

Managing Facilities Manager's Knowledge through Knowledge Capture, Knowledge Store and Knowledge Reuse

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Abstract

The profession of facilities management (FM) is becoming knowledge driven. In this regard, managing facilities managers' knowledge helps for a better output through the creation of supportive and cost effective physical environment that strongly supports the primary objectives of office buildings sector. This study attempts to bring in knowledge management insights into facilities management and explores strategies of managing facilities manager's knowledge. Case studies of three in-house FM teams occupied in three leading office buildings in Sri Lanka were used to approach the research problem. Data was collected using semi-structured interviews with three individuals from each case. As the study reveals knowledge capture, store and reuse process could be effectively used to manage facilities manager's knowledge, hence the effort of the study was to introduce standardized way to manage facilities manager's knowledge and it has been achieved through the literature and empirical findings. Performing complex facilities management tasks requires facilities management experts, unfortunately, there is usually a shortage of such people and their knowledge is almost always locked away in their heads. So, the challenge is to capture and automate their knowledge to make it available to others. As per case study reveals it is critical for organizations to store the knowledge, and provide access for achieving sustainable competitiveness and to move forward and deliver a better service day by day. It is critical to have a knowledge base for the further development of the FM profession. Reusing knowledge is crucial for the organization in achieving FM duties. As per the FM professionals facilities managers should use the stored knowledge in order to come up with new ideas and expertise in order to face new and challenging situations. This research is of exploratory nature which explored an emerging FM profession in Sri Lanka. Further research is required to fully understand how knowledge management concepts could be incorporated within FM professions world-wide.

Keywords: Facilities Management, Knowledge management, Sri Lanka, Office Buildings, Case studies

Background

Facilities Management (FM) is frequently described as “an integrated approach to operating, maintaining , improving and adapting the buildings and infrastructure of an organization in order to create an environment that strongly supports primary objectives of that organization” (Then, 1999. P.22). Knowledge Management (KM) is an area that represents the challenge to all organizations as a source of economic success (Puddy et al., 2008). KM is defined as the process that creates or locates knowledge and manages the dissemination and use of knowledge within and between organizations (Darroch, 2003). Managing FM knowledge is basically creation of FM knowledge by giving relevant education and opportunities to get experience and then acquiring knowledge using KM tools and disseminate through the required persons in the organization or store it and use it in the future.

FM is a multidisciplinary profession which demands various expertise knowledge and experience and it requires multi-professional involvement in achieving its functions (Nutt, 2000). Moreover, knowledge and experience demands and gathered by a facilities manager varies according to the building and infrastructure, primary objective of that organization, types of occupants, attitude of the occupants, decisions of the management and so on. FM is a highly changing profession it requires frequent updates. There are very few FM experts in developing countries like Sri Lanka who has extensive knowledge and experience in the field of FM. Above reasons such as demand of various knowledge and experience, involvement of multi professionals, variation of demanding knowledge according to facility, highly changing nature of the FM knowledge and lacking of FM experts triggers out the critical need and the importance of managing facilities manager's knowledge for the establishment and the development of the FM profession.

KM is an umbrella concept covering many aspects. This research will mainly focus on building up a KM framework to capture; store and reuse FM knowledge. Knowledge capture, store and reuse is the processes by which organizations/individual capture what has been learnt from experience and education, store it in a knowledge base and apply to their day to day operations in order to improve the quality of the deliverables, to reduce the costs and to reduce the risks (Haigh, 2005).

The rest of this paper is structured under following key topics literature findings, research methodology, research findings and finally, conclusions.

Aim

The Aim of this study is to investigate how processes of knowledge capturing, knowledge storing and knowledge reusing could be used to manage facilities manager's knowledge and to develop knowledge Management frame work to facilitate knowledge management among facilities managers within Sri Lanka

Objectives

01. To identify and study the concepts of knowledge, knowledge management, knowledge capturing, knowledge storing and knowledge reusing.
02. To investigate How knowledge capturing, knowledge storing and knowledge reusing could be used to manage facilities manager's knowledge
03. To develop a framework, to manage facilities manager's knowledge in Sri Lanka.

Key Literature Findings

It is much critical to have vast store house of FM knowledge and experience be available to each facilities manager, access to this knowledge will allow them better meets the future demands and achieve FM functions productively. Knowledge capture, store and reuse is the process by which organizations/individual capture what has been learnt from experience and education, store it in a knowledge base and apply to their day to day operations in order to improve the quality of the deliverables, to reduce the costs and to reduce the risks (Haigh, 2005).

Based on the literature findings KM in relation to the FM, a framework has been developed to manage facilities manager's knowledge by linking knowledge capture, knowledge store and knowledge reuse processes (see Figure 1).

Knowledge Capturing in Facilities Management

Effective knowledge capture is about turning personal knowledge into corporate knowledge that can be widely shared and properly applied throughout the organization in such a way as to create competitive advantage to the organization. Many FM associated firms have limited understanding and less experience in how to identify significance knowledge, capture it and promote its use through out their own organizations. As FM matures, it needs to think more for itself, to develop its own contribution to management expertise, with less reliance on borrowed concepts and imported expertise from other professional fields of activity (Nutt, 2000). Further, he states that capturing knowledge from experts who need to feed forward their specific experiences, in order to contribute to the FM knowledge base is vital to the future success of FM.

Understanding what knowledge facilities managers may need, use and create in the future is an important area for investigation for FM organizations to remain competitive (Nutt, 2000). So, in managing facilities managers knowledge first emphasis has to given to identify the key areas of FM within which the knowledge has to captured as illustrates in the conceptual framework (figure 1) those areas are FM tasks and operations, FM problems and techniques, FM ideas and concepts, FM scope and context. Capturing all FM knowledge is not worthwhile so, consideration has to be given to identify most critical knowledge that are crucial to achieve FM tasks, in order to achieve that FM knowledge has to be evaluated according to a certain criteria and filter the critical knowledge through the literature survey criteria which is been establish, and illustrates in the figure 1.

Knowledge Storing in Facilities Management

Knowledge Storing involves creating the capability for organization and retrieval of knowledge, a concept also referred to as organizational memory (Mariano and Casey, 2007). A large body of research has proposed the critical role of organizational memory (Walsh and Ungson, 1991) as a central system in the storage of knowledge produced by individuals (Kim, 1993) and organizational learning processes (Mariano and Casey, 2007). FM is challenged to build its own distinctive knowledge-base with supporting methods, techniques and data structures to underpin best practice, to advance the field, and to bridge the gap between its promise and performance (Nutt, 2000).

What knowledge has to be stored is a critical issue that should be given due consideration in building up a FM knowledge base. The criteria to determine what knowledge to store are: knowledge that help creating new knowledge,

knowledge that address key and frequent issues of FM, knowledge which supports FM further development. How to store is another critical issue that should be addressed in developing an expert system to store facilities manager's knowledge (see Figure 1). Black (1987) identified five major steps in storing knowledge in to the expert system (see Figure 1) those are knowledge representation: this simply focuses the dialog between the developer and expert, it finds methods how to represent expert's knowledge in a logical way, analysis and design of knowledge base: this step focuses on analyzing the data that has been represented according to the analyzed data designing of the knowledge base has to be done, normalization: this step is concerned with removing redundancy in the underlying data model, it improves the performance and efficiency of the knowledge base, entity relationship analysis: after normalizing, it is possible to infer relationship by sharing of attributes, further analysis can be carried out in to the qualities of the relationship.

Knowledge Reusing in Facilities Management

Nonaka and Takeuchi (1995) define knowledge reuse as adaptation of explicit knowledge of successful practices so as to generate new and useful ideas. According to Markus (2001), reusing knowledge involves both recall (that information has been stored, in what location, under what index or classification scheme) and recognition (that the information meets the users' needs, as well as actually applying the knowledge).

Knowledge reuses within organizations are typically performed for two distinct objectives (see figure 1), those are knowledge reuse for replication and knowledge reuse for innovation, knowledge reuse for replication focuses on knowledge acquisition through which best practices are transferred (replicated) in order to increase productivity, knowledge reuse for innovation focuses on knowledge integration through which other's knowledge are adapted (integrated) into one's existing knowledge stock in order to accomplish an innovative task (Majchrzak *et al* 2004). Building of framework to manage FM knowledge focuses on achieving both objectives. According to Nutt (2000) the areas where FM knowledge reuse will give its highest contribution are managing facility operations and support services, managing facility use and performance, managing facility procurement and adaptation (see figure 1).

Reusing FM knowledge will again create new knowledge and new practices, that knowledge and practices may be more valuable than existing ones hence, those are the pure and new knowledge coming from individuals/organizations by making use of the existing knowledge. Due to that reason FM knowledge reusing will contribute a lot to the further development of the FM profession. The main areas that it requires further attention in its development process are (see figure 1) new strategic directions: exploring the changing priorities, potential scope, future functions and impact of FM, Future performance imperatives: developing the basis for the next generation of property and facility performance criteria, management methods, operational procedures and decision techniques, Policy and investment development: investigating the key property and FM issues for the future and the development of radically new approaches to investment and risk. It requires attention further to following areas: produce documentation of advanced FM practice experience, cross-sector benchmarking criteria, forecasting key future FM issues and possible solutions, clarify the distinctive features of the facilities management, clearly defining the unique FM functions, develop management concepts and expertise in these unique areas, adapt and apply relevant management concepts and proven technical expertise that can be modified to directly support key areas of FM (Nutt, 2000), consideration must be also given to capture that new knowledge and update it to the FM knowledge base.

Framework

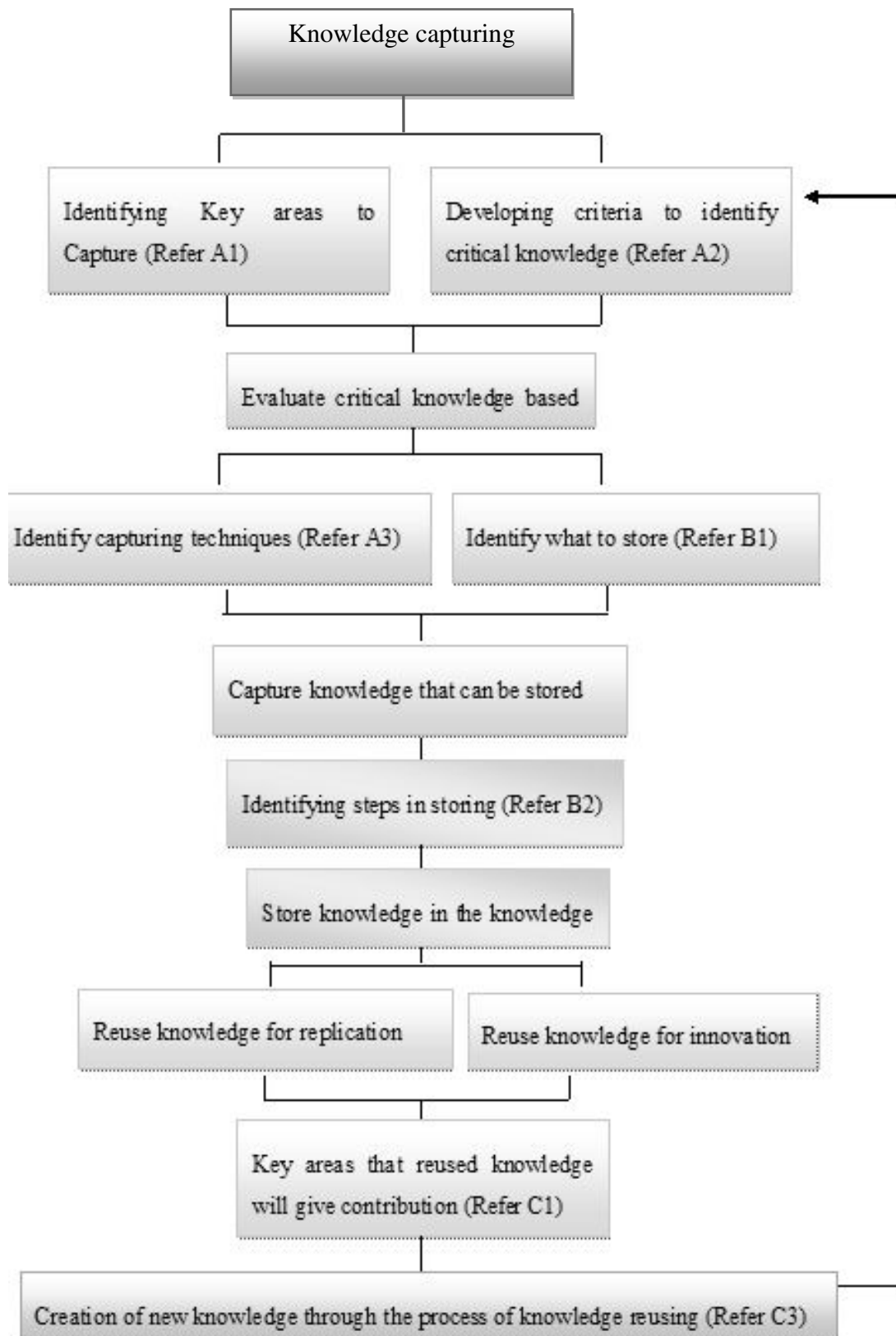


Figure 1: Conceptual framework to manage facilities manager’s knowledge

<p>A: KNOWLEDGE CAPTURING</p> <p>A1: FM knowledge areas to capture</p> <ul style="list-style-type: none"> ● FM tasks and operations. ● FM problems and techniques. ● FM ideas and concepts. ● FM scope and context. <p>A2: Criteria for identifying Critical knowledge</p> <ul style="list-style-type: none"> ● Contribution, to the core business of an organization; ● Support, to business operations and productivity; ● Effectiveness, through its own facilities management arrangements; ● Contribution, to the delivery and quality of out-sourced, part-sourced and in-sourced services ● Satisfaction, provides to the end-user/ employee ● Quality, service received by the customer/consumer. <p>A3: Techniques for capturing</p> <ul style="list-style-type: none"> ● Interviews ● Observation ● Induction ● Laddering ● Concept Mapping ● Constrain tasks ● Concept sorting 	<p>B: KNOWLEDGE STORING</p> <p>B1:What to store</p> <ul style="list-style-type: none"> ● Knowledge that help creating new knowledge ● Knowledge that address key and frequent issues of FM ● Knowledge which supports FM further development <p>B2: Steps in knowledge storing</p> <ul style="list-style-type: none"> ● Knowledge Representation ● Analysis and designing of the knowledge base ● Normalization ● Entity relationship analysis.
	<p>C: KNOWLEDGE REUSING</p> <p>C1:Key areas that give contribution</p> <ul style="list-style-type: none"> ● Facility operations and support services ● Managing facility use and performance ● Managing facility procurement and adaptation <p>C2:Creation of new Knowledge</p> <ul style="list-style-type: none"> ● New strategic directions ● Future performance imperatives ● Policy and investment development ● Clarify the distinctive features of the facilities management, ● Clearly defining the unique FM functions, ● Modify and support key areas of FM practice

Research Methodology

Building up a KM framework to manage facilities knowledge need in depth and continues investigation in real life context. In addition it needs to access FM professionals, who could explain their views, importance, triggers, mechanisms and other organizational key parameters attributed to KM. In order to achieve above mention requirements qualitative research approach has been adopted. Among the numerous approaches available in the qualitative approach, case study has been selected for this research. Semi structured interviews has been used as the

main data collection tool in this research. Unit of analysis or the case in this research is FM related organizations. Three Sri Lankan leading FM related organization where key FM professionals are involved in ensuring occupants' comfort ability has been selected as three cases and within one organization three FM professionals who have extensive knowledge on FM functions has been interviewed. The description of cases and professionals interviewed has been stated below.

Case A

With over 750,000 square feet of prime office and retail space, this organization is an international business complex on par with premium grade buildings in major cities around the world. Built to the highest standards, this impressive landmark comprises two 39 storey towers connected by a 4 storey retail block. It has attracted prestigious local, international and multinational companies as tenants, making it the most sought after business address in Sri Lanka. With its prime location in the heart of the city in the Central Business District (CBD) and easy access to all main banks, major five star hotels, government offices, shops and the headquarters of some of the largest businesses, this towering business complex is Sri Lanka's tallest and most impressive commercial landmark. Within this organization three prominent FM professionals have been interviewed who have many years of experience in the field of FM namely facilities manager, assistant facilities manager and electronic engineer.

Case B

This organization is a largest banking and financial services organization. It has more than 32,000 skilled professionals operating out of 15 Group Service Centers present in five countries in Asia, including India, China, Malaysia, Philippines, and Sri Lanka. Data has been collected from three prominent facilities managers in this organization, who have extensive knowledge and experience in the field of facilities management namely facilities manager, assistant facilities manager, outsourced facilities manager.

Case C

This organization is one of the leading government banks in Sri Lanka. This building is a 32 storied head office building with a total built up area of 600,000sq.ft. was constructed in 1987 to house all administrative offices, International Division and Corporate Branch of the bank. Managing this building is done with the involvement of well qualified and experienced FM related professionals. So, data has been collected from three key FM related professionals namely maintenance manager, human resource manager, electrical and plumbing engineer.

Research Findings

Knowledge in the context of Facilities Management

As per the respondents in case A, Knowledge is a largely contributing factor in organizations value creation. The importance of knowledge in the organisational context was also highlighted by the case B respondents as per them, In today's knowledge economy, knowledge is increasingly being considered as an asset that needs to be effectively managed to create added wealth. It was supported by case C respondents, as they mention knowledge has been recognized as the most important aspect in human life. Organizations competitive advantage depends more than anything on its knowledge

Knowledge Management in the context of Facilities Management

As mentioned by case A respondents, KM is about management of information, knowledge and experience available to an organization. Knowledge management can be taken as an essential procedure to gather competitive advantage and it was further supported by case B respondents as they mention KM is about encouraging individuals to communicate their knowledge by creating environments and systems throughout the company. As per the case C, respondents, knowledge is a valuable asset that must be managed and the essence of knowledge management is to provide strategies to get the right knowledge to the right people at right time and in the right format. So, managing such knowledge is important for any organization.

Informal Knowledge Management practices adopted in FM organizations

As per case A respondents, In the FM department they prepare policies and procedures and operation manuals and keep day to day records and make the FM expertise explicit. As Case B respondent's states, basically they operate

functional instructional manual in FM department and frequently update it. Furthermore, normal practise of case C respondents is preparing internal policies and procedures and daily reports and practising complaints management system and request management system which can also state under the practices of knowledge management

Knowledge Capturing, Knowledge Storing and Knowledge Reusing

According to respondent in case study B, the most effective way of implementing knowledge capture, knowledge store and knowledge reuse process is conducting a **brain storming session** where all the FM experts are get together in to a **common forum**, make them **talk about every aspect of FM** and all forum should be recorded and noted down after that, only the best practices should be sorted among the knowledge that they have demonstrated by experts. After that all the knowledge should **taken down to a common structure make codes and references**, well **documented using latest software** and should **get the critics** from the experts. It is also important to make available **stored knowledge to all the percent and future facilities managers** and to **update it time to time and controlling versions**. However, According to the facts revealed by case C respondents, method of capture, store and reuse knowledge includes the steps of **collecting knowledge information** from information-source terminals **via a network**, the knowledge information including information regarding research and development, problems, and solutions of the problems, **storing the collected knowledge information in libraries** by classifying the collected knowledge information based on a type and an attribute of the collected knowledge information, **organizing the stored knowledge** information based on importance and frequency of use thereof, and **retrieving the standardized knowledge information from a library in response to a retrieval request** so as to provide the retrieved information for a requesting party which made the retrieval request.

Knowledge capturing in the context of Facilities Management

Respondent in case study C states that “*Performing complex tasks requires the know-how of the organization's experts and specialists*”, unfortunately, there is usually a **shortage of such people and their knowledge is almost always locked away in their heads**. If they leave the organization, they take their knowledge with them. So, **the challenge is to capture and automate their knowledge to make it available to others**. According to respondent in case study A “*knowledge capture is all about getting experts knowledge out to some extent*”, but however **all the knowledge cannot be capture it resides in the human mind and could not be taken out**. According to them only the basic knowledge can be captured, knowledge is unique to person to person so that the knowledge is very hard to capture however once captured and recorded it will **Enhance human decision making by offering advice, Free experts from repetitive routine decisions for more productive and rewarding work, Ensure that decisions are made in a consistent way and as speedily as possible, Retain the organization's expertise in a readily maintainable form**. Respondents in case study B states that critical knowledge that has to be taken from the experts is best practices this can be also called as **benchmarking successful practice**. Many techniques are available to capture knowledge however in the view of most respondents the **best two methods to capture knowledge are interviews and observations**. As per the respondents in case C, Organizations today are making every effort to improve their products and services while controlling costs, many have undertaken Business Process Re-engineering (BPR) to find better ways to perform complex tasks, or to improve and automate their operations, Performing complex tasks requires the know-how of the organization's experts and specialists.

Critical knowledge areas that should be captured from FM professionals have been discovered through the empirical study and illustrates in the figure 2

Techniques of knowledge capture

As per the case B respondents, experts should give the freedom to talk about his experience by doing so best practices can be easily captured. Case C respondents hold a different perspective on this regard as per them, observation is the best method to capture knowledge rather than any other methods and it will contribute to the success of managing knowledge of FM profession.

Knowledge Storing in the context of Facilities Management

According to the respondent in case study B, “it is critical for organizations to store the knowledge, and provide access to it”, in a professional and efficient manner throughout the organization for leveraging it for achieving sustainable competitiveness. Respondent in case study A supports this further by stating ignorance in knowledge storing might be very costly in the future; they might lose an edge over the organizations. Further identified facts in case A, reveals that knowledge storing is important for organizations to move forward and deliver a better service day by day. As per the

respondents in case A, it is critical for organizations to store the knowledge, and provide access to it, in a professional and efficient manner throughout the organization for leveraging it for achieving sustainable competitiveness.

Explicit forms of knowledge storing have been identified through the case study survey and illustrates in the following table.

Table 7: Explicit forms of knowledge storing

CASE	Forms of knowledge storing
B	<ul style="list-style-type: none"> ▪ Electronically ▪ data bases ▪ documentary films ▪ intranet ▪ hard drives ▪ email folders ▪ personal laptops ▪ on paper ▪ documents ▪ project files
C	<ul style="list-style-type: none"> ▪ Client presentations ▪ Competitor intelligence ▪ Customer data ▪ Marketing materials ▪ Meeting minutes ▪ Policy documents ▪ Price lists ▪ Product Specifications ▪ Project proposals ▪ Research reports ▪ Training packs ▪ Policies and procedures ▪ Intranet

Knowledge base

FM is challenged to build its own distinctive knowledge-base with supporting methods, techniques and data structures to underpin best practice, to advance the field, and to bridge the gap between its promise and performance, most of the respondents agrees with the above statement, respondent in case study A states “ *it is **critical to have a knowledge base for the further development of the FM profession***”, hence having a knowledge base will **provide easy means of accessing experts knowledge** for the **novel facilities managers** as a central system in the storage of knowledge produced by individuals. What knowledge has to be stored is another critical issue that should be given due consideration in building up a FM knowledge base, According to the respondents in case study A, “ *however, entire knowledge cannot be stored, there are certain knowledge that are unique to a person and will die down with the person*”. Hence, the knowledge that should be store is the **knowledge that could act as basis or for standards for the decision making of a facilities manager**. According to respondent in case study B, when storing knowledge always have to pay the attention to **store the facilities management best practice** because those are the knowledge that will contribute to the success of the FM profession.

According to respondents in case A, interest for KM grown rapidly with the development of information technology (IT). Accordingly, FM Knowledge base will require carefully prepared, structured management information systems (MIS) in which information is recorded, stored and made available to those who need it. Furthermore as mentioned by case C respondents, it is needed to have computer software to control the knowledge database, and that will guide users in finding, at any given time, information that will serve their personal development and work needs. FM knowledge base may has to deals with several issues in the means of storing and distributing knowledge, technology can assist to alleviate these issues and can provide easy ways to store and distribute knowledge.

Expert System

As per the respondents in case A, FM expertise is dispersed among several individuals while a single expert may be difficult to locate, let alone interview. Meanwhile, the knowledge management must still resolve the problem of limited availability of experts in disciplines where the expert is unique or indispensable and cannot be spared from the day-to-day task. Respondents in case C hold the perspective that, Artificial intelligence will develop knowledge-based systems for problems in which the constant involvement of human experts is critical; achieving FM duties requires constant involvement of a human expert, so it is worthwhile to have a KBS for the FM profession. However, the very scarcity of the FM experts will be the motivation for system development

Criteria for Knowledge Storing

As per the respondents in case A, entire knowledge cannot be stored, there are certain knowledge that are unique to a person and will die down with the person”, as an example the ability or skills to face and adopt to critical situations, those kind of knowledge cannot be stored, hence the knowledge that should be store are the knowledge that could act as basis or for standards for the decision making of a facilities manager, facilities managers may have to take the different decisions, in different times for a same situation so when making decisions based on a criteria the quality and accuracy of the decisions will be increased so when considering what to store, emphasis has to given to store that kind of a criteria which would contribute in decision making of a facilities manager. As per the respondents given by case B respondents, when storing knowledge always have to pay the attention to store the facilities management best practices.

Knowledge Reusing in the context of Facilities Management

Respondents C holds the opinion that “*reusing knowledge about what was done, how and why things are or were done, what things mean, and how this knowledge can be applied in other settings is crucial for the organization success*”. In the view of respondent in case study A “*FM organizations have knowledge- intensive working environments, so it requires, relevant knowledge **to find flexible solutions and solve problems under tight deadlines**, achieving FM duties successfully are mainly based on occupant’s needs and the individual facilities managers’ knowledge and expertise*”. Therefore storing those expertise and make other employees use this expertise is crucial to be success in achieving FM functions.

Respondent in case study B states that “*many organizations have **implemented knowledge management systems to promote knowledge reusing***”, success of a KMS is contingent not only on knowledge contribution but also on how well (or often) such knowledge is used or applied for the benefit of the organization.

Finally framework has been adopted to capture, store and reuse of FM knowledge by revising conceptual frame work according to the research findings.

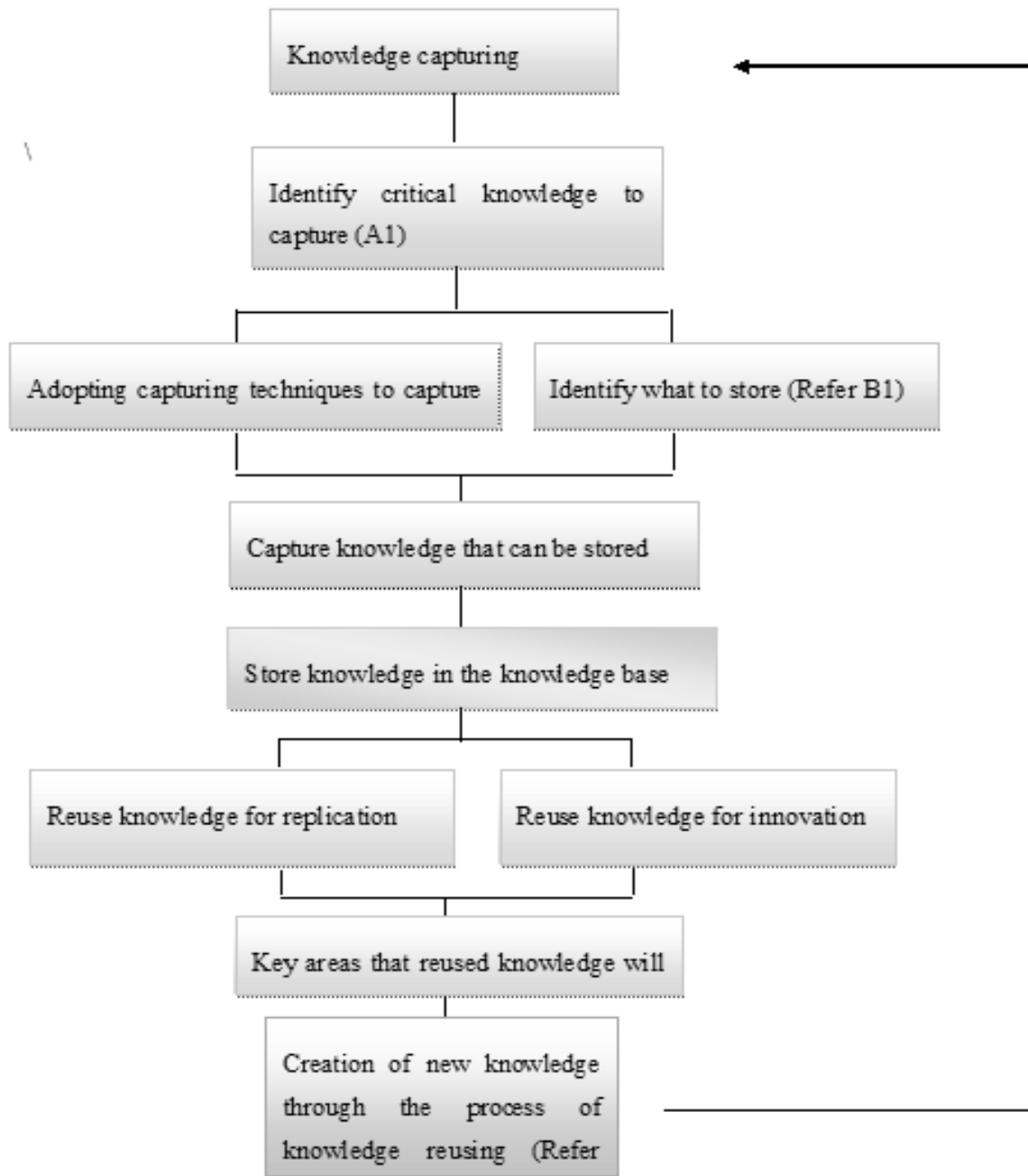


Figure 2: Framework to manage facilities manager's knowledge

<p>A: Knowledge capture</p> <p>A1: Critical knowledge areas to capture</p> <ul style="list-style-type: none"> ✓ Property management • Strategic property management • Property acquisition • Risk management • Lease management ✓ Plan for renovation and new facilities • Strategic facilities planning • Building design construction, • Energy management ✓ Operation and maintenance of facilities • Facility maintenance • Condition assessment ✓ Knowledge that is required to support infrastructure ✓ Knowledge on corporate objectives ✓ Knowledge on managing people ✓ Knowledge on required support services ✓ Knowledge on management practices ✓ Knowledge on financial Management, Communication skills, Interpersonal skills, Human skills, Business skills. <p>A2: Techniques for capturing</p> <p>Interviews, Observation</p>	<p>B: Knowledge store</p> <p>B1: What to store</p> <ul style="list-style-type: none"> • Facilities management best practices • Knowledge that contribute in decision making of a facilities manager <hr/> <p>C: Knowledge reusing</p> <p>C1: Key areas that give contribution</p> <ul style="list-style-type: none"> • Facility operations and support services • Managing facility use and performance • Managing facility procurement and adaptation <p>C2: Creation of new Knowledge</p> <ul style="list-style-type: none"> • New strategic directions • Future performance imperatives • Policy and investment development • Clarify the distinctive features of the facilities management, • Clearly defining the unique FM functions, • Modify and support key areas of FM practice
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Conclusion

In considering knowledge capturing, knowledge storing and knowledge reusing, processes, empirical study reveal that most effective way of implementing these process are conducting brain storming sessions, collecting knowledge via a network, storing in libraries and retrieving in response to a retrieval request. As per the research findings performing

complex facilities management tasks requires facilities management experts unfortunately, there is usually a shortage of such people and their knowledge is almost always locked away in their heads. So, the challenge is to capture and automate their knowledge to make it available to others in doing so it is effective to capture best practices. As per case study reveals it is critical for organizations to store the knowledge, and provide access for achieving sustainable competitiveness and to move forward and deliver a better service day by day, knowledge can be store electronically or in paper. Furthermore, according to the case study participants it is critical to have a knowledge base for the further development of the FM profession. Through the research findings it could be concluded that, reusing knowledge is crucial for the organization achieving FM duties. Further as per the FM professionals facilities managers should use the stored knowledge in order come up with new ideas and expertise in order to face new and challenging situations.

As the study reveals knowledge capture, store and reuse process could be effectively used to manage facilities manager's knowledge, hence the effort of the study was to introduce standardized way to manage facilities manager's knowledge and it has been achieved through the literature and empirical findings.

As far as the FM professionals concern, they have limited understanding and less experience on KM aspects, Thus, it is recommended to facilitate KM workshops, and training programs for the FM professionals, in order to make them knowledgeable of KM aspects and easy means of adopting them to FM organizations. Very little KM practices have been adopted in the field of FM. It has been identified through the research findings. So, emphasis has to be given to facilitate brain storming sessions, common forum and to capture FM knowledge and it must be ensure to take those sessions regularly and also it is recommended to create a intranet or common network which every facilities manager can log in and update their knowledge and use the knowledge stored in that network and which also facilitates real time communication. In the organizational level it is recommended to form a KM team, consist with people who possess with relevant knowledge and skills, where this team will capture FM knowledge effectively from FM experts in the organization, and will store them in a most appropriated manner and will facilitate reusing in most outstanding ways.

In knowledge capturing, sometime experts are not willing to give their knowledge because they think that it will create a threat to their job, hence the person who capture knowledge should be capable of convincing them to contribute his/her knowledge and it is recommended to conduct awareness programs for the FM experts introducing criticality of capturing FM knowledge for the future growth and the establishment of the FM profession. In knowledge storing and reusing, technology is an issue that should be dealt with, in most of the cases FM professionals do not possess with IT knowledge that is required for the knowledge storing process, so effective knowledge storing process cannot be implemented, so it is recommended conduct workshops to give required technical exposure to the FM professionals in order to implement effective knowledge storing process. This study can be made applicable in international context in managing facilities manager's knowledge by doing few adjustments to suit to the country's business environment.

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