



The Rationale to Integrate Facilities Management Into the Development Process

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The Rationale to Integrate Facilities Management Into the Development Process

Abstract

Purpose – The purpose of this paper is to justify the need to integrate Facilities Management (FM) into the development process (DP) and establish a framework that potentially serves as a guide to optimise the value of Facilities Management (FM) in the property development industry.

Design/methodology/approach – This study looks at the relevant literature to identify the factors that are hindering FM to effectively integrate in the development process. Subsequently, the authors intend to carry out interviews with various professionals in the property development industry in the UK to identify the best practices. This research uses qualitative and quantitative methods in order to establish an FM-DP integration framework.

Findings – The literature suggested that contribution of FM towards the property development industry is unquestionable. Surprisingly, in a real world FM has been given a low priority in the property development industry, resulting in Facilities Managers being inadequately integrated into the development process. There is currently no suitable generic mechanism that is practical in all stages of the development process to guide Facilities Managers and/or other professionals to integrate FM into the development process.

Originality/value – This study is to provide evidence that the property development industry needs a framework that potentially serves as a guide to optimise the value of Facilities Management (FM) in the development process.

Keywords – Facilities Management, development process, property development industry, best practices, FM-DP integration framework

Paper-type – Literature review

Introduction

This paper introduces the concept of the integration of Facilities Management (FM) into the development process (DP). It will validate that there is a need to develop an FM-DP integration framework to increase the profile of FM in the property development industry that will improve the implementation and to achieve sustainable development. This is due to there being different views of the importance of FM in the development process, and various opinions on how/if it can contribute, which has created barriers that limit the integration of FM into the development process. The term 'development process' is used in this paper and is defined as the stages in the Royal Institute of British Architects (RIBA) Plan of Work 2013. It consists of eight stages, which are Stage 0: Strategic Definition, Stage 1: Preparation and Brief, Stage 2: Concept Design, Stage 3: Developed Design, Stage 4: Technical Design, Stage 5: Construction, Stage 6: Handover and Close Out and Stage 7: In Use. The RIBA Plan of Work 2013 is an ideal model for the development process as it considers critical current issues in the property development industry such as whole life costing, sustainability, Post-Occupation Evaluation (POE), Building Information Modelling (BIM), Information and Communication Technology (ICT), lean philosophy and comprehensive integration of all aspects in the property development industry.

Background

FM is a fast-growing profession despite being known as a relatively new discipline. The FM concept is vague as the remit is wide-ranging, covering various aspects of human wellbeing and physical infrastructure. A Facilities Manager has been perceived as a 'jack of all trades' (Tay and Ooi, 2001), the individual with spare bulbs, ladder and repairing tools moving around the office looking for the defects of existing facilities to be repaired while supervising the renovation works and monitoring the level of cleanliness. There is always a question of whether Facilities Managers are in charge of one or all aspects of the facilities. According to Tay and Ooi (2001), the Facilities Manager should represent FM both in operational and strategic levels. From the property development industry, the Facilities Manager should be integrated at the early stages of the development process, such as planning and design stage, rather than being called upon at the commissioning and occupation stages. In more recent times, the role of FM has moved from 'the boiler room to the board room' (Rondeau *et al.*, 2006; p. 554), which has also positioned the Facilities Manager in a decision-making process in the development project set up. Although the operational level is the Facilities Manager's 'bread and butter', it has

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become less important as Facilities Manager should ‘spend their time in the classical roles of planning, controlling, etc.’ (Kincaid, 1994; p. 22). Despite this, unfortunately Facilities Managers are often neglected and misunderstood (Tay and Ooi, 2001).

High-quality facilities are essential in supporting an organisation to achieve their business objectives. The owner/users who invest the upfront costs expect the provided facilities to be easier to commission and maintain, economical to operate, easy to control and manage, capable of enhancing their business, good quality, pleasant to look at and low in energy use (Latham, 1994). In the long run, the facilities would encourage a positive outcome in terms of meeting business needs, staff productivity, customer comfort, being responsive to the needs of the occupants and supporting a sustainability agenda. Chodasova (2004) asserts that the bottom line of a facility is that it has to be ‘human’, which covers ambience, organisation and flexibility. Unfortunately, it is argued that facilities that do not consider these ideas result in value deterioration and/or cause high-operating expenses to the owner due to extensive R&M work. For that, FM is considered as a strategic solution in rectifying the ‘flaws’ due to the deficiencies that take place at the early stages of the development process: planning, design and construction (Chodasova, 2004).

It has been argued that the incorporation of FM knowledge at the early stage of the development process would enhance the performance of the property development projects. The Facilities Manager has been acknowledged as an appropriate professional to demonstrate FM value that significantly contributes to sustainable development (Wood, 2006). Moreover, the Facilities Manager is in a strategic position to view every activity in the development process (Hodges, 2005), as well as being the person in the middle to facilitate the coordination of various stakeholders in the development project (Macomber, 2001).

Previous research on FM-DP integration is mostly associated with FM knowledge in the design stage (Damgaard and Erichsen, 2009; Jaunzens *et al.*, 2001; Jensen *et al.*, 2009). Despite knowing that the Facilities Manager is an ambassador of the FM discipline, insufficient effort has been made to identify the qualities¹ needed to enable the Facilities Manager to be regularly involved in the property development industry and consequently optimise the value of FM in all stages of the development process. Since this research attempts to define the qualities in

¹ Qualities can be defined as best practices or success factors

each stage of the development process, it is crucial to identify an appropriate definition of 'development process' that suits this research.

FM-DP integration is a strategic approach to enhance the performance of the organisation as well as improving the operation of the facilities. However, it is essential to identify the critical issues that restrain Facilities Managers from demonstrating FM value in the strategic level of the development process. This research presents the process of establishing an FM-DP integration framework that will be advantageous in guiding Facilities Managers and other professionals such as engineers, architects and quantity surveyors in various types of organisations to optimise the role of FM in the development process.

Definition of FM: Property development industry perspective

Various definitions of FM have been produced by individuals and organisations. The definition of FM has been amended several times along with the growth of its role and potential contribution to FM and the property development industry. According to Payne (2000), the formulation of an FM definition predominantly relies on the variation of themes and the interests of individuals and organisations in the business environment. From the organisation's point of view, the emergence of the definition of FM depends on the setting of the environment (Owen, 1994). A number of changes in the definitions of FM are a manifestation of problems in organisations, particularly in the culture of management, and the rapid growth of technologies. In addition, the views of employees and employers towards the workplace keep changing (Sutton, 2014), which also contributes to the continuous changes of the definition of FM. Although there are numerous definitions of FM, it is apparent that the gist are the same, regardless of whether they emanate from organisations and /or individuals (Owen, 1994). Table 1 provides the definition of FM from the perspective of property development industry.

Table 1: Definition of FM from property development industry perspective

Organisation	Definition of FM	Source
International Facilities Management Association (IFMA)	Facility management is a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology.	International Facilities Management Association (2014)
American Library of Congress	The practice of coordinating the physical workplace with the people and work of the organisation; it integrates the	Owen (1994)

	principles of business administration, architecture and the behavioural and engineering sciences.	
British Institute of Facilities Management (BIFM)	Facilities management encompasses multi-disciplinary activities within the built environment and the management of their impact upon people and the workplace. Effective facilities management, combining resources and activities, is vital to the success of any organisation. At a corporate level, it contributes to the delivery of strategic and operational objectives. On a day-to-day level, effective facilities management provides a safe and efficient working environment, which is essential to the performance of any business – whatever its size and scope.	British Institute of Facilities Management (2014)
European Facility Management Association (EuroFM)	Facility Management is a multi-disciplinary field that covers a wide range of processes, services, activities and facilities as well as needing integration between ‘People, Place, Process and Technology’.	EuroFM (2012)
Royal Institution of Chartered Surveyors (RICS)	Facilities Management is the total management of all services that support the core business of an organisation.	Royal Institution of Chartered Surveyors (2010)
Chartered Institution of Building Services Engineers (CIBSE)	The management and optimisation of defined activities and resources in support of the overall corporate objectives.	Chartered Institution of Building Services Engineers (2014)
Centre for Facilities Management (CFM)	The process by which an organisation delivers and sustains support services in a quality environment to meet strategic needs.	Alexander (2013)
Chartered Institute of Building (CIOB)	CIOB does not provide a direct definition of Facilities Management. However, CIOB admitted that FM represented by Facilities Managers is the right discipline to perform post-occupancy evaluation activities. The emergence of Government Soft Landings (GSL) and the differences between design and actual performance of the facilities has become the centre of discussion in the property development industry, which increases the demand on the FM discipline in the property development industry.	The Chartered Institute of Building (2010) The Chartered Institute of Building (2014)

The term FM became the focus of organisations in the 1970s when a lot of offices in the United States of America (US) applied freestanding separating screens known as cubicles and the computer terminal was introduced into the workstation (EuroFM, 2012). Those significant events set the evolution of FM in the world. In the 1980s, the International Facility Management Association (IFMA) introduced a new model of FM that emphasised the integration between 'people, process and place' within the organisation. From a European and UK perspective, there are many similarities to the US, the definition adopted by BIFM was originally used by the European Facility Management Association (EuroFM) in 2006. The definition was documented in EN15221-1: 2006 Facility Management – Part 1: Terms and definitions, as a result of general consensus among FM professional bodies around the European region. It was agreed that facility management was a multi-disciplinary field that covers a wide range of processes, services, activities and facilities as well as needing integration between 'People, Place, Process and Technology'. EuroFM simplifies the broad scope of FM into two (2) aspects: (i) space and infrastructure, and (ii) people and organisation. The former is associated with client demand on a strategic level, which includes the activities in the development process such as planning, design, construction, building operations and maintenance. The latter is related to operational level, which is the activities cover safety and health, hospitality, security, human resource management, accounting and marketing (EuroFM, 2012).

Position of FM in the property development industry

A development project² involves various disciplines, which are represented by respective professionals whether in a group or individually. For instance, the engineering discipline is represented by a group of professionals called engineers from civil, electrical and mechanical backgrounds; while the built environment discipline is represented by architects. Facilities Managers, who are often disassociated from the development process, represent the FM discipline. As FM is regarded as a relatively new discipline (Pitt and Tucker, 2008), its role in the development process is vague except at the operational stage, which is concerned with maintenance and services. This section will scrutinise various literature to identify the possible

² Instead of construction project, the term development project is used to explain the projects that start from Strategic Definition and end at In Use stage, of which construction itself is one of the activities in the development process.

responsibilities of Facilities Managers in the development process and what are their potential contributions to the property development industry.

Function of Facilities Manager in property development industry

In discussing the role of FM in the development process, Theriault (2011) advises that it should be discussed in terms of the function of Facilities Manager rather than the definition of FM, which is often used to cover a broad spectrum of the discipline. According to Rondeau *et al.* (2006), the term ‘management’ in FM itself has caused misperception, separating FM into two (2) different positions: (i) property management, which is related to the issue of human wellbeing, while (ii) asset management addresses non-human issues. In line with Theriault’s advice is Rondeau *et al.* (2006) who emphasis that Facilities Manager is considered as a generalist who understands the organisation’s business objectives. Facilities Managers facilitate development project costing, finalising the design, monitoring the progression of the construction activities and ensuring the space is fully utilised. On top of that, Facilities Managers need to maintain the services in a good condition that is able to support the operation of the user of the facilities. Undoubtedly, Facilities Managers are the most suitable professionals to take up a development project and represent the client or owner. However, it is essential for the Facilities Manager to be integrated with various professionals in the development process, in order to ensure the success of the development project.

Rondeau *et al.* (2006) express that there are additional responsibilities that need to be considered by Facilities Managers while fulfilling their role in the development process. Facilities Managers have the responsibility to identify, secure and work with a number of parties from various business sectors. Facilities Managers have to work with other professionals in the built environment discipline to achieve the objectives of the development project.

Hodges (2005) highlights that the Facilities Manager is a key component in developing and operating green buildings and implementing sustainable development. Hodges (2005) further emphasises that the Facilities Manager has a major role in building a relationship with the leadership of the organisation. As a ‘key player and natural leader’ (Hodges, 2005; p. 321) in the built environment discipline, Facilities Manager should be able to influence the decision-making process at the earlier stage of the development process of the project. Apart from that, the Facilities Manager is regarded as ‘an integrator’ (Hodges, 2005; p. 323) who is able to advise the owner on long-lasting functional facilities that serve the needs of the users.

In addition, Quah (1992) claims that the job scope of Facilities Manager has become complicated due to the rapid advancements in technology and the rising of user expectations. The modernisation process in the property development industry has increased the awareness of the importance of post-occupancy evaluation and its contribution to the improvement in the buildability and operability of the new facilities. This is a growing area which requires significant input from Facilities Managers.

Thomson (1990) draws our attention to the different approaches in determining the function of FM in the property development industry by taking into account the strategic and tactical dimension (Figure 1).

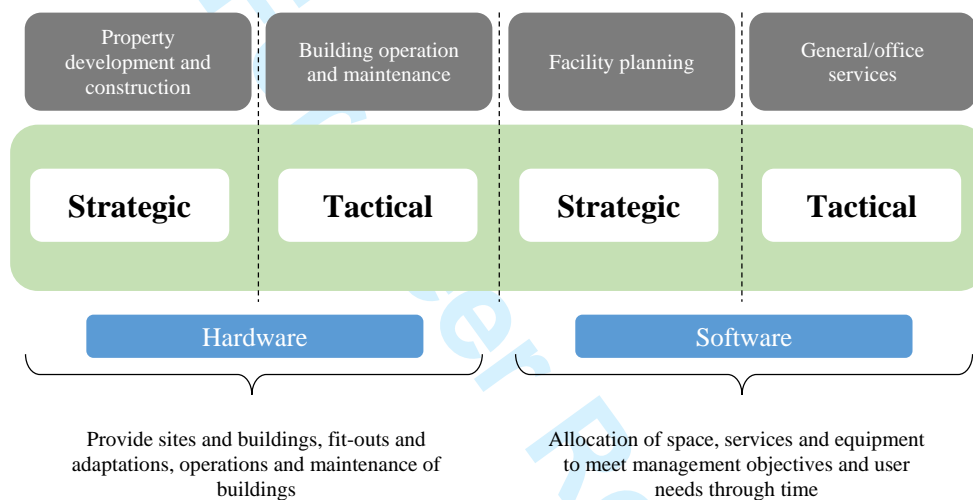


Figure 1 Primary functions of FM in strategic and operational emphasis. Source: Thomson (1990)

He asserts that FM is facility planning at the strategic dimension. In line with Thomson (1990) are Jensen (2008) and Kelly *et al.* (2005), who stress that FM should be considered in the strategic dimension to ensure the buildability and operability of the facilities. The justification is simple: facility planning is the strategies to relate the physical facilities to corporate objectives of the user (Thomson, 1990). The emphasis is to consider FM at strategic and tactical dimensions in both 'software' and 'hardware' of the facilities. Software means a provision of space, services and equipment to meet the organisation's business objectives and user needs while hardware relates to physical facilities and their supporting elements, operations and maintenance. According to Thomson (1990), the correct choice of software enables the hardware to function to the real benefit of the users. In other words, the software will determine the performance of the hardware. Based on Figure , it is apparent that facility planning cum FM is positioned in the software side, which is also viewed in a strategic dimension. Facility

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planning is the medium for the Facilities Manager to meet the top management of the project owner and to highlight the potential contribution of FM to the facilities in achieving their business objectives (Thomson, 1990).

According to Chodasova (2004; p. 54) FM is a method to deal with unresolved issues in facilities that lack ‘human character’. Therefore, the presence of an FM representative is crucial to facilitate the owner to prepare investment planning by taking into consideration of operational aspects at the early stage of the development process. This will enable owner/operator to forecast the effectiveness and acceptable operation cost of the facilities in the future. This can be achieved by having a Facilities Manager in the development process to evaluate the design output (Chodasova, 2004).

Benefits of positioning FM strategically in the development process

Amaratunga and Baldry (2003) identify that the Facilities Manager play a supporting role for the property development industry to evaluate the possibility to be integrated with other stakeholders involved in the development process. The effort to improve the development process from different aspects has been the focus of the property development industry since Latham (1994) and Egan (1998), although there are different approaches among researchers and practitioners in the industry. However, they have a common target: for FM to be strategically positioned in the development process. Simultaneously, incorporation of FM elements in the development process would improve the buildability and operability of the facilities.

Decision-making process

In a client organisation, FM is a key element for strategic decisions, particularly in determining the direction of the business objectives. It is the responsibility of the Facilities Manager to provide relevant facilities to support the organisation to operate effectively. Facilities Managers should be able to make the client aware that proper physical design of facilities has direct consequences for the operation of the organisation as Balch (1994; p. 22) stated: ‘No organisation can operate without land or buildings’. Theriault (2011) advocates that Facilities Managers must take a leadership approach to enable their views to be considered in the decision-making process. In a number of organisations, Facilities Managers have been positioned at a senior management level. According to Rondeau *et al.* (2006; p. 554), ‘FM has moved from the boiler room to the board room’. Facilities Managers who spend their time in

the classical roles of monitoring of operations and maintenance activities (Kincaid, 1994) are no longer relevant.

Innovation

Innovation is a result of interplay between multiple parties in the business (Barrett and Sexton, 1998). The implementation of innovation in the property development industry aims to satisfy clients/owners by developing new facilities and services, and enhance the flexibility by creating new processes or concepts (ibid.). FM-DP integration should be seen as a new concept endeavouring to create synergy (ibid.; p. 3) to satisfy all stakeholders involved in the development project. Without FM-DP integration, the Facilities Manager and other professionals work separately due to fragmentation of the development process.

Value added

Shah (2007) contends that integration of FM within the property development activities adds value to the facilities in terms of planning, design and construction. A systematic development process would lengthen the life of the facilities. Subsequently, FM-DP integration contributes to the efficiency of the occupants to run the business of organisations efficiently. de Vries *et al.* (2008) contend that the consideration of FM elements at the early stage of the development process influences the performance of the facilities as well as supporting the operations of the organisations (Figure). If 'process' represents the construction stage, as defined by Koskela (1992), consideration of FM elements at the 'input' (planning and design stages) in the property development industry have direct impact on 'output' (physical characteristics of the facilities) and the performance of the organisations who use the facilities. A key challenge here however is that there is an assumption that buildings are developed by owners who have an interest in the long term and thus better FM outcomes. In reality, many buildings are built for "quick wins" or to sell on. It is therefore essential to understand where and how this value can be achieved.

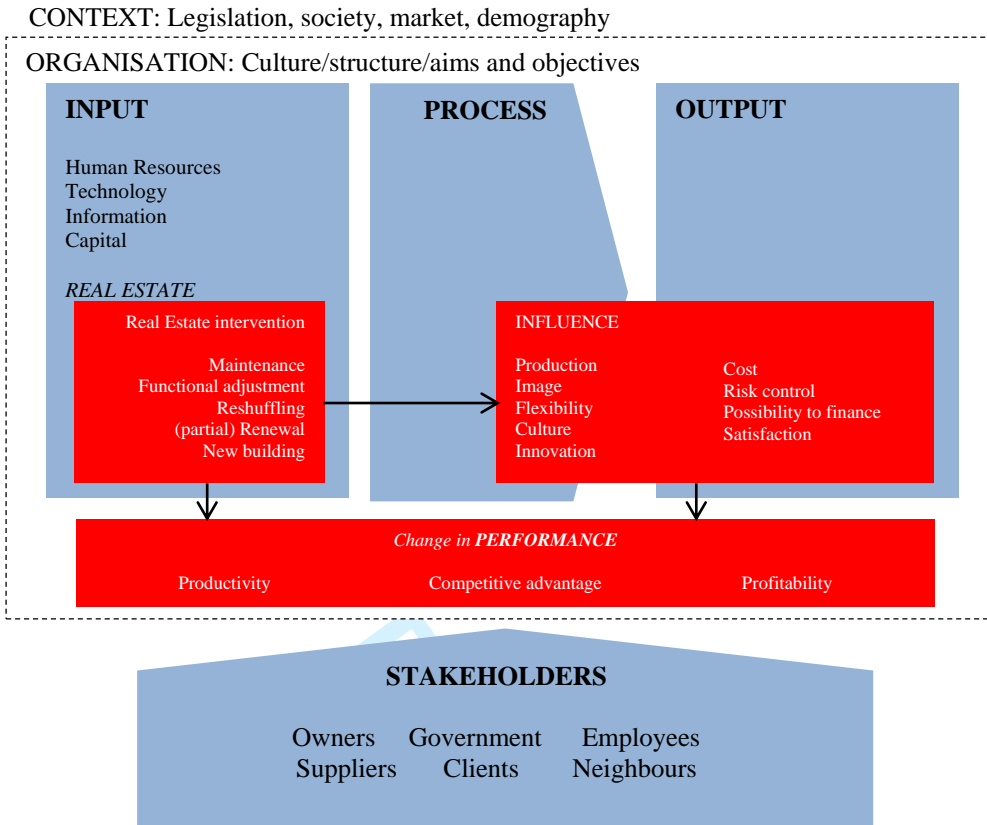


Figure 2 Model of added value for development project. Source: de Vries et al. (2008)

Sustainable development

The Facilities Manager has a significant contribution to make to sustainable development (Wood, 2006), resulting from his/her strategic position to view all stages in the development process (Hodges, 2005). In addition, the Facilities Manager is identified as the right professional to take the lead in formulating strategies to optimise the facility in terms of utilisation and/or getting revenue from it (Wood, 2006). Therefore, Facilities Managers should take this opportunity to incorporate the value of FM in the early stages of the development process to encourage a smooth process of planning and design as well as sustainable use of the facility during its in use stage (Tucker, 2012).

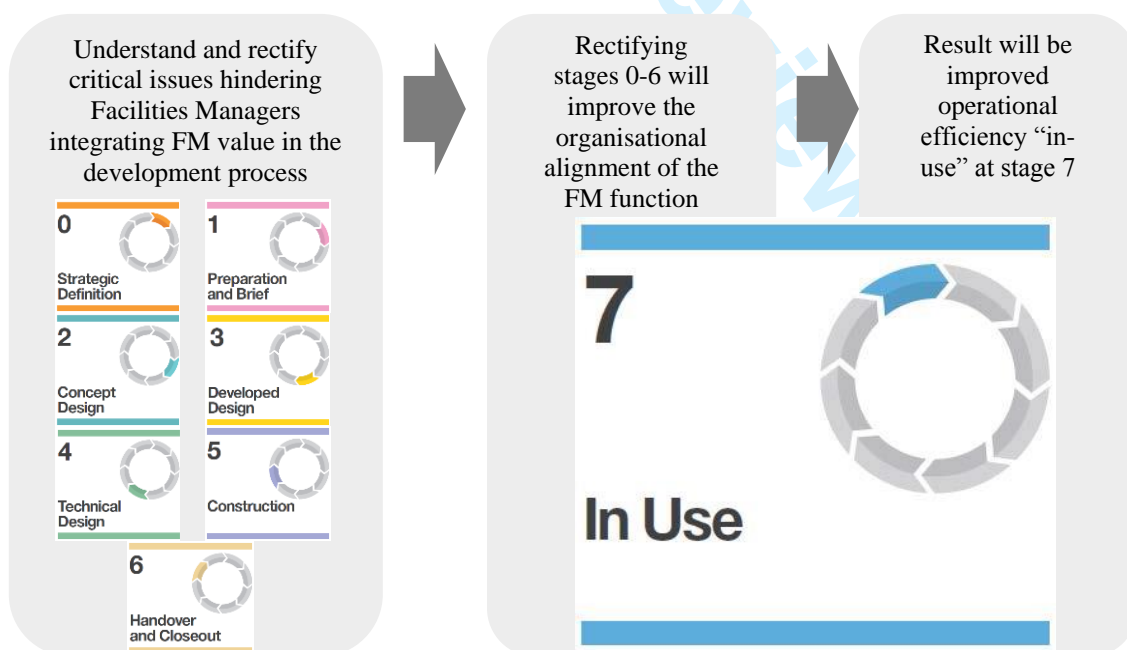
Developing an initial FM-DP integration framework

FM is high in versatility which allow it to be involved in multiple issues at strategic and operational levels (Lee and Scott, 2009). Lee and Scott (2009) identify that FM is an important factor in making strategic decisions on the performance of the facilities as well as the operations of the occupants:

1. Rectifying problems from the integration of strategic and operational factors for improvement of the gaps between them
2. Improvement of organisational misalignment
3. Improvement of building maintenance operation efficiency

Strategic and operational factors to be considered in the main aspects of the development process influence the output³ and the outcome⁴ of the development project. However, Lee and Scott (2009) advise that it is essential to rectify the problems of strategic and operational factors for improvement of the gaps between them.

From this research's point of view, integration of a Facilities Manager who is capable of incorporating FM value into the strategic stage of the development process has a significant relationship to the performance of the building and the business of the organisation. In line with Lee and Scott (2009) recommendation, it is essential to identify and rectify the critical issues that hinder Facilities Managers integrating FM value into the main aspects of the development process. Adapting Lee and Scott (2009) with RIBA Plan of Work 2013 supported with relevant literature, Figure is obtained, which serves as an initial framework of this study. Figure 3 clearly shows the need to identify and rectify the critical issues embedded in Stage 0 to Stage 6 of the RIBA Plan of Work 2013 to contribute to the improvement of organisational misalignment and building maintenance operation efficiency at the In Use stage.



³ Related to the completion of the development project that meets the allocated budget, is timely and high quality.

⁴ The impact of the project on the sustainable development 'triple bottom line': economic, social and environment.

Figure 3 Initial framework of the research. Source: Adapted from Lee and Scott (2009) and the Royal Institute of British Architects (2013)

Pitt and Hinks (2001) emphasise the importance of selecting the most strategic mechanism to enable the interface between FM and the management of the development project. Discussing the impact of FM in the property development industry, Jensen *et al.* (2009; p. 1) acknowledge ‘the role of Facilities Managers and FM knowledge in relation to building projects and propose possible improvements to the learning circle from experience of use and operation of existing building to the planning of new building projects’. Damgaard and Erichsen (2009) attempt to integrate the FM operational knowledge in the development process; however, they are unable to suggest any theoretical framework that shows the priority in determining the success factors of integration in a wider context.

Chotipanich (2004) claims that there are a numbers of general frameworks that relate FM functions to the core business of organisations. However, most of the frameworks provide general concepts that need the gap to be filled (*ibid.*; p. 370). Furthermore, the existing framework needs to be tested against the validity (Amaratunga and Baldry, 2000) as well as its capability to be adopted in a real-life contexts (Amaratunga and Baldry, 2003).

Felten *et al.* (2009) contend that the contribution of FM towards the property development industry is unquestionable. However, it is surprising that FM has been given a low priority in the property development industry, resulting in Facilities Managers being inadequately integrated into the development process. There is currently no suitable generic mechanism that is practical in all stages of the development process to guide Facilities Managers and/or other professionals to optimise the value of FM in the property development industry. Table 2 provides a relevant literature in property development industry-FM related field discussing the integration of FM into the development process.

Table 2 Literature of Research methodology in construction management-FM related field

	Research title	Sources	Methodology
i.	FM Dashboard: A facility management monitoring tool for planning, design and construction to optimize function and cost in operations	Felten <i>et al.</i> (2009)	Qualitative research

ii.	Implementering af drift i byggeri (<i>Implementation of service for construction</i>)	Damgaard and Erichsen (2009)	Qualitative research
iii.	Integration of considerations for facilities management	Jensen (2008)	Literature review
iv.	The role of facilities management in building projects	Jensen <i>et al.</i> (2009)	Literature review
v.	Construction contractors integrating into facilities management	Brochner (2008)	Quantitative research
vi.	Management for usability of the built environment	Jensen (2010)	Literature review
vii.	Towards an agenda for user oriented research in the built environment	Jensen <i>et al.</i> (2011)	Literature review
viii.	Integrated development of facilities design and services	Brochner (2003)	Literature review
ix.	A conceptual link among facilities management, strategic management and project management	Yiu (2008)	Literature review
x.	Applying facilities expertise in building design	Jaunzens <i>et al.</i> (2001)	Qualitative research and literature review

Conclusions

The paper has identified the role of FM through its professional ambassador; the Facilities Manager in the property development industry. FM has a significant contribution to make to the implementation and achievement of sustainable development. The development of an FM-DP integration framework could encourage Facilities Managers to demonstrate FM value in property development industry. The establishment of an FM-DP integration framework is a twofold strategy: to increase the profile of FM in the property development industry, which in turn encourages the integration between FM and the development process, and to improve the implementation and the achievement of sustainable development in FM and the property development industry. The involvement of FM in the development process would benefit the property development industry in four (4) elements: decision-making process, innovation, value added and sustainable development.

Further discussion reveals that there is a gap in the research field. There are attempts from the industry and academia to integrate FM into the development process. It is discovered that FM has been given a low priority in the property development industry, resulting in Facilities Managers being inadequately integrated into the development process. There is currently no suitable generic mechanism that is practical in all stages of the development process to guide Facilities Managers and/or other professionals to optimise the value of FM in the property development industry.

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