Abstract

The purpose of this paper is to understand the application issues and the barriers that may arise from the adoption of process protocol for facilities management in UK higher education institution, in order to promote a more strategic approach to facilities management to support the strategic objectives of organisations. A case study is conducted in one University in United Kingdom to assess the application of process protocol approach for facilities management. Data are collected through semi structured interviews, documentation review and retrieval, archival records review and direct observations. The status of facilities management processes in the University is categorised as at ‘initial level of FM processes development’ which infers that there are several application issues and barriers that must be considered before FM process protocol approach is applied to UK higher education institutions. The process protocol for facilities management is limited to a top-down approach for facilities management processes. It does not consider a very detailed or technical issues perspective. This research has gained an insight into a better understanding of the application of facilities management process protocol within higher education institution and is an important contribution to understand the implementation issues and the barriers that may arise. The research proposed the existence of barriers to the FM process protocol application and suggests that an understanding of the organisation is vital by the incorporation of FM strategy into strategy management of organisation.

Keywords – facilities, facilities management processes, higher education institutions, process protocol
1. Introduction

The previous paper has described the development and methodology used to develop the process protocol for facilities management and explains the need of process protocol for facilities management. The paper concludes with the need for further work on the level of the sub processes and on the application of a process protocol for facilities management within the industry. Underlying the facilities management definition in EN15221: Part 1, 2006, ‘Facility Management: terms and definitions’ is a process-based, management systems approach.

Several studies have revealed that number of factors are either crucial for the success of Business Process Management (BPM) application within the industry. Rosemann and de Bruin (2005) reviewed the literature on the critical success factor and barriers of BPM. They categorised and provides six factors from existing literature such as culture, performance, alignment, accountability, methodology and the development of Information Technology (IT)/ Information System (IS) as being critical to the success of BPM. They further develops five factors which are perceived as covering and characterising BPM completely such as Information Technology and Systems (IT/IS), culture, accountability, methodology and performance. These factors combine to reach higher levels of maturity that will be influenced by organisational context (Rosemann and de Bruin 2005). It has been identified that the primary reason of Business Process Reengineering (BPR) failure as overemphasis on tactical aspects and the strategic dimensions being compromised (King 1994; Zairi 1997). Process being viewed and applied at tactical rather than strategic level. In approaching BPM the organisation need to consider the organisation strategy which is sometimes not considered in business process (Jeston and Nelis 2008). This paper presents the implementation issues and the barriers that may arise from the adoption of process protocol for facilities management in UK higher education institutions. It considers the development of process protocol for facilities management and how the Estate and Property Services Division can meets the requirements of the University by carrying out process protocol approach into their processes.

2. Organisational Culture

In any Business Process Management (BPM) transformation organisational issues such as strategy, people, process and technology make a significant contribution to the BPM success (Hegedus 2008). Zairi (1997) identifies that BPM does not only rely on good systems and structural change, but, even more important, on cultural change. He suggests a set of rules which can assist in the development of a BPM culture by understanding the features and characteristic of the business processes including the process management challenges (Zairi 1997). This factors also been revealed by Pritchard and Armistead (1999) in their case study regarding the important of cultural change and strategy aspect of the organisation. Hegedus, I (2008) found the several important points from Covey, S (1997) organisationals effectiveness which related to the organisational culture as outcomes of the business operations model. He stresses that the process improvement and management are the key components but must be viewed in context of the others. Furthermore he gave an example of PricewaterhouseCoopers Whitepaper conclusion of the lesson learnt in culture change that it is important to address the requirement for cultural change in organisation transformational change.
Roseman and de Bruin (2005) found the cultural obstacles that were identified as impacting on BPM in organisation studied were:

(i) Granularity of processes including a lack of understanding between process and procedure;

(ii) Ownership of existing processes and a resistance to change including a “knowledge is power” attitude;

(iii) Silo mentality leading to a limited focus on cross-functional processes;

(iv) High degree of duplication, wastage of resources and bottlenecks within identified processes;

(v) Poor resource and budget allocation;

(vi) Unionisation of work-force;

(vii) Little association between reward/compensation and process related performance;

(viii) Poor communication of process related issues; and

(ix) Lack of clarity and understanding of what is required with respect to process management.

Some organisations have enabling cultures that encourages change and flexible thinking whilst the others have constraining cultures that narrow the choices of though and actions. There are a number of barriers are mentioned which mainly focus on organisational and cultural problems. Commonly mentioned barriers include resistance to change, lack of understanding of BPM principles, lack of consistency of the organisation-wide BPM approach, and developing a process-oriented organisation (Lee and Dale 1998; Pritchard and Armistead 1999). Clearly, as the FM process protocol development build around the development of process base management approach, the researcher need to consider these aspects during the development and application of the FM process protocol approach.

3. Case study background

The case study chosen concerns with the fundamental changes faced by the University. For the sake of confidentiality, the University will be referred to as University A. Since 1990’s the University A carried out a major change in its corporate policy to move from its position as a teaching university to an internationally excellent enterprise university led institution while maintaining it’s teaching programmes and reputation. Considered as Mode 2 University, the University strengthens its research and collaborate with industry and government where application of intellectual, economic and social interest as the main objectives. The University A recognised that the way they managed and organised needs to change since the mergers of 1996 created the current University. There are several of initiatives and consultation works to determine the direction of the University in the future. In examples, Rethinking the University initiatives (2002), Quinquennial Review of Support Division (2003), Communication Audit (2003), Deciding the future (2005) and the development of University
Strategic Framework were developed. University's mission, set out in the Strategic Framework 2005-2015, is to be an enterprising University, achieving internationally recognised excellence in education for capability, research for the real world and partnership with business and the community. In 2006, Realising Our Vision (ROV) for the University A was introduced with the aim to be nationally and internationally recognised excellence in teaching, learning, research and enterprise. Four domain of change include governance, strategic leadership, academic management and professional service. This fundamental shift in policy led to the changes of the University’s academic strategy, organisational structure, working and teaching patterns, involving the decentralization of academic management functions to individual faculties and the centralization of administrative support services generally. To become an ‘entrepreneur-led’ university, the University A was more concerned with the issues of physical resource support including campus environment, the condition and appearance of facilities. The fundamental change led to an imbalance between the capacity and capabilities of the existing Estate and Property Service Division (EPSD), its strategic and operational responsibilities. The conflict between the Strategic Leadership Team of the University aspirations and the existing operation of EPSD suggest that the FM processes need to be introduced and restructured.

These to support new organisational policy and management structure and to adjust facilities management strategic supports and operational capability. The changes required will improve the operational capabilities of the Property and Services division to overcome the increased complexity of facilities operations and the strategic capabilities of FM to support the longer-term objectives of the University A.

4. Methodology

The researcher suggested that a qualitative research approach oriented towards discovery, description and holistic understanding of FM processes and activities was appropriate for this research. Strauss and Corbin (1998) suggests that qualitative method ‘can be used to obtains the intricate details about phenomenon such as feelings, thought process and emotions that are difficult to extract or learn about through more conventional research method’ (Strauss and Corbin 1998). The study of the application of facilities management process protocol within higher education institutions required:

(1) A flexible research design to allow the researcher to pursue new directions in data collection as understanding developed during the research. This study as an exploratory study required the flexibility to respond to the researcher’s evolving understanding;

(2) An orientation towards detail description that addresses both the context and specifics of the FM process protocol application.

(3) A focus on the participants and the process through fieldwork activities. Fieldwork infers the researcher directs and personal contact with the people involved in a study.

(4) A holistic orientation to address the complex of activities, processes, triggers and their interrelationships.
The researcher believes that the case study as a research strategy is well-suited to capturing the knowledge of FM practitioners and developing theories from it as (Stake 1995) suggests that a case study is useful when opportunity to learn is of primary importance. Considering (Yin 2003), applying the exploratory phase of investigation is considered appropriate in this research. A single-case design uses a single case study to address the research questions. By choosing single case study it will allow the researcher involved in-depth analysis of the case studies (Creswell 1998; Robson 2002).

4.1 Semi structured Interviews

Interviews provide a way of collecting information on and finding out about things that the researcher cannot directly observe (Gillham 2000). In this research, a semi-structured interviews and open ended interviews were adopted. Semi structured interviews have predetermined questions, but the order of the questions can be modified based on the interviewers perception of what seems most appropriate. It will allows the researcher the flexibility to explore emerging issues (Miller 1994; Robson 2002). The open ended interview allow respondents to discuss freely whatever they like on the broad topic of the interview undertook (Robson 2002). As this study is exploratory in nature, this type of interview is appropriate as it encouraged the respondent to express their own views and expectation from the Estate and Property Services in adopting FM processes. Gathering the understanding of the existing (as is) process within the division and how effective the process help researcher in propose the (to be) process base on FM Process Protocol approach.

An interview schedule and questions was designed before the interviews were conducted and forwarded to the respondents. The interviews were conducted with two different levels of the University A management: Strategic Leadership Team of the University and the Senior Management Team of Estate and Property Services Division (EPSD) to confirmed the ‘as is’ and ‘to be’ processes. The length of each interview was varied. The shortest was 20 minutes and the longest was 1 hours 40 minutes. All the interviews were electronically tape recorded and transcribed, before exporting them to NVivo software for analysis.

4.2 Data analysis

The approach to data analysis used within this research includes content analysis, cognitive mapping and process mapping. Data collection were analysed using a combination of content analysis, cognitive mapping and process mapping techniques. Data analysis used three software packages:

(1) QSR NUD*IST Vivo (NVivo) version 7 for content analysis tool

(2) Model explorer for cognitive mapping tool

(3) Microsoft Visio for process mapping

5. Findings and Discussions

Process protocol for FM for the higher education institutions has the potential to improve the implementation of strategic FM through sharing information and understand the processes involved among the stakeholders in the University. This study identified three areas to look before FM process protocol could be adapts to provide the improvement of the existing processes. First, the idea of strategic FM processes must be clearly defined and it’s potential to contribute in achieving the aims and objectives of the organisation must be brought to the attention of Senior Management Team in EPSD and Strategic Leadership Team of the University A. Secondly, it is necessary to develop the process involved in determining the importance of Operation and Maintenance at EPSD and connection of the process from the operational level to strategic level of FM processes. Lastly, the area that has been identified is regarding the major constraint faced by the University in adopting the FM Process Protocol.

5.1 Area 1: Understanding Strategic Facilities Management Processes

The study identified that the Estate and Property Services Division are acting mainly at an operational level, managing facilities resources and services to support the normal day to day operations of the University A. During the stable period of University development with low rates of incremental and predictable change, the current practices of operational with the routine and short term planning is adequate. However, the EPSD operational became critical once major organisational fundamental change of the University was planned. There will be significant change to business process and working practice were to be made. The proactive and innovative management capabilities of EPSD were required. In addition, to create a consistent alignment between the changing needs and priorities of the University and EPSD support capabilities need to be a major concern of the FM processes. It is expected that strategic FM contributions will be needed at the Strategic Leadership of the University level to ensure the contribution of the longer term University strategy overall. Figure 1 shows how the strategic FM can fill the gap between the mission and vision of the University and the contribution of EPSD.

Figure 1: Gap for Strategic FM
Responding to business needs require University analysis and translation of business in top down process of business visioning and a bottom up process of understanding how work is getting done now and how the facilities supports. The study revealed that there is a need for the development and implementation of FM strategy since the strategy does not exist within the EPSD. The FM strategy needs to be determined and recognised at every level of the University A organisation. With the various understanding of FM processes there is a need to give clarity to the University A facilities function. It is important to define it within the organisational context, ideally through the facilities management mission statement. Only then can the facilities strategy be evolved within the University to form a strategic function within the organisation. The study also revealed that the need to the understanding of those organisational factors as in Stage 1 FM Process Protocol and strategic influences that aligned both the strategic and operational activities of the EPSD. As one interviewee suggests that:

‘It is very important to have an integrated structure and make sure that our strategy are aligned, fragmentation is happening in the university from Strategic Leadership Team (SLT) to contribute integration into our activities. Its vital for us to have a Estate Facilities Division contribute align to the aspiration of the university’

The Executive Director of EPSD should be aware of the importance of integrating the facilities function at the highest level within the University to ensure the effectiveness of facilities function within the University. The present need is therefore for Estate Directors and Senior Manager to develop management skills with a strategic and tactical, as well as an operational, focus. This can be elaborated in Figure 2 below. The facilities management role and functions can be assigned within the University A senior management structure, with the individual roles of Director and Senior Manager requiring a broad range of skills, to meet the demands of the University A business.

Figure 2: Strategic FM Processes Thinking
Evidently that the facilities function cannot exist in isolation and it is important to integrate the facilities function with the University A it seeks to serve. The Strategic Leadership Team member also expressed their concern about the important of having strategic FM processes within the University A. As one of the interviewee said:

‘As I said to you before, strategic facilities management addresses mainly business issues to allow extent investment, some sort of partnership with private sector maybe in helping university. So you can look at this from an investment point of view, and you can look from the effective point of view looking after the facilities and the building and the University campus. Yes it is very important for us to make sure we have a strategic FM process in the university’

Thus the importance of this understanding was emphasised as a pre-requisite to the application of FM Process Protocol within the University A.

5.2 Area 2: Alignment of FM processes with the University Strategy

The importance of the alignment of FM processes with the changes in the University A is an important indicator for EPSD within the organisation. This alignment has to ensure, that changes in University A goals, in it strategies and in its primary processes can be identified in its early stages. First, the connection to the University A strategy can be identified by comparing the strategic targets of the University A with the mission, vision and strategic targets of the EPSD. Secondly, is the existence of FM standards for Operation and Maintenance including the Service Level Agreement (SLA). Lastly, the connection between FM policy and strategy developed and maintenance strategy. The study revealed that there is no clear evidence of the mission and vision of the EPSD with the strategic targets of the University, Service Level Agreement (SLA) for operation and maintenance does not exists as quoted by one of the stakeholder.

‘..I like to see something like this clearly define structure, statement of purpose of what they do, I think beyond that define the processes much more clearly, define Service Level Agreement (SLA) and they can be much more responsive. Reinvent the processes suppose be in the first place ‘

As proposed in the Stage 2 of FM Process Protocol it is cleared that the EPSD need to develop it own FM strategies and Operation & Maintenance Policy to ensure the alignment with the University Strategy. The research findings recognise that there is missing connections between the FM processes whereby the development of the maintenance strategy is not derived from the FM strategy.

In this respect, one of the interviewee of the SMT, EPSD gave his view that:

‘Strategic options developed from deterioration, replacement condition etc via the condition survey. Also, through feedback from end users/ helpdesk, academic plans and Senior Management Team. Clearly, that the development of major maintenance strategy for this University is based on the Condition Survey and Estate Master plan’
The outcome of the maintenance strategy should be based on the FM strategy which defines the specific target for maintenance. These strategic targets will be inputs to the maintenance planning process on tactical level. Having lack on these processes will effected to the alignment of the University strategy. Furthermore, the alignment of the FM processes with the University Strategy is the key success for the organisation in ensuring the process support the organisation need. One of the SLT members gave his opinion as follows:

‘It should be aligned. Since the strategy is aligned, the planning should be strategic, it should look after the workability of the university as teaching, research and academic enterprise and the strategic should be align and integrated. The most important thing you cannot plan facilities and building in isolation. It had to be related with business driver and business needs. If you want to become one of the best in the UK and if you want to be the top 30 universities in term research performing than your infrastructure will response to this need and the Estate could understand the strategic division and to provide right facilities for research environment. It is vital for us. If I want to achieve our research strategy, our research target, we must ensure we are provided our researcher and staff with the best facilities.’

Different approach to manage assets and facilities are required since FM processes based from the demand drove of the organisation. There is a need for the EPSD to develop maintenance strategy based on FM strategy which will help the organisation to create the processes that aligned to the organisation need. It will help the EPSD to accommodate with new demand and requirement of the organisation.

5.3 Area 3: Major Constraints to Effective FM Processes Protocol Adoption

To effectively recognise, identify and remove the constraining forces and successfully develop an appropriate FM process protocol within the University organisations, the investigation of the constraints of the FM Process Protocol is vital. From this perspective, the interviewees were asked to provide their insights on the constraints of the FM process protocol within the organisation. The research finding revealed that four important factors for the major constraints to effective process protocol adoption within the University. First, the influence of capability and resources of the EPSD in adopting the FM process protocol and the capabilities of EPSD in delivering the services to the University. Secondly, the organisational culture of the EPSD. The third aspect to influence the adoption of the process protocol is the stakeholder expectations on the existing facilities. Finally, the operational environment of the EPSD which influences the facilities functions.

1. Capacity and capability of the Estate and Property Services Division

The research findings demonstrate that the importance of the EPSD having the capacity and capability in adopting the FM processes within the University. One of interviewee from the SLT expressed his view as follows:

‘Estate and Property services unit quite backward, it is quite resistant to change. So are they capable, well probably will need to put this on board but not sure whether they can be capable and offer really drive it
forward they need some help. Very much traditional building work department which needs to be much more service related and much more efficient and effective in term what they does and also need to transform itself in term of it’s working practices.’

2. Organisational Culture of EPSD

The Senior Management Team of EPSD also expressed the constraints that he thought that may effect the adoption of FM Process Protocol as follows:

‘I think it is translation of what the university does, how it does it, why it does it and the cause of it and also our staff understands where they engaged with that, how they can translate that, how they can handle that, I think actually to do that it is the cultural change of my staff. It is way of get them to making them to see it as whole. Some staff already do it, some staff very much in specific functionality in facilities side and do not see the impact.’

In addition, one of the SMT of the EPSD expressed the conflict arises between FM and estate management and he thought that the difficulty to put FM processes at the strategic level of organisation. He expressed his view as follow:

‘...of the key area of FM processes if you want to move from the tactical and operational level to look at strategic level is about having key player in and having competent and experience manager who understand the tactical and operational area and understand how to influence at strategic level and it’s about the people issue and about the organisation understanding that there are be right level of people in the operational level’

Furthermore one of the interviewee expressed her view on the poor organisational culture of EPSD as follows:

‘The EPSD weakness can be identify failure to align work carried out at the operational level had the connection with the strategic objective of the university in manage day to day rather than strategic, capability of staff i.e. skills of using Microsoft Project, important project with unqualified project manager, to change the staff culture, less customer focus, staff not thinking of changing and creating more conflict with other department’

3. Stakeholder Expectations

Research findings from the study interviews revealed that most of the SLT do not agree that the facilities and infrastructure provided so far is appropriate in achieving the aim and objectives of the University. Figure 3 below shows cognitive map of the current facilities and infrastructures not meet the expectation of the Senior Management Team.
In addition, the way that the operation and maintenance has been delivered does not met the expectations of the SLT of the University. They expected that the Estate Division should be more at the strategic level of the organisation rather than the current situation. They also expected there should be an alignment between the Department, Faculty and schools with the Estate and Property Services. Some examples of the SLT expectation in EPSD operational processes in the University A is illustrated in Figure 4.
4. **Operational Environment of the EPSD**

The operational environment of the EPSD has influences on strategy formation of the facilities function within the University. This infers that the facilities function is more reactive than proactive and is positioned more to meet the needs of the immediate working environment. The Strategic Leadership Team also been asked about how they think the way that the Estate and Property Services Division current operation can support the movement and change that had been made within the university. The SLT has varied view for this question with majority of them do not agreed that the existing way of EPSD operation can contributes to the University aims and objectives. Figure 5 shows the cognitive map of the perception of EPSD current operation within the University.

![Cognitive Map of SLT Perception on ESPD Current Operations](image)

**Figure 5: A cognitive map of SLT perception on ESPD current operations**

### 6. Conclusions

This paper pointed out three areas to look before FM process protocol could be adopts to provide the improvement of the existing processes to meet the needs of the University A. Research findings demonstrate that there is a need for FM processes to be acquired at the strategic level of the organisation to ensure the facilities and services provided aligned with the aims and objectives of the organisation. While evidence suggests that the facilities management contribution is vital to the success of the organisations, there is not much guidance for the development and understanding of FM processes within organisation. Meanwhile, the current operational activities of the Estate and Property Services within the University A can be described as a traditional building work department, focusing more on operational level activities, lack of strategic initiatives and less engaged in the corporate decision making than they should be. In addition, the existing organisational culture, capability and capacity for the division, current operational activities and environment contributed to the constraints of the effective FM process protocol adoption. Therefore, there is the need for the division to move away from their conventional thinking of supporting the organisational business objectives towards become more real enablers in maintaining and developing facilities for the
University A. Thus, facilities management process protocol has the potential to recognise the nature of the business processes and contributed to meeting the change and challenge of the organisation.

References


