Assessing the level of commitment and barriers to sustainable facilities management practice: A case of Nigeria

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Abstract

The purpose of this study is to assess the state of sustainable FM practice in Nigeria particularly as it relates to the level of commitment and barriers faced by corporate organisations. The paper uses questionnaire survey of 58 respondents (facilities managers and other top managers who have FM portfolios) representing 58 corporate organisations registered with Nigeria's corporate affairs commission. It also involved interview sections in a case study setting with three interviewees representing three corporate establishments in Nigeria. Supported by empirical evidence, this study establishes the three main barriers to sustainable FM practice as lack of training and tools, lack of relevant laws and regulation, and lack of awareness in that order; while the level of commitment among organisations is reported to be mixed. Majority of respondents (52%) are however of the opinion that senior management personnel should be at the forefront of championing improvement of the level of commitment to sustainable FM practices within organisations. This paper recommends that government should: (1) fast track passage of pending eco-friendly bills such as petroleum industry bill (PIB) now stagnated at the national assembly (2) empower regulatory agencies to enforce and strengthen existing regulations on sustainable working practices and (3) create awareness on sustainability in general and sustainable FM practice in particular through advocacy and enlightenment programmes. This paper provides an enhanced understanding of the state of sustainable FM practice in Nigeria.

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1. Introduction

The concept of facilities planning and development dates back to 1950s when Dwight D. Eisenhower launched the federal interstate highway system in America, which expectedly heralded an unprecedented wave of residential and commercial development in the then undeveloped America (Starner, 2004). Facilities management as it is known today dates back to the 1980s when the railway companies in USA conceived the idea of providing facilities-related services as opposed to providing buildings (Atkin and Brooks, 2000; Moseki et al., 2011). Ever since then, it has witnessed tremendous global transformation entering Europe in the mid 1980s first in UK in 1984, the Netherlands in 1986, the Scandinavian countries in 1992 and Germany in 1995 (Levainen, 1997). As a follow up to this, a non-profit organisation called International Facilities Management Association (IFMA) was established in the early 1980s to incorporate associations

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dedicated to serving the FM profession originally in North America; but as of today has members represented globally in over 60 countries worldwide (Ventovuori, 2007) including Nigeria where it offers guidance and expertise to its members, as well as carrying out research to substantiate best practice in facilities management (Adewunmi et al., 2008). FM practice in Nigeria is said to be evolving at an exponential rate due to the country's rising profile as one of the fastest growing entities in the emerging market economies (EMEs) and a key player in the international oil industry (VETIVA, 2011; Oyedepo, 2012). Nigeria's economy has experienced strong growth in recent years with real GDP averaging 7.8% from 2004 to 2007 and 6.5% in 2011 due to the global economic crisis and expected to average 8% in 2013 (World Bank report, 2012) which makes it an attraction to global investors. Though a relatively new field, FM practice was introduced into the country as a result of relocation of two foremost multinational oil companies namely Chevron and Mobil in the early eighties (Adewunmi et al., 2012). It has now widened in scope and complexities as many more organisations cutting across public and private continue to embrace the concept.

The evolution of sustainable FM practice has consistently been driven by the need to contribute in reducing the impact of built environment including construction and real estate related projects and actions on the environment thereby advancing the sustainability agenda across the three bottom lines of economic, environmental and social sustainability. Benefits of sustainability and green building practices in facilities management can be measured by substantial reduction in wastes (waste management), increased productivity through efficient work practices and reduction in energy consumption. As Roper and Beard (2006) rightly argued, "sustainability is really about two things: having both awareness of the fragility of living things, their ecosystems and the resources on which they depend; and about seeking to implement technical and economic efficiency with a soul and a conscience". The study contained in this paper however argues that the concept of sustainable FM practice in Nigeria is grossly under-researched even as awareness is abysmally low and attitude towards it is inadequate. Although facilities managers remain at the vanguard of promoting sustainable working practices within host organisations through adoption of environmentally friendly technologies, waste and energy management practices (Kadiri, 2006), one contends that lackadaisical commitments by organisations, technical barriers (Finch and Clements-Croome, 1997), economic and social challenges can substantially impact on success of sustainable FM practice.

This study therefore investigates the level of commitment of corporate organisations in Nigeria to sustainable FM practices by examining the perceptions of top executives who are either facilities managers or have FM portfolios in their organisations on sustainability. It is anchored on the three bottom line attributes of sustainability

(environmental, social and economic sustainability) and addresses issues about the level of commitment by corporate organisations doing business in Nigeria; and likely barriers impeding the smooth practice of sustainable facilities management. The specific research objectives are therefore to: (1) examine the level of commitment of corporate organisations in Nigeria to issues of sustainable FM practice; and (2) identify barriers militating against sustainable FM practice in Nigeria.

The paper is structured into five sections. The first section above introduced the concept of sustainable FM practice and gave a brief background to the research problem. The next section presents a review of related literature to put the study in a proper perspective. This is followed in Section 3 by methodology which measures and techniques adopted to achieve stated objectives. Section 4 discusses the results and discussion of findings that emanated from analysis while Section 5 presents conclusion, implications for research and practice, and recommendation emanating from research.

2. Literature review

Sustainability studies continue to attract global attention among researchers in response to the desire to build a humane, equitable, and caring global society, cognizant of the need for human dignity for all (Johannesburg Declaration on Sustainable Development, 2002). According to Chambers (1993), sustainability is defined as "that which is capable of being sustained; in ecology the amount or degree to which the earth's resources may be exploited without deleterious effects"; while sustainable development is described by the famous *Brundtland* report (WCED, 1987) as that "which meets the needs of the present without compromising the ability of the future generations to meet their own needs". Plausibly, these definitions clearly underscore the desire to jealously protect and manage the earth's natural resource base for economic, social and environmental well-being of the society. While these debates continue, it is argued that facilities managers are the most strategically positioned to champion organisational behavioural change needed to influence the attitude of individuals both in public and private establishments within the facilities they manage to issues of sustainability.

2.1. Strategic facilities management and sustainability agenda

Researchers argue that positive commitment and perception towards the concept of sustainable FM practice can only be made possible by FM executives at the top strategic level of management in organisations. In a survey to explore the attitudes of 3199 senior management executives towards sustainable practices, *The McKinsey Quarterly* Global Survey (2008) discovered that 60% perceive climate change as important within their organisations' overall strategy, 70% consider climate change as key brand-

ing and reputational issue. Although FM continues to deliver high level of operational support to core business, one can argue that the notion of its strong tendency to be technically oriented and reactive (Barrett, 2000) is no longer tenable. This is because the more developed view of FM as an integrated approach to managing facilities and its related services (Nutt, 2004) means that facilities managers and those with FM portfolios must leverage themselves into the strategic consciousness of the core business they serve. As sustainability debate continues among researchers and practitioners, Elmualim et al. (2010) and Shah (2007) are of the view that facilities management activities have strong influence over the manner buildings and facilities are used, while facilities managers are best placed strategically to promote and implement the sustainability agenda for organisations. This study entirely agrees with this line of argument in that there is the need to incorporate FM into the strategic management level of organisations to bring about the anticipated strong commitment towards sustainable FM practice. The only challenge however lies in the apparent lack of professional provision and scientific training across the labour industry for facilities managers, a situation that could hinder the capability of understanding the complexities of intelligent buildings and their operations (Elmualim et al., 2008).

The level of commitment to sustainable FM practice can also be seen from the point of view of government priority to the concept of sustainability generally. At the governmental level and arising from several UN declarations, many countries particularly from developed countries notably UK have instituted policies and legislations aimed at giving statutory backing to issues of sustainability. For instance, the UK government was among the first to set itself a target of reducing gas emissions by 8–12% by 2010 (Pitt et al., 2009), while several other policies such as Article 7 of the EU Directive 2002/91/EC on energy performance in buildings (Baharum and Pitt, 2009), the introduction of the Landfill Tax and Aggregate levy (Pitt et al., 2009) are among sustainability policies vigorously being implemented across Europe.

The Federal Government of Nigeria (FGN) is mandated by section 20 of the 1999 constitution to: *protect and improve the environment and safeguard the water, air, land, forest, and wild life of Nigeria*. According to Adewunmi et al. (2012), other recognised environmental protection provision include the Harmful Waste (Special Criminal Provisions) Act Cap 165 which was in response to the illegal dumping of toxic waste in Nigeria in 1988, the Environmental Impact Assessment (EIA) Decree 86 of 1992 which emanated directly from the provision of Principle 17 of Rio Declaration (Anago, 2002). However, the most direct national legal framework on sustainability by Nigeria was the National Energy Policy (NEP) enacted in 2003. It was designed to articulate the sustainable exploitation and utilisation of all energy resources (Oyedepo, 2012). While it is acknowledged that Nigeria is making great and consistent strive towards enacting and implementing policies on sustainability, the level of commitment and implementation by government to issues of sustainability is not addressed in this paper.

2.2. Barriers to sustainable FM practice

Researchers have highlighted the unequivocal role facilities management profession can play in advancing the sustainability agenda on account of its potential contribution to sustainability goals in organisations (Wood, 2006; Shah, 2007). However, the rapidly evolving nature of FM means that there are likely to be barriers capable of hindering full integration of FM practice into the sustainability agenda among organisations. Additionally, Kato et al. (2009) contend that notwithstanding the proliferation of green buildings, there are impediments to the construction and management of green and sustainable buildings.

Elmualim et al. (2010) investigated barriers and commitment of FM profession to sustainability debate using an online survey of facilities managers in UK. The study discovered time constraints, lack of knowledge, and lack of senior management commitment as the three main barriers to sustainable FM practice in UK. Thus, facilities managers who are responsible for championing the cause of sustainability within organisations are not getting enough information regarding sustainability issues, while top level management are slow in their commitment to the cause of sustainability within organisations. It is equally important to emphasise that technical barriers such as lack of adequate professional and scientific training on complexities and operations of intelligent buildings can be an impediment to successful sustainable FM practice (Finch and Clements-Croome, 1997).

Based on a field survey involving questionnaire survey and interview sections on food industry practitioners in Lebanon, the study by Massoud et al. (2010) revealed lack of government support and incentives, lack of relevant environmental laws and regulation, and uncertainty of outcomes and benefits as the three most common barriers to successful implementation of environmental management systems in the Lebanese food industry. This study argues that although the work of Massoud et al. (2010) is narrowly inclined to environmental sustainability, the findings have profound implications for sustainable FM practice in Nigeria. This is because small and medium scale organisations that constitute the largest and fastest growing sector of Nigeria's economy (VETIVA, 2011) are facing constraints arising from near infrastructure collapse. Therefore, in order to effectively adopt sustainable FM as a core management policy, they needed to be encouraged through granting of waivers for technical and financial resources by government; and strict monitoring of promulgated laws and regulations by the regulating agencies. Additionally, the apparent low level of awareness about sustainability in Nigeria's corporate world means that people are likely to doubt the certainty of its outcomes and benefits.

Other common barriers to sustainable FM practice in the literature include lack of awareness, lack of training and tools (Finch and Clements-Croome (1997); financial constraints, cost of certification, lack of in-house knowledge, customer demands and constraints, physical and historical constraints, and organisational engagements (Shah, 2007; Elmualim et al., 2008). There is unanimity among researchers for a continued identification of the challenges capable of frustrating the adoption of sustainable practices within organisations which underscores the need to investigate factors militating against sustainable FM practice in Nigeria.

In summary, evidence from concomitant literatures has established FM as a key player in global sustainability agenda. The study contained in this paper contributes to that existing body of knowledge by using data from Nigeria to empirically explore the level of commitment by corporate organisations to the course of sustainable FM practice. The next section of this paper presents the methodology used to achieve the aim of the study.

3. Methodology

This study investigates the level of commitment and barriers to sustainable FM practice among corporate organisations in Nigeria. The research is underpinned by a review of extant literature to extract taxonomy of variables in the relevant domains; and empirical survey using quantitative and qualitative techniques. A pilot study was conducted through interview with academic and industry experts in UK and Nigeria to improve the taxonomy prepared from the literature review before a final list of variables reflecting the theme of the research problem was prepared. The study adopts the use of questionnaire survey and case study interview in a mixed method setting of research (concurrent triangulation model) to facilitate triangulation aimed at achieving overall strength of the study. Mixed method combines or associates both qualitative and quantitative forms of research (Johnson and Christen, 2007) and comprises of two approaches. The first involves a situation whereby the researcher uses qualitative research paradigm for one phase of research before using quantitative research paradigm for another phase of study, or visa-vis. The second model which Creswell (2009) describes as concurrent triangulation model involves a situation whereby the researcher uses both approaches within the same stage of research or across two stages of the same research to achieve research goal. In other words, the research problem is placed as central theme while concrete data (from questionnaire) is used to compare reflection and observation (from case study interview section) in order to capture a proper understanding of the research problem.

The questionnaire survey aspect of this study was conducted through a self administered questionnaire to 126 corporations drawn from the register of the Corporate Affairs Commission (CAC) Nigeria, and who are domiciled in Lagos and Port Harcourt (PH). Lagos was chosen because it is the centre of commercial activities in the country while Port Harcourt was adopted because it is the home of major oil multinationals who are key stakeholders on matters of environmental sustainability in the Niger-Delta. Social and environmental concerns in the Niger-Delta have been well reported in the international press. Taking together, the two cities accommodate headquarters of nearly half of all firms in Nigeria. The questionnaire contained questions about companies' background, issues of sustainability in general, level of commitment and barriers to sustainable FM practice within host organisations. A total of 58 corporations (Lagos = 32 and PH = 26) responded to the survey giving a response rate of 46%.

The qualitative approach involved semi structured interview sections lasting 30 min with three interviewees representing two corporate organisations and one real estate organisation in a multi-case study setting. These companies are sustainability conscious organisations and in that circumstance presumed to be companies with exceptional measure of integrity on matters of sustainability. This approach provided through the interview, a better understanding of best practice sustainable FM that could be used to benchmark other smaller companies.

Data collected through questionnaire survey were analysed using basic descriptive and inferential statistical tools. Data from case study were primarily based on themes that emerged from the interviews and analysed using narrative techniques by discussing themes, sub-themes and interconnecting themes through a chronology of events as in grounded theory.

4. Results and discussion

4.1. Reliability and ANOVA investigations

In order to determine whether items in the questionnaire representing "barriers to FM practice" were internally consistent, reliability checks using Cronbach's alpha was performed. The attributes "barriers to FM practice" (10 items) produced a Cronbach's alpha of 0.778. This shows that the attributes are consistent and that the scales are internally reliable.

Results of ANOVA (listed in Table 1) indicate that respondents were unanimous in their rankings of barriers to sustainable FM practice based on their natural groupings (such as academic qualification, type of organisation, years of experience, job description and professional affiliation). There were only two instances where there seem to be significant difference ($p < 0.05$) among respondents. The result however shows that there was significant difference in the rankings of "level of agreement" among two of the five natural groupings of respondents (Qualification and type of organisation). The overall result however portrays a general agreement.

4.2. Sample characteristics

The demographic data collected indicated that the manufacturing sector had the largest group of respondents who

Table 1

Analysis of variance for sustainability drivers and barriers to FM practice.

Description	Qualification		Type of organisation		Experience in FM		Job description		Professional affiliation	
	F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.
Level of commitment	5.191	0.03*	2.377	0.030*	0.782	0.463	0.981	0.409	0.977	0.441
Barriers to FM practice										
Lack of awareness	0.084	0.968	1.712	0.119	4.730	0.013*	0.413	0.744	1.417	0.234
Lack of senior management commitment	1.716	0.175	1.169	0.337	0.324	0.724	0.273	0.845	0.622	0.684
Lack of government support and incentives	0.868	0.463	6.454	0.000*	0.632	0.536	0.808	0.495	1.867	0.116
Uncertainty of outcomes and benefits	0.455	0.715	1.536	0.169	2.531	0.062	0.540	0.657	1.520	0.200
Lack of training and tools	0.191	0.902	1.509	0.173	2.792	0.070	0.094	0.963	0.919	0.476
Lack of relevant laws and regulation	0.226	0.878	1.551	0.164	1.537	0.224	1.768	0.164	1.920	0.107
Financial constraints	0.745	0.530	2.103	0.053	1.251	0.294	0.341	0.796	1.225	0.311
Corruption	2.608	0.061	1.957	0.072	0.275	0.760	0.831	0.483	1.038	0.405
Physical/historical constraints	0.081	0.970	2.758	0.213	0.315	0.731	0.428	0.733	0.939	0.464
Customer demand and constraints	2.658	0.057	1.213	0.437	0.106	0.900	0.216	0.885	0.811	0.547

Note: p is significant at $p > 0.05$; *$p < 0.05$; FM = facilities management.

responded to the survey (21%). This was closely followed by oil services (19%) and government corporations (12%). Others are construction (12%), oil exploration (10%), FM companies (9%), logistics (7%), RE companies (5%) and consultants (5%) (See Table 2). Fifty-five percent of respondents are based in Lagos while 45% are based in Port Harcourt. This indicates that a good spread of corporate organisations was represented in the survey. In terms of academic background, 47% were bachelor's degree holders, 29% were masters degree holders, 22% were higher national diploma holders, while there is a doctorate degree holder (2%) among them. Hence the respondents represent a good spread of academic background. It is important to note that 64% out of 58 respondents who responded to the survey are not registered with IFMA, Nigeria chapter (36% are registered with IFMA, Nigeria chapter) although all have portfolios related to FM. This could be attributed to the multidisciplinary nature of FM that accommodates diverse professions found in the built environment (Kassim and Hudson, 2006).

This assertion is clearly supported by demographics in terms of professional affiliation. It shows that respondents are almost evenly spread among the major professional bodies in the Nigerian construction and property industry namely the Nigerian Institute of Estate Surveys and Valuers (29%), the Nigerian Society of Engineers (26%), the Nigerian Institute of Architects (17%), the Nigerian Institute of Building (16%), and the Nigerian Institute of Quantity Surveyors (7%). The Nigerian Institute of Management has only 5% as members. In terms of job description, there are 33 facilities managers, 10 health and safety managers, nine environmental managers, and six quality managers. Besides, over 60% had an average working experience of more than 5 years in FM while over 20% have held FM portfolios for a range of between 21 and 30 years.

4.3. Level of commitment

In order to examine the level of commitment to issues of sustainable FM practice, respondents were asked to rate their perception about their organisations' commitment using a scale of 1 = poor, 2 = inconsistent, 3 = adequate, 4 = very good, and 5 = excellent (Elmualim et al., 2010). Fig. 1 shows the result represented in a pie chart with only 1.7% (one organisation) indicating an excellent commitment. 24.1% classed their organisations' commitment as very good compared to 43.1% who thought their organisations' efforts were adequate. However, 29.3% rated their organisations' commitment as inconsistent while 1.7% rated their organisations' commitment as poor.

A cross tabulation of type of organisation against level of commitment (Table 4) was explored to provide further insight into issues of commitment to sustainable FM practice. The result shows that eight out of 17 respondents from the oil sector (exploration and services) and three out of seven respondents representing government corporations rated their organisations' commitment as very good. However, only one out of 12 respondents from the manufacturing sector, one out of seven from the construction sector, one out of four from logistics companies rated their organisations efforts as very good. It is also worthy to note that 25 out of 58 that responded to the survey rated their organisations' effort as adequate while 17 (about 29% of respondents) rated their organisations' effort as inconsistent. It is clear from these findings that although there are policies in place for sustainable FM practice in most of the organisations represented in the survey, the level of commitment from the organisations is far from being satisfactory.

In response to the question who do you think should be at the forefront of improving level of commitment to sustainable FM practice in your organisation? 52% (30 respondents) reported "senior management" (Please see Fig. 2). This is consistent with findings from previous studies such as McKinsey Global survey (2008), Shah (2007), and Elmualim et al. (2010). According to Elmualim et al. (2010), the key to successful implementation of sustainability agenda within organisations rests squarely in a positive perception by senior management that sustainability is an important issue to be addressed as a mainstream objective within that organisation's corporate plan. By implication, it is important to

Table 2
Demographics of survey respondents.

Variables	Category	Frequency	%
Academic qualification	HND	13	22.4
	B.Sc/B.Eng	27	46.6
	M.Sc/M.Eng	17	29.3
	PhD	1	1.7
	Total	**58**	**100**
Type of organisation	Government Corporation	7	12.1
	Oil exploration company	6	10.3
	Oil services company	11	19.0
	Manufacturing company	12	20.7
	Construction contracting	7	12.1
	Logistics company	4	6.9
	FM company	5	8.6
	RE company	3	5.2
	Consulting company	3	.2
	Total	**58**	**100**
Years of experience	5–10	8	13.8
	10–20	37	63.8
	20–30	13	22.4
	>30	–	–
	Total	**58**	**100**
Job description	Facilities manager	33	56.9
	Health & safety manager	10	17.2
	Environmental manager	9	15.5
	Quality manager	6	10.3
	Total	**58**	**100**
IFMA membership	Yes	21	36.2
	No	37	63.8
	Total	**58**	**100**
Professional affiliation	NIOB	9	15.5
	NIA	10	17.2
	NIQS	4	6.9
	NIESV	17	29.3
	NIM	3	5.2
	NSE	15	25.9
	Total	**58**	**100**
Location of organisation	Lagos	32	55.2
	Port Harcourt	26	44.8
	Total	**58**	**100**

MSC = Masters of Science Degree, M.ENG = Masters in Engineering, BSC = Bachelor's Degree, B.ENG = Bachelor's Degree in Engineering HND = Higher National Diploma, NIOB = Nigerian Institute of Building, NIA = Nigerian Institute of Architects, NIESV = Nigerian Institute of Estate Surveyors and Valuers, NIQS = Nigerian Institute of Quantity Surveyors, NIM = Nigerian Institute of Management, NSE = Nigerian Society of Engineers, FM = Facilities Management, RE = Real estate.

emphasise that the concept of sustainable FM practice can only make appreciable impact among Nigeria's corporate world if FM principles are fully embedded in the strategic function of organisations. 35% (20) however reported "government through legislation and advocacy". This has profound practical implications. This paper argues that whatever the level of commitment exhibited by senior management towards sustainability, there is sufficient evidence to suggest that it can only be sustainable if government comes up with a clear commitment as overall regulator through promulgation and enforcement of legislation and enlightenment programmes that could trigger support from the general public. This could then send signals to organisations that government is very serious about sustainability. In

a study by Elmualim et al. (2012), legislation is reported as a key driver for adopting sustainability by most organisations in UK which means that government commitment through enactment of laws could increase pressure on organisations to comply with regulations about sustainability. Other results included 10% (six respondents) reporting commitment from junior subordinates at the operational level and 3% (two respondents) who do not know.

4.4. Barriers to sustainable FM practice

In order to examine respondents' perception about impact of barriers to sustainable FM practice in Nigeria, Likert scale of 1 = very low to 5 = very high was used to
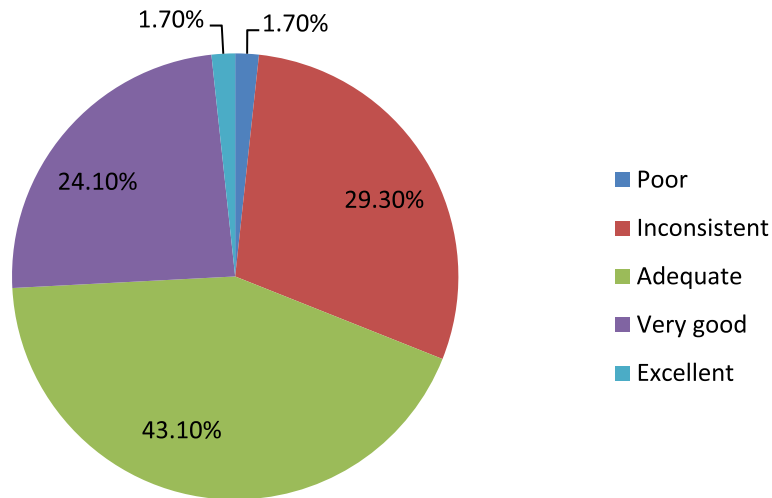
Figure 1. Respondents' rating of the level of commitment to sustainable FM practice by their organisations.

rate their responses. Scores entered by respondents were transformed into RII values using equation: $RII = \sum w/AN$ where w is the weighting allocated to each factor by respondents which ranges from 1 to 5, A is the highest weight (five for this study), N is the total number of respondents (58 in this study), and RII is the relative importance index. The results of the study shown in Table 3 revealed that the most salient barriers to full realisation of sustainable FM practice in Nigeria are lack of training and tools (RII = 0.886). This finding is inconsistent with those reported by Elmualim et al. (2010) which reported that time constraint, lack of knowledge, and lack of senior management commitment are the three main barriers to the practice of sustainable FM in UK. This suggests that sustainable FM practice among Nigeria's corporate organisations is facing a major challenge of dearth of trained FM professionals to handle intelligent and green buildings that have started to spring up even as the interests in sustainable development discourse continue to gather momentum in Nigeria. Another barrier revealed by this study is "lack of relevant laws and regulation" (RII = 0.883). This has profound implication on the practice of sustainable FM

practice in Nigeria. There is a need for promulgation of relevant laws and regulatory framework to guide stakeholders on sustainability generally, particularly foreign investors who are investing in the nation's economy. As it is today, the lack of adequate infrastructure base and organisational resources at federal and state levels means that even with the existence of laws and regulations, it would be difficult to achieve compliance. Besides, enforcement remains weak and ineffective while political bickering among the political class has slowed down the legislative process. An example is the continued delay of the passage of the petroleum industry bill (PIB). It is a bill that seeks to regulate how the nation's oil resources are managed while incorporating components of sustainability. Nigeria's national assembly must therefore put regional sentiments and interests aside, and rise to the occasion of their legislative duties. It is argued that whatever efforts are made towards sustainable living in Nigeria will make no meaning if appropriate mechanisms are not adopted to encourage the corporate organisations.

Lack of awareness (RII = 0.776) was rated third by respondents. This may be attributed to the lackadaisical
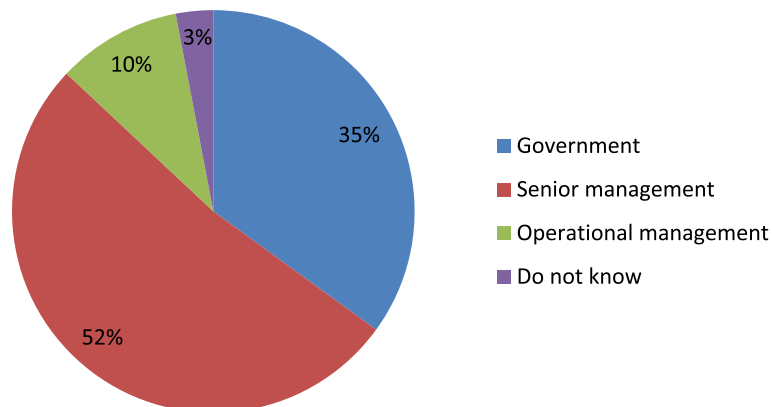

Figure 2. Respondents' rating of who should be at forefront of commitment to sustainable FM practice within organisations.

Table 3
Rankings and RII of barriers to sustainable FM practice.

Barriers	VL	L	MD	HG	VH	RII	Rank
Lack of awareness	–	3	10	36	9	0.776	3
Lack of senior management commitment	19	23	9	5	2	0.421	10
Lack of government support and incentives	5	8	14	18	13	0.679	5
Uncertainty of outcomes and benefit	2	3	12	29	12	0.759	4
Lack of training and tools	–	1	4	20	33	0.886	1
Lack of relevant laws and regulation	–	1	6	19	32	0.883	2
Financial constraints	1	22	20	12	3	0.655	6
Corruption	6	21	13	11	7	0.573	7
Physical/historical constraints	9	34	11	3	1	0.438	9
Customer demand and constraints	10	27	9	12	–	0.479	8

Note: VL = very low L = low MD = moderate HG = high VH = very high RII = relative importance index.

Table 4
Results of crosstab of type of organisation and level of commitment of organisations.

Type of organisation * Level of commitment cross tabulation

Count

		Level of commitment					Total
		Poor	Inconsistent	Adequate	Very good	Excellent	
Type of organisation	Govt corporation	0	2	2	3	0	7
	Oil exploration	0	0	3	2	1	6
	Oil services	1	0	4	6	0	11
	Manufacturing	0	3	8	1	0	12
	Construction	0	4	2	1	0	7
	Logistics	0	1	2	1	0	4
	FM company	0	3	2	0	0	5
	RE company	0	3	0	0	0	3
	Consultant	0	1	2	0	0	3
Total		**1**	**17**	**25**	**14**	**1**	**58**

attitude towards the concept of sustainability in Nigeria. With majority of the population living below poverty line, it will be hard to convince anyone about the benefits of sustainability which is why enlightenment of stakeholders remains a viable solution to the issue of lack of awareness. Additionally, the general notion that FM is at an emerging stage of development in Nigeria may have also informed the perceived lack of awareness. In a recent study by Ikediashi et al. (2012), it was reported that the general level of awareness about the benefits of FM is at an abysmally low level in Nigeria even though it is gathering pace as the economy continues to grow.

Other barriers identified by the study include uncertainty of outcomes and benefits (RII = 0.759) at the fourth, lack of government support and incentives (0.679) at the fifth, and financial constraints (0.655) at the sixth. Clearly the perceived uncertainty surrounding the outcomes and benefits of sustainable FM practice may have been exacerbated by lack of awareness on one end and lack of government support on the other. It is equally important to point out that without a clear appreciation and understanding of the benefits of sustainability and sustainable FM practice in particular, which must be seen to outweigh the cost implications, the decision to adopt it by organisations might be viewed as unjustifiable.

4.5. Case study

The multi-case study was conducted in July 2012 involving three companies representing oil and gas (case 1), manufacturing (case 2), and real estate company (case 3). Case 1 is an oil and gas services company responsible for exploration and production of hydrocarbon in the offshore and onshore belt of the Niger Delta. It is also involved with pipe manufacturing and spoon bases, pipe coating, ship repairs and helicopter operations. The interviewee representing case 1 is a manager in charge of operations and has held that position for 10 years including several FM portfolios. He holds a bachelor's degree in mechanical engineering and master's degree in project management and also a member of the Nigeria Society of Engineers (NSE) and the Chartered Institute of Building (CIOB). Case 2 is a renowned manufacturing company in Nigeria and based in the city of Lagos. It is into manufacturing of household appliances such as detergents, electrical, nutritious and medical products and has about 4000 employees. The interviewee for case 2 is the head (facilities and estates) and has held that position for 8 years. She holds a bachelor's degree in estate management and master's degree in health and safety management and among others a member of IFMA, Nigeria chapter. Case 3 is a real estate company based in Port Harcourt. Although

relatively small compared to the other two cases, it is however renowned for real estate portfolio management, facilities management provider for several organisations and a major investor in the Nigeria's real estate property development sector. The interviewee representing case 3 is a facilities manager by profession and holds a bachelor's degree in estate management and a master's degree in construction management. He is a member of the Nigerian Institute of Estate Surveyors and Valuers (NIESV) and has held that position for over 5 years.

Regarding the level of commitment, the comments of the interviewees were consistent with the outcome of the questionnaire survey. While interviewee 1 insisted that there is a relatively high commitment of organisations in the oil and gas sector to issues of sustainability generally (scoring them "very good"), interviewee 2 was however conservative in his assessment by scoring the commitment of industrial and manufacturing organisations "adequate". Interviewee 3 scored the commitment of FM organisations as "inconsistent". This result is obvious. This is arguably because, while the oil and gas multinationals have the requisite financial resources to prosecute any component of sustainability agenda, the same may not be the case with other organisations that are struggling with high overheads occasioned by epileptic power supply. It is also important to quickly point out that the issue of practical implementation of sustainability policy and independent verification of the level of commitment by organisations is not addressed in this paper. Therefore there should be no assumption that the development of a good sustainability policy framework and perceived high level of commitment to issues of sustainability literally translates to effective and efficient management of the policy. Regarding the question of who is best positioned to drive the level of commitment to sustainable FM practice, interviewee 1 was very categorical "*I feel very strongly that government has the sole responsibility to make the issue of sustainability work. We on our part are championing the course of sustainable FM practice by being proactive and conscious of best working practices in all of our facilities both onshore and offshore*". This was also echoed by the other two interviewees who also added that managers at top, middle and low levels have a duty to work together in supporting the government in order to achieve a realistic target for sustainability in Nigeria.

On the barriers militating against smooth practice of sustainable facilities management, while interviewee 1 listed lack of relevant laws and regulation, lack of awareness, and lack of government support and incentives as key barriers in that order, interviewee 2 listed lack of training tools, financial constraints, and lack of government support and incentives as the three most significant barriers. Interviewee 3 however insisted that uncertainty of outcomes and benefits, lack of adequate training and tools, and financial constraints are the dominant barriers. While it is acknowledged that the non commitment of government is a major impediment towards sustainable FM practice, the high ratings accorded that issues of lack of training and tools, uncertainty of outcomes and benefits, and financial constraints should be of great concern to stakeholders. These barriers which are technical, financial, regulatory and informational in nature need to be addressed for sustainable FM practice and sustainability in general to thrive in the country.

5. Conclusion

FM practice in Nigeria is becoming increasingly complex even as the economy continues to grow and diversify. A major concept that has generated considerable discourse among researchers and practitioners alike is sustainable FM. It is becoming an indispensable phenomenon as stakeholders debate on ways of containing threats posed by climate change on account of the impact of built environment (facilities and facilities related services) on the environment. This paper presents an investigation on the level of commitment and barriers to sustainable FM practice in Nigeria using a combination of questionnaire survey and semi structured interviews on corporate organisations drawn from the register of the Corporate Affairs Commission of Nigeria.

Findings revealed that the three main barriers are lack of training and tools, lack of relevant laws and regulation, and lack of awareness; while the level of commitment among organisations is mixed. This is essentially because while some rated their organisations' level of commitment as very good, other were not forthcoming as they rated theirs as either adequate or inconsistent. Majority of respondents (52%) are however of the opinion that senior management personnel should be at the forefront of championing improvement of the level of commitment to sustainable FM practices within organisations. In recognition of government's pivotal role in improving the practice of sustainable FM in Nigeria, this study that the government should: (1) fast track passage of pending eco-friendly bills such as the petroleum industry bill (PIB) now stagnated at the national assembly (2) empower regulatory agencies to enforce and strengthen existing regulations on sustainable working practices and (3) create awareness on sustainability in general and sustainable FM practice in particular through advocacy and enlightenment programmes; while organisations should provide training and practical management tools for facilities managers and those with FM portfolios to enable them provide the needed leadership on sustainability at the strategic level of organisations. The increasing globalisation of the world economy means that Nigeria's FM market has a lot to gain from other parts of the world notably UK. It is reported that FM is one of the fastest growing professions in UK while UK FM market is worth £106.3 billion with an anticipated annual growth of between 2% and 3% up to the year 2012 (Shah, 2007; Elmualim et al., 2008). Although, Nigeria FM market is lagging behind as noted in this study, there is the urgent need for stakeholders in the industry leverage on the successes achieved in other countries such

as UK in order for it to thrive. The market is there. It only needs to be explored.

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