revealed that 59.7% of the workers are not facility maintenance professionals and do not have prior knowledge of facility and housing maintenance. It was also discovered that 72.4% of the workers were not involved in facility maintenance activities before being engaged as a university's maintenance staff. Furthermore, it was found that 75.2% of the officers have used 1-3 years in the unit. It could be inferred from this result that the Physical Planning Unit consists of greenhorn workers. The status of most workers in the physical planning unit is likely to threaten the

approach to maintenance work because most of them are not well vast in the practice of maintenance. They do not possess the appropriate basic or advanced knowledge of maintenance. The results findings are in tandem with Olatunji et al. (2016) and Aghimien et al. (2019). Although universities have a framework for maintenance, the structure has been plagued with inexperienced staff. It is, therefore, urgent and needful to evaluate the performance of these officers and also upskill their training.

Table 2. Type of maintenance strategy adopted

Maintenance strategies	Mean	Standard deviation
Corrective strategy	3.04	1.038
Preventive strategy	2.73	1.218
Condition based strategy	2.46	0.859

This study categorised the maintenance strategies into condition-based, preventive and corrective. The maintenance officers in the physical planning unit were asked to rank these maintenance strategies based on their adoption level. It was found that the maintenance officers widely adopt corrective maintenance with a mean score of 3.04 and a standard deviation of 1.038. The preventive maintenance strategy is ranked second with a mean score of 2.73 and a standard deviation of 1.218. Furthermore, condition-based maintenance is the least used strategy, with a mean score of 2.46 and a standard deviation of 0.859. It could be deduced from this result that the university adopts a breakdown facility maintenance culture than a preventive approach, thereby making these facilities deplorable. This study's findings corroborate Aghimien et al. (2018) that the maintenance work in Nigerian Universities is reactive rather than proactive. The corrective approach was also in agreement with that put forward by Dakhil et al. (2016) in India.

Table 3. State of the maintenance of university staff housing facilities

Housing Facilities	Standard deviation	Mean	Rank
Electricity supply	0.331	4.88	1st
Security	0.502	4.58	2nd
Ventilation	0.506	4.45	3rd
Space	0.659	4.39	4th
Fixtures and fittings	0.467	4.30	5th
Water supply	0.704	3.94	6th
Air quality	0.600	3.88	7th
Lightening facilities	0.619	3.85	8th
Septic tank	0.364	3.85	8th
Landscape	0.415	3.79	10th
Sewage disposal	0.936	3.76	11th

Energy consumption	0.529	3.70	12th
Road networks	0.742	3.64	13th
Roof components	0.864	2.39	14th
Bathroom facilities	0.517	2.27	15th
Kitchen facilities	0.415	2.21	16th
Garage	0.795	2.15	17th
Fire extinguishers	0.684	2.03	18th
Drainage	0.659	1.94	19th
Parking lots	0.485	1.88	20th
Street lightening	0.415	1.79	21st
Painting and decoration	0.435	1.76	22nd
Internet connection	0.585	1.30	23rd
Solid waste disposal	0.435	1.24	24th

Table 3 showed the residents' opinions based on the staff housing facilities' maintenance conditions. It was discovered that there is a certain level of consistency in the respondents' perspective based on the facilities' maintenance condition as the standard deviation of less than 1.0 is derived from all the assessed facilities. Findings from the residents showed that four facilities whose maintenance conditions are in a good state include electricity supply (with a mean score of 4.88 and standard deviation of 0.331), security (with a mean score of 4.58) and standard deviation of 0.502), ventilation (with a mean score of 4.45 and standard deviation of 0.506) and space (with a mean score of 4.39 and standard deviation of 0.659). Furthermore, the facilities whose condition is devastation include painting and decoration with a mean score of 1.76, internet connection with a mean score of 1.30 and solid waste disposal with a mean score of 1.24.

It could be deduced from above that the university staff housing has a good electricity supply. In the same way, the staff housing is well secure coupled with good ventilation and adequate space. Therefore, this issue will be peculiar to most Nigerian public universities because of the adopted management system. Conversely, the significant challenging situation is the poor management of internet connection and solid waste disposal. The poor internet connection at home would invariably cripple academic research, affecting the University's performance and ratings. Furthermore, the waste disposal system is not well maintained, thus endangering the university's health and sanitation. The findings of this study call for a proper and effective internet facility to enhance home research.

Table 4. Occupants perspective on the factors affecting the maintenance condition of staff housing facilities

Factors	Standard deviation	Mean	Rank
Lack of maintenance strategy	0.617	4.45	1st
Non-availability of maintenance manual	0.540	4.33	2nd
Failure to adopt appropriate maintenance cycle	0.684	4.30	3rd
Lack of skilled personnel	0.761	4.27	4th

Natural deterioration due to building age	1.031	4.00	5th
Use of poor and substandard material	0.822	4.18	6th
Poor quality of spare parts and materials	0.857	3.88	7th
Lack of communication between maintenance staff and users	0.508	3.52	8th
Faulty design	0.684	3.30	8th
Third party vandalism	0.650	3.21	10th
Unqualified Maintenance Contractors	0.485	3.12	11th
Ineffective maintenance staff	0.635	2.18	12th
Ignorance about basic building components	0.712	2.15	13th
Complexity of building design	0.893	2.12	14th
Deficiency in building design	0.723	1.19	15th

Table 4 depicts the factors affecting the maintenance condition of staff housing facilities provided within the university campus. Findings from the occupants showed that the four most important factors affecting the maintenance condition of the facilities include lack of maintenance strategy (with a mean score of 4.45 and standard deviation of 0.617), non-availability of maintenance manual (with a means score of 4.33 and standard deviation of 0.540), failure to adopt appropriate maintenance cycle (with a mean score of 4.30 and standard deviation of 0.684) and lack of skilled maintenance personnel (with a mean score of 4.27 and standard deviation of 0.761). It could also be inferred that the least factors affecting the maintenance of the staff housing facilities as opined by the occupants include ignorance about basic building facilities (with a mean score of 2.15), the complexity of building design with a mean score of 2.12 and deficiency in building design (with a mean score of 1.19).

Therefore, it could be noted from above that the most important factor affecting the maintenance of staff housing facilities is the lack of maintenance strategy. This study's discovery supports Olagunju (2012) and Ajayi (2014) that Nigeria Universities have no framework for the maintenance of housing within their institution. It was discovered that the non-availability of the maintenance manual is another factor affecting the maintenance of the facilities. This corroborates Ogunmakinde et al. (2013) findings that most Nigerian buildings have no maintenance manual. If one exists, it has not been used, thus posing a threat to the condition of the housing facilities. As revealed in the study, other relevant factors affecting these facilities' maintenance culture are failure to adopt an appropriate maintenance cycle and lack of qualified personnel. This authenticates Aghimen et al. (2019) study that universities' maintenance department is characterised by inexperienced staff, thus militating against adopting appropriate routine facility inspection. This study, therefore, submitted that the major factors afflicting the maintenance culture of facilities in Nigeria staff housing are a poor strategy for maintenance, lack of maintenance manual and inexperienced maintenance personnel.

Table 5. Staff of physical planning unit perspective on the factors affecting the maintenance condition of staff housing facilities

Factors	Standard deviation	Mean	Rank
Poor budgetary control	0.809	4.42	1st
Inflation cost of maintenance	0.637	4.38	2nd

Low concern of users for future maintenance	0.675	4.15	3rd
Delay and failure of users in reporting problems	0.693	4.00	4th
Lack of communication between staff and maintenance staff	0.662	3.96	5th
Inappropriate maintenance culture	0.732	3.85	6th
No long-term arrangement for maintenance	0.504	3.58	7th
Building age	0.508	3.54	8th
New health and safety regulations	0.941	3.38	8th
Wrong Altitude of occupants	1.050	3.31	10th
Non availability of replacement part	1.067	2.54	11th
Cultural background and level of technology	1.174	2.46	12th
Property use	1.029	2.46	13th

Table 5 revealed the opinion of the staff housing maintenance workers on the factors affecting the maintenance condition of staff housing facilities. The result of the analysis showed that the most important factors plaguing the upkeep of the housing facilities are poor budgetary control for maintenance (with a mean score of 4.42 and standard deviation of 0.809), inflation cost of materials (with a mean score of 4.38 and standard deviation of 0.637), a low concern of users for future maintenance (with a mean score of 4.15) and delay and failure of users in reporting problems (with a mean score of 4.00 and standard deviation of 0.693). Conversely, the least significant factors affecting the maintenance of the housing facilities based on the perspective of the maintenance workers include non-availability of replacement parts (with a mean score of 2.54), cultural background and the level of technology (with a mean score of 2.46) and property use (with a mean score of 2.46).

However, it could be inferred from the above that poor budgetary for maintenance, inflation cost of materials and low concern of user are the major factors affecting the maintenance condition of these facilities. This study's findings relate to Adenuga et al. (2007) that inadequate funding usually affects facilities maintenance. Therefore, this research has further established that the University's insufficient budget allocation or the concerned authority for facility maintenance is a major impedance to their facilities' upkeep in their staff housing.

Table 6. Measures for improving the maintenance of staff housing facilities

Measures	Occupants		Maintenance staff		Overall mean	Rank
	Mean	Rank	Mean	Rank		
More maintenance equipment should be provided	4.55	3rd	4.27	2nd	4.41	1st
Provision of maintenance manual	4.67	2nd	4.00	6th	4.34	2nd
Proper budgetary for maintenance	3.85	10th	4.65	1st	4.25	3rd

Adoption of routine management inspection	4.33	5th	4.15	3rd	4.24	4th
Qualified personnel should be employed	4.70	1st	3.46	11th	4.08	5th
Adoption of a proper maintenance cycle	4.39	3rd	3.69	9th	4.04	6th
Users and staff should give priority to maintenance work	3.94	9th	3.77	8th	3.86	7th
Adequate policy and standards should be put in place	4.24	7th	3.27	12th	3.76	8th
Assessment of yearly performance of building	3.48	12th	3.92	7th	3.70	9th
Sensitisation of the building users on the significance of maintenance	4.30	6th	3.08	15th	3.69	10th
The use of feedback approach from users to staff	4.09	8th	3.19	14th	3.64	11th
Use of durable and lasting building spare parts	3.82	11th	3.12	15th	3.47	12th
Use of inventory and maintenance data bank	2.36	13th	4.12	4th	3.24	13th
Use of computerised system of maintenance	1.55	15th	4.08	5th	2.82	14th
Involvement of the chief maintenance staff	1.94	14th	3.50	10th	2.72	15th

Table 6 revealed the result for measures for improving the maintenance of staff housing facilities. Based on the occupants' view, the three major measures include employment of qualified personnel, provision of maintenance manual and more maintenance equipment. Furthermore, the maintenance staff opined that the most effective way to improve the maintenance of the facilities is proper budgetary for maintenance, provision of more maintenance equipment and the adoption of routine maintenance inspection. The overall grand mean having harmonised the response of the occupants and maintenance revealed that the five most important measures include the provision of more maintenance equipment (with a mean score of 4.41), provision of maintenance manual (with a mean score of 4.34), proper budgetary control (with a mean score of 4.25), adoption of routine management inspection (with a mean score of 4.24) and employment of qualified personnel (with a mean score of 4.08). Moreover, the measures that are less important based on the response of the two parties are the use of durable and lasting building spare parts with a grand mean of 3.47, the use of inventory and maintenance data bank with a grand mean of 3.24 and use of a computerised system of maintenance with a mean score of 2.82.

It could be inferred from above that there should be a proper budget for maintenance to procure the maintenance department's necessary services and equipment. This would assist the adequate

performance of various facilities. Similarly, an appropriate maintenance manual should be provided to ensure usage according to the manual's conditions and terms. The findings of this study further validate the analysis of Ajayi (2014), where it was submitted that creating a maintenance Fund by ETF for maintenance purposes is the best way of improving the maintenance of public buildings. Consequently, appropriate funding to procure the necessary facilities should be put in place to strengthen the University's staff housing facilities' maintenance culture.

Table 7. Mann-Whitney U test on measures for improving the maintenance of staff housing facilities

Measures	Mann-Whitney U	Wilcoxon W	Z	Assymp. Sig (2-tailed)
More maintenance equipment should be provided	365.500	716.500	–1.105	0.269
Provision of maintenance manual	357.500	708.500	–1.283	0.200
Proper budgetary for maintenance	289.000	850.000	–2.384	0.017
Adoption of routine management inspection	342.500	903.500	–1.501	0.133
Qualified personnel should be employed	144.500	495.500	–4.685	0.000
Adoption of proper maintenance cycle	209.000	560.000	–3.605	0.000
Users and staff should give priority to maintenance work	356.000	917.000	–1.195	0.232
Adequate policy and standard should be put in place	391.000	742.000	–0.721	0.471
Assessment of yearly performance of building	184.500	745.500	–4.085	0.000
Sensitisation of the building users on the significance of maintenance	339.000	690.000	–1.501	0.133
The use of feedback approach from users to staff	330.000	891.000	–1.638	0.102
Use of durable and lasting building spare parts	320.000	881.000	–1.786	0.074
Use of inventory and maintenance data bank	42.000	603.000	–6.136	0.000
Use of computerised system of maintenance	.000	561.000	–6.846	0.000
Involvement of the chief maintenance staffs	8.500	569.500	–6.613	0.000

The asymptotic significance of the measures for improving the maintenance of staff housing facilities by the maintenance workers and the occupants of the housing is also presented in Table 7. The result revealed a statistically significant difference in the respondents' opinion with $p < 0.05$. Measures such as proper budgetary control (0.017); qualified personnel should be employed (0.000); adoption of proper maintenance cycle (0.000); assessment of the yearly performance of the building (0.000); use of inventory and maintenance data bank (0.000); use of a computerised system of maintenance

(0.000) and involvement of chief maintenance staff (0.000) all show a level of significant < 0.05. The implication of the result above is a significant difference in the respondents' responses based on the seven measures. There is no significant difference in the two respondents' opinions based on the remaining eight measures.

4. Conclusion

Staff housings are assets that require constant maintenance in other to contribute to the economic development of the institution. The study has revealed that one of the most significant economic and social problems facing university staff housing is the general absence of a maintenance and thrift culture. There is unpardonable neglect and tolerance to allow these facilities to decay. The major problem in housing maintenance is not about the technology but rather about its management. This study assesses the maintenance culture adopted for the staff housing in tertiary institutions of learning using the Federal University of Technology, Akure, as a representative case. The study employs a survey approach through questionnaire administration to FUTA staff housing residents and staff who are maintenance officers in the physical planning unit of the institution. The study investigated the maintenance condition of the housing facilities, the factors affecting their maintenance condition and ways to improve the maintenance of the facilities to enhance quality education. The study revealed that the maintenance condition of electricity and space management is in a good state. However, the condition of internet facilities, painting and solid waste disposal is very pathetic. It, therefore, means that the poor internet facility would hamper research from home.

The study also found that the occupants believed that the major factor affecting the maintenance of the staff housing facilities is the University's lack of maintenance culture. The staff in charge of maintenance stated that lack of proper budgetary for maintenance, inadequate maintenance services and inflation in the cost of materials are significant factors affecting the maintenance culture.

Suppose housing facilities maintenance is to increase performance within the education sector, there is a need to provide adequate maintenance equipment, proper budgetary for maintenance and employment of professionals with considerable experience within maintenance units. Users should understand that they have a duty to care for these facilities. In the case of tertiary institutions, sensitising the staff regarding the need for proper usage of staff facilities is necessary. The study, therefore, concludes that the condition of staff housing facilities is deplorable, thus impeding research and academic productivity from home. Conclusively, the university budget for maintenance is not adequate as opined by the maintenance staff, thus plaguing the proper maintenance of the facilities provided in the staff housing.

5. Recommendations

The study, however, recommends that measures be put in place to enhance proper internet connection in the staff quarters. There should also be a proper concern for the painting and decoration of the buildings. In the same way, more equipment and maintenance services, proper budgetary and maintenance manual provision should be reviewed to enhance the upkeep of the available facilities, thus promoting a quality environment, improving research, learning and productivity. This study has contributed to the existing body of knowledge. It has uncovered the maintenance culture of housing facilities in Nigerian Universities, an aspect deficient in housing maintenance discussions within the country. Consequently, it is assumed that this study's findings will

enable stakeholders of tertiary institutions of learning to make important decisions regarding the maintenance of housing facilities within their respective institutions.

6. Conflict of Interest

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the authors have wholly declared ethical issues, plagiarism, informed consent, misconduct, data fabrication and or falsification, double publication and or submission and redundancy.

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