Project Management Models as Value Creators

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PROJECT MANAGEMENT MODELS AS VALUE CREATORS IN COMPANIES

Abstract

Based on findings from five case studies we discuss benefits obtained by using a common project management (PM) model. The case studies are part of an international research project aiming at determining the value of project management. All five companies applied a customized PM model. The five models are presented and their characteristics, similarities, and differences discussed. Based on interviews and comparisons with literature, the values obtained are identified. The values relate to efficiency, legitimacy, power and control, and stakeholder satisfaction. Further, the article points to necessary preconditions (both technical and human factors) in order to harvest the values.

Introduction

An often-mentioned property of projects is that projects are unique (Davies & Brady, 2000; Eskerod & Östergren, 2000; Lundin, Söderholm & Wilson, 2001). Therefore, a situational approach to project management is recommended so that the project is managed according to its specific needs and circumstances. At the same time, companies are becoming more and more project-oriented and run growing numbers of concurrent projects (Blichfeldt & Eskerod, 2008). Often, the projects are quite similar implying that it may make good sense to apply common ways of managing them. A common approach could be based on what has been found to be good practice for this kind of projects. Riis & Mikkelsen write: “The art [when dealing with more projects] is on the one hand, to use a situational guided understanding, with basis in a specific project situation - and on the other hand, to identify a small number of general elements which are present in every project“ (Mikkelsen & Riis, 1996, pp. 22, our translation).

When such general or repetitive elements can be identified in a multi-project environment, it may be desirable to introduce a project management (PM) model (see Note 1). A PM model shows and specifies the management breakdown structure, the management processes, and the roles in project management (National Competence Baseline for Scandinavia, 2005).

An early user of the PM model approach was the Swedish company, LM Ericsson AB (hereafter Ericsson), which in 1989 introduced a common methodology for handling projects, especially product development projects. The methodology was called PROPS. At that time, Ericsson was the world’s largest telecom supplier with more than 90,000 employees in over 100 countries. Several cross-functional and cross-national projects were running simultaneously in the company (Mulder, a quality manager within Ericsson, 1997). By implementing PROPS Ericsson aimed at

“...a shared view on how we allocate scarce (human) resources, the roles that need to be played by all those involved in the project and the supporting line functions, the criteria to be used for decisions to be taken inside the project and in relation to other projects, and many more issues that require a common view. A shared view on project management is also a prerequisite for handling conflicts within an organization in which the project, as a working form, is predominant”. (Mulder, 1997, pp. 189).
In addition to a common terminology, PROPS consisted of several tools that included a well-defined phase model and a uniform reporting structure. Phases were separated by decision-points called tollgates (for decisions made outside the project) and milestones (for decisions made within the project). PROPS differentiated the steering function (management control), the project management function, and the execution function (the work model) in three different parts. The project steering model was generic and, therefore, it was suitable for Ericsson companies all over the world. The project management function and the execution function were more closely related to the characteristics of the individual projects.

Ericsson’s PROPS-model became very popular, and other companies wanted to adapt the methodology. Ericsson was willing to share experiences and knowledge. The company even made this into a new business area building up a project management support group with some 50 consultants, which was the launch pad for an independent business area under the Ericsson umbrella. PROPS online version (1999) contained approximately 900 files, many of which were continuously updated (Räisanen & Linde, 2004).

Since the time when Ericsson introduced PROPS many other companies have developed and implemented a common PM model (Eskerod & Riis, 2008) in which the findings of four case studies are presented. All four case companies had recently introduced a PM model.

The mentioned paper (Eskerod & Riis, 2008) as well as the current article form part of an international research project which aimed at determining the value for an organization of implementing PM (Thomas & Mulally 2004; 2007). The research project was funded by the Project Management Institute and co-lead by Dr. Janice Thomas, Athabasca University, and Mark Mullaly, President of Interthink Consulting Incorporated. The project included in-depth case studies in 65 companies all over the world, carried out by a network of 48 experienced researchers in the field of project management.

Eskerod & Riis (2008) state that the key-informants in their case studies saw the existence of a common frame of reference for project management as one of the most important value-creating factors in project management. The informants emphasized the need of having a uniform approach to the processes, methods, instruments, attitudes, and behavior for managing the projects in their companies just as mentioned in the previous citation from Ericsson. Especially the informants pointed to values in the form of better communication, more efficient use of resources, higher customer satisfaction, easier knowledge-sharing, and improved future possibilities.

Across all cases, Eskerod & Riis (2008) identified the following elements for enhancing creation of a common frame of reference (1) an internal, common PM model, (2) common project management training, (3) common project management exams or certifications, and (4) activities enhancing knowledge-sharing between project managers. The PM model was singled out by the informants as the most significant element in bringing value to the company.

The present article builds on the findings of Eskerod & Riis (2008) as it refers to findings in the same four case companies plus one more case company. Its purpose is to get a deeper understanding of values created in a company by introducing a common PM model. Based on a cross-
case analysis of the five companies we discuss in which ways PM models act as value creators. Our research questions are

- What are the characteristics of the PM models?
- Which values do the PM models bring?
- Which preconditions must exist in order to harvest the values?

The article is structured in the following way: In the next section, we briefly introduce the five case companies and the research method applied. Thereafter, we summarize our findings concerning the first two research questions while we relate the findings to relevant concepts in the literature. In the last section, we discuss the findings and the cases in order to determine the answer to the third research question.

Method

The Cases

Five companies were selected for the research. From the media and project management networks, all were known as having actively been developing their project management skills over the past couple of years.

In all five companies, a specific department was chosen as *unit of analysis* for the research project. Key data of the five case companies and the units of analysis are summarized in Table 1:

<table>
<thead>
<tr>
<th>Case</th>
<th>Type of Company</th>
<th># of Employees</th>
<th>Unit</th>
<th># of Staff</th>
<th># of Project Managers</th>
<th># of Projects Annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>IT</td>
<td>3,000</td>
<td>Sales Department</td>
<td>150</td>
<td>43</td>
<td>130</td>
</tr>
<tr>
<td>B</td>
<td>Financial services</td>
<td>30,000</td>
<td>Corporate IT</td>
<td>1,000</td>
<td>126</td>
<td>200</td>
</tr>
<tr>
<td>C</td>
<td>Manufacturing</td>
<td>20,000</td>
<td>Corporate IT</td>
<td>400</td>
<td>16</td>
<td>50</td>
</tr>
<tr>
<td>D</td>
<td>Consulting engineers</td>
<td>5,000</td>
<td>Regional Office</td>
<td>100</td>
<td>42</td>
<td>500</td>
</tr>
<tr>
<td>E</td>
<td>Pharmaceutical</td>
<td>5,300</td>
<td>Supply, Operations, IT &amp; Engineering</td>
<td>1,000</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

*Table 1: Case companies*

Research Approach

Concerning data collection a broad range of research approaches has been applied (Thomas and Mullaly, 2004) including desk research about the organization and its record in project management implementation. Furthermore, the research team reviewed all relevant company documentation issued during the last ten years. Finally, one completed project file was analyzed in detail to understand actual project management practices, assess the evidence of compliance with stated policies and processes, and to check on the results of both for the project performance.
Against this background, a minimum of seven interviews were conducted in each case company. The informants included key stakeholders like senior management, project sponsors, project management office or project management support staff, project managers and human resource representatives. Finally, the research team participated as observers in one project status meeting.

The interviews were recorded and transcribed. Afterwards, meta-matrices for each company were developed for comparisons across the informants. Findings from the interviews were compared with data from the surveys and other collected data.

Value statements related to the PM models were identified. Afterwards, the identified values were classified according to a conceptual framework provided by Eskerod & Östergren (2000) in which the implementation of a common PM model is seen as a way of standardizing project management within the company. Eskerod & Östergren identify three driving forces behind implementing a common PM model: a strive for efficiency, a strive for legitimacy, and a strive for power and control. These three categories were used to categorize all values identified in the case studies. Further, sensitivity to other possible categories than the ones presented in Eskerod & Östergren (2000) was presented. By analyzing the data it became clear that stakeholder satisfaction was an often mentioned value. Therefore, this was applied as a fourth category. In sum, each value from the case studies was categorized “Efficiency”, “Legitimacy”, “Power & Control”, or “Stakeholder Satisfaction”.

Results

Findings from each of the case studies

COMPANY A

The company is one of Denmark’s most important players in the information technology industry. It is the principal supplier of IT systems to the Danish municipalities and to the public sector in general. It has about 3,000 employees. The unit of analysis was the sales department of the company.

A few years ago, the Danish municipalities were undergoing a major reform with far-reaching consequences for their IT-systems. Company A supported the reform with a program that consisted of more than 60 complex projects for more than 60 customers. The program involved about a third of Company A’s workforce and a large number of employees in the customers’ organizations.

For the program, the company developed and implemented a common PM model, called the Municipality Reform Model. With the help of this model, all project results were delivered on time. The quality of the project results was so high that rework was not necessary, even though a three months period had been allocated for this in the project plan.

For Company A, selling PM knowledge has become a new field of business. Since the success of the municipality program, customers and independent companies have contacted Company A to
get help to develop PM skills or even hire one of Company A’s project managers on a temporary basis.

**PM model**

The Municipality Reform Model (see Figure 1) was developed and implemented in stages, and this took the company’s newly established Project Management Office (PMO) more than a year. All project managers were asked to participate in the work: some as members of a development team, others as reviewers. All were asked to deliver best practice examples from their respective areas of operating the model. Furthermore, questions and answers about the use of the PM model were posted on the corporate intranet. Feedback and suggestions were systematically used for revisions of the model.

![PM model of company A](attachment:image.png)

Figure 1: PM model of company A

Eventually, the model included –

- Standard milestones and deliverables, and a set of templates
- Project organizations in the 60 customers’ institutions that mirrored the organization in case study company. Further, the company provided the customers’ project managers a free course in project management.
- A common steering committee for each customer project

To supplement the organizational solution and improve the decision-making capability, the PMO developed a formal escalation procedure so that everybody knew what to do if something went wrong. Further, the PMO established a detailed follow-up system with green, yellow and red symbols (mimicking a traffic light) in order to track progress and identify issues that needed to be resolved. The traffic lights were shown on the company’s intranet and on electronic posters so that everybody would get a common understanding of the status of the various projects. Finally, the PMO ensured that its own project organization was strongly linked to the customer organizations, and that the members of the steering committees possessed sufficient formal authority to make all relevant decisions.

Use of the PM model was mandatory because the top management found that the company only would profit from the common approach if everybody complied. After some hesitation, the project managers accepted this strict requirement as the interdependence between the various pro-
gram components was high and the deadlines tight. Further, it helped that the project managers had been closely involved in the development of the model. However, in the interviews for the present study, the project managers pointed out that they would have preferred a less rigid approach.

To supplement the PM model the company invested heavily in project management knowledge-sharing, training and certification. Staff was assigned to knowledge-sharing teams on a mandatory basis where video-supported meetings could be arranged. Every new project manager was assigned a mentor for a period. Further, all project managers received specific mandatory training. In the unit of analysis, all project managers had participated in a certification program in project management (IPMA levels D and C). At the time when the research project was finished, all the project managers started on a mandatory PRINCE2 training course.

**Perceived value of the PM model of Company A**

In the interviews, project managers expressed a multi-faceted view on the PM model and its value creating potential. They had a well-developed understanding of tools and methods, and of the roles of the project organization. The concept of knowledge-sharing was widely accepted. The common frame of reference had been fully adopted and grown to be the project managers’ own. Management support was found to give focus on leadership more than on project control. A major initial challenge was to get the non-project parts of the company to work with the projects and not against them. For the municipality reform project, this was achieved with a very high degree of top management involvement and an efficient escalation procedure. Informants agreed that the municipality reform model including especially the project organizing, and the follow-up and escalation procedure had been very useful. All agreed that these elements had helped the company to exercise a thorough coordination and control, while allowing everybody to focus on progress and on resolving conflicts and problems whenever they arose. There had also been a high rate of customer satisfaction.

Finally, the project managers stated that they had developed a higher self-esteem due to the fact they had been successful in delivering the project objectives and that this was recognized inside and outside the company. The successful application of the municipality reform model and the extensive training/certification made the sales department very attractive in the eyes of other stakeholders. Company staff from outside had shown interest in a project manager job in the sales department.

A summary of value statements from observations and interviews in the company about implementation of a common PM model is presented in Table 2:

<table>
<thead>
<tr>
<th>Value Statements</th>
<th>Value Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>The organization gets paid earlier</td>
<td>Efficiency</td>
</tr>
<tr>
<td>Cost reductions due to delivery on time and earlier payment</td>
<td>Efficiency</td>
</tr>
<tr>
<td>Applying PM model avoids failing projects</td>
<td>Efficiency</td>
</tr>
<tr>
<td>Knowledge sharing is easier due to a common PM model</td>
<td>Efficiency</td>
</tr>
</tbody>
</table>
Efficient resource usage | Efficiency
---|---
Securing uniformity in treating customers | Legitimacy (seen as professional)
Improved top management involvement | Power & Control
Application of the PM model brings satisfied customers | Stakeholder Satisfaction

Table 2: Company A’s value statements on its PM model

COMPANY B

Company B is a Nordic financial services group. It is the result of mergers and acquisitions of a number of banks in Sweden, Denmark, Norway and Finland that took place between 1997 and 2000.

The company is headquartered in Sweden but it is well represented in Denmark and in the other Nordic countries, as well as in Poland and the Baltic countries. In total, it has about 10 million customers, approximately 1,300 branch offices and a strong net-banking position with some 4.9 million e-customers.

PM model

At the time of the merger, it was found that each of the merging banks had its own way of dealing with projects, and that these different ways were incompatible. Carrying out cross-national projects that would involve the group as a whole was next to impossible. The solution was to implement a common Nordic project model. Its main goal was to ensure that a project was on time, on specification, and within budget. Thus, it had to be strong on control with very rigid reporting requirements. On the other hand, it did not promote proper project leadership.

In parallel with the control model another model was developed (see Figure 2). This model built on the PMBOK, but was customized to meet specific corporate requirements. Adaptation was achieved by internal working groups and with experienced project managers as reviewers. The core team was led by an external project manager. By February 2007, it was fully implemented. Its use was made mandatory for all cross-national projects and for projects with a budget exceeding € 1 million.

![Figure 2: PM model of company B](image-url)
The introduction of both corporate project models was combined with some major organizational changes to ease the integration of cross-organizational projects. For instance, a central project management unit was established in 2003. In the past, the project manager for a given project had reported to a line manager in the business area in which the project was situated. Once the project was completed, the project manager was transferred to another business area. Thus, the project managers appeared not to belong anywhere, and nobody really knew or understood their competencies. The goal of the common unit, called the Project Management Centre (PMC), was to overcome this problem. Since 2003, all fulltime project managers, across all business areas have been attached to this unit.

The company established companywide generic project management training program – providing a common terminology and understanding of concepts, project management methods and tools. A career path for project managers has been implemented. Furthermore external certification of project managers as part of their career development has been introduced. Other integrative functions were introduced including, for instance, using English as the language for projects. To build up and maintain the common frame of reference, PMC is holding two-day conferences for all project managers once every year.

*Perceived value of Company B’s PM model*

The interviews pointed at a very wide range of benefits that were achieved with the introduction of the PM model. Examples included the ease of setting up a projects structure, ease of reporting and assessing project reports, and ease of transfer of a project responsibility from one project manager to another.

Previously, project managers felt that they had to introduce new tools and techniques on their own which in turn lead to numerous misunderstandings. With the implementation of the common model, the problem has largely been resolved and communication has become much easier which led to a much smoother implementation of cross-national projects.

The communicative value of the project model has been boosted by providing the appropriate project management training. Using the same terminology was frequently mentioned as a major success factor of the common model. In this context, the company’s experience-sharing efforts were found particularly useful. The two-day conferences and other integrative efforts have made it much easier for the project managers to share knowledge across the projects and countries.

A summary of value statements from our observations and interviews in company B about implementation of a common PM model can be seen in Table 3:
### Value Statements

| Projects launched and accomplished according to schedule and specifications | Efficiency |
| Common frame of reference gives easy communication internally and externally | Efficiency |
| Easier task solving | Efficiency |
| Clear roles and responsibilities | Efficiency + Stakeholder Satisfaction |
| A structured, well-defined and accepted process | Legitimacy |
| Customer experiences professionalism | Legitimacy + Stakeholder Satisfaction |
| Higher resilience to illness or quitting | Power & Control |
| Greater transparency in the projects | Power & Control |

**Table 3: Company B’s value statements on its PM model**

**COMPANY C**

Company C is the Danish leader of an industrial group that develops and manufactures mechanical and electronic products. It employs about 22,000 people worldwide.

The group, which is one of the largest industrial concerns in Denmark, comprises 53 factories in 21 countries. It has 110 sales companies and 110 agents and distributors all over the world. Over the past years, annual net sales have been in the range of € 2.6 billion. The case study essentially dealt with the company’s IT department.

**PM Model**

Before 1996, the IT department had been in charge of a single software platform that supported all corporate activities. New activities needed to be aligned with the characteristics of the central platform, and very many people in the company needed to agree before any change would be accepted. As the company was facing an increasingly dynamic business environment, the centralistic arrangement with its heavy organizational demands was found to be less and less practical.

Thus, it was decided to decentralize the IT activities. As a consequence, the IT department had to turn itself into an information solution department. In the past, it had carried out one or two large projects per year at one central site, but now it had to show that it was capable of implementing many small projects at many different locations. Among other things, this required the ability of applying full project management instead of technical project management.

As a response to these challenges a PM model, called EPMT, was introduced in 1997, and the entire IT department was trained in using the model (see Figure 3). The model was made manda-
tory if a given project was of strategic importance or if it exceeded a certain size, e.g. in the case of an IT project if it required more than 100 workdays.

Furthermore, the department decided to develop an IT strategy that included a project function. Corporate management endorsed the strategy, the project function was established, and a couple of project managers were positioned in the function. Today it is the organizational unit for 15 full-time EPMT project managers. Both the PM model and the project function are being continuously improved.

In each project, the client also has to appoint a project manager. Thus, the project has both an EPMT project manager and project manager of the client unit. Together they manage the full project cycle from project preparation to a follow-up stage three months after finishing implementation. During follow-up, project results are evaluated together by the IT department and the client before they are handed over to the client unit for operation.

An organizational perspective on project management (see Andersen (2008)) is predominant. Management is mainly provided for the interaction with customers, clarification of needs of their respective business units, ensuring that the business processes are optimized and that project outcomes are manageable for the business unit.

Project management training in the company includes, in particular, instructions on the use of the corporate PM model. Terminology and management concepts are the same for all training efforts. To become an EPMT project manager, the person in question must have participated in an internal project management training course that is equivalent to the requirements of IPMA level D. When they are assigned to the project management function, project managers are expected to participate in another internal project management training course equivalent to the requirements for IPMA level C.

For each project manager in the IT department, a mandatory personal leadership program is being carried out. Project managers are coached by a psychologist. The training modules end with an in-company exam. External certification is not being offered.

Project managers meet every second week to share lessons learned. In addition, an annual experience-sharing conference for all project managers is held. Furthermore, a tutoring activity takes place in which each project manager is being evaluated and given feedback by his/her tutor.
Perceived value of Company C’s PM model

Due to the common PM approach it has become very easy for the IT department to help establishing a new business within the group. As the model has proven its worth, project managers do not have to sell the model every time a new project is started in one of the company’s business units. The business units have realized that the model is helpful. This saves a lot of time.

Top management found the common frame of reference very helpful because progress can be easily monitored.

The interviewed project managers found that the greatest value of the PM model and its underlying common training could be found in the clarification phase. The model ensures that clarification is carried out in such a way that customer expectations and the expectations of the project team are aligned as early as possible. The structured way of discussing ideas and scope is perceived to be especially helpful. The result of a good clarification phase is that project aims are achieved within time and budget, and that the stakeholders are satisfied with the deliverables.

A summary of value statements from observations and interviews in the company about implementation of a common PM model is presented in Table 4:

<table>
<thead>
<tr>
<th>Value Statements</th>
<th>Value Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects are delivered on time and within budget</td>
<td>Efficiency</td>
</tr>
<tr>
<td>Reducing number of repeated problem</td>
<td>Efficiency</td>
</tr>
<tr>
<td>Better alignment of expectations with customers</td>
<td>Efficiency + Stakeholder Satisfaction</td>
</tr>
<tr>
<td>The team members know their tasks and responsibilities in good time</td>
<td>Efficiency + Stakeholder Satisfaction</td>
</tr>
<tr>
<td>PM model creates high credibility</td>
<td>Legitimacy</td>
</tr>
<tr>
<td>Customer experiences professionalism</td>
<td>Legitimacy</td>
</tr>
<tr>
<td>Better foundation for achieving what the company wants</td>
<td>Power &amp; Control</td>
</tr>
<tr>
<td>Greater transparency in the projects</td>
<td>Power &amp; Control</td>
</tr>
<tr>
<td>PM ensures meeting clients expectations</td>
<td>Stakeholder Satisfaction</td>
</tr>
</tbody>
</table>

Table 4: Company C’s value statements on its PM model

COMPANY D

Company D is one of the largest and oldest consulting firms of Denmark. From roots in civil engineering and a mainly Danish client base, the firm has been changing itself into a global player with the workforce of more than 7,500. In 2007 turnover reached about € 640 million.
The firm is providing a wide array of engineering, consultancy, and product development services. While maintaining its home market presence in the Nordic countries and the United Kingdom, its market shares increase in the Russian Federation, the Baltic region, and in Asia.

**PM Model**

The case company launched work on a common PM model with the intention of helping the firm’s transformation from a mainly technical orientation to becoming more customer orientated. The *modus operandi* of a sample of successful project managers at two of the firm’s regional offices was studied to determine the reasons for their success. With the help of internal consultants, they developed a set of seven principles they found essential for good project management. In their view, project management should -

- Create the settings for a dynamic project implementation process – and allow insights in the entire process
- Act as an integrative force
- Apply knowledge the right way and at the right time
- Keep opportunities for development open – and avoid restrictions as long as possible
- Support the customer in his/her own organization
- Transform tacit knowledge into shared learning
- Create ownership and give responsibility.

The statements point to the fact that the firm’s successful project managers did not see project management as something mechanical and tools-oriented – tools to manage quality, tools to manage the budget, tools to manage the schedule and staffing. Instead they perceived project management as human processes that involved cooperations with partners and the customer. Central is the concept of understanding the customer in his/her context.

Based on these principles, the model was developed (see Figure 4). However, it was not introduced as an independent PM model, but as part of the quality management in the company. Nevertheless, project managers were also offered training in leadership and context management.

![Figure 4: PM model of company D](image)

The company has a substantial in-house training program in project management, but still no mandatory training in the use of the corporate PM model. Participants in the project management
training are organized in action learning groups. Certification is offered to project managers who have completed ten days of basic or advanced project management training.

Perceived value of Company D's PM model

Use of the corporate PM model had been optional at first, but at the time of the interviews a few elements of a common reference frame had become mandatory. Apparently, top management initially failed to see the benefits that could be gained from a more systematic use of the model and its affiliated tools, methods, and templates.

This has changed as a series of experience-sharing events opened the eyes of both top management and the project managers. Together they found that having a common frame of reference made them appear more professional towards their customers, and the company is now fully convinced that they can boost their competitive advantages with a fully developed PM model. The value statements are summarized in Table 5.

<table>
<thead>
<tr>
<th>Value Statements</th>
<th>Value Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preventing losing money on projects</td>
<td>Efficiency</td>
</tr>
<tr>
<td>Project managers more conscious in their management</td>
<td>Efficiency</td>
</tr>
<tr>
<td>Customer experiences professionalism</td>
<td>Legitimacy</td>
</tr>
<tr>
<td>High credibility and good reputation</td>
<td>Legitimacy</td>
</tr>
<tr>
<td>More holistic thinking</td>
<td>Stakeholder Satisfaction</td>
</tr>
<tr>
<td>PM ensures meeting clients expectations</td>
<td>Stakeholder Satisfaction</td>
</tr>
<tr>
<td>Customer experiences a better process</td>
<td>Stakeholder Satisfaction</td>
</tr>
</tbody>
</table>

Table 5: Company D's value statements on its PM model

COMPANY E

The company is an international pharmaceutical group with its headquarters in Denmark. In 1937 it launched its first own developed medicinal drug. Over the past 20 years, the firm has been raising its turnover substantially year after year. An antidepressant that the company had developed in the 1980s has been the key stone to their success. Turnover reached nearly € 1.5 billion in 2007 with the new antidepressant accounting for almost two thirds of the total.

The company is spending about 20 percent of its earnings for research and development of new drugs. Consequently, its corporate culture is strongly focused on scientific achievements. The workforce is highly educated with most researchers holding a PhD degree. As a drawback often found in a silo culture environment, professionals find projects outside their areas of competence not particularly interesting. - In 2007, the company employed a workforce of more than 5,300 in 54 countries. Production was located in Denmark, Italy and UK, and research facilities were in Denmark and the US.
The case study was conducted in the corporate division of Supply, Operations, IT & Engineering (SOE), which has a staff of about 1,000. At the time of the study, the division employed 30 project managers. All of them were experienced in carrying out projects in their respective parts of the organization. Corporate management perceives its project managers as essential for the future development for the company. A career path for project managers has been established and international certification (PMI) to project managers is being offered. Yet, there were no plans to set up a central department for project management.

A formal project model called EPM has been in use since 2005 (see Figure 5). According to corporate management, EPM made SOE better in ensuring that the right projects are selected, and that there are enough resources for achieving the intended benefits. At the time of the study in autumn 2007, virtually no project backlog was found. Projects in the portfolio were generally on track and showed no indications of serious complications or delays. Project staff and key project stakeholders appeared to be capable of resolving all emerging difficulties thereby considerably shortening the time requirements of problem resolution.

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**Figure 5: PM model of company E**

**PM Model**

The introduction of the PM model was caused by the rapid growth of the company, which from 1990 onwards created a need for larger and more modern constructions and facilities. Arrangements for carrying out these and other undertakings were found increasingly inadequate. No systems were in place to cope with change requests and the quality management system was insufficient. Various resource management systems co-existed with a bespoke production management system.

Thus in 2000, a newly appointed SOE director introduced a common resource management system. The initial aim was to create an integrated system to gauge how many resources were used for projects and for the departments carrying out the projects. This was followed in 2002, by the establishment of a Project Management Office (PMO) and a PM Governance Group (PMG Group) that brought together divisional directors and functional managers with a special interest in projects. The PMG Group’s prime task was to ensure that project decisions cutting across departmental boundaries were correctly and readily carried out. The Group also was mandated to decide in matters of project documentation, and it was to assess project charters and closeout reports. Nonetheless, by 2005 most SOE activities still concerned production and operations. Only in the engineering department, thinking and working in projects had become increasingly common.
From 2005 onwards however, more and more tasks were defined as projects, and more and more resources were channelled into projects. Since then, the PMO has been producing a quarterly status report on the SOE project portfolio including a roadmap of future projects. The status report uses traffic lights to categorize projects.

On its part, the PMG Group began formalizing the SOE approach towards project management. It started by defining what a project is from the perspective of the company. In addition, roles in the project organization were defined. Finally and following the strong advice of the Head of the PMO, EPM as a corporate project methodology was developed.

EPM is based on the PMBOK and contains 15 tools including the necessary templates. Four of the tools, namely business case, project charter, project plan, and project evaluation are mandatory for all SOE projects. In addition, for all major projects and for all IT projects, a risk management plan is required.

Twice a year, the PMO arranges networking days for all project managers. The intention is to support the use of EPM and to enhance the competence of the project managers. In 2007, their networking days dealt with business benefit and benefit realization and leadership development. In addition, PMO offers individual coaching of project managers and advertises the offer on the intranet. The head of PMO keeps frequent contact with the project managers to assist them in formulating Project Charters and to handle specific EPM challenges.

Finally, a handbook and a long list of templates has been prepared in cooperation between R&D, IT, HR and the SOE to support the EPM methodology. It is presented in the company’s intranet in a very precise way. Its introduction emphasizes that the methodology is not meant to be mandatory, but hopefully Project Managers will find the methodology sufficient and attractive to use.

The quote is a good illustration of the user-friendly, almost reticent management approach that can be found in the company. In an organization where science is the dominant field, it is a long process to get project management acknowledged as a skill in the same league as scientific knowledge. Management methods, rules and techniques must make immediate sense and be so sensible, that project managers are happy to use them. Should this not be the case, they are dropped. For instance, when it was found that lessons learned at closeout evaluations, which the PMO posted on the intranet, met with next to no interest, this form of communication was simply given up.

In line with this approach, project management leadership is not fully incorporated in EPM. There is a general course on management offered to project managers, but no courses on leadership behavior from a project management perspective. The perception of project management is focusing on the project triangle and control.

In summary, for parts of the organization SOE has put in place a uniform approach to the processes, methods, instruments, attitudes, and behavior for managing its projects. Tools have been developed in cross-functional cooperation and training and certification is offered. Corporate leaders, including in particular the SOE Director and the Head of PMO are open and oriented towards learning from other companies. Their reasons for participating in the research project
were to be benchmarked against other firms, and get an outside opinion on their project management implementation.

**Perceived value of the PM model of Company E**

From the interviews it is clear that SOE is very strong on project portfolio management and the PMO functions very well. EPM receives good backing from the management group and the PMG group.

EPM has the whole project life cycle in view. Recently, special emphasis has been placed on benefit realization. This has helped achieving a high degree of senior management attention to project work. Consequently, scope creep in the projects could be largely avoided. Still, project managers found it desirable to continue with the development of EPM including in particular benefit tracking and competence development.

However, these positive results and attitudes have not yet made project managers ready to engage in a systematic exchange of experience. The *lessons-learned database* never took off, and the face-to-face exchange of experience appears not to be working well. Only in the IT department, exchange of experience is a well-established activity. Here it is included in the IT project managers’ regular meetings and the exchange is kept focused on important points.

The user-friendly approach of the PM model appears to have been well received by the SOE project managers. In the interviews, there was a clear willingness to align approaches and operation with EPM, even if actual behavior sometimes appears to be lagging behind. Mandatory elements of the EPM methodology are applied. Other tools and methods are used, but not to a full extent.

A summary of value statement can be found in Table 6.

<table>
<thead>
<tr>
<th>Value Statements</th>
<th>Value Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better project presentation, time,</td>
<td>Efficiency</td>
</tr>
<tr>
<td>budget and quality</td>
<td></td>
</tr>
<tr>
<td>Avoiding beginners mistakes</td>
<td>Efficiency</td>
</tr>
<tr>
<td>Project teams do not spend time on unnecessary</td>
<td>Efficiency</td>
</tr>
<tr>
<td>things</td>
<td></td>
</tr>
<tr>
<td>Greater empowerment of team members</td>
<td>Efficiency + Stakeholder</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
</tr>
<tr>
<td>Clear roles and responsibilities</td>
<td>Efficiency + Stakeholder</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
</tr>
<tr>
<td>Demand for the PM model approach in other</td>
<td>Legitimacy</td>
</tr>
<tr>
<td>parts of the organization</td>
<td></td>
</tr>
<tr>
<td>Improved controlling and follow-up</td>
<td>Power &amp; Control</td>
</tr>
</tbody>
</table>

*Table 6: Company E’s value statements on its PM model*
Discussion

Characteristics of PM models in the case companies

The main features of the PM models of the case companies are summarized in Table 7. From the table, the following characteristics can be identified:

- The PM models (with one exception) only cover the project life cycle – all ignore the post-project phase
- The models are developed from well-known phase models such as PMBOK but customized
- There is a high involvement of project managers in the implementation of the models
- An intra-organizational common frame of reference is in place
- The models contain a substantial number of templates but a moderate number of mandatory ones

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Company A</th>
<th>Company B</th>
<th>Company C</th>
<th>Company D</th>
<th>Company E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project model in use prior to PM model</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Degree of customization</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Degree of integration with other business systems</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Degree of integration with internal project models</td>
<td>3</td>
<td>3</td>
<td>n/a</td>
<td>n/a</td>
<td>2</td>
</tr>
<tr>
<td>PM model covers</td>
<td>Project life cycle</td>
<td>Project life cycle</td>
<td>Project life cycle + follow-up phase</td>
<td>Project life cycle</td>
<td>Product life cycle</td>
</tr>
<tr>
<td>Project categories covered by the PM model</td>
<td>All</td>
<td>Budget above 34,000 $</td>
<td>&gt;100 man days and/or strategic attention</td>
<td>All</td>
<td>Cross-departmental projects, budget above 195,000$</td>
</tr>
<tr>
<td>Based on model</td>
<td>Own</td>
<td>PMBOK</td>
<td>SAP</td>
<td>Quality Assurance Model</td>
<td>PMBOK</td>
</tr>
<tr>
<td># of procedures – i.e. written methods and tools</td>
<td>16</td>
<td>5</td>
<td>21</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td># of templates</td>
<td>&gt;50</td>
<td>30</td>
<td>11</td>
<td>50</td>
<td>30</td>
</tr>
<tr>
<td># of mandatory documents</td>
<td>6</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Contains governance structure</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Table 7: Characteristics of the PM models of the case companies

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Company A</th>
<th>Company B</th>
<th>Company C</th>
<th>Company D</th>
<th>Company E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation approach – participation by internal project managers</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Supportive efforts on top of the PM models</td>
<td>Competence dev. of PMs, certification, mentor scheme, knowledge sharing groups</td>
<td>Strategic PM initiatives, annual PM conferences</td>
<td>Leadership development of PMs, biweekly exchange of experience, annual PM workshop</td>
<td>Statements on internal best practices, knowledge sharing groups</td>
<td>Networking days for PMs twice a year</td>
</tr>
</tbody>
</table>

(1-not at all; 5-very high)

Company A, B & C indicated in the interviews that they should be better in measuring and following up on benefits, but there is no formal process in place yet. Company C has a follow-up phase of three months as part of its model ending with the official handover of project result to the line organization. Only the PM model of company E concerns itself with life after project completion: The last part of the model is called benefit realization. All other PM models only deal with the project life cycle and stop at project close-out.

Where PM models have been implemented as successors to a project model, the integration of the two approaches is still lagging behind. Project models are firmly rooted in the technical specialist environments, and the links to the PM models are still to be put in place.

Although four of the five models are based on well-known PM models or phase models, the case companies have spent resources on adapting the models to the company context. This customization has mainly covered the terminology concerning phases and methods, but not the basic structure. Now, all perceive their models as highly adapted and fully aligned with their corporate cultures. This includes the interviewed project managers who without exception felt that the PM models were their own. The strong feeling of ownership may be due to the fact that the case companies involved their own project management staff very intensively in the adaptation processes.

Four of the case companies had provided their project managers with a substantial number of templates, but left it to the managers to develop project documents in line with the requirements of a specific project. Only a limited number of documents are mandatory in each of the five companies.

Three main differences among the PM models and their implementation in the case companies were identified:

- Time spent on developing and implementing the PM model
- Degree of integration with other business systems
In three of the case companies, project models were used for a number of years before work on a PM model begun. Project models were mainly very extensive IT project models. The move to the PM models was accomplished in stages. The first stage was a move from a simple project model to a more detailed project model, which covered project processes and indicated how to structure, approach and organize the execution of project work for a specific type of project. The final stage was a move to a higher level PM model valid for all types of projects in the organization, covering project management processes. In four of the five cases also the project governance roles and structure were included, but leaving out project execution.

The time spent on moving from a project model to a PM model or implementing a PM model varied from three years in company B to ten years in company E. The integration with other business systems varies too, yet deepening the integration is in none of the companies a top priority. At the time of the interviews, the focus was more on decisions and strategic direction than integration.

Alignment with the PM model is required for all projects in two of the companies and only for larger projects in the other three companies. But observations show, that alignment with the procedures, methods and tools in all of the companies is much higher for the larger projects than for the small projects. The challenge seems to be to draw more attention to the smaller projects - both management attention and conscious project management applied – in order to create value from these projects. Somehow, the smaller projects seem to be forgotten when trying to benefit from a project management approach. This is in line with the findings in Blichfeldt & Eskerod (2008).

The cost of implementation of a PM model was an area that yet had to be researched, but the lack of available historical data on project costs and internal accounting rules have made it difficult for this study to determine, what was invested in implementation and subsequent maintenance.

**Reasons for implementing a PM model**

Why do companies choose to introduce a common PM model, when it is well-known that the strength of projects and project management is that projects are efficient for handling a non-typified task on a situational basis? The three forces (efficiency, legitimacy, and power & control) identified by Eskerod & Östergren (2000) as underlying the trend of increased standardization within project management were all found in statements and observations in the present study. This is in line with Engwall et.al. (2005) who point to the fact that models may be interpreted differently by different users. Almost half of the statements concerning the values created by the use of PM models relate to efficiency aspects. Another 17 percent relate to legitimacy and 13 percent to power and control. When large companies have standardized their project work, they feel they increased efficiency and that this, in their view, is the dominant value achieved.
In addition, the five cases indicate that other real benefits can be created by moving to the PM model approach. A summary of the value statements bringing out the types of value is presented in Table 8.

<table>
<thead>
<tr>
<th>Company Value type:</th>
<th>Number of value statements in interviews</th>
<th>Percent of total number of value statements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Efficiency</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Legitimacy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Power &amp; Control</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Stakeholder Satisfaction</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

*Table 8: Obtained values in the case companies according to the informants*

Half of the efficiency value statements refer to cost reductions, better utilization of resources, easier task solving, and avoidance of beginners’ mistakes – closely related to the project triangle. But the other half of the efficiency statements refers to the project’s environment including better exchange of knowledge between the project managers, easier communication internally and externally, and that the project managers are more conscious in their project management. So the efficiency gained is reaching further than the single projects.

The study points to a fourth value created – stakeholder satisfaction, which accounts for 24 percent of the value statements. These statements cover the customers’ experience of professionalism, a better process during the project life cycle, and insurance of meeting client expectations, but also team performance with clear roles and responsibilities and greater empowerment of team members.

The value statements referring to the value type legitimacy cover the customer experiencing professionalism, high credibility and good reputation of the company and recognition of the project management approach in other parts of the company. These values follow the explanation of legitimacy in Eskerod & Östergren (2000).

Finally, the value statements relating to power and control concern the strong top management involvement, higher resilience to fluctuation among project managers, greater transparency, better foundation for achieving what the company wants and improved controlling and follow-up.

**Conditions supporting obtaining values**

Every aspect of project management has two dimensions— a technical dimension and a human dimension (Cooke-Davies & Arzymanow, 2003). The technical dimension encompasses those groups of practices or processes that are integral to project management, while the human dimension includes not only the people who are operating these processes, but their expertise. All the case companies have encompassed both dimensions – not only implementing procedures and processes, but also implementing activities in the human dimension. The technical dimension has
had no greater weight than the human dimension – the number of procedures and mandatory documents is moderate and a higher level PM model has been implemented.

If the technical dimension is compared to the alignment, our observations indicate, that the simpler the PM model (relatively low number of procedures and mandatory documents), the higher the use of the defined procedures, methods and tools. The data collected does not specify, if certain areas of procedures and methods are preferred to others, but treats procedures, methods and tools as a whole.

In addition to the PM model, time and resources are continuously invested in the human dimension. Activities related to this dimension are not only taking place when introducing the model, they are continued:

- Training and certification in company A, knowledge sharing meetings and mentor scheme
- Each year a new strategic initiative is introduced in PMC in company B to improve project management skills, and annual project management conferences are held
- Personal development of the project managers – leadership development program in company C and biweekly exchange of experience
- Situated learning in company D – knowledge sharing groups
- Project managers networking days twice a year, and a governance group that provides feedback on quality of project documents in company E

The implementation has in all companies started with the emphasis on the human dimension by heavily involving the companies’ project managers in the customization or development of the model.

**Concluding remarks**

Based on the findings in the five case studies the following can be concluded:

The characteristics of the five PM models:

1. The PM models (with one exception) only cover the project life cycle and ignore the post-project phase (even though this phase is reported as very important by many key informants).
2. The models build on well-known phase models such as PMBOK (but are customized).
3. There is a high involvement of project managers in the implementation of the models.
4. The models are combined with other initiatives to support a common frame of reference, e.g. common project management training, a common terminology etc.
5. The models contain a substantial number of templates but only a moderate number of them are mandatory.

In the analysis, the values created by the PM models were identified to be efficiency, legitimacy, and power and control as well as stakeholder satisfaction.
The analysis showed that a precondition in order to harvest the values (in other words, an implication of the study for practice) is substantial investment in both the human and technical dimensions of a PM model. An effective involvement of the company’s project managers in the developmental process is a *sine qua non*. This will lead to a strong presence of the human dimension.

Another implication for practice is the finding that value is best created if the organization makes sure that the PM model only has relatively few mandatory requirements but a well developed governance structure.

An implication of the study for theory is that further research on implementation of PM models must focus on both the human dimension and the technical dimension.

Three limitations of the study can be identified: First of all, it was not possible for the case companies to determine the costs (direct and indirect) and the benefits of implementing a PM model in financial terms. Therefore, it is impossible to point to the monetary investments necessary in order to guarantee values gained from implementing a PM model. Secondly, the case studies took place in Denmark. The results may not be representative for companies world wide. Thirdly, the PM models in the case companies were mainly suited for large projects. It would be interesting to study how a PM model can create value even for the smaller projects in an organization.

**Notes**

1. A *project management model* is not to be confused with a *project model*. The latter gives an overview of all the project processes of a specific project and indicates how to structure, approach and organize the execution of the project work. (The PM model is explained in the main text.) A project model typically relates to the content of the project for example a project model for an IT project, while the PM model is more generic and focus on the management parts.
Acknowledgement

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References


