

A guideline for interpersonal capabilities enhancement to support sustainable facility management practice

Norliana Sarpin¹, Narimah Kasim¹, Rozlin Zainal¹ and Hamidun Mohd Noh¹

¹Department of Construction Management, Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia (UTHM), Johor, Malaysia.

E-mail: norliana@uthm.edu.my

Abstract. Facility management is the key phase in the development cycle of an assets and spans over a considerable length of time. Therefore, facility managers are in a commanding position to maximise the potential of sustainability through the development phases from construction, operation, maintenance and upgrade leading to decommission and deconstruction. Sustainability endeavours in facility management practices will contribute to reducing energy consumption, waste and running costs. Furthermore, it can also help in improving organisational productivity, financial return and community standing of the organisation. Facility manager should be empowered with the necessary knowledge and capabilities at the forefront facing sustainability challenge. However, literature studies show a gap between the level of awareness, specific knowledge and the necessary skills required to pursue sustainability in the facility management professional. People capability is considered as the key enabler in managing the sustainability agenda as well as being central to the improvement of competency and innovation in an organisation. This paper aims to develop a guidelines for interpersonal capabilities to support sustainability in facility management practice. Starting with a total of 7 critical interpersonal capabilities factors identified from previous questionnaire survey, the authors conducted an interview with 3 experts in facility management to assess the perceived importance of these factors. The findings reveal a set of guidelines for the enhancement of interpersonal capabilities among facility managers by providing what can be done to acquire these factors and how it can support the application of sustainability in their practice. The findings of this paper are expected to form the basis of a mechanism framework developed to equip facility managers with the right knowledge, to continue education and training and to develop new mind-sets to enhance the implementation of sustainability measures in FM practices.

1. Introduction

Sustainable facility management (FM) is a significant environmental challenges and requires a concerted response from all construction industry players. As a sector that spans over a considerable length of time and also a key phase in the development life cycle of any built assets, it is worthwhile to contemplate sustainability in FM. The energy usage for power and maintenance during operation phase of a built asset alone account for approximately 45%, compared to 5% used during construction phase [1]. This scenario has increase the demand for sustainable FM to protect ecological processes and protect the wellbeing of future generation. Furthermore, sustainability endeavours in facility management practices will not only contribute to reducing energy consumption, waste and running



costs, but also help improve organisational productivity, financial return and community standing of the organisation [2,3,4].

However, despite the emerging awareness of sustainability in FM, very few facility managers and built asset owner voluntarily uptake the sustainability idea and implement them in their operation due to the infancy of sustainability practice in the FM sector [5]. This drawback has led to a lack of understanding and skills that required to put the sustainability agenda into action [5]. Proper capabilities and skills among facility manager can contribute to the success implementation of the sustainability agenda in the FM sector [2,6]. Yet, they still suffer from the lack of capabilities and inconsistency of skills to implement sustainability in their routines. Moreover, issues such as the lack of sustainability knowledge and knowledge gap add to the difficulty [6,7,8]. Transition to sustainability will not materialise until facility manager were empowered with the necessary knowledge and capabilities in order to face the sustainability challenges.

Therefore, in line with the potential of the FM and sustainability implementation, this research investigates the potential people capabilities factors that can assist in the implementation of sustainability agenda in FM practices in Malaysia. Through a questionnaire survey done previously, twenty three critical people capability factors were identified. These capabilities were categorised into four categories namely interpersonal capabilities, strategic capabilities, anticipatory capabilities and system thinking capabilities.

This paper emphasises on the findings of a semi-structured interview with experts in facility management practice to assess the perceived importance of the people capability factors focussing on interpersonal capabilities factor. A set of guidelines for action and potential effects of each critical interpersonal capability factor was developed through the identification and integration of the different perceptions and priority needs of the experts. The guidelines helps provide directions for facility manager who are seeking to encapsulate the sustainability agenda in their practice.

2. People capabilities to support the implementation of sustainable facility management practices

Capabilities and skills are regarded as the key enablers in dealing with the sustainability endeavours of an organisation. They are also vital to the fostering of competency in an organisation so that it can innovate in a more sustainable way and vital to support the sustainability agenda in an organisation [9, 10]. Currently, research that focuses on soft issues such as people's capabilities and skills is still lagging behind the efforts in developing guidelines, technical manuals, and knowledge portals. Therefore, it is beneficial to explore the capabilities issues in order to support the implementation of the sustainability agenda in FM practices.

The people capability concept has been used in research to enhance sustainability implementation in different industries such as education sector, business management, construction sector and much more [11, 12, 13]. For instance, in the construction sector, research reveals that engineers' ability to contribute to sustainable development effectively is compromised due to a deficiency of knowledge, skills, and practices for sustainable development [11]. As for FM sector, according to Elmualim [14], facility manager are at the front of integrating sustainable practices through their operational and management activities. In addition to their technical and operational skills, they have a great opportunity to make a valuable strategic contribution towards their organisation's sustainable business. Due to this, the FM personnel need to understand and recognise how the growing importance of sustainability is influencing the way they discharge their duties, roles, and responsibilities. They must become professionally competent and knowledgeable about the sustainability issues that will impact on their business environment, both operationally and strategically [14].

Previous research by Sarpin and Yang [15, 16] has identified twenty-three critical people capability factors as the important factors in the promotion of sustainability agenda in FM practices. These factors contributed to the establishment of a basis to equip FM personnel with the right knowledge, to continue education and training and to develop new mind-set, that in turn influence the sustainability endeavour in their practices.

The twenty-three people capability factors were grouped into four categories based on Wiek et al. [17] classification for a similar application, including interpersonal capabilities, system thinking capabilities, anticipatory capabilities and strategy capabilities. This paper will be focussing on interpersonal capabilities context (Table 1). Interpersonal capability is the ability to motivate, enable and facilitate collaborative and participatory sustainability research and problem solving [17]. It is related to competency that enable FM personnel to solve issues and respond to challenges of sustainability applications. The capability to understand, embrace and facilitate diversity across all stakeholders and individual in driving sustainable practice in FM is recognised as a key component of interpersonal capability.

Table 1. Critical interpersonal capability factors for enhancing sustainability measures in FM practices

No	People capabilities factors
	<i>Interpersonal capabilities</i>
1	Ability to work across disciplines
2	Ability to motivate other stakeholders
3	Self-motivated
4	Communication skills
5	Collaboration skills
6	Ability to plan and implement sustainability efforts
7	Courage to make changes

3. Research Methodology

In this research, interviews were conducted to gain insights from experienced of facility manager personnel involved in the infrastructure projects. Interviews were conducted to gain insights from experienced personnel involved in the projects. In general, there are three types of interview, namely, unstructured, semi-structured and structured interviews [18]. Unstructured interviews are conducted to help find out what is happening in relation to a particular phenomenon and to seek new insights [19]. In semi-structured interviews, a number of interviewer questions are prepared in advance, however, such prepared questions are designed to be relatively open, which means that subsequent questions must be improvised in a careful and theorised way [20]. According to Robson [21], the order of predetermined questions in semi-structured interviews can be modified, question wording can be changed and questions can be omitted and added based on the interviewer's perception of what seems to be appropriate. Structured interviews are used when the researcher already knows what information is needed. The researcher conducts the structured interview with a list of predetermined questions to be asked of the respondents [22]. The structured interview is also used as a means to identify general patterns [19].

For this research, the semi-structured approach was adopted. In this style of interviewing, besides the main questions, a few other sub-questions with the same meaning were also prepared. The questions for the interviews were designed based on the interpersonal capabilities factors identified from previous study. These questions were designed to assist the interviewees to share their perceptions on how the people capability factors can help to promote sustainability in FM practices. The questions were developed to meet the objectives of the research. Question 1 was focused on general questions regarding the suitability of the interpersonal capabilities factors and Question 2 sought the respondent's opinions on how the factors can support the sustainable FM practice. The main interview questions are as follow.

1. General question - Do you think that the interpersonal capabilities factors proposed are significant for supporting sustainability in FM practices?
2. How can the interpersonal capabilities factors promote sustainability in this project?

For example:

- How can the ability to “work across discipline” promote sustainability in FM practice?
- How can the ability to “motivate other stakeholder” promote sustainability in FM practices?

According to Sekaran [22], it is necessary to obtain information from specific target groups through a purposive sampling method. Purposive sampling confined the selection of respondents to specific types of people who can provide the desired information, because they are the only ones who possess the information or because they conform to some criteria set by the researcher. For this research, the interview participants were selected on the basis of the following criteria: (1) Senior FM stakeholders who had substantial working experience in FM projects, and (2) Senior FM stakeholders who were exposed to sustainability concepts in general.

Three respondents were involved as the participant in the semi-structured interview session. These three respondents were key players in FM with various roles and responsibilities in the selected projects and held senior positions in the project, namely, chief operating officers, FM consultants and senior engineers. They were selected after fulfilling a few important criteria namely, their involvement in a project that have a sustainability agenda in order to reflect elements in proposed guidelines, the project should have been developed during past five year period in order to capture current trend and information regarding the projects is accessible and the participants are willing to cooperate. Table 2 lists the interviewee’s profiles who participated in the semi-structured interview.

Table 2. Interviewee profiles

Interviewee ID	Roles	Years of experience	Organization	Location
R1	Facility Manager	20 years	FM Consultant	Johor Bahru
R2	Facility Manager	25 years	Developer	Johor Bahru
R3	Chief Operating Officer	20 years	Developer	Kuala Lumpur

4. Research Findings

Semi-structured interview was used as the tool to validate and explore in depth the critical factors of people capability that have the potential to support the implementation of sustainable FM practice. This method allowed the respondents to have an overall view of the objectives of this research. As a result, table 3 summarises the main findings extracted from the interview session in relation to interpersonal capability factors. A set of guidelines to demonstrate the strategic actions and potential effects of each critical factors were then developed as discussed in the next sub-section.

4.1 Guideline for Interpersonal Capabilities Enhancement

The information and ideas from the respondents in semi-structured interview sessions are important to get an insight view about the issues and factors in improving sustainable FM practice. A set of questions were asked to the respondents on how can the people capability factors promote sustainability in FM practices. During the interviews session, the experts were asked about the people capability factors in relation to: (1) what can be done to acquire capabilities to deal with these factors, and (2) how these factors can support the application of sustainability in their practice. Qualitative content analysis helped to analyse the information and facilitate the formulation of actions and potential effects guidelines for each of the critical people capability factors. Table 4 shows the guidelines for interpersonal capabilities enhancement to support the implementation of sustainable FM practice. The guidelines were formulated based on the codifying and categorising technique from the findings of the interviews. The Actions and Effects Guidelines were considered highly valuable in improving sustainable FM practices since it can provide direction for FM personnel seeking to encapsulate the sustainability agenda in their practice.

Table 3. Main findings for interpersonal capability factors from semi-structured interview.

No	Interpersonal capabilities	Findings
1	Ability to work across discipline	<ul style="list-style-type: none"> • FM personnel must have a holistic view • Work as a team towards sustainability objectives • Every decision must be considered based on a mix of disciplines so that all the objectives are being matched together
2	Ability to motivate other stakeholders	<ul style="list-style-type: none"> • Relates to a good relationship with the project stakeholders • Focus on how all the stakeholders can teach each other about sustainability • Convince other people/end-user that each one of them has an important role in terms of their actions and decisions in realising the sustainability objective
3	Self-motivated	<ul style="list-style-type: none"> • In order to motivate others, FM personnel themselves must be motivated to do their jobs with a sustainability focus • FM personnel must be self-motivated to put his/her effort into thinking about what needs to be done in order to push the sustainability effort forward • FM personnel need to be passionate about driving improvements
4	Communication skill	<ul style="list-style-type: none"> • How to explain, defend the sustainability proposal, speaking confidently • Written communication skills are important so that all the information can be best described and can convince the reader • Convince other people to support the sustainability agenda
5	Collaboration skill	<ul style="list-style-type: none"> • Collaborate with other stakeholders and help to motivate each other to implement sustainability • Collaboration can help to get feedback, enhance a person's knowledge and assist in decision-making
6	Ability to plan and implement sustainability efforts	<ul style="list-style-type: none"> • Drive the FM personnel to be self-initiator, work independently, understand the case and make their voices heard by the decision-maker. • Drive the sustainability effort in the project
7	Courage to make changes	<ul style="list-style-type: none"> • Will give FM personnel the courage to express their opinion, and drive them to defend their stance on sustainable issues and speak up • Courage comes from the FM personnel's interest, so the interest in sustainability can give the courage to stand by your opinion • Courage can come if the personnel are convinced, fully committed, passionate and able to push the sustainability idea forwards

Table 4. Guidelines for interpersonal capability enhancement to support sustainable FM practice.

Interpersonal capabilities	Strategic actions	Potential effects
1. Ability to work across discipline	<ul style="list-style-type: none"> • Work as a team towards the achievement of sustainability goals • Practise negotiation skills • Practise collaboration skills • Gain knowledge in other related 	<ul style="list-style-type: none"> • Assist in the decision-making process since the decision for sustainability must be supported by all the stakeholders involved • Enhance the collaboration across the

	<p>disciplines to ease the collaboration process</p> <ul style="list-style-type: none"> • Be open to accepting a different opinion • Be willing to listen to others and to respect and tolerate their views, opinions and values • Practise conflict resolution skills • Develop participation skills 	<p>organisation to support sustainable practices</p> <ul style="list-style-type: none"> • Assist wider engagement among the stakeholders towards sustainability efforts • Enhance the exchange of idea in order to get the best alternative
2. Ability to motivate other stakeholders	<ul style="list-style-type: none"> • Be confident in order to convince other people to support the sustainability agenda • Self-motivated • Encourage other stakeholders by working together and understanding their contribution towards the achievement of sustainability • Be patient in facing the challenges • Do not give up easily • Practise communication skills • Be consistent and persistent 	<ul style="list-style-type: none"> • Convince other stakeholders of the importance of their roles and actions to support sustainability practice • Enhance the collaboration across the organisation to support sustainable practices • Enhance the participation of all the stakeholders involved in supporting sustainable practices
3. Self-motivated	<ul style="list-style-type: none"> • Be passionate to drive improvements in regard to the sustainability agenda • Share experience and expertise with other stakeholders • Prepare yourself with the knowledge related to sustainability practices • Meet with a lot of people to share ideas regarding sustainability 	<ul style="list-style-type: none"> • Develop a strong will in individual FM personnel to implement sustainability in FM practices • Enhance the individual FM personnel's enthusiasm to push the sustainability effort forward • A pre-requisite to influence other stakeholders to support sustainability efforts
4. Communication skills	<ul style="list-style-type: none"> • Prepare yourself with the knowledge regarding sustainability • Be confident • Practise communication skills • Share experience and expertise with others • Meet with a lot of people to share ideas regarding sustainability • Prepare a relevant handout when communicating with other stakeholders • Learn new technologies that can aid the communication process • Learn new technologies that can make presentations more interesting 	<ul style="list-style-type: none"> • Assist in convincing other stakeholders to support sustainability practices • Assist to best describe any information that needs to be disseminated to all stakeholders • Build confidence to influence the top management in considering sustainability initiative proposals • Build the confidence to explain sustainability-related information clearly to all parties involved in decision-making • Enhance the qualities required of a team leader
5. Collaboration skills	<ul style="list-style-type: none"> • Develop effective communication • Develop negotiation skills • Be open to accepting a different opinion • Be willing to listen to others and to respect and tolerate with views, opinions and values • Practise conflict resolution skills 	<ul style="list-style-type: none"> • Enhance the ability of all the stakeholders to work together to achieve sustainability goals • Improve the relationship between the stakeholders because every party involved has their strengths and limitations towards sustainability implementation efforts

	<ul style="list-style-type: none"> • Develop participation skills 	<ul style="list-style-type: none"> • Assist in getting feedback on sustainability efforts • Enhance knowledge through sharing of ideas, expertise, experiences, etc. especially in terms of lessons learned from previous events • Assist in the decision-making process in regard to sustainability efforts • Enhance mutual learning
6. Ability to plan and implement sustainability efforts	<ul style="list-style-type: none"> • Develop a strong interest to drive the sustainability agenda forward • Be fully committed to implement sustainability initiatives • Self-motivated 	<ul style="list-style-type: none"> • Drive the FM personnel to be self - initiator • Drive the FM personnel to be able to work independently toward sustainability efforts
7. Courage to make changes	<ul style="list-style-type: none"> • Gain knowledge regarding sustainability efforts • Be confident/convincing • Develop strong interest to drive the sustainability agenda forward • Be fully committed to implementing sustainability initiatives 	<ul style="list-style-type: none"> • Assist the individual FM personnel to stand by his/her opinion and to defend it • Assist in convincing other stakeholders to support sustainability practices • Build confidence to influence the top management in considering sustainability initiative proposals • Enhance the qualities required of a leader in sustainability efforts

5. Conclusion

While there is an increasing level of awareness to incorporate sustainability principles into FM practice, this research found that, the industry professionals need to be equipped with proper knowledge, skills and capabilities to undertake the challenges associated with pursuing sustainable practice since these elements have been identified as their drawback. With such a background, people-centred approaches which have a good prospective to assist facility manager in this context are discussed in this paper. Seven critical interpersonal capabilities identified in the early stage of this research were further explored using semi-structured interviews. This paper has identified what can be done to acquire capabilities to deal with these factors and how these factors can support the application of sustainability in their practice. Through the identification and integration of the different perceptions and priority needs of the experts who involved in FM practice, a set of guidelines was developed. In this paper, guidelines for interpersonal capabilities enhancement is shown to demonstrate an effectiveness of guidelines developed in improving FM professionals' capability in implementing sustainability in their practices. It is expected that these guidelines can provide direction for FM personnel seeking to encapsulate the sustainability agenda in their practice.

6. References

- [1] Chartered Institute of Building 2004 *Sustainability and construction*.
- [2] Hodges P 2005 A facility manager's approach to sustainability *J. of Facilities Management* **3**(4) 312
- [3] Nielsen S, Balslev J and Per Anker J 2009 Delivering sustainable facilities management in Danish housing estates *Proc. 2nd Int. Conf. on Sustainability Measurement and Modelling* (Barcelona) pp 1-18
- [4] Lai J and Yik F 2006 Knowledge and perception of operation and maintenance practitioners in Hong Kong about sustainable buildings *Facilities* **24**(3/4) 90

- [5] Elmualim A, Czwakiel R, Gordon L and Shah S 2008 Barriers for implementing sustainable facilities management *Proc. World Sustainable Building Conference* (Australia: CSIRO-Commonwealth Scientific and Industrial Research Organisation) pp 338-348
- [6] Shah, S 2007 *Sustainable Practice for the facilities manager* (Oxford: Blackwell Publishing)
- [7] Elmualim A, Czwakiel R, Gordon L and Shah S 2009 The practice of sustainable facilities management: Design sentiments and the knowledge chasm *Architectural Engineering and Design Management* **5** 91
- [8] Elmualim A, Daniel S, Roberto V, Gordon L and Shah S 2010 Barriers and commitment of facilities management profession to the sustainability agenda *Building and Environment* **45** 58
- [9] Gloet M 2006 Knowledge management and the links to HRM: Developing leadership and management capabilities to support sustainability *Management Research New* **29** 402
- [10] Van Kleef J and Roome N 2007 Developing capabilities and competence for sustainable business management as innovation: a research agenda *J. of Cleaner Production* **15**(1) 38
- [11] Crofton F 2000 Educating for sustainability: opportunities in undergraduate engineering *J. of Cleaner Production* **8**(5) 397
- [12] Barth M, Godemann J, Rieckmann M and Stoltenberg U 2007 Developing key competencies for sustainable development in higher education *Int. J. of Sustainability in Higher Education*, **8**(4) 416
- [13] Hind P, Wilson A and Lenssen G 2009 Developing leaders for sustainable business *Corporate Governance* **9**(1) 7
- [14] Elmualim A 2013 Sustainability in FM: Trends in policy and FM competence consequences *Proc. World Building Congress* (Brisbane: World Building Congress) pp 1-13
- [15] Sarpin N and Yang J 2013 Enhancing people capabilities for the promotion of sustainability in facilities management practices *Proc. 38th AUBEA International Conference* (Auckland: University of Auckland) pp 1-10
- [16] Sarpin N and Yang J 2013 People capabilities for promoting sustainability in facilities management practices *Proc. World Building Congress 2013* (Brisbane: World Building Congress) pp 1-11
- [17] Wiek A, Withycombe L and Redman C 2011 Key competencies in sustainability: a reference framework for academic program development *Sustainability Science* **6** (2) 203
- [18] Adams J, Khan H, Paeside R and White D 2010 Research methods for graduate business and social science students *Writing* **14** (3) 161
- [19] Saunders M, Lewis P and Thornhill A 2009 *Research methods for business students 5th ed.* (England: Pearson Education Limited)
- [20] Wengraf T 2001 *Qualitative research interviewing* (London: SAGE Publications, Inc)
- [21] Robson C 2002 *Real world research* 2nd ed. (USA: Blackwell Publishers Inc)
- [22] Sekaran U 2003 *Research methods for business: A skill-building approach* (NYC: John Wiley Sons: Inc)

Acknowledgments

Authors wishing to acknowledge Ministry of Higher Education Malaysia for supporting this research under the Research Acculturation Grant Scheme (R061).