A Heuristic Method of Establishing Operational Effectiveness of Hotel Facilities in South-Western Nigeria

[1]Olufemi Daniel Durodola, [2]Abiodun Caleb Ayedun, [3]Olufunke Adedamola Oluwunmi & [4]Olayinka Clement Oloke

Abstract: Assessing the operational effectiveness of hotel facilities has always been problematic in that opinions of technicians or engineers when sought were rooted in intuition (subjective and speculative, though cheaper) instead of reliance on standard tests laid down by established institutions (objective and scientific, though expensive and laborious). One sure way of achieving good result is by seeking the perception of the hotel users (the customers) on the level of functionality of the facilities paid for and being enjoyed. This research seeks to establish a method of establishing operational functionality of hotel facilities by exploring the perceptions of the customers about these facilities. The research is executed in order to find an alternative way of measuring performance of hotel facilities beyond technical modulation. Data were collected from hotels' customers in addition to physical assessment of hotel facilities and system operations. Stratified sampling technique was used in selecting the samples while sample size was determined based on formula suggested by Kothari (1978). Data analysis was executed using descriptive statistics, mathematical permutation and combination principle and Spearman Correlation analysis. It was found out that facilities' performance could be established by assessing quantity, quality and workability of facilities independently as variables and then combine these variables mathematically using permutation and combination principles reinforced with Chi-Square (X^2). While Engineers focused on operational sturdiness of facilities as main yardstick for measuring performance of facilities; users focused on quantity and quality as well as operational sturdiness of the facilities. Although engineering test and mechanical manipulation are sine qua non in facilities operations, yet it could be reinforced with perception of customers focusing majorly on three parameters (Quantity, Quality and Operational Sturdiness) duly analysed to give independent opinion devoid of human manipulation.

Keywords: Customers; Facilities Management; Hotel; Investment; Operations; Performance Measurement

1.0 Introduction

In order for a robust business to be conducted in any hotel, it is essential for constructed assets to be appropriately managed if the business is to be preserved. Durodola and Oloyede

(2011) identified facilities management as one of the property assets management styles that could be used effectively in managing the facilities of the hotels. Facilities Management, in this context, is defined as the proactive management of constructed facilities and organizational assets to improve their efficiency and add value to their performance and services (Okoroh, Jones and IIozor, 2003). Facilities for hotels, from customers' perspective would include buildings, industrial kitchen equipment, central air-conditioning system, fans, elevators, lifts, electrical installations, escalators, bakery equipment, amongst others.

Going by Kotler and Armstrong (1989) 'levels of product' principle, the core service being rendered by hotels is provision of comfortable accommodation for guests while the facilities are the actual tools that bring the comfort into reality. The implication is that hoteliers must be concerned about the operational effectiveness of these facilities at all times as they translate to functionality assessment. But there are three dimensions to functionality assessment of facilities especially when viewed from the perspective of facilities management as a strategic management tool for enhancing hotel performance. These dimensions are quantity of the facilities provided, their quality and then the operational readiness of the facilities at all times.

In such a scenario, the expectation then is that such hotels must vigorously pursue adequate availability of facilities that are of superior quality and are operationally ready at all times. It is only through this that the objective of facilities management as a strategic

management tool could be achieved. This is a form of performance measurement which hotels should ordinarily be carrying out on a regular basis. Thus, a proactive hotel management must not wait until a facility breaks down completely but always trying to find out whether the facility is performing optimally at all times. Performance assessment of facilities could be achieved in two major ways namely scientifically (objectively) or heuristically (subjectively). The former is within the realm of the engineers and technicians assessing required quantity of each type of equipment and performing maintenance operation at regular interval. The latter is achieved by seeking the opinion of the users on how they feel about such installations since they are the direct beneficiary of such installations.

This work aims at establishing the degree of operational effectiveness of hotel facilities in South-Western Nigeria. In order to achieve the aim, the following objectives are set to: establish the quantum of facilities on ground in comparison with need, assess the quality of the facilities from customers' perspective and establish the operational effectiveness of these facilities through wholeness analysis. It is imperative to give the operational definition of certain core terms here as such terms might slightly deviate from constitutive definitions. Such terms include quantity, quality, operational effectiveness and wholeness.

Quantity is the number of equipment required to satisfy the need of the need of the environment taking into cognizance size available space in relation to the size of the equipment,

technical capacity of the equipment in relation to design and the amenity of the environment. In-adequate quantity leads to discomfort so also excessive quantity. Quantity determination is the purview of the designer. Quality essentially means conformity to standard or essential specification as given by relevant institutions such as British Standard or American Standard or International Standard Organization (ISO) specification or manufacturer's specification. This becomes an issue because of fake and sub-standard products dominating the market un-controllably. Operational effectiveness is the functionality trait displayed by a machine when turned on. In essence, seamless operations of the facilities when put to use by the users or customers. Finally, wholeness is the synergy or operational synchronization between the three variables; quantity, quality and operational effectiveness of the equipment. The paper is structured into five major segments namely introduction, literature review, the research method, result and discussion and finally conclusion and recommendations.

2.0 Literature Review

Property is anything that can be owned. But acquisition of real estate comes along with acquisition of bundle of rights in the property. These are the rights of use, possession, control, enjoyment, exclusion, and disposition, including the right to pass the properties on by means of wills. Investment in property can be spread on bare land, residential properties, office buildings, strip stores and shopping centres, industrial properties and diverse realty investments such as hotels and motels,

commercial hotels, convention hotels, resort hotels, all-suite hotels, extended-stay hotels, motels, amusement parks, golf courses including medical buildings (Sirota 2004). The building fabrics or the carcasses cannot be said to be functional unless and until facilities as identified earlier are installed. The diverse opportunities to spread investment, the legal connotations associated with property, the bundles of rights that accompany investment in properties and, of recent, the ability to separate property from support services and the complexity of the structure and the facilities necessarily implies proactive management.

Thorncroft (1965) opined that proactive management had gone beyond the day-to-day routine activities of the estate manager but what he called the 'shaping of an estate'. By the 'shaping of the estate' Thorncroft (1965) meant what properties within the estate should be retained and what might be sold to the advantage of the organization; what opportunities are there for adding to the estate, by buying in new property or by terminating leases previously granted out of the ownership; is the policy of the estate to be one of disposal of property to raise capital? This point was re-emphasized by Hanford (1970) who opined that 'real estate is a dynamic resource, requiring constant care, attention and management. Property asset management, being canvassed, is aimed at efficiency of the assets which will translate to high profitability as demand is enhanced and sustained. This stand was buttressed by Edgar and Teicholz (2003) when they opined that total asset management (TAM) is a holistic, inclusive and coordinated

approach to facility asset management. Property assets' management tools, commonly identified in literature, are maintenance management, property management and facilities management. Maintenance management focuses on sustenance and conservation of existing buildings with a view to retaining their structural stability and functionalities (Seeley, 1977 and Oyefeko, 1999). At an individual's level of self-occupation, un-planned maintenance is the norm. Where properties are held as a means to production, a combination of planned and un-planned maintenance holds sway. Where properties are held for investment purposes, then this management activity may be passed on to a professional management agent who then applies property management principles as the nub of maintenance activities is to ensure functionality and high performance of facilities at all times.

Property management focuses on tenant selection and letting; control over the estate; rent review and lease renewals; insurance of the properties; repairs; services and service charges; property management records; property marketing and portfolio management (College of Estate Management, 1995). Property management is more than maintenance management in that maintenance is an aspect of property management which becomes a necessary tool when properties are held for investment purposes and become extensive or can be easily separated from operator's daily business activities and entrusted into the hand of a professional property manager. At this level, performance of the properties, in terms of returns, are to be assessed and

this explains the issue of portfolio management (Nwankwo, 2004). Here, there is dexterous application of maintenance principle coupled with witty application of management principles to ensure high returns.

Facilities management on the other hand is broad based incorporating maintenance management, property management but more importantly, workspace management, churn management, strategic property management and the management of support services, among others (Hamer, 1988; Alexander, 1996). It is a strategic tool that readily comes in when there is a need to re-invigorate the performance of property investment. Grimshaw (2003) was of the opinion that some of the major goals of facilities management include improvement of overall work environment, development of functional standards for offices, workstations, equipment and special facilities, reduction in average procurement cost and programme evaluation including strategic analysis of situation, which introduces performance measurement. At this level, performance assessment is not limited to end of financial year activity and theoretical but a continuous one in terms of physical assessment of facilities to ensure optimum operation.

Douglas (1996) viewed performance as the process or manner of functioning or operating. From an organisation's and management perspectives, performance is measured by the realisation of the organisation's goals. From management perspective, performance is seen as an object's ability to achieve desired results. From corporate real estate management point of view, performance can be seen as the ability of the real

estate to support the organisational objectives, strategies and, at the end, business success (Lindholm and Nenonem, 2006).

Maintaining profitability and productivity are the most important long term success factors and the measurement of the success factors is called strategic performance measurement which is the process whereby the strategy of an organisation is translated into concrete objectives and the achievement of those objectives is evaluated. This predicates that performance evaluation can be carried out on the real estate/building/facility itself and also on the operations of the organization as a whole.

The level of performance an organisation attains is a reflection of the efficiency and effectiveness of the actions it undertakes and thus performance evaluation can be said to be the process of quantifying the efficiency and effectiveness of an action (Amaratunga and Baldry, 2002). In simple terms, performance evaluation

can be seen as the variance between the set goal/objectives and the achieved goal. Applying the disciplines of performance evaluation helps building managers and operators to determine, firstly, those issues that are crucially important to the overall success of an organisation, and secondly, those issues that are critical to the successful delivery of the specific function or operation concerned (Varcoe, 1996).

Various writers have categorized performance criteria differently depending on their perspective of performance evaluation. This is responsible for the various terms like indicators, performance categories, performance metrics and so on, used mainly in describing performance criteria [Lutzkendorf, Speer, Szigeti, Davis, Le Roux, Kato and Tsunekawa (2005); Myeda, Kamaruzzaman, Pitt and Tucker (2011); Sinopoli (2009)]. However, Lutzkendorf et al., (2005) proposed six major performance evaluation categories for a building as shown in Figure 1.
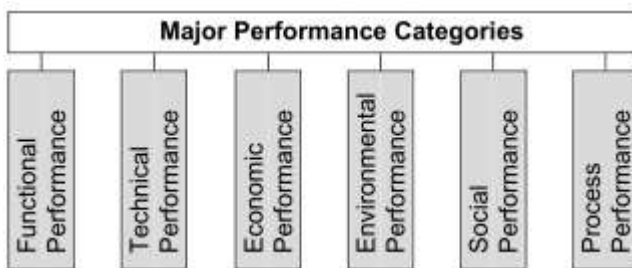
Figure 1: Major performance categories
Source: Lutzkendorf et al. (2005)

Functional performance describes and assesses how well use-specific activities and processes can be performed in a building. It is closely related to the needs of the building users and others

such as visitors and the public community. Technical performance describes structural, physical and other technical features or characteristics. Economic performance is divided into

two which are real estate performance and cost performance. Real estate performance is the earnings trend and value of a real estate property. Cost performance describes financial expenditures involved in planning, construction, operation, maintenance, demolition or waste disposal at a particular time or within the life cycle of a facility. Environmental performance describes and assesses the building's features and characteristics relevant to its impact on the environment. Social performance is closely tied to the health indicators. The overall building performance is influenced by the quality of processes involving planning, construction, and use and facility management. On the other hand, Brackertz and Kenley (2002) take into account four different perspectives of facility performance vis a vis the community, services, building and financial perspectives.

Traditionally, the use of financial indicators determines the way in which businesses operate. If the cost is low and the return is reasonable then the business is performing. The need for new measures to evaluate performance has to be set within the context of a changing external environment with organisations increasingly being

concerned with holism, together with such issues as soft systems, culture and the establishment of competencies as well as accountability. This has led to the need for evaluating company's performance against a set of diverse and often conflicting criteria which has also led to the emergence of non-financial or qualitative indicators, focused on process, structure and change, instead of traditional cost, profit, and output measures to evaluate company's performance for quite different purposes (Crowther, 1996). Figure 2 shows various researchers who have identified several indicators or factors suggested to be of paramount importance for carrying out performance evaluation.

Thus, Myeda, Kamaruzzaman and Pitt (2011) view performance measurement indicators as dependent on the equipment, cost and process performance. Pitt and Tucker (2011) focused on functional performance and technical performance which indicated the service quality and the property quality. Brackertz and Kenley (2006) agree that machine or facility maintenance is among other factors like task, organisational and profit or cost that should be measured with focus on the efficiency level of each subject.
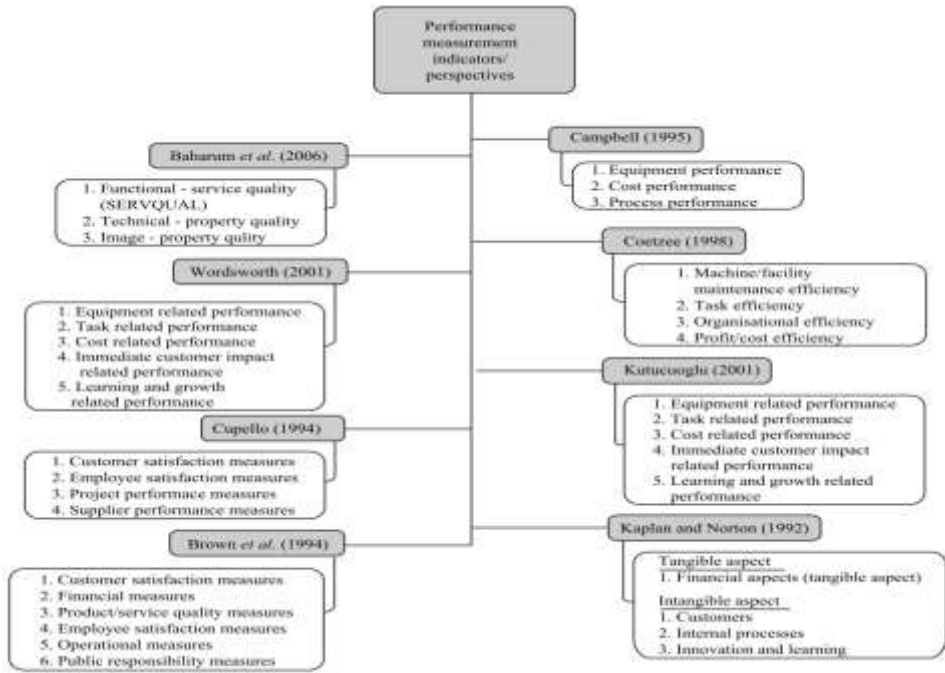
Figure 2: Different views of performance indicators
Source: Myeda, Kamaruzzaman and Pitt (2011)

Lindholm and Nenonen (2006) suggested that the techniques of carrying out performance evaluation can be grouped into tactical and strategic techniques depending on the user of the evaluation. The tactical tools are important for evaluating, controlling, and improving internal process which are related to the physical workplace. The strategic tools on the other hand are used in measuring the performance of the workplace.

Tactical tools are used for analysing the current situation of the work place. The object that is being measured by the tactical tool is the office building. The tactical techniques for performance evaluation are varied. However, some of the identified techniques includes Logometrix, six sigma, benchmarking, post occupancy evaluation (POE), balanced score card (BSC), Microscan$_{fm}$, building quality assessment (BQA) Building-in-use (BIU) and Apgar real estate scores (ARES).

Logometrix considers service, physical, environmental, community, utilisation and financial perspectives of facility performance, each represented by a Key performance indicator (KPI) (Brackertz and Kenley, 2006). When it comes to facilities performance measurement, the Logometrix comes in handy as it considers the perspectives of the community; the provider, the users, the customers and the operators themselves.

The community perspective, has always been neglected in that when a machine is functioning, the presumption is that the system is okay. In the hotel environment however, where comfort is the principal product on offer, this may not be okay hence the need to begin operational performance measurement of facilities from the perspective of users, the main beneficiaries.

3.0 Research Method

This is a survey research covering South-Western States of Nigeria comprising of Ekiti, Lagos, Ogun, Osun, Ondo and Lagos States. There are one hundred and eighty-two hotels in the zone with eighty (44%) of the hotels concentrated in the State capitals, prompting selection of the samples from the State capitals. The sample frame is composed of the hotels that meet the National Classification and Grading of Hotels as stipulated by the Nigerian Tourism Development Corporation (2001). A sample size of 57 hotels was arrived at using the formula suggested by Kothari (1978). In order to secure representative responses, the size of the sampled hotels for the study did not fall below the representative size determined from statistical estimation theory, which is based on the degree of confidence that the researcher wishes to employ. For this study, the researcher defines how large a sample of hotels should be in order to be 95% confident that the probable error of using a sample rather than surveying the whole population will not exceed 0.05% by the formula; given as:

$$n = \frac{Z_{\alpha^2} N \hat{p}(1- \hat{p})}{(N-1)\delta^2 + Z_{\alpha^2} \hat{p}(1- \hat{p})}$$; Where:

n = Sample Size

$Z\alpha$ = A value such that the probability of a normal variable exceeding it is $(1 – \alpha)/2$ and obtainable from Z Table. In this case 1.96

$\hat{p}$ = Unknown value we are trying to estimate and taken to be 0.5 conservatively in which case N will be maximum and the sample will yield at least the desired precision.

δ is the true value of β which in this case is 0.02 or 2%

In this case, the formula yields 57. Thus, a sample size of 57 was obtained and this figure was split among the States based on the number of hotels within each State. Out of the fifty-seven questionnaires administered on hotel organizations, twenty-eight (49%) were retrieved while in respect of customers, six hundred and seventy-one questionnaires were administered from which three hundred and sixty (54%) were retrieved. Expert opinions from environmental sciences, behavioural sciences and tourism industry were sought to ensure content validity of the questionnaires.

Data analysis relied on descriptive statistics, mathematical principles of permutation and combination using quantity, quality and operational performance as variables and Chi-square (X^2). The variables were assessed by relying on Likert scale with four points each. Each variable is as then analysed using mean item on the assumption that each individual is looking at each variable individually. Secondly, the three were combined from composite point of view on the assumption that individuals are being allowed to take a decision based on the overall perception of quantity, quality and operational

performance of the facilities. This is termed wholesomeness test.

Thus, supposing quantity is assigned A so that we have A_1, A_2, A_3 and A_4; the quality is assigned B so that we have B_1, B_2, B_3 and B_4; and operational performance is assigned C so that we have C_1, C_2, C_3 and C_4 then each can be treated individually and then collectively using combination. Preliminary analysis did show that a series of the form n^x is possible where n represents numbers in a group and x represents number of groups. In this case 4^3 and this gives 64 possible combinations. Table 1 shows the total possible combinations as used for the analysis. For quantity of facilities, A_1 represents (highly adequate), A_2 (adequate), A_3 (somewhat adequate) and A_4 (in-adequate). For quality, B_1 (Superior), B_2 (Standard), B_3 (Somewhat Standard) and B_4 (Inferior). Finally, for operational effectiveness of facilities C1 represents (Very efficient), C2 (Efficient), C3 (Somewhat Efficient) and C4 (In-efficient). The scales are assigned values of 4, 3, 2, and 1 in that order respectively.

Table 1: Total possible Combination of Perceptions about Quantity, Quality and Operational Effectiveness of Facilities in Favored Hotels

S/NO	Combinations	S/NO	Combinations	S/NO	Combinations	S/NO	Combinations
1	$A_1B_1C_1$	17	$A_2B_1C_1$	33	$A_3B_1C_1$	49	$A_4B_1C_1$
2	$A_1B_1C_2$	18	$A_2B_1C_2$	34	$A_3B_1C_2$	50	$A_4B_1C_2$
3	$A_1B_1C_3$	19	$A_2B_1C_3$	35	$A_3B_1C_3$	51	$A_4B_1C_3$
4	$A_1B_1C_4$	20	$A_2B_1C_4$	36	$A_3B_1C_4$	52	$A_4B_1C_4$
5	$A_1B_2C_1$	21	$A_2B_2C_1$	37	$A_3B_2C_1$	53	$A_4B_2C_1$
6	$A_1B_2C_2$	22	$A_2B_2C_2$	38	$A_3B_2C_2$	54	$A_4B_2C_2$
7	$A_1B_2C_3$	23	$A_2B_2C_3$	39	$A_3B_2C_3$	55	$A_4B_2C_3$
8	$A_1B_2C_4$	24	$A_2B_2C_4$	40	$A_3B_2C_4$	56	$A_4B_2C_4$
9	$A_1B_3C_1$	25	$A_2B_3C_1$	41	$A_3B_3C_1$	57	$A_4B_3C_1$
10	$A_1B_3C_2$	26	$A_2B_3C_2$	42	$A_3B_3C_2$	58	$A_4B_3C_2$
11	$A_1B_3C_3$	27	$A_2B_3C_3$	43	$A_3B_3C_3$	59	$A_4B_3C_3$
12	$A_1B_3C_4$	28	$A_2B_3C_4$	44	$A_3B_3C_4$	60	$A_4B_3C_4$
13	$A_1B_4C_1$	29	$A_2B_4C_1$	45	$A_3B_4C_1$	61	$A_4B_4C_1$
14	$A_1B_4C_2$	30	$A_2B_4C_2$	46	$A_3B_4C_2$	62	$A_4B_4C_2$
15	$A_1B_4C_3$	31	$A_2B_4C_3$	47	$A_3B_4C_3$	63	$A_4B_4C_3$
16	$A_1B_4C_4$	32	$A_2B_4C_4$	48	$A_3B_4C_4$	64	$A_4B_4C_4$

With these assigned values, Table 1 could be translated figuratively to give Table 2

Table 2: Figurative Translation of Table 1

comD	$(abcE)_1$	$(abcE)_2$	$(bcE)_3$	Val	comD	$(abcE)_1$	$(abcE)_2$	$(abcE)_3$	Val
C_1	4	4	4	64	C_{17}	3	4	4	48
C_2	4	4	3	48	C_{18}	3	4	3	36
C_3	4	4	2	32	C_{19}	3	4	2	24
C_4	4	4	1	16	C_{20}	3	4	1	12
C_5	4	3	4	48	C_{21}	3	3	4	36
C_6	4	3	3	36	C_{22}	3	3	3	27
C_7	4	3	2	24	C_{23}	3	3	2	18
C_8	4	3	1	12	C_{24}	3	3	1	9
C_9	4	2	4	32	C_{25}	3	2	4	24
C_{10}	4	2	3	24	C_{26}	3	2	3	18
C_{11}	4	2	2	16	C_{27}	3	2	2	12
C_{12}	4	2	1	8	C_{28}	3	2	1	6
C_{13}	4	1	4	16	C_{29}	3	1	4	12
C_{14}	4	1	3	12	C_{30}	3	1	3	9
C_{15}	4	1	2	8	C_{31}	3	1	2	6
C_{16}	4	1	1	4	C_{32}	3	1	2	6
C_{33}	2	4	4	32	C_{49}	1	4	4	16
C_{34}	2	4	3	24	C_{50}	1	4	3	12
C_{35}	2	4	2	16	C_{51}	1	4	2	8
C_{36}	2	4	1	8	C_{52}	1	4	1	4
C_{37}	2	3	4	24	C_{53}	1	3	4	12
C_{38}	2	3	3	18	C_{54}	1	3	3	9
C_{39}	2	3	2	12	C_{55}	1	3	2	6
C_{40}	2	3	1	6	C_{56}	1	3	1	3
C_{41}	2	2	4	16	C_{57}	1	2	4	8
C_{42}	2	2	3	12	C_{58}	1	2	3	6
C_{43}	2	2	2	8	C_{59}	1	2	2	4
C_{44}	2	2	1	4	C_{60}	1	2	1	2

C_{45}	2	1	4	8	C_{61}	1	1	4	4
C_{46}	2	1	3	6	C_{62}	1	1	3	3
C_{47}	2	1	2	4	C_{63}	1	1	2	2
C_{48}	2	1	1	2	C_{64}	1	1	1	1

Key

comD > Combination Designation

$(abcE)_1$ / $(abcE)_2$ / $(abcE)_3$ > Variables' Combinations

Val. > Calculated Value

4.0 Results and Discussion

4.1 Ascertainment of Quantity of available Facilities in Investigated Hotels

Analysis was carried out from two perspectives namely organization and customers. From organizations' perspective, emphasis was placed on the availability of basic facilities which operational hotels should have (from 2-Star and above) as contained in the National Classification and Grading of Hotels (2002) in Nigeria. Thus, the organization questionnaire requested for services on offer and schedule of available facilities. This deals with quantity of facilities from organizational perspective. However, this was regarded as in-adequate arising from the fact that some element of bias might be there. Thus, customers' views were sought to rate the hotels in terms of quantity, quality and operational performance of facilities they enjoyed. Table 2 shows the overall positions of facilities and services in the investigated hotels.

A discreet study of Table 3 shows that facilities provision seems to be adequate overall especially in basic facilities. However, in areas of recreation facilities, security facilities and shopping facilities, there is glaring deficiency. Nonetheless, facilities cannot be examined from the perspective of the organizations alone but also from the customers' perspective which takes into considerations quantity, quality and operational performance of facilities, otherwise termed wholeness.

Table 3: Degree of Facilities/Services Availability in investigated Hotels

S/No	Facilities/ Services	Availability Frequency	Non-Availability Frequency	% Availability	% Non-Availability	Deficiency Level
1	Electricity from Main	28	0	100	0	Nil
2	Standby Generator	27	1	95	4	Low
3	Audio-VisualAids	7	21	25	75	High
4	Shopping Outlet	8	20	29	71	High
5	ICT	16	12	57	43	Medium
6	CCTV	9	19	32	68	High
7	Public Phone	17	11	61	39	Medium
8	Intercom	28	0	100	0	Nil
9	Fire Fighting Aids	28	0	100	0	Nil
10	Tennis Court	11	17	39	61	High
11	Swimming Pool	15	13	54	46	Medium
12	Accommodation	28	0	100	0	Nil
13	Catering Services	28	0	100	0	Nil
14	Bar Services	28	0	100	0	Nil
15	Reception	21	7	75	25	Medium
16	Seminar Hall	18	10	64	36	Meduim
17	Banquetting Hall	15	13	54	46	Meduim
18	Conference Hall	15	13	54	46	Meduim
	Training Centres	9	19	32	68	High
	Overall % Availability			68%		
	Overall % Non-Availability				32%	

4.2 Assessment of the Quality of the Facilities in the Hotels from Customers' Perspective

Table 4 shows the frequency distribution for facilities' wholeness which confirms the disposition of customers to facilities in the hotels. Customers believed that facilities are adequate quantity-wise but deficient in quality and operationally too. For wholeness status, the responses of the customers using Likert scale presented in Table 1 was analysed and the ensuing combinations were obtained using Likert Scale where A_1 represents (highly adequate), A_2 (adequate), A_3 (somewhat adequate) and A_4 (in-adequate).

Table 4: Frequency Distribution for Facilities' Wholeness

Scales	Frequency	Percentage	Ranking
Facilities' Rating Quantum			
Highly Adequate	25	7	4
Adequate	169	47	1
Somewhat Adequate	73	20	3
In-adequate	93	26	2
Total	360	100	
Facilities' Rating Quantity			
Superior	54	15	4
Standard	92	26	2
Somewhat Standard	124	34	1
Inferior	90	25	3
Total	360	100	
Facilities' Rating Quality			
Very Efficient	51	14	4
Efficient	57	16	3
Somewhat Efficient	156	43	1
In-efficient	96	27	2
Total	360	100	

4.3 Operational Effectiveness of Facilities in Investigated Hotels from Customers' Perspective

This gives a mean (Ā) of 16, mode (Z) of 12 and median of 12. The distribution is nearly normal since the mode and median are equal and the mean is almost equal to both. The lower quartile (Q1) is 6 while Q2 (median) is 12 and the upper quartile Q3 is 24. In this case, 16 could be regarded as the threshold of wholeness while a figure of 24 and above could be taken to be a good degree of wholeness. However, when Likert scale was applied to Table 4, a similar distribution was achieved. But the first distribution is supposed to be similar if indeed wholeness is in place. Therefore, the distributions obtainable from these possible combinations could be presented as follows representing the observed frequency while the below frequency distribution represents the expected frequency enabling Chi-square (X^2) to be calculated.

Thus, the following statistics were derived: Chi-square (X^2) calculated was 8542.17 against Chi-square (X^2) tabulated at 5 degree of freedom and 5% level of significance was 24.996. Thus, 24 to 64 could be regarded as wholeness and this gave a total of 106 out of 360 which was 29%. The calculated Chi-square (X^2) amounting to 8,542 is greater than tabulated value of 24.996 at 5 degree of freedom and 5% level of significance which led one to conclude that there was no synergy between the variable of quantity, quality and operational effectiveness of facilities.

Table 5: Observed/Expected Frequency

$(Var)_x$	$(Obv)_f$	$(Exp)_f$	$(Var)_x$	$(Obv)_f$	$(Exp)_f$
1	1	1	16	6	9
2	3	3	18	3	6
3	2	3	24	6	3
4	6	6	27	1	6
6	7	6	32	3	1
8	7	7	36	3	3
9	3	0	48	3	3
12	9	3	64	1	1

Key: Var_x > Variable $(Obv)f$ > Observed Frequency
$(Exp)f$ > expected frequency

The expected mean was 16 while observed mean was 15. The expected mode gave 12 and the observed mode gave 1. Interestingly, the median of the expected frequency was 12 which tallies with the observed median. The standard deviation of expected frequency was 13.33 while the observed counterpart was 30.12. The variance of the expected distribution was 177.74 while the observed counterpart was 907.16. There was thus, a wide gap between expected mode and observed mode as well as the standard deviations and variances. This could be interpreted to mean that there was no convergence between quantity, quality and operational effectiveness as variables of assessment for the facilities in the hotels and by implication; lack of wholeness among the variables.

5.0 Conclusion and Recommendation
It could be concluded that subjecting the perceptions of users of facilities in hotels could yield a more responsive and succinct result that would reflect the real status of the facilities, highly functional, functional, somewhat functional and indeed un-functional. The result could be used as supporting independent report to technical report. It could be a one-off assessment or a continuous on. The implication here is that hotel operators should lay emphasis on quality of facilities which could be achieved by sustained maintenance of facilities and they should always give thought to examining facilities holistically than just quantities and one-off performance rectification but a holistic assessment, taking into cognizance the variables of quantity, quality, operational functionality and wholeness, that is the synergy or interactive relationship between the three main variable.

References

Alexander, K (1996). Facilities Management: Overview. In Alexander, K [Ed.]. Facilities Management London: Theory and Practice(pp. 1-12). London E & FN Spon.

.Amaratunga, D and Baldry, D (2002). Building Performance Evaluation in Higher Education Properties: Towards a

Process Model. RICS Foundation, 2 (14), 45 - 56

Brackertz, N and Kenley, R (2002): A service delivery approach to measuring facility performance in local government. Facilities. 20 (3/4):127 – 135.

Brackertz, N and Kenley, R (2006): Evaluating community facilities in local governments: Managing for service enablement. Journal of Facilities Management, 1, (3): 283 – 299

College of Estate Management (1995). Property Management. Whiteknights, Reading The College of Estate.

Crowther, D (1996): Corporate performance operates in three dimensions. Managerial Auditing Journal. (11/8) :4 – 13.

Douglas, J (1996): Building performance and its relevance to facilities management. Facilities. 14 (3/4) 23 – 32.

Durodola, O.D and Oloyede, S.A (2011)"Empirical Determination of Property Assets Management Styles in South-Western Nigeria Hotels". Journal of Sustainable Development, February 4(1), 151 – 159

Edgar, A and Teicholz, E (2003). Accomplishing Total Asset Management. Facility Management Journal (FMJ), International Facility Management Association. March/April 2003, 19 – 21

Grimshaw, R.W (2003). FM: The Professional Interface. Facilities, 21(3/4) 50 - 57

Hanford, L.D (1970). Analysis and Management of Investment Property 1ˢᵗ Ed. Chicago: Institute of Real Estate Management of the National Association of Realtors.

Hamer, J.M (1988). Facility Management System, 1ˢᵗ Ed, New York: Van Nostrand Reinhold Inc.

Kothari, C.R (1978). Quantitative Techniques 3ʳᵈ Ed. New Delhi: Vikas Publishing House PVT Ltd.

Kotler, P and Armstrong. K. (1989). Principles of Marketing, (4ᵗʰ edition) Prentice- Hall International, Pp. 4, 5, 132, 180.

Lindholm, A and Leväinen, K (2006): A framework for identifying and measuring value added by corporate real estate, Journal of Corporate Real Estate, 8 (1):38 - 46

Lindholm, A. and Nenonem, S. (2006): A conceptual framework of CREM performance measurement tools. Journal of Corporate Real Estate. 8 (3):108 – 119.

Liyanage, C. and Egbu, C. (2008): A performance management framework for healthcare facilities management, Journal of Facilities Management, 6 (1): 23 - 36

Lützkendorf, T; Speer, T; Szigeti, F; Davis, G; le Roux, P; Kato, A and Tsunekawa, K (2005): A comparison of international classifications for performance requirements and building performance categories used in evaluation methods. Technical Research Centre of Finland (VTT) / Association of Finnish Civil Engineers (RIL). Assessed from http://www.irbnet.de/daten/iconda/ CIB6731.pdf

Myeda, N.E; Kamaruzzaman, S. N and Pitt, M (2011): Measuring the performance of office buildings

maintenance management in Malaysia, Journal of Facilities Management, 9(3):181 – 199.

Nigerian Tourism Development Corporation (NTDC) (2001). Standard for National Classification and Grading of Hotels and Other Serviced Accommodations in Nigeria. 1st Ed. Abuja: Nigerian Tourism Development Corporation.

Nwankwo, P.C (2004) Property Management Practice in Nigeria, 2nd Ed. Lagos: B.G Company.

Okoroh, M.I; Jones, C.M and Ilozor, B.D (2003) "Adding Value to Constructed Facilities: Facilities Management Hospitality Case Study" Journal of Performance of Constructed Facilities, February 24-33

Oyefeko, S.T (1999) "Methodology for the Practice of Building Surveying". The Nigerian Institute of Building National Seminar on 'Professional Builders in Practice'.October. Zodiac Hotel, Enugu.

Pitt, M and Tucker, M (2011): Performance measurement in facilities management: driving innovation?, Property Management. 26(4): 241 – 254

Seeley, I.H (1977) Building Maintenance 1st Ed. London: Macmillan Publishers Ltd.

Sinopoli, J (2009): How do we measure the performance of a building? Smart Building LLC. Assessed from http://www.smart-buildings.com/uploads/1/1/4/3/114 39474 /howdowemeasure0809.pdf on 4th August, 2012 at 21:41 pm

Sirota, D (2004): Essentials of Real Estate Investment,(7th ed.) Chicago, Dearborn Financial Publishing, Inc.

Thorncroft, D. (1965) Principles of Estate Management. 1st Ed. London: Estates

Gazette.

Varcoe, B.J (1996): Facilities performance measurement, Facilities, 14 (10): 46-51