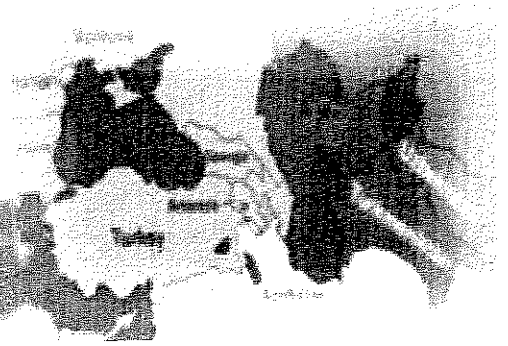


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Risks and Controls in Facility Management Processes during the Real Estate Utilization Phase

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Abstract

Purpose

The purpose of the author's current research is to provide a methodology for facility managers to identify and tackle possible business risks during the real estate utilization phase. This paper documents the current status of the author's research.

Methodology / approach

Risk identification is founded on a business process-oriented perspective. This means that so-called reference processes which were mapped inductively are used as basis. Subsequently, the reference models are enlarged by possible key risks and related control activities. Risk identification was done on a mixed method approach thereby combining quantitative and qualitative research methods. In a first qualitative step risks were identified in expert interviews. In a second quantitative step those risks were validated by case studies in various companies in the industry of banking and insurances.

Keywords

Process management; Reference process; Risk Management; Risk quantification; Inspection and maintenance of facilities and machinery; Research paper

Introduction

Within the last years risk management as a systematic approach has gained more and more relevance. This fact did not affect only large group of companies, but also small and medium enterprises (Gleißner, 2008, 1-7). This development was supported by regulations like the Sarbanes-Oxley Act in the US and the 8th EU directive. In the United States, the „Public Company Accounting Reform and Investor Protection Act of 2002“ („Sarbanes Oxley Act“ or „SOX“) has introduced in 2003; in Europe, the directive 2006/43/EC of the European Parliament and the Council was enacted (Redlein and Giller, 2008, 183). SOX requires companies listed on any US stock exchange, or in case of the 8th EU directive companies of public interest, to implement a Risk Management and Internal Control System (ICS).

Facility management deals with important assets of companies. (Redlein and Giller, 2008) cited an IFMA study showing that between 10 to 19 percent of companies' expenditures and 25 to 50 percent of companies' assets are related to real estate. Processes with relevance to facility management can therefore significantly affect a company's financial statements. As a consequence, risk management within FM processes becomes more and more important. The paper presents a standardized method dealing with an efficient implementation of Risk Management within FM.

Basic concepts and terms

(Gleißner, 2008, 8-11) defines risk as the possibility of deviations from defined targets, caused by „accidental“ disruptions resulting from the impossibility to foresee the future

The COSO framework defines the comprehensive approach of enterprise risk management: *„Enterprise risk management is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives“* (COSO, 2004, 2). Enterprise risk management is a continuous process and shall align risk appetite and strategy of a company or institution, improve risk response decisions, reduce operational surprises and losses, identify and manage multiple and cross-enterprise risks, seize opportunities and improve the deployment of capital (COSO, 2004, 1).

Methodology

This paper presents the results of a research project which uses the results of prior studies from (Fleischmann, 2007) and (Bockstefl 2009). Fleischmann's research is based on the hypothesis that

generally valid enterprise processes (reference processes, also referred to as reference models) can be identified which run similarly in all enterprises (Becker and Meise, 2008, 123-124). According to (Schwegmann and Laske, 2008, 176), reference processes may be deduced

- inductively by means of consolidation of know-how from existing process models, documentations of software systems, expert interviews, expert concepts etc. or
- deductively from theoretical findings.

The reference process described later in this paper was mapped inductively and is based on existing process models developed for specific companies and on expert interviews. (Fleischmann, 2007) defined nine reference processes for Facility Management in general and Facility Service processes in the real estate utilization phase. These processes are the basis for the next steps.

The introduction of an enterprise risk management starts with the identification of possible key risks. Risk identification in this context shall not cover only financial risks or those being interesting for financial reporting but also business risks within FM processes in the broader sense like non-fulfilment of compliance requirements. In the next step these risks are valued and subsequently potential risk management measures for the material risks are developed (comp. Gleißner, 2008, 6/7). As (Redlein and Giller, 2008) have shown for the „Purchase and Payables“ process, already existing reference models may be enlarged by possible key risks and related control activities in order to adapt them to the requirements of risk management. Possible methods of risk identification are risk workshops (especially for operative risks), analysis of strategic and operational planning in companies, analysis of risk checklists (cf. e.g. Deloitte Touche Tohmatsu, 2008), brainstorming, expert and employee interviews etc. (Gleißner, 2008, 46-60).

The current study applied the mixed method approach. Bocksteff carried out expert interviews to define risks within processes and the controls to manage them. The results are used as qualitative starting point for the research. In a second quantitative step case studies were used to validate the existing processes and risks, to define the material risks and to evaluate proper controls to manage the material risks. The results are best practise FM Processes including a risk and control matrix for all significant risks. The model can be used as a basis for the introduction of an Internal Control System in the area of FM.

This paper documents the current status of the author's research and shall be seen as a working paper.

Performance of case studies

As described above, case studies are used as an important source of the quantitative data collection in the authors' current research work. The following criteria were essential for the selection of the interviewees:

- company belongs to the bank or insurance sector (to have similar processes and risks)
- Facility Manager has at least three years of working experience within this specific field of activity (particularly for office buildings) that shall be mapped in the reference model and
- is in control of budgets and/or personnel, i.e. holds at least the position of a head of department.

During the interviews, the experts were at first confronted with the reference processes developed by Fleischmann and Bockstefl. The process was presented to the interviewees in the form of flow chart documents. Then the experts were asked to describe differences and similarities between the mapped process and the process flows in their own companies. After documenting necessary changes in the flow chart from the interviewees' point of view, the experts were asked to review the risk and control matrix describing relevant process risks and possible control activities which were considered as useful and cost-efficient. For each risk the probability of occurrence and the material impact was defined by the interviewees, taking into consideration that no controls are carried out. To evaluate the effectiveness of each control the probability of risk occurrence is defined, taking into consideration that a specific control is in place.

All interviews were tape recorded, and after the interview the list of process steps (if necessary adjusted) and a corresponding table of risks and controls were sent to the interview partners for confirmation.

In the following section, the results of the described methodology on the „Inspection and maintenance of facilities and machinery“ process is shown.

Example: „Inspection and maintenance “ process

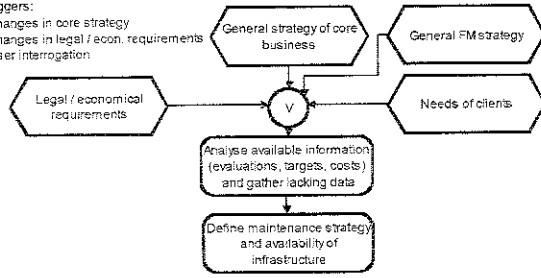
The reference process referred to in this section was at first described by Fleischmann in his PhD thesis completed in 2007 and enlarged by Bockstefl in 2009. The process is targeting the examination of the actual condition of facilities and machinery and on a preservation or improvement of this condition by means of maintenance; it comprises the planning and execution of inspection and maintenance of facilities and machinery. The validation of the processes within the case studies proved that no significant changes were necessary.

Figure 1: „Inspection and maintenance of facilities and machinery“ process flow (see Bockstefl 2009).

Tactical Level

Triggers:

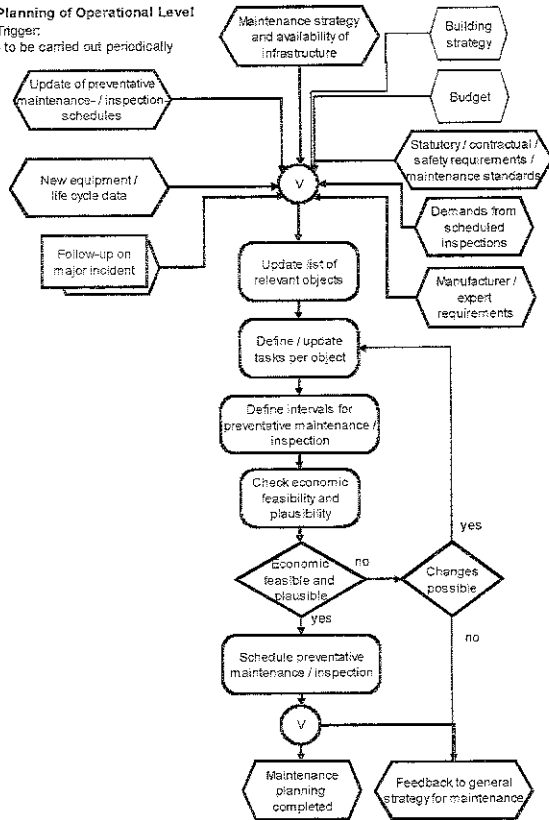
- changes in core strategy
- changes in legal / econ. requirements
- user interrogation



Planning of Operational Level

Trigger:

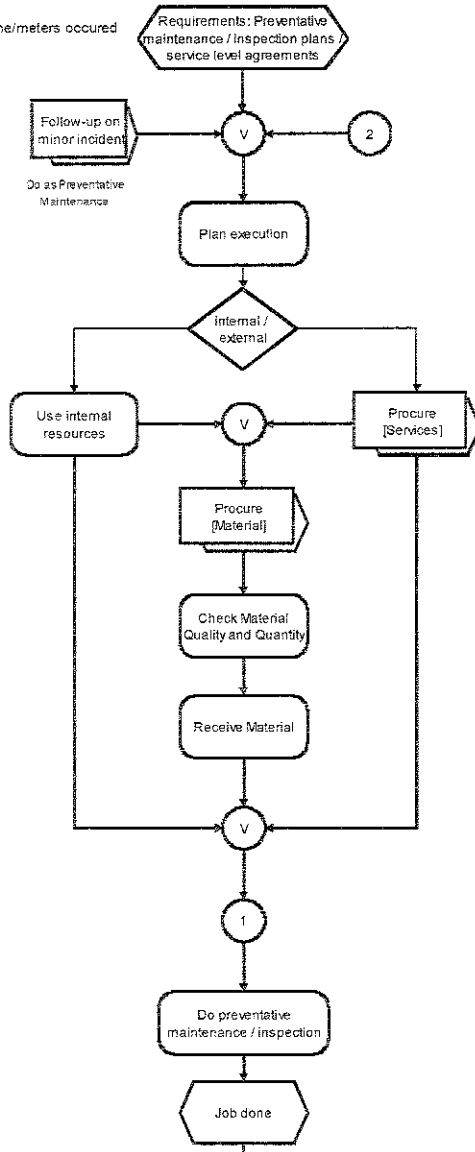
- to be carried out periodically

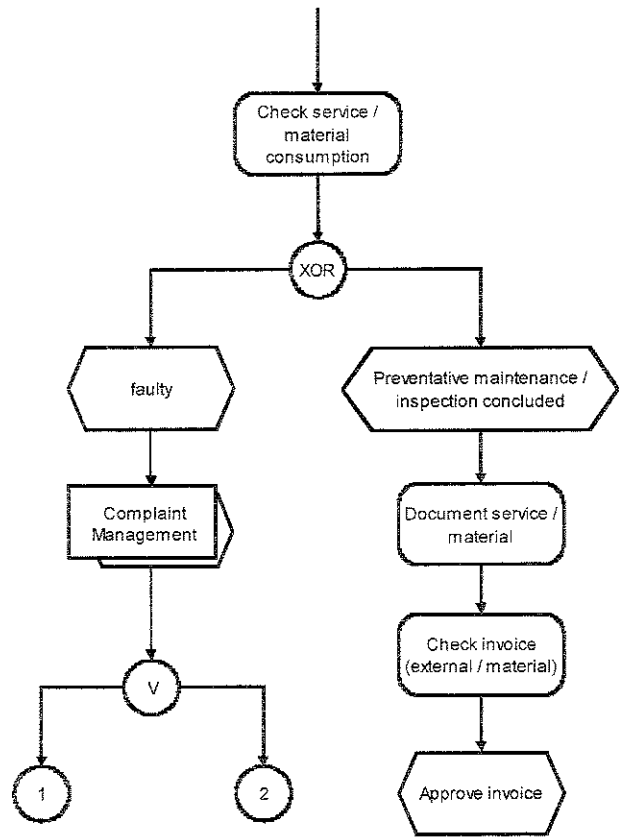


Operational Level

Triggers:

- planned time/meters occurred





Key



Event



Activity



Sub process



Connector:
 V or
 XOR ... exclusive or
 1, 2 continue at ...

Based on the activities defined in the amended reference process flow, the qualitative analysis was executed. Five experts were interviewed in order to identify possible risks and control activities for each process step (Bockstefl 2009). The risk check list developed by Deloitte was used for crosschecking. Based on these results a quantitative step was made to validate the data. Interviews with additional Facility Managers were carried out to analyse the probability of occurrence and the impact of risks. The interviews were carried out with 5 Facility Managers from large banks and insurance companies. In addition the possibility of occurrence of the risk applying a specific control was analysed. Based on the results it was possible to analyse if a risk is material meaning that it has either a high probability of occurrence and/or a high impact on the company's financial statements.

Table 1: Selection of process steps in Inspection and maintenance of facilities and machinery – Risk and control table

<i>Activity</i>	<i>Risk(s)</i>	<i>Risk management / control activity</i>	<i>Probability of occurrence without controls</i>	<i>Probability of occurrence with controls</i>	<i>Impact [in 1.000 €]</i>
Operational Level					
Plan execution			30%	2%	283
Use internal resources		Outsourcing	0%	0%	0
<i>Procure services *)</i>	▪ <i>procurement risks</i>	Outsourcing	0%	0%	0
<i>Procure material *)</i>	▪ <i>procurement risks</i>	Outsourcing	0%	0%	0
Check material quality and quantity			50%	1%	2,233
Receive material	▪ Material not available	Store relevant spare parts and material	5%	0%	0
	▪				
	▪ Use of wrong spare parts and material	Check specifications	50%	0%	2,233
Do preventative maintenance / inspection	▪ Use of wrong material(s)	Check material(s) and service	20%	0%	200
	▪ Preventative maintenance / inspection is done poorly	Check service manual	20%	1%	0
Check service / material consumption	▪ Checking cannot be done / can only be done poorly because of lacking specialized knowledge of responsible employee(s)	Take into account availability of employees, improve selection and training of employees	20%	2%	0
Document service / material	▪▪ Fragmentary documentation	Define standards for documentation	15%	0%	0

*) *Sub-process*

The analysis of the interview data shows that the deviation of the answers was rather low. Only few of the mentioned risk are really material. Most of them have a low probability of occurrence. Also the impact is generally rather low. Material risks occur for example in the following process steps:

- Plan execution
- Check material quality and quantity
- Receive material

The survey also shows that the controls are rather efficient. According to the Facility Managers they reduce the probability of occurrence.

Reflections

The importance of risk and control activities in companies and institutions has increased because of different legislative initiatives in the European Union and the United States, but also because of the current economic crisis. In this context, the paper suggests a methodology that allows deducing business risks due to the use of reference models and reference risk control matrixes. These models represent best practise. A company that is willing to optimize its processes and to introduce risk management is able to adapt these models to its specific organisation. This reduces the implementation time and costs.

The analysis also shows that experts often classify too many risks as material. The surveys within several companies states that only few risks are material. The reference risk control matrix shows the material risks and also provides suggestions for effective controls.

Suggestions for the research agenda

As stated above, reference processes and reference risk and control matrixes may be of great value for the FM industry in developing own business processes. But at present the amount of valid, statistical data is rather limited. Therefore more case studies should be performed in order to gain more and valid data. These surveys have to include a higher sample per industry to provide models for each industry as they differ in their processes and even more in their material risks.

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