

The Impact of Project Management Methodologies on Project Performance

Shai Rozenes, Ruppin Academic Center, Israel

ABSTRACT

The project management domain includes many well-defined methodologies such as the Project Management Body of Knowledge: PMBoK (Project Management Institute, 2008). On the other hand, project failures rate is quite high (Woolridge, Hale, Hale, & Sharpe, 2009). An interesting question is: Does using these methods improve project performances? This paper reports on a study that was performed to investigate the added value of using a project management methodology versus an intuitive managing approach. The results indicate that the project performances improved by using a systematic approach.

Keywords: Performance, Project Management, Project Management Body of Knowledge, Project Management Methodology, Project Performance

INTRODUCTION

A project is defined by the International Organization for Standardization (2003) as a “unique process, consisting of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements, including the constraints of time, cost and resources”.

There is overall agreement between project management researchers (Lock, 2007; Mantel, Meredith, Shafer, & Sutton, 2007; Maylor, 2008; Meredith & Mantel, 2008; Nicholas & Steyn, 2008; Rozenes, Vitner, & Spraggett, 2004; Turner, 2004; White & Fortune, 2002; Dvir & Shenhar, 2007), and also practitioners that each

project should strive to achieve the following objectives: (a) be on time; (b) be within its cost budget; and (c) satisfy customer technical or performance standards i.e., project scope.

The increasing demand for project management solutions is reflected by the development of Bodies of Knowledge (BoK) that summarize the main and most important knowledge in the area of project management. BoKs have been compiled by two professional associations: the Association of Project Management (APMBoK) (Association for Project Management, 2006) and the Project Management Institute (PMBoK) (Project Management Institute, 2008).

Another source of knowledge for the subject is the ISO 10006 standard (International Organization for Standardization, 2003). These methodologies represent the academic and practitioner answers of how to manage projects.

DOI: 10.4018/jitpm.2011040105

Many books that elaborate these BOKs were published during the last decade (Mantel et al., 2007; Maylor, 2008; Meredith & Mantel, 2008; Nicholas & Steyn, 2008; Shtub, Bard, & Globerson, 2004).

An interesting question that rises regarding these formal knowledge sources is how to teach it both in academia and in industry. A study (Rad, 2000) describes the project management education activities at the George Washington University with the emphasis on e learning. A research (Barros, Dantas, Veronese, & Werner, 2006) presents a learning-by-doing educational approach by using a simulator to train the participants. They stated that the participants had an opportunity to experiment the consequences of executing or neglecting important management functions, confront themselves with complex issues that must be resolved during project development, and test different approaches and solutions to project management problems.

A study results (Lebcir, Wells, & Bond, 2008) suggest that the factors: level of details given in lectures, speed of lectures, academic internet sources, language skills, group or individual assessment, the qualitative and quantitative content of assessment are important drivers of the academic performance of students in project management. A study (Menge, 2008) was performed at the University of New Brunswick's Renaissance College. It was stated that in their assignments, students have clearly reflected about and provided evidence for their increased competence concerning both leadership outcomes in general and project management outcomes in particular. Furthermore, comparing their performance between the project plan and the project report based on the respective criteria demonstrates significant growth in most project management abilities and criteria. Another paper (Rozenes & Vitner, 2009) concentrates on qualifying the project management office personnel to facilitate the project's aims and objectives. The paper concludes with a well- defined

prescription for developing a project management training methodology.

On one hand there are well defined project management methodologies, as it was mentioned previously, on the other hand the rate of project failures is quite high (The Standish Group, 1994; Woolridge et al., 2009). Therefore, an important question is the added value of these project management methodologies versus an unstructured - intuitive management approach.

This paper depicts study that was conducted at the Ruppin School of Engineering to answer this question.

The research was done using the Project Management Trainer (PMT) simulator and took place within an engineering project management course. This course is designed for industrial engineering students covering fundamental aspects of engineering project management such as planning, executing, control, analysis, and integration.

The study focused on the learning process of engineering project management. The study used the PMT simulator, a user-friendly teaching and training tool, as part of a course assignment. The PMT was developed at the Technion by Prof A. Shtub (Davidovitch, Parush, & Shtub, 2006).

The PMT simulates a dynamic project environment in which the students expose to the flavour of actual decision making. This enables the students to gain some work experience during their course of study.

The research question was: Can the project management methodology improve the effectiveness of project performance?

The main reason for this research is to question whether the basic and fundamental assent that unites both practitioners and academics that structured project management methodologies reduced the probability of project failure is true.

The paper validates this fundamental assent using statistical analysis based on empirical findings.

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