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Understanding the context for best practice facilities management from the client's perspective

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Abstract

Purpose – The paper has the purpose of demonstrating that (business) process modelling can be used to portray facilities management as a hierarchical set of activities which combine to satisfy the business needs of the client organisation. The paper aims to show, through a top-down approach, how service provision must be set in a wide context if its role in fulfilling those needs is to be successful. The question of whether or not to outsource services is given particular prominence. A secondary purpose is to show how best practice and attempts to improve current practice can benefit from the modelling approach.

Design/methodology/approach – Business process (IDEF0) modelling is used to portray the facilities management process from the perspective of the client organisation.

Findings – Service provision must be set in a wide context if decisions and their outcomes are to be consistent with the delivery of best value and customer satisfaction. The model of the facilities management process presented in the paper shows, for instance, where and how the decision to outsource or retain services in-house fits into the total picture. The transparency afforded by the model and the procedures that can be derived from it will enable clients to reach a competent decision and not one based on incomplete consideration. Furthermore, clients are able pursue a policy of continual improvement and with that practices that can be regarded as "best" in their context. As a template of current best practice, the model is also the context for evaluating the worth of new insights and novel practices.

Research limitations/implications – The model is limited to a top-down approach to the facilities management process; as such, it does not consider very detailed issues.

Originality/value – There exists no authoritative model of the facilities management process from the client's perspective. The issue of context has not received adequate treatment in the literature.

Keywords Production management, Production processes, Best practice, Customer satisfaction

Paper type Conceptual paper

Introduction

Process modelling has been adopted across industries, yet its application within the facilities management sector has been modest to date. Reasons include a lack of

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awareness of what process modelling does and can achieve for client organisations (typically building owners) and other key actors, coupled with a perception that methods and tools used in other industrial sectors have little relevance. Another reason is the relative immaturity of the facilities management discipline when compared with others, such as those in the field of engineering. The combined impact of (lack of) awareness, misconception and immaturity means that little progress has been made to understand the interrelationships and dynamics of the facilities management process and, in particular, the scope for continual improvement in practices. Indeed, attempts to define and adopt best practice are fraught with difficulty, not least because of the issue of context. As this paper will show, a "fit for purpose" process model is one that adopts the client's perspective and allows the contribution of current practices to the achievement of best value and customer satisfaction to be examined.

One of the benefits of process modelling in a given business area is to make relationships and flows of information explicit. In doing so, actors in the process can achieve a shared understanding of what has to be done, by whom, in what sequence and with which resources. This shared understanding is essential to achieving a balanced view of the process so that individual actors can appreciate their role and obligations. Even so, it is essential that the view is holistic, by encompassing the process in its entirety and is not merely a fragment of concern to a single actor. A shared model portraying the (facilities management) process as-is provides the starting point for discussion and study that can form the basis of a programme of continual improvement. Without that shared perspective, the basis for improvement is undermined.

This paper sets out to demonstrate that (business) process modelling can be used to portray facilities management as a set of activities that combine to satisfy business needs. The paper will show, through a top-down approach, how service provision must be set in a wide context if its role in fulfilling those needs is to be successful.

IT and process modelling

The proliferation of integrated CAD, document management systems and the internet makes it difficult for the different participants in building-related projects to cooperate efficiently unless the data creation and exchange process is well known and agreed. At the same time, there is increasing pressure which forces companies to define and redefine their processes as an integral part of their quality management systems. Companies striving for a competitive edge recognise the opportunities offered by IT and have launched business process reengineering efforts where process modelling has a prominent role.

Although process modelling using IT-supported tools is a relative newcomer to the facilities management sector, companies and trade associations have for many years produced definitions of the processes with which they are associated through less formalised methods. These definitions have, for instance, served the internal needs of organisations in rationalising their working methods, the needs of the sector for standardised principles for setting fees as well as the needs of society or clients in quality control. Often, such models have taken the form of checklists of activities published by trade associations.

Building process modelling can be undertaken on many levels, ranging from the lifecycle of a building spanning decades down to the technical details of how to install

different types of components (Katranuschkov, 2006). The motives and views of the models differ considerably from one level to the other. On certain levels, the central motive for modelling may be to establish the borders between the activities of the different actors that participate in the process, as well as defining the flows of products, materials, information and money that occur at the interfaces. On other, more detailed levels, the exact sequence of activities needed for a particular technical task may be modelled, in order to increase job safety, minimise the risk of defects or even to provide information support for the development of automated responses.

Important, earlier attempts to define formalised construction process models include the IBPM from Pennsylvania State University (Sanvido *et al.*, 1990), VTT's model of the Finnish Construction Process (Karhu and Lalhdenperä, 1999) and the UK Generic Process Protocol (Kagioglou *et al.*, 2000; Process Protocol, 2001). Each of these efforts has had a slightly different focus. Both the IBPM and the Process Protocol work have tried to define normative models that attempt to illustrate to the sector how it should work in order to become more efficient. VTT's model is closer to current practice and tries to define it more precisely using formal modelling tools in order to facilitate communication about the process. Work by Katranuschkov *et al.* (2004) on the process matrix has taken these ideas further by proposing a basis for project team collaboration. The matrix was designed with two primary objectives in mind:

(1) to improve the capability of information capture so that various analyses can be easily performed and reported, as and whenever needed; and

(2) to provide a suitable format for database management as well as web-based presentation and processing in support of collaboration.

Some earlier work on process modelling of the facilities management process should also be recognised at this point: Svensson (1998) and Lundgren (2002).

Methodological approach

The model presented here is defined using the IDEF0 modelling method (NIST, 1993; Marca and McGowan, 1998). IDEF0, also known as SADT, is one of a number of available process modelling protocols for which efficient software, incorporating data export capabilities, is available to help in defining databases and systems. It has proven to be popular in building-related process modelling efforts and is regularly used in product modelling for describing the processes in which product data are defined and exchanged. An IDEF0 model consists of a set of activities, depicted by rectangular boxes, which are interrelated and may be arranged in a hierarchical decomposition. An activity needs some inputs and transforms these inputs into outputs by use of machines or people in the organisation. Controls constrain these activities by specifying which conditions that are actually regulating the performance of an activity. The purpose of using IDEF0 is to the reveal the meaning of a particular activity and to show the kind of information, material or energy, which is conveyed through the interfaces (i.e. arrows) of activities in the process. Figure 1 shows the basic concepts of the IDEF0 method set against the general context of the building process (taken to include the facilities management phase). Note that the figure and those below are presented without the full IDEF0 "kit", that is, the legend and other referencing aids in the header.

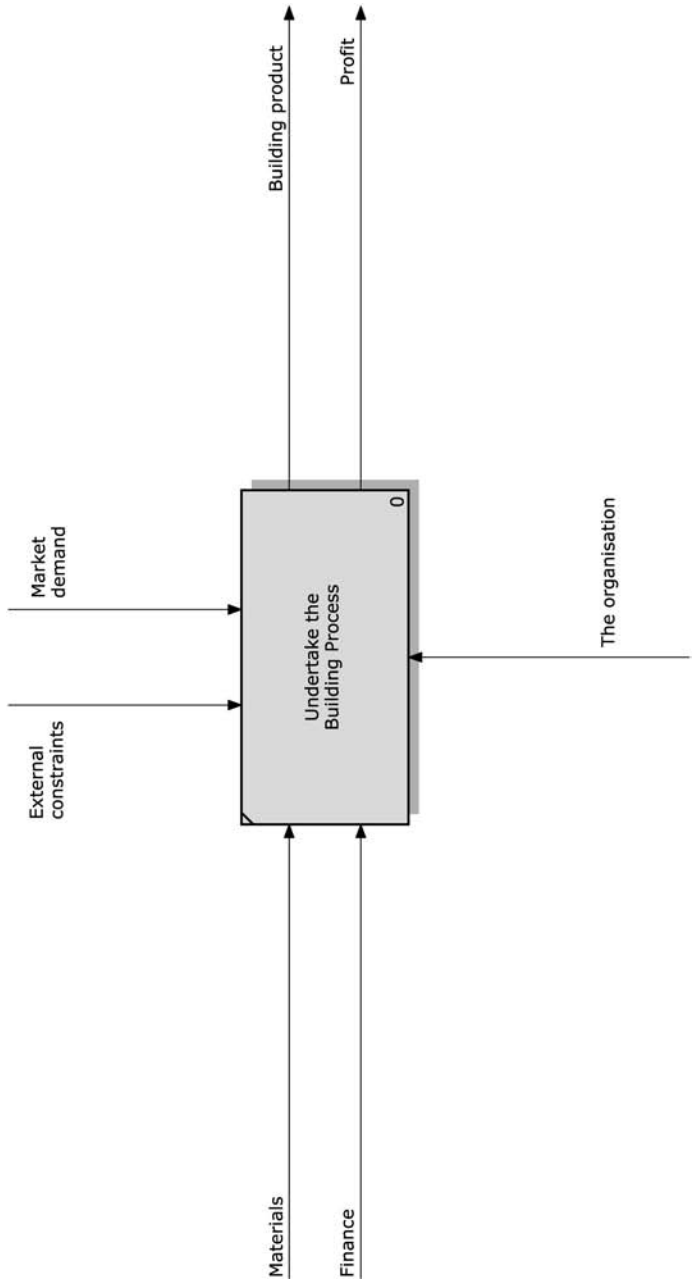

Figure 1.
The basic concepts of the IDEF0 method

IDEF0 models are useful in focusing on the activities involved in a process. IDEF0 uses a top-down approach that encourages a holistic view. By using IDEF0 methodology, a process can be analysed as a hierarchical set of interrelated activities, where the diagrams at the top of the model are less detailed than those at the bottom. Moreover, the analyst in creating the model or the manager in examining its "fitness for purpose" need decompose the model only to a level or levels that are consistent with the requirements of the job in hand. The contrasting bottom-up approach can force the analyst or manager to model details that may serve little practical use, thus wasting valuable resource and distracting from the purpose of the exercise.

The use and communication power of process models is an interesting question. Two important observations arising from our own experience of modelling are:

(1) The best way to assure that the models are well understood and have an impact on practice is to involve practitioners in the definition of the models. This is easily achieved by "walking" practitioners through the models to obtain their feedback. Such action is also likely to enhance practitioners' understanding of the process and commitment to using the models.

(2) Models need to be relatively simple to be understood. Although reality is complex, a model is always an abstraction and there is no need to model all possible interaction and feedbacks between activities. Unnecessary arrows in a model tend to obscure the "bigger picture".

Facilities management process model

A rational examination of facilities management as a process should adopt the perspective of the building owner, i.e. client organisation (Atkin and Brooks, 2005), although there is nothing to prevent other perspectives being taken. Our rationale is that clients drive the process: without them there would be arguably no need for facilities management. Other stakeholder perspectives could be adopted, each differing according to the (business) objectives of the analyst or manager.

At the highest level in our building owner model, we can observe the primary inputs of Business needs and Schedule of facilities, which enable the facilities management function – see Figure 2. Primary outputs are delivering Best value and satisfaction for the client and users of the facilities. The primary controls (or constraints) are related to quality (i.e. performance), productivity and financial limits.

Initial decomposition of the model reveals five key stages, or high-level functions: formulating the FM strategy, analysing requirements, developing solutions, implementing solutions and monitoring service provision – see Figure 3. The guidelines for this approach are defined in detail by Atkin and Brooks (2005).

The underlying logic is that a strategy must precede decisions on procurement, not least the decision whether or not to outsource services. An objective analysis of requirements matched to possible solutions leads directly to implementation. In lower levels, the rationale of this approach becomes evident in the automatic definition of essential inputs, controls and outputs. Less attention is deserving of mechanisms, i.e. senior management, facility manager and service providers, for the purpose of this exercise, since it will always be the case that client interests will be represented by senior management and the facility manager, whereas the supply of services will be in the hands of one or more – most likely several – service providers. Repetition of these elements can be seen throughout the model.

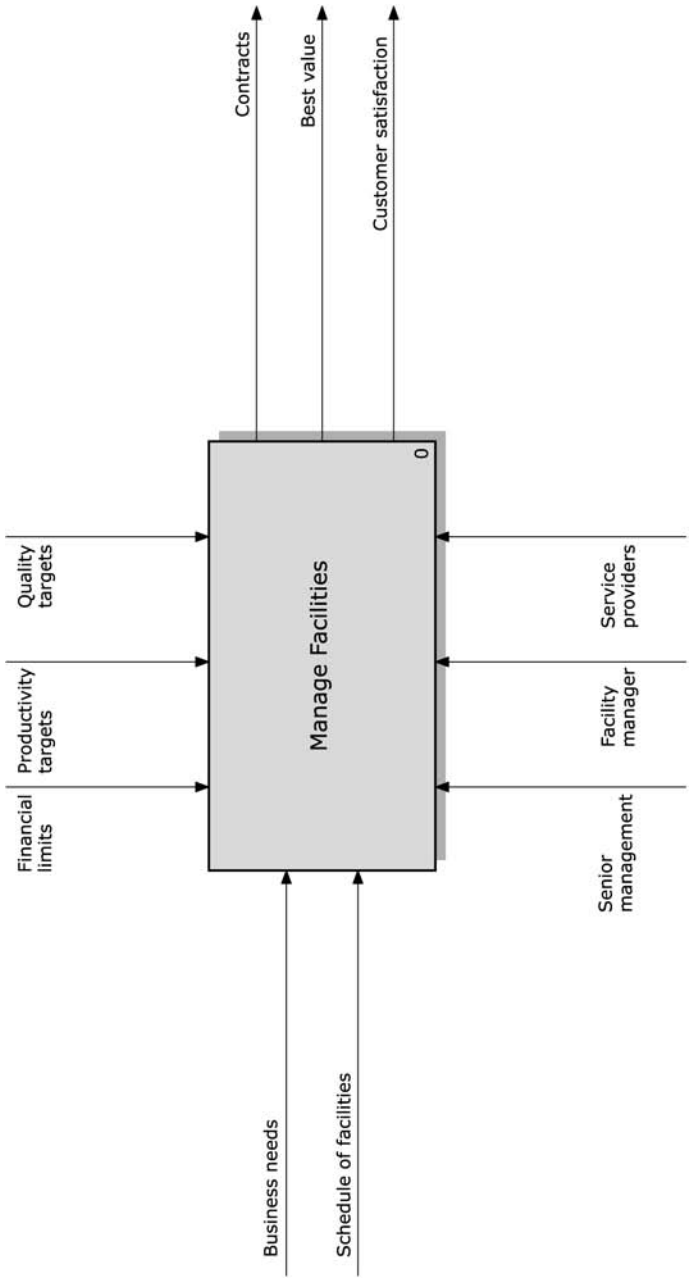

Figure 2.
Top level view of the FM process

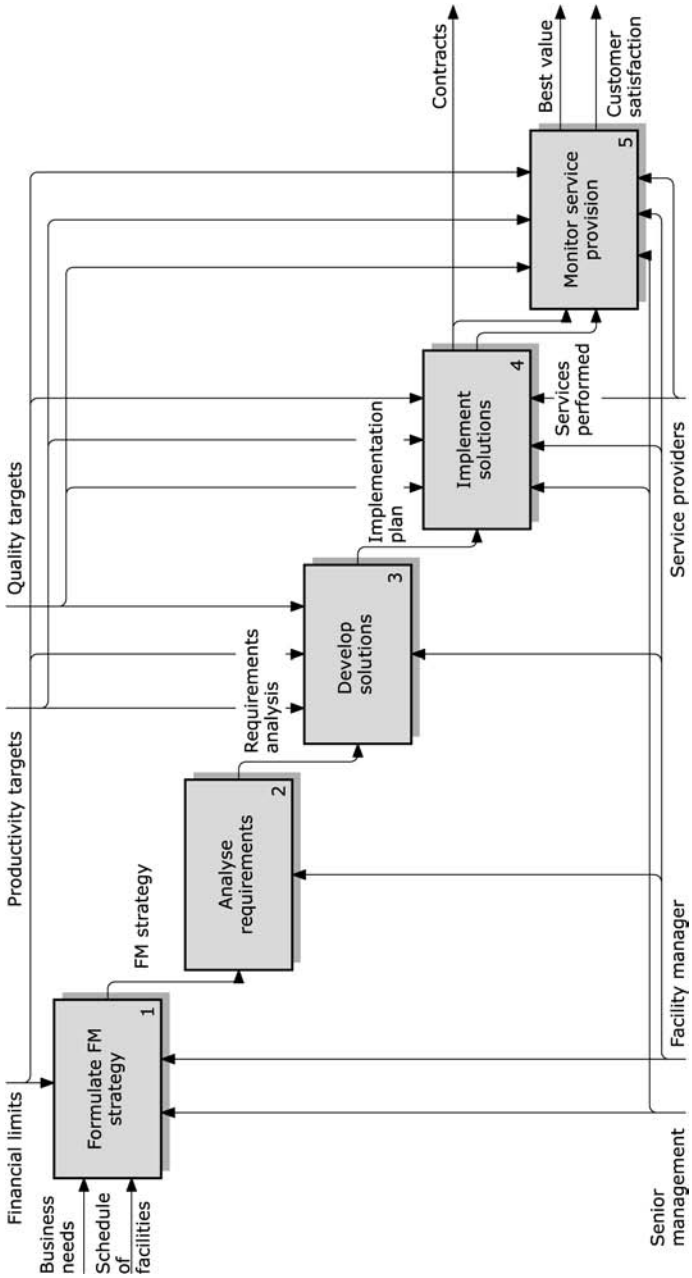

Figure 3.
Five key stages in the FM process

Within Figure 4 we see how the initial task is to differentiate between core and non-core services. The basis of the assumption is that the client must identify functions and services that can be potentially outsourced and those that cannot. Decomposition of this task reveals, amongst other things, the need for market testing. The client organisation must be aware of what the market can offer in terms of support (i.e. non-core) services and the price of those services. The strategy is a prime example of pre-planning and the alignment of needs with opportunities.

Figure 5 portrays the stepwise analysis of the client organisation's requirements and moves logically through a process that identifies the current position and how that is being satisfied, or not. Solutions may be many and for this reason above others, there needs to be close scrutiny of the options available and their "fit" with the client organisation's requirements. Objective analysis underscores this aspect of the process as shown in Figure 6. Here, evidence to support the case for outsourcing, retention in-house or mixed provision of services is factored-in, enabling a robust decision to be taken (Atkin and Brooks, 2005).

Implementation of solutions is likely to involve some form of tender competition for the supply of services and will always involve the preparation of documentation – see Figure 7. In-house (retained) service provision needs specifications and service level agreements just as these are required for contracted out (i.e. outsourced) services. The performance of services is decomposed into a sequence of tasks that commences with mobilisation of the workforce and progresses through due performance, checking and re-work (as appropriate). For some observers, the performance of services may be seen as the most visible aspect of facilities management. However, the context within which it appears is more important from a business process modelling perspective. If the process were to be driven by the performance of services, there would be doubt as to the efficacy of provision. Close analysis of needs, followed by the careful evaluation of options, leads to an informed decision to procure services and hence their eventual performance is likely to be influenced by how well (or badly) the preceding steps have been.

Monitoring service provision "closes" the process by ensuring that performance matches requirements and that remuneration is adjusted accordingly – see Figure 8. An important feature of providing services is linking remuneration (and reward) to performance (Atkin and Brooks, 2005). The final outputs match the top-level drivers of best value and client satisfaction.

Conclusions

A model of the facilities management process has been presented. The model is based expressly on one perspective – that of the client organisation. There are other perspectives, but all are secondary in importance to the business needs of the client. The paper has portrayed the facilities management process as a hierarchical set of activities, which combine to satisfy those needs. The paper has also shown, through a top-down approach, how service provision must be set in a wide context if decisions and their outcomes are to be consistent with the delivery of best value and customer satisfaction. In other words, the process is driven by client needs and not by the availability and supply of services and goods. The significance of the approach adopted in this paper is that it reveals, for instance, where and how the decision to outsource or retain services in-house fits into the total picture. Through the

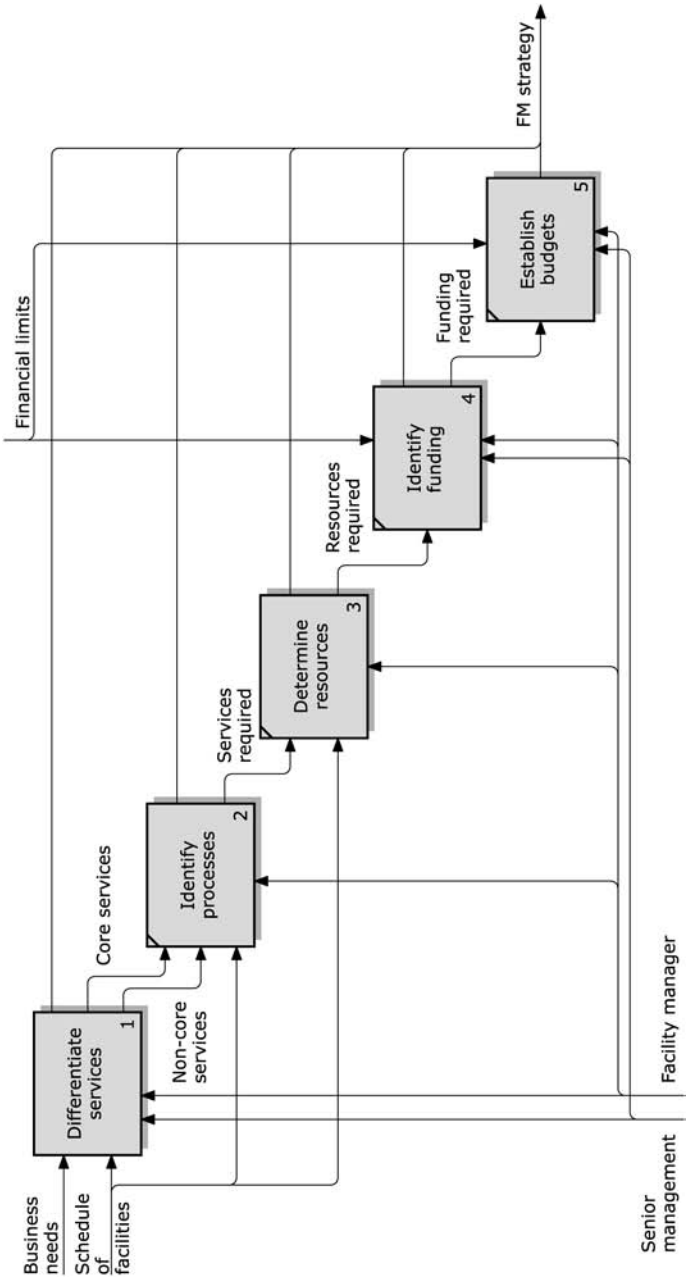

Figure 4.
Decomposition of FM strategy formulation

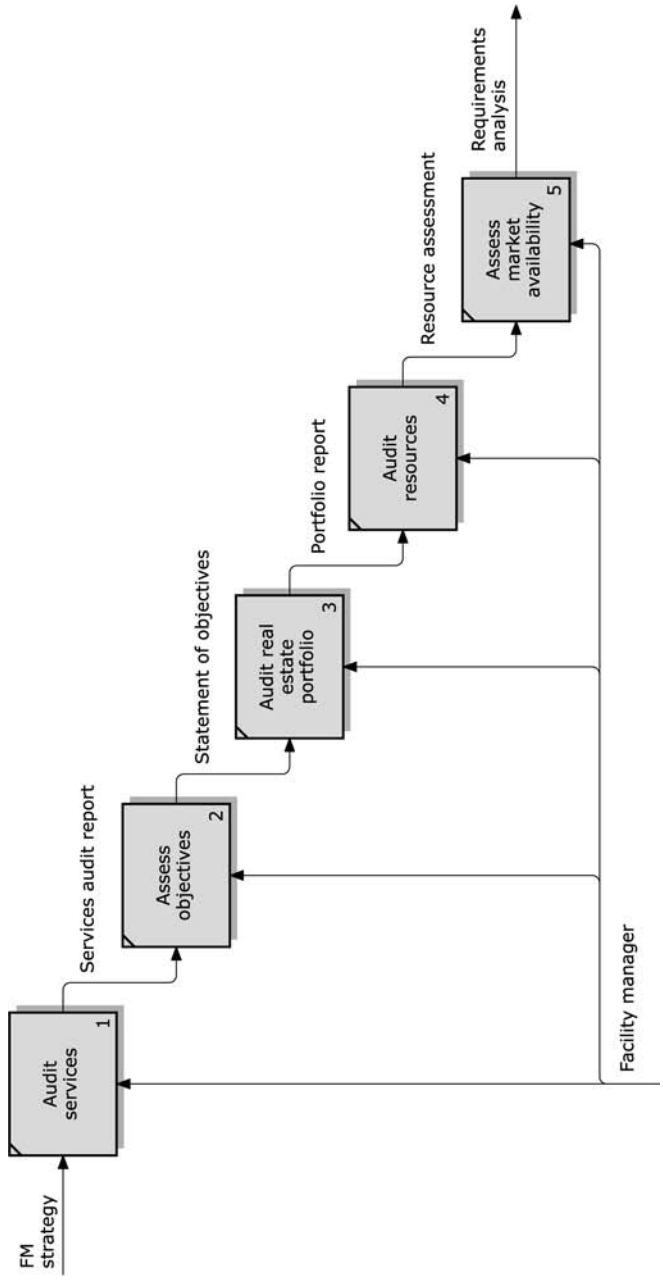

Figure 5.
Stepwise analysis of the client's requirements

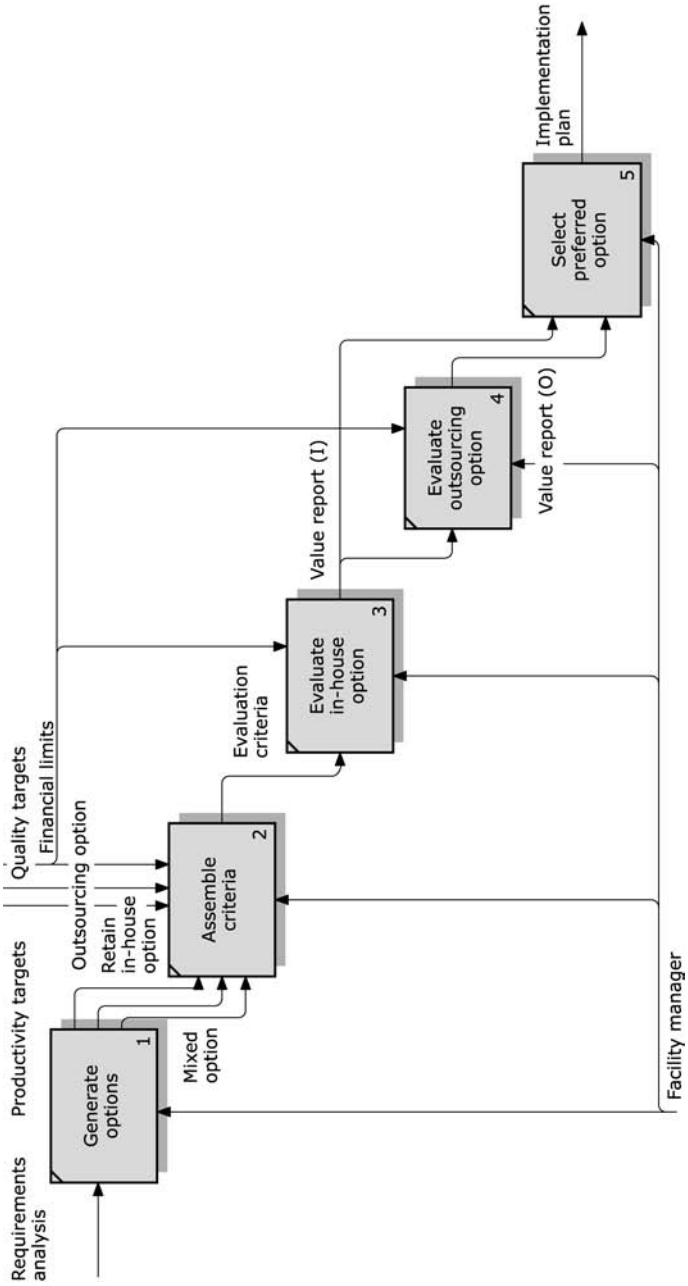

Figure 6.
Identifying and evaluating possible FM solutions

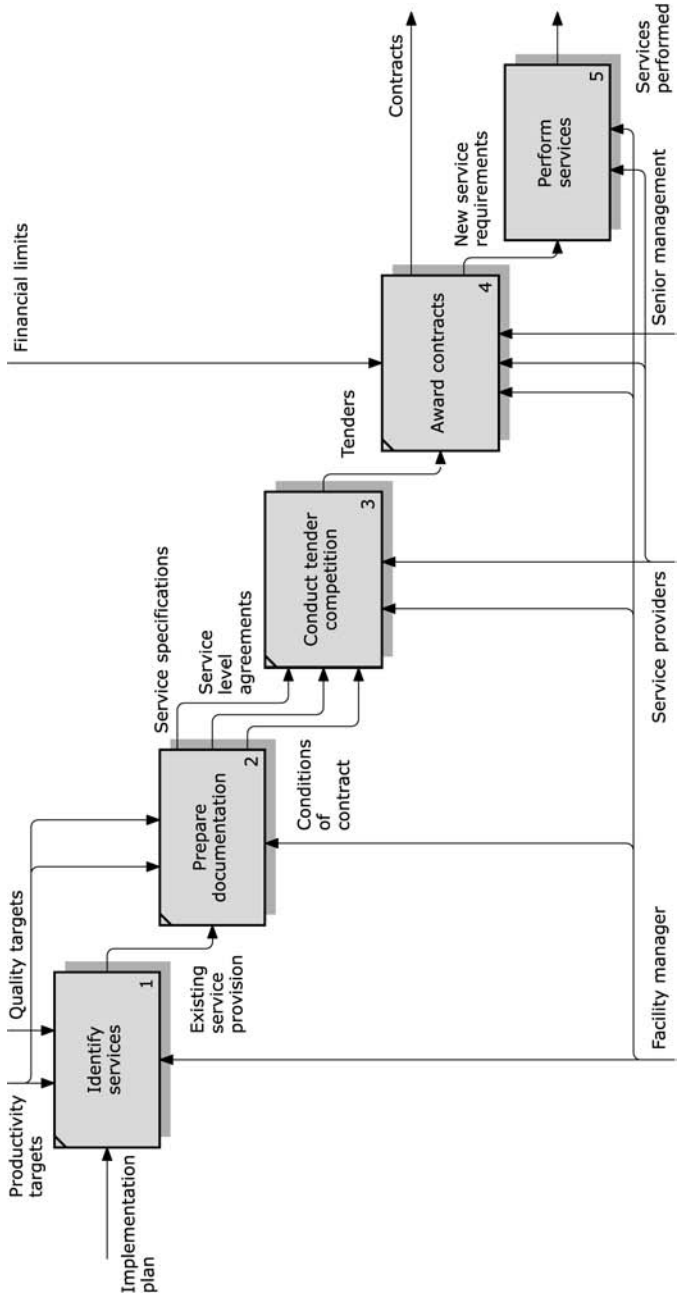

Figure 7.
Implementing solutions to FM needs

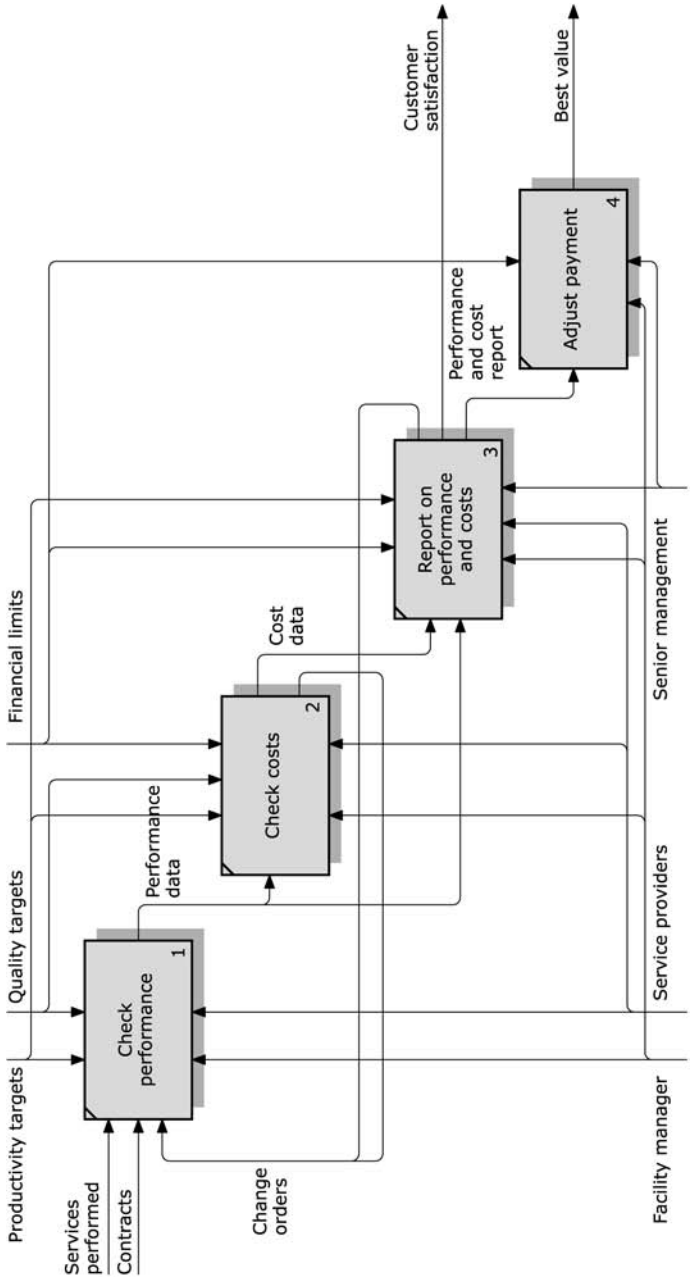

Figure 8.
Performance management and reporting

transparency afforded by the model and the procedures that can be derived from it, clients can feel confident that they are reaching a competent decision. In addition, they have the means to pursue a policy of continual improvement and with that practices that can be regarded as "best" in their context. As a template of current best practice, the model is also the context for evaluating the worth of new insights and novel practices which might lead to the judgment that best practice is being achieved.

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