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# Towards an Integrated Value Adding Management Model for FM and CREM

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## Abstract

**Purpose:** To present an integrated process model of adding value by Facilities Management (FM) and Corporate Real Estate Management (CREM) that is a generalisation of existing conceptual frameworks and aims to be a basis for management of added value in practice.

**Background:** The growing research on the added value of FM and CREM over the last decade has resulted in the development of several conceptual frameworks and the collection of much empirical data in practice. However, the practical application of current knowledge has shown to be limited and difficult. The reasons seem to be that the different frameworks are too complex and lack of common terminology and clear operationalisations of intervention-impact relationships.

**Approach (Theory/Methodology):** A generalised Value Adding Management process model is developed based on a common cause-effect model identified in existing conceptual frameworks combined with the basic process model of input → throughput → output. The proposed model consists of interventions as input, management of implementation as throughput and added value as output/outcome.

**Results and practical implications:** The Value Adding Management model provides a simple framework which aims at supporting the practical management and measurement of added value. A typology with six types of FM/CREM interventions is developed from earlier research. The concept of Value Adding Management is investigated and the 12 most important added value parameters are identified.

**Research limitations:** The process model still has to be tested on its empirical validity and practical applicability. This is being done and will be presented in a forthcoming book on how to manage and measure value adding by FM and CREM.

**Originality/value:** The Value Adding Management process model condensates research in an original and simple model with the potential to make value adding management more applicable in practice.

**Keywords:** Facilities Management, Corporate Real Estate Management, Interventions, Value Adding Management, Added Value.

# 1. Introduction

Facilities Management (FM) and Corporate Real Estate Management (CREM) are two closely related and relatively new management disciplines with developing professions worldwide and which attract increasing academic attention. Both disciplines have from the outset had a strong focus on controlling and reducing cost for property, work space and related services. In recent years there has been a change towards putting more focus on how FM/CREM can add value to the organisation. The growing research on the added value of FM and CREM has resulted in the development of several conceptual frameworks and collection of much empirical information. However, the practical application of this knowledge has shown to be limited and difficult. The reasons seem to be that the different frameworks are too complex and lack of common terminology and clear operationalisations of input-output/outcome relationships.

The purpose of this paper is to present an integrated process model of adding value by FM and CREM which builds on existing conceptual frameworks and aims to be a basis for value adding management in practice. The paper is related to a forthcoming book, where the model is further explained and validated. It is the result of work in a EuroFM research group established in 2009. The paper is mostly conceptual, but it is based on a huge amount of research and empirical evidence.

## 2. Conceptual Model

### 2.1 Existing Conceptual Frameworks

When the research group began there were 3 conceptual frameworks that formed the starting point. One framework was the FM Value Map developed in Denmark by Jensen (2008 and 2010). The other frameworks were more related to CREM. One CREM framework was developed in Finland by Sarasoja – then Lindholm (Lindholm and Leväinen, 2006). The other was developed in the Netherlands by De Vries (De Vries et al., 2008). A fourth framework was later developed in the Netherlands by Den Heijer (2012) - partly based on the framework of De Vries, but redesigned in a different form and extended with various other value parameters.

The FM Value Map and the framework by De Vries both include a basic process model based on input → throughput → output, but in a different way. In the FM Value Map the process model refers to processes in FM and not in the core business, with input being FM resources, the throughput being FM processes and output being FM provisions. The logic of the FM Value Map is that the FM provisions as outputs can lead to different types of outcomes i.e. impacts on added value parameters related to core business and the surroundings and various stakeholders. The distinction between FM as a support function to a core business is a fundamental part of much theory on FM – although not undisputed. This distinction is even included in the definition of FM in

the first European FM standard (CEN, 2006) using the term primary activities as representing the core business.

In the framework of De Vries the process model is related to the overall business organisation and business processes and various stakeholders as well; there is no distinction of a separate CREM process as such. The inputs are divided in 5 general business resources: Human Resources, Technology, Information, Capital, and Real Estate, referring to real estate as the fifth resource (Joroff et al., 1993). Embedded in the process model is a brief overview of real estate interventions that may lead to different types of influences (added values) on the business process and business outputs. The model can be seen as a cause-effect model similar to the outputs leading to impacts in the FM Value Map. The framework of Anna-Liisa Sarasoja does not in a similar way include a process model, but it is basically structured as a cause-effect model with real estate decisions and operation leading to different types of added values that cumulate into increased shareholder value.

## 2.2 The Value Adding Management Model

In the conceptual frameworks mentioned above a general process model can be recognized:

Input → Throughput → Output → Outcome → Impact = Added Value

We can also identify an underlying cause-effect model that is included in all the four conceptual models with different wordings as shown in Table 1.

*Table 1: Cause-effect model in the 4 conceptual frameworks*

<b>Framework</b>	<b>Cause</b>	<b>Effect</b>
<i>FM Value Map</i>	<i>Provisions / Output</i>	<i>Impact / Outcome</i>
<i>Sarasoja</i>	<i>Real estate decisions and operation</i>	<i>Added Value</i>
<i>De Vries</i>	<i>Real estate intervention</i>	<i>Influence / Added Value</i>
<i>Den Heijer</i>	<i>Real estate projects / Input</i>	<i>Added Value / Performance</i>

By combining the general process model with the cause-effect model and including value adding management as the intermediary between cause and effect we can define the generalised Value Adding Management process model: Intervention → Management → Added Value.

Intervention is used as the general term for cause and Added Value is used as the general term for effect. This model is very simple and combines essential aspects of the different conceptual frameworks supplemented with the management of implementing the intervention to ensure that the FM/CREM interventions lead to added value for the organisation. In relation to the general process model the focus in the generalised Value Adding Management process model is on how output by appropriate management can lead to outcome and added value.

This is equivalent to: Decision on type of change → Implementation → Outcome/Impact.

And also to: What → How → Why.

*What* is the kind of change and the improvement FM/CREM intends to make to add value; *how* is the way FM/CREM manages the change and implements the improvement and *why* is the benefit the core business organisation is expected to achieve i.e. the positive outcome of benefits versus sacrifices in terms of costs, time and risks.

The three elements in the Value Adding Management model as presented above can be seen as “black boxes”. In the following section we will open each of these black boxes and reveal what they contain in a FM and CREM context.

### **3. Opening the Black Boxes**

#### **3.1 FM and CREM Interventions**

This sub-section explains the first part of the generalised Value Adding Management model called “Intervention” or “Decision on type of change”. It presents a typology of FM and CREM interventions based on earlier research consisting of the following six types of FM and CREM interventions:

1. Changing the physical environment (on different scale levels: portfolio, building, space)
2. Changing facilities services
3. Changing the interface with core business
4. Changing the supply chain
5. Changing the internal processes
6. Strategic advice and planning

##### **Changing the Physical Environment**

The physical environment is essential to both FM and CREM. It includes buildings, internal and external spaces, technical services (installations), indoor climate, fitting out, furniture, workplaces, technology, artwork and ambience. Typical examples of changing the physical environment include:

- Moving to another location (new or existing building)
- New building
- Rebuilding, refurbishment or adaptive re-use i.e. conversion to new functions
- Changing workplace layout, e.g. conversion of a cellular office with personal desks to an activity-based work setting with shared use of a variety of task-related workspaces
- Changing appearance, e.g. to support corporate branding

### Changing Facilities Services

The facilities services are the operational FM activities. In the European standard on taxonomy for FM (CEN, 2011) the facilities services are divided in demand related to Space & Infrastructure and demand related to People & Organisation with both categories sub-divided in standardised facility products as shown in Table 2. The standardised facility products Space and Workplace in the table are partly overlapping with Changing the physical environment, but the physical environment basically concerns tangible artefacts, while the facilities services mostly concerns intangible service activities.

Table 2: FM taxonomy with standardised facility products (CEN, 2011)

<i>Demand related to</i>	<i>Standardised facility product</i>
<i>Space &amp; Infrastructure</i>	<i>Space (Accommodation)</i>
	<i>Outdoors</i>
	<i>Cleaning</i>
	<i>Workplace</i>
	<i>Primary activities specific</i>
<i>People &amp; Organisation</i>	<i>HSSE (Health, Safety, Security and Environment)</i>
	<i>Hospitality</i>
	<i>ICT (Information and Communication Technology)</i>
	<i>Logistics</i>
	<i>Business Support (Management Support)</i>
	<i>Organisation specific</i>

### Changing the Interface with Core Business

When organisations reach a certain size and complexity, FM and CREM are typically established as separate functions or departments. The interface between the core business and FM/CREM is defined specifically in each organisation and is not static. If the FM/CREM function is successful, it will in many cases get the opportunity to increase its area of responsibility. This is often part of a centralisation of the responsibility from several parts of the core business organisation to the FM/CREM function, thereby creating opportunities for economies of scale.

### Changing the Supply Chain

FM is in most cases organised as a mixture of an in-house FM-function and a number of external providers of facilities services, which constitutes a FM supply chain. The situation is to some degree similar for CREM, but the CREM supply chain is more project-related and mostly consists of consultants, designers and contractors. Changes in the supply chain are primarily changes in the delivery process, but they often also have consequences for the incentives for the different parties and the management of the mutual relationships between the parties. The number of external providers varies a lot depending on the type of company and the sourcing strategies. Outsourcing in FM has over the last decades been constantly increasing in most countries and is a common way to achieve cost reductions. Even though the general trend is towards more outsourcing in most countries, there are also many examples of insourcing of former outsourced services.

### **Changing the Internal Processes**

What we deal with here is increasing the efficiency of operational processes within a specific organisation without necessarily changing, neither the product, nor the supply chain. The organisation can be in-house or an external provider. Within management theory and practice there are a number of concepts aimed at increasing productivity and process efficiency, for instance Total Quality Management, Business Process Re-engineering, Benchmarking and Lean Management. Typical elements in such concepts are eliminating waste, implementing new technological solutions and optimising the work flow. Many companies conduct projects by using such concepts and the FM function is often included in the project. Many provider companies also work systematically with developing process innovations. This is also the case for some of the larger in-house organisation.

### **Strategic Advice and Planning**

Strategic advice and planning are essential elements in the strategic and tactical activities of FM and CREM. The areas for strategic advice and planning can cover many different aspects and they will typically change over time according to what is of strategic importance for the company. A typical area of strategic advice to top management concerns the development of a long-term strategy for the corporate property portfolio. This requires a profound and up to date understanding of the overall corporate strategy to identify the future demand for property and close dialogue with evaluation of options, scenarios and proposals concerning the future supply of property. Another typical area is investment planning and feasibility studies, which concerns decision support on choosing between alternative options for fulfilling a need for changes in the capacity of space or similar. This can for instance be whether the company should extend existing facilities, relocate, build new building, sell or buy property, rent or rent out space.

## **3.2 Value Adding Management**

This sub-section explains the second part of the generalised Value Adding Management model called “Management” or “Implementation”.

The term “Value Adding Management” and related terms are widely used in business and management literature. In manufacturing related literature “Value Adding Management” or VAM is often used in a way close to Lean Management with a focus on eliminating non-value adding or “waste” activities. However, VAM is also seen as part of an overriding strategy, where the corporate mission is *what* and VAM is *how* (Anonymous, 2014). This resembles our generalised Value Adding Management model, but there is no mentioning of *why*, except indirectly with including “value adding” in the term. The industrial consultant Carlo Scodanibbio even calls VAM the philosophy of the second industrial revolution and the guiding light for the year 2000 industries (Scodanibbio, 2014).

It relation to FM and CREM essential aspects of VAM are strategic alignment between FM/CREM and core business and stakeholder management and relationship management as part of the

implementation of changes. Here we will solely focus on strategic alignment. Aligning, in an active sense, implies moving in the same direction, supporting a common purpose, being synchronized in timing and direction, being appropriate for the purpose and in a passive sense, the absence of conflict (Then et al., 2014).

Figure 1 connects the terms alignment and added value to show that corporate real estate only adds value when it supports the organisational objectives. It shows that alignment of the accommodation and building related facilities and services requires a thorough understanding of the organisational strategy and its structure, culture, primary processes and so on. When the FM/CREM department develops its mission, vision and strategy, this should be done in connection to the mission, vision and strategy of the organisation. FM/CREM interventions should not only be checked on its impact on FM/CREM performance and organisational performance, but also on its impact on attaining organisational goals. A better performance does not per definition deliver added value. For instance, if an FM intervention results in a higher ranking on “green buildings” but the organisation was fully satisfied with the original ranking, this higher ranking does not add any value to the organisation.

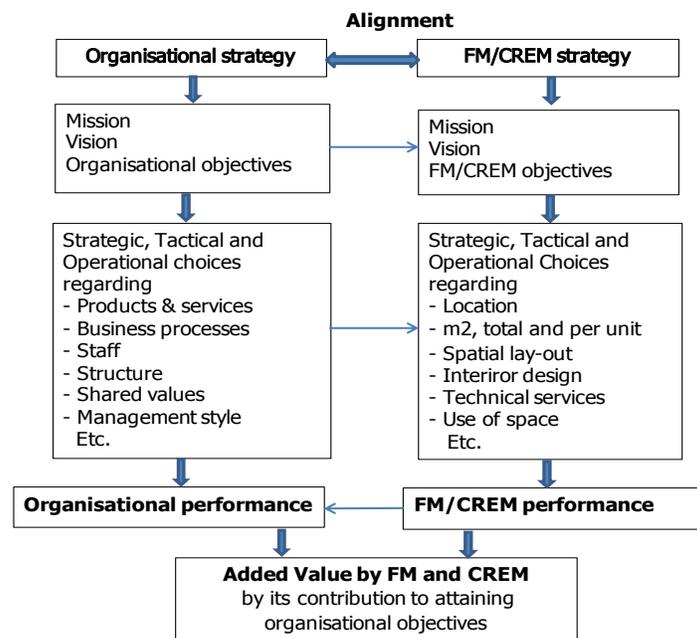


Figure 1: Connections between alignment and adding value (Van der Voordt, 2014)

### 3.3 Added Value Parameters

This sub-section explains the third part of the generalised Value Adding Management model called “Added Value”. Table 3 presents an overview of the value parameters that were discussed in various studies and which have been classified in the six categories of performance measurement mentioned by Bradley (2002). With the division of the category Organisational development in 5

sub-groups table 3 provides 10 different value parameters with slightly different names. Remarkably the list of parameters by De Vries et al. (2008) is lacking in this list.

Table 4 presents a comparison of the 4 models mentioned in section 2. One difference is that it uses a more recent version of the model by Sarasoja, which includes Supporting environmental sustainability (Lindholm and Aaltonen, 2012). The different value parameters have been categorised under the four headings People, Process, Economy, and Surroundings.

*Table 3: Different value parameters classified into the six categories  
(Riratanaphong and Van der Voordt, 2015)*

<i>Bradley (2002)</i>	<i>Nourse and Roulac (1993)</i>	<i>De Jonge (1996)</i>	<i>Lindholm &amp; Gibler (2005); Lindholm (2008)</i>	<i>Van Meel et al. (2010)</i>	<i>Den Heijer (2011)</i>	<i>Van der Zwart and Van der Voordt (2013)</i>	<i>Jensen et al. (2012)</i>
<i>1. Stakeholder perception (employee satisfaction)</i>	<i>Promoting HRM objectives</i>	-	<i>Increasing employee satisfaction</i>	<i>Attracting and retaining talented staff</i>	<i>Supporting user activities</i> <i>Increasing user satisfaction</i> <i>Improving quality of place</i>	<i>Increasing user satisfaction</i>	<i>Satisfaction</i>
<i>2. Financial health</i>	<i>Capturing real estate value creation of business</i>	<i>Increasing of value</i>	<i>Increasing the value of assets</i>	-	<i>Increasing real restate value</i>	<i>Improving finance position</i>	-
<i>3. Organisational development</i>	<i>Flexibility</i>	<i>Increasing of flexibility</i>	<i>Increasing flexibility</i>	<i>Increasing flexibility</i>	<i>Increasing flexibility</i>	<i>Improving flexibility</i>	<i>Adaptation</i>
	<i>Facilitating managerial process and knowledge</i>	<i>Changing culture</i>	-	<i>Encouraging interaction</i> <i>Supporting cultural</i>	<i>Supporting culture</i> <i>Stimulating collaboration</i>	<i>Improving culture</i>	<i>Culture</i>
	<i>Promoting marketing message</i> <i>Promoting sales &amp; selling process</i>	<i>PR and marketing</i>	<i>Promoting marketing and sales</i>	<i>Expressing the brand</i>	<i>Supporting image</i>	<i>Supporting image</i>	-
	<i>Facilitating and controlling production, operation and, service delivery</i>	<i>Risk control</i>	-	-	<i>Controlling risk</i>	<i>Controlling risk</i>	<i>Reliability</i>
	-	-	<i>Increasing innovation</i>	<i>Stimulating creativity</i>	<i>Stimulating innovation</i>	<i>Increasing innovation</i>	-

<i>Bradley (2002)</i>	<i>Nourse and Roulac (1993)</i>	<i>De Jonge (1996)</i>	<i>Lindholm &amp; Gibler (2005); Lindholm (2008)</i>	<i>Van Meel et al. (2010)</i>	<i>Den Heijer (2011)</i>	<i>Van der Zwart and Van der Voordt (2013)</i>	<i>Jensen et al. (2012)</i>
4. Productivity	-	Increasing productivity	Increasing productivity	Enhancing productivity	Supporting user activities	Improving productivity	Productivity
5. Environmental responsibility	-	-	-	Reducing environmental impact	Reducing the footprint	-	Environmental
6. Cost efficiency	Occupancy cost minimization	Cost reduction	Reducing costs	Reducing costs	Decreasing costs	Reducing costs	Cost.

Table 4: Comparison of added value parameters in four models

	<i>A. Jensen et al., 2008</i>	<i>B. Lindholm and Aaltonen, 2012</i>	<i>C. De Vries et al., 2008</i>	<i>D. Den Heijer, 2011</i>
<b>Core business</b>				
<i>People</i>	<i>Satisfaction Culture</i>	<i>Increase employee satisfaction</i>	<i>Image Culture Satisfaction</i>	<i>Increasing user satisfaction Supporting image Supporting culture</i>
<i>Process</i>	<i>Productivity Reliability Adaptability</i>	<i>Increase innovation Increase productivity Increase flexibility</i>	<i>Production Flexibility Innovation</i>	<i>Increasing flexibility Supporting user activities Improving quality of place Stimulating innovation Stimulating collaboration</i>
<i>Economy</i>	<i>Cost</i>	<i>Increase value of assets Promote marketing and sale Reduce cost</i>	<i>Cost Possibility to finance Risk control</i>	<i>Controlling risk Increasing real estate value Decreasing cost</i>
<b>Surroundings</b>	<i>Economic Social Spatial Environmental</i>	<i>Supporting environmental sustainability</i>		<i>Reducing the footprint</i>

The parameters related to People include (employee) satisfaction in all models. Model A also include “Culture”, while both model C and D include “Culture” as well as “Image”. Model B only includes “Increase employee satisfaction” under People. This model does as the only model include “Promote marketing and sale” placed under Economy. This parameter can be seen as an economical expression of “Image”, understood as brand. All four models include at least three parameters for Process with many overlaps. The differences can partly be seen as different degrees of sub-dividing. In relation to Economy, model A (the FM Value Map) only includes the parameter “Cost”, while the three other more CREM based models include parameters for “Value of real estate”, “Value of assets” or “Possibility to finance”. The parameter “Controlling risk” in model D is defined as

related to financial goals, but it is also strongly related to the Process parameter “Reliability” in model A. In model C “Risk control” is included as well, partly related to reducing financial risks, but also to improving health and safety. Model A was the first model to include parameters related to Surroundings, including the “Environmental” parameter. The more recent CREM based models B and D also include a parameter for “Environmental sustainability” or “Reducing the footprint”.

Based on the parameters in Table 3 and 4 we have decided to use the 12 value parameters listed in Table 5. All the parameters in Table 3 and 4 are more or less included, but the names of the parameters have been harmonised and Corporate Social Responsibility has been added. The parameters are like in Table 4 organised with four headings, but the heading Process has been changed to Process and Product.

*Table 5: Added value parameters*

<b>Group</b>	<b>Parameter</b>
<i>People</i>	<i>Satisfaction</i>
	<i>Image</i>
	<i>Culture</i>
	<i>Health and Safety</i>
<i>Process and Product</i>	<i>Productivity</i>
	<i>Adaptability</i>
	<i>Innovation and Creativity</i>
	<i>Risk</i>
<i>Economy</i>	<i>Cost</i>
	<i>Value of Assets</i>
<i>Societal</i>	<i>Sustainability</i>
	<i>Corporate Social Responsibility</i>

## **4. Discussion and Conclusion**

Figure 2 shows the Value Adding Management model from section 2 with the 6 types of interventions from sub-section 3.1, the different aspects of VAM from sub-section 3.2 and the 12 added value parameters from sub-section 3.3. The model is seen as an integrated model for FM and CREM, which is generic for all kinds of businesses and for all types of property and facilities.

In order to be able to define the added value of an intervention by FM/CREM, it is important to measure the outcomes and impact of any intervention, ex-post and preferably also ex ante, as input to a business case (Van der Zwart and Van der Voordt, 2015). Clear performance indicators make it possible to assess how well people or facilities perform. The outcomes can provide the inspiration to achieve higher levels of effectiveness, efficiency, quality, and competitiveness. As such, performance measurement is an important aid for making judgments and decisions, which can help managers to answer five important questions: 1) where have we been; 2) where are we now; 3)

where do we want to go; 4) how are we going to get there; and 5) how will we know that we got there (Lebas, 1995). Besides the need to operationalise the various value parameters in SMART performance indicators (Specific, Measurable, Assignable, Realistic and Time-related), performance measurement should be precise about the performance of *what*, e.g. people, facilities, or services.

Apart from clear performance indicators, it is also important to be able to define the causes of high or low performance, and to understand which changes are needed to improve what kind of performance. De Vries et al. (2008) concluded that cause-effect relationships are difficult to prove, due to the impact of many interrelated input factors, and the way interventions are implemented. It is our ambition in our further research to assess the 12 selected value parameters on what we know, what we still need to know, and what Key Performance Indicators could be applied to measure the different added values (Jensen and Van der Voordt, 2016).

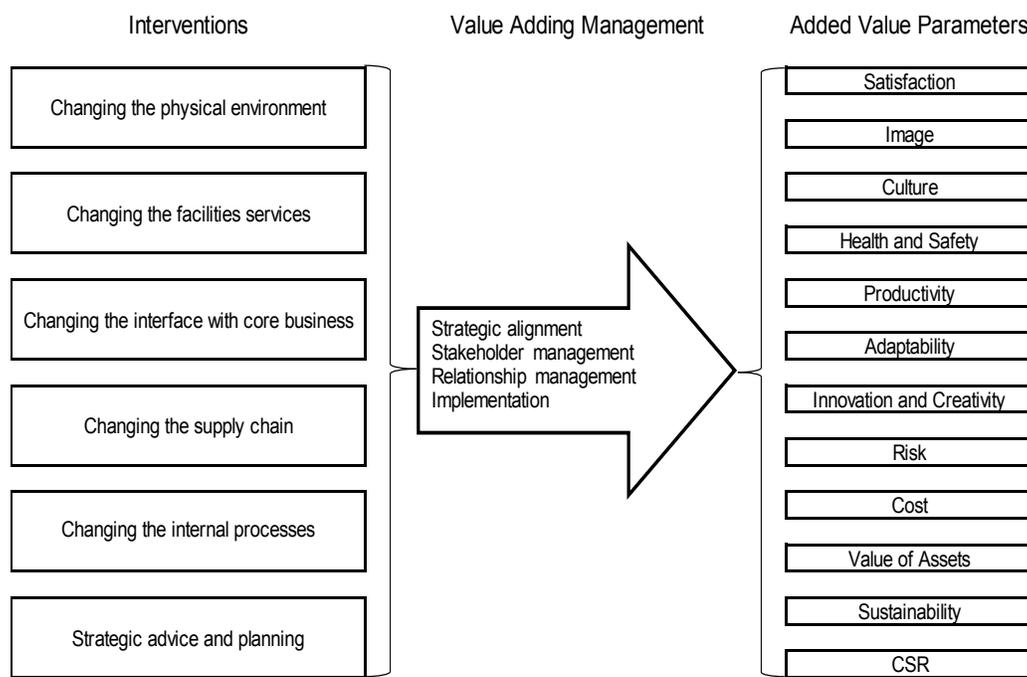


Figure 2: Added Value process model with types of interventions and added value parameters

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