Transferring projects to their final users: The effect of planning and preparations for commissioning on project success

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Abstract

This paper examines the relationship between planning and preparing the project for transfer to its final users and project success. Four planning and preparation aspects are considered (development of operational & maintenance requirements, customer participation in the development process, developer's preparations for turning over the project to its final users, and final user preparations for introduction into operational use), along with three measures of project success (project efficiency, customer benefits, and overall success). The study is based on data from 110 defense projects performed in Israel and includes regression and correlation analysis between the two sets of variables. The findings suggest that customer participation in the development process and final user preparations have the highest impact on project success. Customer participation in the development process is highly correlated with project efficiency (0.45), while final user preparations are highly correlated with customer benefits (0.46).
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1. Introduction

There are four fundamentally different ways to close out a project: extinction, addition, integration, and starvation [1]. Termination by extinction means the project has been successful and achieved its goals: the new product has been developed and handed over to the client; or the building has been completed and accepted by the purchaser. Projects terminated by extinction may have been successful or unsuccessful. A project may be terminated by institutionalizing it as a formal part of the organization (addition) or by distributing the personnel, equipment and functions among the existing elements of the parent organization (integration). Projects which are unsuccessful or obsolete, may be terminated by starvation, or in other words, by cutting out the funds for its completion. Starvation is usually used when manage-

ment is reluctant to admit that the project actually failed.

Regardless of a successful project is completed by inclusion, integration, or extinction; a plan must be developed to terminate it. The process of project termination is not an easy task. It is to be planned, budgeted and scheduled like any other phase of the project life cycle. Sometimes a special termination manager, whose primary responsibility is to effectively and efficiently complete the termination process, is appointed. The duties of a termination manager may include the following: Ensure the project is complete, ensure delivery and client acceptance, prepare a final report, redistribute personnel, materials, equipment, and any other resources, assign responsibility for product support, if necessary [1].

Although the use of a termination manager for ensuring that the project is complete and to deliver its outcome (if successful) to its customers, is advocated by several authors, and though project termination

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constitutes a significant part in the total project, it is often overlooked by project managers [2].

This paper examines the relationship between planning and preparing the project termination and commission and project success. Our objective is to analyze the relationship between the amount of effort invested in planning and preparing the project for transfer to its final users and the degree of success achieved, as seen from different points of view. The analysis is based on data collected from 110 defense R&D projects performed in Israel and includes four planning and preparing for transfer aspects (development of operational & maintenance requirements, participation of the customer in the development process, developer's preparations for turning over the project to its final user, and final user preparations for receipt of the project and starting its operational use), along with three measures of project success (project efficiency, customer benefits, and overall success). The paper is organized as follows: we begin with a review of the existing literature. Based on the review we propose four hypotheses on the contribution of planning and preparing the project for transfer to its final users to project success. A description of the research methodology is presented in the next section followed by presentation of the data structure and the reliability of the various constructs. The next section contains the analysis of the correlations between planning and preparations variables and success variables, and the regression results between the three success measures and the planning and preparing variables. We conclude with a discussion of the findings and their implications for the practice of project management.

2. Theoretical background

The research body on project termination is relatively small in comparison to other research areas of project management such as project planning, control, success measurement, and risk assessment. Buell [3] in an early article claims that the main reason for so little information on the subject is simply because it is hard to spell out specific guidelines for termination of projects.

Most research on project termination focused on reasons for premature termination and not on the introduction of the outcomes of successful projects into use. Although, the decision to terminate a project may be in certain situations more important than the decision to go on with the project, there is almost a unanimous agreement [1] that the termination stage of the project rarely has much impact on technical success or failure of the project. It has though, a great deal to do with residual attitudes toward the project – "the taste left in the mouth" of the client, senior management, and the project team, which is important for future projects, but of course have no impact on the current one.

Among the studies on project termination we can find for example a study by Dean [4], who provides, based on a small-scale survey, the frequencies of factors reported as reasons for termination of R&D projects. Balachandra and Raelin [5,6] performed a discriminant analysis of variables affecting R&D projects termination. De et al. [7,8] did a detailed quantitative work on taking abandonment decisions from a financial point of view at different contexts. Shafer and Mantel [9] developed a decision support system (DSS) for project termination. The DSS is able to analyze the sensitivity of various parameters of project termination, but the requirement for an extensive database on projects of different types, limits its use in practice. Archibald [10] prepared a check-list for project termination. Stallworthy and Kharbanda [11] categorized the problems involved in project termination into emotional and intellectual problems. Several other studies on the same issue are those of Pinto and Mantel [12], Green et al. [13], Broockhoff [14], Black [15], and Chi et al. [16].

Another stream of research closely related to the research on project premature termination is the research on project critical success factors (CSF). The list of critical success factors is often used as a yard stick for assessing the chances of a project to end successfully when encountering problems. Pinto and Slevin's work [17,18] and other lists of critical success factors developed over the years, can be used for that purpose. When several CSF's do not exist in a project, management may consider terminating it in order to cut the potential loses.

Only few researchers see project commission, when the project's outcome is handed over to its customers for use, as an integral part of the project life-cycle. That is probably the reason for the lack of research on that issue. The importance of the transfer phase to the success of projects (not only the residual attitudes toward the project), is indirectly evident from some of the studies on critical success factors of projects which have identified the act of "selling" the project to its final users as one of the critical success factors [19,20]. Kleinschmidt [21], who studied the differences in project management practices between Europe and North America, noticed that in Europe project managers more actively encourage customer involvement in the project execution than in the US. Customer involvement is clearly one of the most important ingredients that contribute to an efficient and smooth transfer of the project outcome to its users.

Hadjikhani's [22] perception that every project is an episode in project marketing is one of a few exceptions. The goal of marketing is defined as repetitive selling to