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CSR and sustainability in FM: evolving practices and an integrated index

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Abstract

Corporate social responsibility (CSR) and sustainable development (SD) are seen as the two of the main drivers for businesses including the FM profession over the past decade or so. CSR are widely debated with FM as much as in the wider construction and built environment. Stakeholder groups such as shareholders, media and community groups are increasingly demanding transparency in organization management and are inclined to criticize unethical practices particularly those that lead to environmental problems as well as social issues such as ethical purchasing and rights of employees. Various FM organization are embracing the challenges of CSR as well as sustainability practices. It seems there are different practices when it comes to the implementation of those two concepts, CSR and Sustainability. Managed proactively, a sustainable FM service can reduce costs and provide long term value. However, there is still wide debate around the concept of CSR with a focus on social issues mainly while there is lack of suitable indices for establishing the performance of organization in terms of sustainability in FM practices. An integrative index is proposed bridging the gap between CSR and sustainable practices. Developed as a framework, this index will provide a framework for objective assessment for FM providers in order to raise the performance and delivery of sustainability by showcasing achievement, highlighting excellence and sharing best practices, and openly. Such an integrative FM focused index will contribute to stimulate a positive change within the sector, through both internal performance as well as external perception and image branding.

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1. Introduction

The construction industry over the years has faced a strong criticism with continuous mounting calls for change [1, 2]. Clients and end-users argue a building takes too long, costs too much or is of poor quality standards [3, 4]. "Why when so much has changed has so much stayed the same?" Due to its project nature, the construction industry, adequately criticized for being widely fragmented/diverse industry. The dominant cultural characteristics of the industry are; adverse relationship, low cost and lack of trust [3]. Hence it was not surprise that the industry embraced the corporate social responsibility and the sustainability agenda in response to the various performance improvement reports, especially the Eganite congregation as they draw reference to the renowned Egan's report in the late 1990s. The construction industry with its nature of project delivery is very fragmented in terms of the various processes that encompass design, construction, facilities and assets management. Despite these wide criticism, the industry is well positioned to deliver on the sustainability agenda especially Facilities managers (FM) as they are the custodian of the built environment. Indeed this position FM in the forefront of delivering sustainable assets management including advancing social sustainability and social responsibility and hence further the venture for mitigation and adaptation to climate change.

However, research showed that there is still a puzzling confusion of the definition and the use of the term sustainability. With regard to corporate social responsibility, the term was embraced by construction businesses including FM. Various terms have been used within various constituencies and organisations within the industry such as Corporate Social Responsibility (CSR), Corporate Sustainability, Sustainable Development (SD), and Sustainable Corporation to mention a few [5]. It is articulated that there is a lack of understanding of the terms and hence are used differently by different individuals, different organisation depending on the requirement of the time and context. This calls for wider dialogue about these two terms and their application in sustainable FM practice.

2. CSR and Sustainable Development

According to Ebner & Baumgartner [6]and Garriga & Melé [7] these two concepts of CSR and sustainable development, are defined widely and hence businesses, policy makers and society would mobiles various understandings and with ranging expectations. Furthermore, this has provided and extra complexity to the terms when they are used together. The debate in many cases looks to the two terms as different with differing objectives to meet the requirement of the time. Indeed sustainable development is mostly derived from the Brundtland's report [8] with its tribble bottom line of social, environmental and economical strand of sustainability. CSR is mostly viewed form a social perspective with a stakeholder approach within organisation. In many arenas, CSR is viewed as a subset of the sustainability goal Ebner & Baumgartner (2008). However, the two terms in various instance were found to be used synonymously.

According to Marrewijk [9] CSR a voluntary activities by organisations to shoe their commitment within the business for social and environmental concerns in business operations particularly in their relationship with their stakeholders. This voluntary activities involve the relationship of the organisation with all of its stakeholders, including customers, employees, communities, owners, investors, government, suppliers, competitors and society at large Khoury *et al* (1999). These activities may take the form of community engagement, investment into outreach projects, employees' relation an environmental stewardship [10, 11].

- Corporate social responsibility (CSR)
- Corporate responsibility
- Corporate citizenship
- Responsible business
- Sustainable responsible business (SRB)
- Corporate social performance

It is a form of corporate self-regulation integrated into a business model. Ideally, CSR policy would function as a built-in, self-regulating mechanism whereby business would monitor and ensure their adherence to law, ethical standards, and international "norms".

Business would embrace responsibility for the impact of their activities on the environment, consumers, employees, communities, stakeholders and all other members of the public sphere. Furthermore, business would proactively

promote the public interest by encouraging community growth and development, and voluntarily eliminating practices that harm the public sphere, regardless of legality.

Essentially, CSR is the deliberate inclusion of public interest into corporate decision making process, and the honoring of a triple bottom line: People, Planet and Profit.

- The practice of CSR is subject to much debate and criticism.
- Proponents argue that there is a strong business case for CSR, in that corporations benefit in multiple ways by operating with a perspective broader and longer than their own immediate, short-term profits.
- Critics argue that CSR distracts from the fundamental economic role of businesses; others argue that it is nothing more than superficial window-dressing; others argue that it is an attempt to pre-empt the role of governments as a watchdog over powerful multinational organisations.

In practice, it seems the two concepts are interlinked and evolving. It is evident to see that the CSR has since moved away for the eighties and nineties ideas of exploiting the concept for maximisation of profit for stakeholder [7]. While many has advocated a pragmatic business approach, many have argued that it is vital for businesses to take seriously into consideration the interest of their wider stakeholder which in return will add the business value [12]. Furthermore, McWilliams & Siegel [13] recommended the need for investment in social activities for economic gains but organisation now have moved to take into consideration societal as well environmental concerns earnestly in response to the pressure from stakeholder and public groups [12]. This view is further elaborated on with the need of ethical consideration within any CSR in terms of policy, activities as well as auditing and reporting [6]. According to Friedman [14], in many instances, investment in social activities wouldn't be in the financial interest of the business, the cost of charity.

This approach has further moved the debate to embrace the sustainability agenda. This further advocate the alignment of the CSR with the competitive advantage or organisation [15]. This has led to various organisation within the construction industry to engage into various philanthropic activities either individually by employees or collectively by the organisation. This has shown to have a significant impact not only on the competiveness and performance of the organisation but also on the employee's satisfaction and retention [7]. This evolving practice espoused the CSR line advocated by Prahalad & Hammond [16]. This approach is seen to contribute to the public perception, brand, of the organisation as marketing of products [14, 17].

Due to the nature of business, the approach is further cemented by the view that business are part of the large socity, good corporate citizenship [6, 18]. According to Matten & Moon [19] advocated the idea that organisation has to be a good citizen that is working for the common good. This further ties well with the need for integrating the concepts of both CSR and sustainable development. This is crucial for the construction industry as it has a big impact on the environment but equally well positioned to advance the suitability cause. The complex relationship between construction businesses are society is complex and intertwined and hence there is need for further advancing the practice of both CSR and sustainable development [6]. This has seen a shift from CSR to integrative sustainable business to include profit, society and the planet [20, 21].

3. The Sustainability Dialogue

The need for advancing sustainable development is increasingly of paramount importance to various governments, world-wide, as well as business organizations and the community at large due to the threatening implications of global warming. In response to these warnings, it is widely acknowledge that there is an imperative prerequisite to change the way we think and operate our businesses, especially in the built environment. The importance of sustainable development as an instrument to mitigate climate warming is well researched and well documented. The European Union is seen as leading the way as well as the UK government in designing and constantly introducing new legislation that propel the construction industry to achieve significant energy efficiency in order to reduce carbon emissions. However, it is argued that the built environment, the construction industry together with FM have a grave detrimental impact on our natural environment. The construction industry by itself accounts for approximately 40% of all resource consumption as well as producing 40% of waste with the associated greenhouse gases [22]. It is widely established that the UK built environment and especially buildings on their own, use almost 45% of generated energy for power and maintenance of buildings compared with lower value of 5% used in the construction phase of buildings [23]. Coupled

with scarcity of resources, the environmental problems are further exacerbated by the rapid development and urbanization in various parts of the world with particular reference to developing economies such as China and India. The influence of urbanization is considerable with demanding impact on the FM profession as this will further lead to the rising prices of services. Having said that, the security of the energy supply is also under question with blackouts anticipated in various metropolitan cities around the globe [24]. This has a pronounced repercussion on the FM industry in terms of sustainability practice. The FM professionals as the custodian of buildings, are well positioned to deliver on the lofty goals of sustainability to reduce energy consumption and provide an opportunity to preserve the environment [25]. This is challenging to the FM professional due to the lack of knowledge and skills to successfully implement sustainability in businesses. This situation is further made more challenging for FM as the vast pressure on them to manage buildings at the lowest possible cost [26].

Facilities management is seen as one of the fastest-growing professions in the UK over the past decades. The FM market within the UK was estimated to be worth £106.3 billion with an annual growth of 2–3% [26]. Such size of the market and growth could be seen in various other parts of the world, in developed countries as well as China, Indian and the Middle East. It was estimated that total turnover of the top 50 FM suppliers is valued at £17.7 billion [27]. The FM industry and its market are forecast to develop to include non-core functions such as payroll and IT – activities traditionally not associated with this profession [30]. Furthermore, according to Brown and Pitt [28] there is an increasing growth in the airport sector. This will further have a great impact on the drive for the sustainability agenda and further provide another challenge for practicing facilities managers due to the high carbon footprint associated with air travel. It is articulated that such growth in the wider built environment, construction and the substantial growth expected within the FM industry, will have a profound effect on environmental sustainability [28].

Despite the large market for facilities management, the FM as industry is not well recognised as always being seen as a non-core activities in businesses. This has resulted in the perception that the concept is ill defined with various understanding. Having said that, the FM widely developing as concept and profession particularly in the past decade due to market growth. It is supported that the term was originated in the late 1960s to describe the then growing practice of banks outsourcing responsibility for the processing of credit card transactions to specialist providers [29]. The FM industry was then described as the integration of processes and people within organizations in order to meet the delivery of and support of primary or core activities. This definition was later used by the European Committee for Standardization (CEN) and it was then adopted by the British Institute of Facilities Management (BIFM) [30]. The widely accepted definition was provided by Franklin Becker [31], one of the FM pioneers. He defined the FM as the planning, design and management of occupied buildings and their associated building systems, equipment, and furniture to facilitate organizations' ability to achieve its business mission and objectives [31]. It is argued that there are various definitions for FM. In various circumstance definitions are mobilised about FM. However, the concept largely refers to organizational effectiveness, and hence the pressure of financial prudence within organisations when it comes to the practice of FM.

Having established that, definitions were mobilised differently by various professional institutions and organizations for various differing reasons and interests. It is argued that most of these definitions reflect the strong relationship and interaction between buildings, people, services and organizations' core activities. This render the role of the facilities management industry as very broad and constantly changing in rapidly changing economic environment. The portfolio of FM activities is also growing with the growth in the FM market and more activities, core and non-core, are being added to the responsibilities of the practicing facilities managers. This further add unwarranted pressure on the FM with various challenges as well as opportunities for advancing sustainability in FM [30].

4. Sustainability in Facilities Management

It is timely that the concept of sustainable facilities management is evolving at the same time as the overarching concept of sustainable development. This has provided the chance to raise awareness and provide opportunities for solid actions to tackle the predicted climate change [26]. Indeed recent extreme weather events such as flooding, hurricanes and heat waves, world-wide, stipulated the urgent requirement to address the threats posed by global

climate change to human civilisation, present and future. Indeed such natural event experiences have provided further solid evidence, scientifically, to the threat of rising temperatures and the melting of the polar icecaps and glaciers on human development. The case for change has never been so clear and the need to balance the three cores for sustainable development seen at the triple bottom line of social, economic and environmental development [30].

It is has been advocated that it is timely for the facilities management profession to take charge of advancing the agenda for change through developing practical sustainability goals, in terms of both policy and practice [30]. Facilities managers, as the custodian of buildings, are well positioned to leverage the sustainability goals through wide behavioural change by influencing the behaviour of individuals as well as social groups in all forms of businesses as well as government departments and public services. Governments, at both national and international level, are pursuing the introduction of various regulation to tackle climate change by reducing carbon emissions. The regulations with regard to energy abatement in buildings will be under the sole responsibility of the facilities manager. The role of facilities manager never being so vital in meeting organisations' objectives as well as advancing the sustainability dialogue [26, 30]. Therefore, the main aspect of advancing the practice of sustainable facilities management is of paramount importance economically as well as the role it can play in the fight to mitigate climate change. It is argued that buildings consume about 32% of the world's resources and that includes 12% of water consumption [32]. Hence, the resultant carbon emissions of such large consumption is huge and its contribution to the problem of global warming is significant. In this respect, there is great potential for substantial reductions in these patterns and, following that, the substantial reduction of the detrimental effects that they employ on the environment [30].

The challenges facing FM are not mainly concerned with energy and associated carbon emission, but also social issues are seen as important to be considered in an integral part of the activities of sustainable facilities management. People work and spend 90% of their time indoors, at work, home or at play [32]. Providing healthy environment and good working conditions are vital due to their huge impact on the productivity level of the employees and their businesses. Clements-Croome [33] argued that it is more expensive to employ people who work in the core business rather than it is to maintain and operate the buildings. He further suggested that organisations should look at ways to improve the working environment in order to improving productivity. He argued this could be the most cost effective solution [33]. Such requirement of workplace improvement will have to be delivered by the facilities managers [30]. However, do FM professional has the knowledge and the skills to delivery on these organisational goals?

The need for advancing the skills base for sustainable facilities management to deliver on these organisational goals, whether social, economic or Enviromental, is needed to allow FM to carry out these functions [30]. Therefore, there is growing need to develop new ways of working and practices to meet sustainability agenda. Issues of design and construction has to be addressed as well as there is a wide concern that the separation of FM from design and construction is hindering the FM from meeting the challenges of applying sustainable FM. There is stringent call to integrate FM within the design and construction of buildings across the life cycle of facilities, from design and construction to disposal with greater emphasis on the operational phase of facilities. Indeed the operational phase provides an opportunity to encapsulate sustainability evolving practices into maintaining and repairing of buildings including the physical fabric as well as services equipment, obtaining assets based on sustainability benchmarks, minimizing waste and disposing of it responsibly in addition to the vital goal of reducing energy demand [30, 34].

The integration of FM within the process is vital in both new design as well as sustainable refurbishment of current building stocks [30]. According to Wood [35] there is a pressing need to tackle the existing building stock to fully realise the potential of sustainability goals. It is argued that majority of buildings in current use will remain in operation for the next 50 years with their embodied and operational carbon. This further provide a compelling case for the need to advancing the key role of FM as well as future practices [35]. Furthermore, economically, the building maintenance and repair market is expanding and it was estimated to be worth about £28 billion in the UK, for example [35]. This is threefold the documented new build market that worth about £10 billion [35]. This puts into perspective the shared understanding that there has always been a need to manage the physical fabric of buildings, as well as the equipment and furniture within them, and the efficient supply of resources and removal of waste. These functions traditionally existed as part of the FM activities, however, the complexity of modern society and organisation due to globalisation have permitted an increased use of resources which demonstrated the vital

role FM can play in advancing the sustainability agenda. This in return, stipulate the imminent need to have high calibre facilities managers in position in order to meet the demanding needs of business, government and society for the 21st century. It has been widely accepted now that the majority of facilities managers have responsibility for both the routine upkeep of buildings and their longer-term repair as well as the pivotal role they can play at strategic level within organisation to further advance organisations' mission and objectives [35]. This pivotal role linked to strategic management of organisation shows the rapidly increasing recognition of FM within their organisations as well as the evolving sustainable practices [30].

FM profession is well positioned to further the sustainability debate and practices. The profession has been afforded the opportunity to make a real and measurable difference by driving the sustainability agenda forward through sustainable policies and practices [30]. However, the industry has no access to the specialist sustainability knowledge, tools and supporting case studies material necessary to make the sustainable FM a reality. It is argued that it is vital to advance the dialogue of sustainability in FM by raising awareness of best practice in the industry and to provide a knowledge portal to share information that will allow professionals to build on their skills in this area. This call for an integrated approach to design and develop the investigative and diagnostic tools required to enable FM the implementation of sustainability measures so as to drive sustainability [30]. Of paramount importance here is the need to develop sound sustainability policies, audit and reporting mechanism within organisations and governmental departments to equip the FM professional with the needed skills and support to progress the move towards Sustainable FM.

5. CSR and Sustainability in an Integrated FM Index

There appears to be various indices for CSR and SD separately such as the Financial Times FTSE 250 in the UK, Dow Jones Sustainability Index, SA 8000, UN Global Compact, Vigeo, Enviromental Investment Organisation and the well know Global Reporting Initiative (GRI). Many of these CSR reporting indices are provided as a service for business. The GRI was initially started in the 1990s and now is founding prominence in its application. It is carried out on voluntary basis by various organisations across the Globe. The report (Introducing the GRI Sustainability Reporting Process – A "How-to" handbook for all G4 reporters. https://www.globalreporting.org/services/preparation/Publications/Pages/e-shop.aspx. Last accessed 7 May 2016.). Like many others indices it covers various issues to do with sustainability engagement in businesses. Various investigation of many GRI reports indicated the covering of the following areas:

- Report profile; introducing principles for determination of content and quality of the report, parameters of the report; implementation and introduction of international standards for corporate social responsibility and sustainable development; and level of application of the GRI G4 guidelines;
- Organisation profile including History of establishment, main directions of activities; key events in the area of corporate social responsibility, service and other assets, primary financial results and investment activity, and Footprint and supply structure of material and technical resources.
- SD strategy;
- Governance;
- Innovative development;
- Stakeholder engagement;
- HR policy;
- Occupational Health, Industrial Safety and Enviromental Protection Management;
- Anti-Corruption activities, Ethics and Integrity.

While the GRI might find its utility within large organisations, it is argued it is yet to find its way in construction especially the FM. The low uptake is due to the complexity of the indices and the cost associated with it production. Another criticism is that these indices don't provide an FM framework with explicit benchmark for FM providers. This is leading to a significant variability in the level and scope of sustainability actual performance for assets management. It is argued that this might lead to negative perception of "Greenwash" and further causes damage to the FM and construction industries in their effort to contribute to mitigation of Climate Change. An integrating CSR and Sustainable FM index is needed to provide the FM community with coherent framework to report on the wider sustainability drive within their organisation and furthermore provide a benchmark for the industry with evidence-based practice and

performance. The instigated integrated index is based on the following tripartite bottom line criterion: Social, Enviromental, Financial Management and Governance. Each of one of these has 8 parameters for reporting.

The social parameters include: Health and Safety; Employment and HR; Sustainable Communities Development; Stakeholder Engagement; Supplier Relationships Management; Philanthropic Activities; Global Citizenship; and Employees Rights and Training. The Enviromental parameters include: Enviromental Management Systems and Ecology; Climate Change Mitigation and Adaptation; Water; Energy; Transport; Waste; projects and Materials. The Financial Management and Governance parameters include the following: Executive and Board Commitment; Management Structure; Sustainability Policies; CSR Policies; Financial, Compliance, Contracts Management; and Auditing.

6. Conclusions

On the year post the Conference of Parties (COP21) in Paris, there is drive for advancing the sustainability agenda worldwide to mitigate the harmful influences of Climate Change on the environment and human civilisation. CSR and SD are seen as the two drivers for businesses within the built environment including FM to advance the sustainability cause. Both, CSR and SD, have been adopted widely by various organisations and governmental bodies to harness the opportunities to reduce carbon emissions. At the same time the adoption of these two concepts is a direct response to the increasing pressure on organization to be seen acting in a sustainable and ethical manner. The built environment, and the FM industry in particular, is well positioned to contribute to the ambitious target of carbon reductions. FM organisation have shown commitment to these targets. However, the FM community lack the knowledge and the way how to achieve these targets. Various frameworks and models such as the GRI provide a mechanism for reporting on CSR and SD in organisations. For the FM industry, the uptake of these indices is low due to their complexity and the cost, financial and time, in producing these reports. An integrated CSR and SD index is instigated to provide a bespoke index that can easily be used by the FM professionals. It is argued that such focused index with an identifiable key performance indicators will facilitate the journey of the FM in advancing sustainability in FM.

References

[1] Latham, M. Sir, *The Latham Report: Constructing the Team,* (1994), (online) Available from: http://www.specify-it.com/CIS/Doc.aspx?AuthCode=&DocNum=84343.

[2] Egan, J. Sir, *Construction Task Force: Rethinking Construction*. London, DETR/Stationery Office. (online) Available from: http://www.constructingexcellence.org.uk/download.jsp?&url=/pdf/rethinking%20construction/rethinking_construction_report.pdf. 1998.

[3] Elmualim, A. A, Chapter 11: Culture and Leadership in Stakeholder Management, in Ezekiel A Chinyio and Paul Olomolaiye (eds.), *Construction Stakeholders Management* (London: Wiley-Blackwell Publishing), 2010, 174-92.

[4] Elmualim, A., & Gilder, J., BIM: Innovation in Design Management, Influence and Challenges of Implementation, ***Architectural Engineering and Design Management***. Vol. 10, Nos. 3–4, (2014)183–199, http://dx.doi.org/10.1080/17452007.2013.821399.

[5] Carroll, A.B. & Shabana, K.M., 2010. The Business Case for Corporate Social Responsibility: A Review of Concepts, Research and Practice. *International Journal of Management Reviews*, 12(1), pp.85–105. Available at: http://doi.wiley.com/10.1111/j.1468-2370.2009.00275.x [Accessed May 21, 2013].

[6] Ebner, D. & Baumgartner, R.J., The relationship between Sustainable Development and Corporate Social Responsibility, (September), 2008. 1–17.

[7] Garriga, E. & Melé, D., Corporate Social Responsibility Theories: Mapping the Territory, *Journal of Business Ethics*, 53(1/2), (2004) 51–71. Available at: http://link.springer.com/10.1023/B:BUSI.0000039399.90587.34.

[8] Brundtland, G., *Our common future: The World Commission on Environment and Development,* (1987), Available online: http://www.re-set.it/documenti/1000/1800/1850/1856/brundtland_reportpdf.pdf [accessed 12th June 2014].

[9] Marrewijk, M. Van, Concepts and definitions of CSR and corporate sustainability : Between agency and Communion, Journal of Business Ethics, Volume 44, 2, (May, 2003) 95–105.

[10] Khoury Rostami, Janet., Turnbull, Lynn., G., *Corporate social responsibility : turning words into action*, Ottawa: Conference Board of Canada. 1999.

[11] Baumgartner, R.J. & Ebner, D., Corporate Sustainability Strategies: Sustainability Profi les and Maturity Levels , 89 (February, 2010.) 76–89.

[12] Mitchell, R.K., Agle, B.R. & Wood, D.J., Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts, *The Academy of Management Review*, 22(4), (1997) 853–886. Available at: http://www.jstor.org/stable/259247.

[13] McWilliams, A. & Siegel, D., Corporate Social Responsibility: A Theory of the Firm Perspective, *The Academy of Management Review*, 26(1), (2001) 117–127. Available at: http://www.jstor.org/stable/259398.

[14] Friedman, M., The social responsibility of business is to increase its profits. *New York times magazine*, 1970, Available at: http://www.umich.edu/~thecore/doc/Friedman.pdf [Accessed June 29, 2013].

15] Porter, M.E. & Kramer, M.R., The Competitive Advantage of Corporate Philanthropy, *Havard Business Review*, 80(12), (2002) 56–69.

[16] Prahalad, C. & Hammond, A., Serving the world's poor, profitably, *Harvard business review*, 80(9), (2002) 48–58. Available at: http://www.ima.kth.se/utb/MJ2693/pdf/serving.pdf [Accessed June 24, 2013].

[17] Varadarajan, P.R. & Menon, A., Cause-Related Marketing: A Coalignment of Marketing Strategy and Corporate Philanthropy, *Journal of Marketing*, 52(3), (1988) 58–74. Available at: http://www.jstor.org/stable/1251450.

[18] Donaldson, T. & Dunfee, T.W., Toward a Unified Conception of Business Ethics: Integrative Social Contracts Theory, *The Academy of Management Review*, 19(2), (1994) 252–284 CR – Copyright © 1994 Academy of Mana. Available at: http://www.jstor.org/stable/258705.

[19] Matten, D. & Moon, J., "Implicit" and "Explicit" CSR: A Conceptual Framework for a Comparative Understanding of Corporate Social Responsibility. *Academy of Management Review*, 33(2), (2008) 404–424. Available at: http://amr.aom.org/cgi/doi/10.5465/AMR.2008.31193458.

[20] Cramer, J., Jonker, J. & Heijden, A. Van Der, Sense of Corporate Social Responsibility. , 55(2), (2004) 215–222.

[21] Douglas, A., Doris, J. & Johnson, B., Corporate social reporting in Irish financial institutions, *The TQM Magazine*, 16(6), (2004) 387–395. Available at: http://www.emeraldinsight.com/10.1108/09544780410563301 [Accessed May 3, 2013].

[22] Prasad, D. and Hall, M., *Construction Challenge: Sustainability in Developing Countries*, London, RICS Leading Edge Series. 2004.

[23] CIOB, *Sustainability and Construction*, Ascot, Chartered Institute of Building. 2004.

[24] Norton, B., *Searching for Sustainability: Interdisciplinary Essays in the Philosophy of Conservation Biology*, Cambridge, UK, Cambridge University Press. 2003.

[25] Hodges, C.P., 'A facilities manager's approach to sustainability', in *Journal of Facilities Management*, 3(4), (2004) 312–324.

[26] Shah, S., *Sustainable Practice for the Facilities Manager*, Oxford, Blackwell Publishing. 2007.

[27] Moss, Q.Z., 'FM market research review: do we really have the "intelligence"? *Facilities*, 26(11/12), (2008) 454–462.

[28] Brown, A.W. and Pitt, M.R., Measuring the facilities management influence in delivering sustainable airport development and expansion', *Facilities*, 19(5–6), (2001) 222–232.

[29] Lord, A., Lunn, S. Price, I. and Stephenson, P., Emergent Behaviour in a New Market: Facilities Management in the UK, A Report by Facilities Management Graduate Centre, Sheffield Hallam University, UK. 2002.

[30] Elmualim, A A, Czwakiel, A, Valle, C R, Ludlow, G and Shah, S, The Practice of Sustainable Facilities Management: Design sentiments and the knowledge chasm: in Emmitt, S. (Guest Editor), Special Issue: Design Management for Sustainability. *Architectural Engineering and Design Management*, **5**(1/2), (2009) 91-102.

[31] Becker, F., *the Total Workplace – Facilities Management and the Elastic Organisation*, New York, Van Nostrand Reinhold. 1991.

[32] OECD (Organization for Economic Co-operation and Development), *Environmentally Sustainable Buildings: Challenges and Policies*, Paris, OECD. 2003.

[33] Clements-Croome, D., *Intelligent Buildings: Design, Management and Operation*, London, Thomas Telford. 2004.

[34] Elmualim, A A, Shockley, D, Valle, C R, Ludlow, G and Shah, S, Barriers and commitment of Facilities Management profession to the sustainability agenda. *Building and Environment*, 45(1), (2010) 58-64.

[35] Wood, B., Intelligent building care, *Facilities,* 17(5–6), (1999) 189–194.