



Investments in project management are profitable: A case study-based analysis of the relationship between the costs and benefits of project management

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Abstract

Project management (PM) has progressed through several evolutionary stages and has become established as a well-known management method. Despite its increasingly widespread use in all industry sectors, a central question remains: what demonstrable economic benefit does PM provide? Because past research does not conclusively answer this question, we developed a model to determine the return on investment (ROI) of PM and to unite the costs and benefits of PM. As a case study, the necessary cost and benefit data were obtained from an insurance company over a nine-year period. The relationships between various aspects of costs and benefits were analyzed. The results show clear relationships both between the costs of and investments in PM as well as between the qualitative and quantitative benefits of PM.

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1. Introduction

PM is widely used in industry. It is applied not only to the management of single projects but also to the coordination and management of entire project portfolios (Görög, 2011). Furthermore, PM is considered to be a proven method of mastering complex tasks that must be completed under demanding constraints, such as high time pressure, the need to include specialists from different fields, and cooperation between different departments or companies (Ajmal and Koskinen, 2008; Lenfle, 2008; McLain, 2009). PM has also found application in other areas of focus, such as change management (Crawford and Nahmias, 2010; Gareis, 2010; Griffith-Cooper and King, 2007).

Despite its increasingly widespread use in all industry sectors, a central question remains: what demonstrable economic benefit does PM provide (Sanchez and Robert, 2010; Venning, 2007)?

More precisely, how can an investment in the introduction, operation or development of PM be justified from an economic perspective? This question stems from increasingly frequent management discussions of the benefits of PM in terms of organizational efficiency (Shenhar et al., 2001; Stimpson, 2008).

To obtain additional funding for the operation or extension of PM, a cost–benefit analysis must be conducted to confirm the profitability of these investments (see, among others, Ali, 2007; Thomas et al., 2002; Wiczorrek and Mertens, 2010; Wyllie, 2004). It must be determined whether elevated expenditures for PM should be maintained, whether a higher “level” of PM and thus a higher PM maturity level can be reached (with even higher expenses), and whether PM can even be introduced and operated in a cost-effective manner at all.

Aubry et al. (2008, 2009) and Skerlavaj et al. (2007) highlighted a common tendency in enterprises to change established PM approaches and PM office structures every two to three years because of changing requirements from PM and cost reduction programs. These modifications range from

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reconfiguration to complete disinvestment in PM (Aubry et al., 2008, 2009; Skerlavaj et al., 2007).

Because of a lack of empirical data and differentiated cause–effect analyses, the debate regarding the value of PM is based primarily on vague estimations (Andersen et al., 2011; Aubry and Hobbs, 2011). The work of Ibbs and Kwak (2000), Kwak and Ibbs (2000), and Patah and de Carvalho (2007) provide approaches that can be used to examine the benefits and ROI of PM. However, these approaches are limited either by the strongly reduced form in which the necessary measures have been represented (Patah and de Carvalho, 2007) or by a small sample size (Ibbs and Kwak, 2000; Kwak and Ibbs, 2000). The most comprehensive examination of the benefits that are associated with PM was attempted by Thomas and Mullaly (2008), but they failed to provide concrete empirical proof of the benefits because of a lack of appropriate data from the surveyed organizations. Therefore, we still lack instruments to render the decision-making process more objective, rational, and fact-based for PM-related investments.

In this article, the relationships between the different cost and benefit dimensions of PM are examined based on a data set from 251 projects obtained from a German life insurance company during a nine-year period. This investigation forms the basis for ROI calculations in an exemplary manner, through which the profitability of PM-related investments may be calculated. However, because of the focus of the investigation on the data set of a single company, the results obtained in this study cannot be generalized.

2. Literature review

Our literature review was focused on analyzing the economic value and positive effect of PM to identify the cost and benefit components for the ROI determination. Existing work in this field can be regarded as part of a research effort on the “value of PM” (see Patah and de Carvalho, 2007; Thomas and Mullaly, 2008, among others).

2.1. Positive effects of PM

The analysis of the positive effects of PM examines the effectiveness of PM from a result-based perspective. What positive effects result from practicing PM generally? What improvements (project success or PM success) result from the application of PM to projects? What influence on the enterprise can be observed (company-related effects or effects on the business organization)? This analysis allows us to derive the qualitative benefits of PM.

Empirical works by Becerik (2006), Dworatschek et al. (2003), Jugdev and Mathur (2006), Martinsuo et al. (2006), and Reyck et al. (2005) have addressed several benefits of PM. Furthermore, Thomas and Mullaly (2008) provided evidence of an improvement in tangible benefits, such as cost savings, increased returns, and a decreased need for rework, as well as evidence of immaterial benefits, including improvement of organizational culture, increased effectiveness of human resource management, and improved management.

Several concepts for benefit evaluation models have been proposed by researchers such as Thomas and Mullaly (2008), and partial models have also been offered by Becerik (2006) and

Martinsuo et al. (2006). The latter distinguishes among direct tangible benefits, quasi-tangible benefits (i.e., monetized benefit), and intangible benefits. Patah and de Carvalho (2007) indicated improvements in productivity, customer satisfaction, requirement management, and project steering, among other benefits.

Examples of application-oriented field reports without empirical basis have been provided by Kerzner (2001) and Morgan (1987) as well as by various contributions in the practice-oriented literature. Morgan (1987) emphasized several findings, including the finding that PM prevents problems that typically arise during the implementation phase of a project. PM was also found to improve the allocation of personnel resources to work packages, to reduce the number of unclear or insufficiently formulated project requirements and goals, and to lead to a clearer allocation of competencies and responsibilities. Kerzner (2001) similarly considered aspects related to increased transparency, such as the allocation of responsibilities, but also emphasized aspects that are intended to improve project steering. These aspects include an improved ability to identify time shortages during the project planning phase, the improved evaluation of planned efforts versus actual efforts, more rapid detection of and responses to problems, and learning effects that improve forecasts of project progress.

2.2. Profitability of PM

Contributions focusing on the profitability of PM examine the questions of how to conduct an economic (quantitative) evaluation of process models, organizational approaches, or system approaches to PM and the economic benefits that are provided by PM. The existing literature distinguishes between two approaches.

The first approach consists of cost–benefit analyses. For instance, Patah and de Carvalho (2007) analyzed the relationship between realized PM investments and the resulting cost savings. In a case study based on a power supplier, the authors found a cost–benefit ratio of 1:9.6 per US dollar invested.

The second approach consists of ROI-based analyses. PM maturity-based metrics are especially important in these approaches, which analyze the relationship between PM maturity and project performance, as demonstrated by adherence to schedules and budgets (Ibbs and Kwak, 2000; Ibbs and Reginato, 2002; Ibbs et al., 2004; Kwak and Ibbs, 2000; Reginato and Ibbs, 2002). These authors have concluded that companies with a higher level of PM maturity exhibit improved project performance. Furthermore, the PM maturity level is strongly correlated with the ability to accurately forecast a project’s overall adherence to schedules and budgets. The authors have noted that companies that practice “good PM” (in the sense of a higher PM maturity level) have lower direct PM costs during project implementation than companies that practice “poor PM” (Ibbs and Reginato, 2002). Despite these approaches based on the PM maturity level, it remains challenging to determine the ROI for PM. Thomas and Mullaly (2008) ultimately failed to provide a concrete model for ROI or proof of benefit because of a lack of appropriate data from the 65 organizations surveyed (the required underlying cost and benefit data were not collected).

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