



# Problems in managing internal development projects in multi-project environments

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## Abstract

This article identifies problems in managing multiple internal development projects. The research methodology employed organisation-specific interviews, surveys and workshops on two case project portfolios. Project portfolio management studies provide one view on existing knowledge in this area. The study results in six relevant problem areas: (1) Inadequate project level activities, (2) Lacking resources, competencies and methods, (3) Lacking commitment, unclear roles and responsibilities, (4) Inadequate portfolio level activities (5) Inadequate information management and (6) Inadequate management of project-oriented organisation. The article suggests further analysis and development of managerial practices on these areas.

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## 1. Introduction

Today's business environment is complex and requires faster decisions, better allocation of scarce resources, and a clearer focus. An organisation consisting of a constantly changing mix of large and small projects presents senior management with new challenges in resource planning, prioritisation and monitoring. Adherence to time, scope and cost requirements in single projects may provide a company with increased income and value for the near future. However, to complement this view, the project portfolio management introduces doing the right projects, creating a link from the projects to the organisation's strategy and, simultaneously, adopting the long-term view.

The literature on project portfolio management mostly focuses on investment projects, management of technology and innovation, or R&D management.

Cooper et al. [1] have identified the problems encountered in inadequate portfolio management and respective solutions which limit to new product development projects. Combe [2] has, in turn, identified problems related to cross-organisational project management. However, in general, studies relating to the identification of problems in managing multiple projects are few. Furthermore, studies concerning the management of internal development portfolios seem rare. This paper makes an attempt to bring more insight into problems in managing entire portfolios of internal development projects.

## 2. Project portfolio management

In the literature, the concept of *project portfolio management* appears in various guises. *Programme management* and *multi-project management* are examples of closely related terms. Archer and Ghasemzadeh [3] and Dye and Pennypacker [4] define a project portfolio as a group of projects that compete for scarce resources and are conducted under the sponsorship or management of a particular organisation. The three well-known

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objectives of portfolio management are: maximising the value of the portfolio, linking the portfolio to the strategy and balancing the portfolio [1]. According to Platje et al. [5], a portfolio is a set of projects which are managed in a co-ordinated way to deliver increased benefits.

The definitions of portfolio management [3,4] are similar to many definitions introduced for a project programme management. For example, Turner [6] emphasises that, in a programme, projects form a coherent group of projects that are managed in a co-ordinated way, for added benefit. Murray-Webster and Thiry [7] define a programme as a collection of change actions (projects and operational activities) purposefully grouped together to realise strategic and/or tactical benefits. According to Turner [6], programme management includes, among others, management of interfaces between projects, prioritisation of resources and balancing responsibilities against corporate objectives. CCTA [8] uses the term portfolio while defining programme management as the co-ordinated management of a portfolio of projects that change organisations to achieve benefits that are of strategic importance.

Based on the earlier discussion, we appreciate both the project portfolio management and programme management areas with their contribution to the strategic and business-oriented management of multi-project environments. We use the term project portfolio management in the following. However, our broad view on portfolio management includes aspects of both portfolio and programme management studies, including management of interfaces between projects and co-ordination of collections of projects, and management in accordance with resource and other constraints.

### 3. Research question

Identifying the problems and understanding their relationship in the organisation provides a basis for overcoming them. The problem identification also enables bringing forth the areas relevant in multi-project management, both in the field of research and in deriving organisation-specific managerial solutions.

This paper investigates problems encountered in portfolio management in matrix organisations. The research question is:

What are problems and problem areas in project portfolio management?

Answers to the research question are sought from literature and from two case portfolios. The emphasis is on empirical findings and in comparing them to the existing knowledge.

### 4. Two case portfolios—internal development projects in matrix organisations

This paper employs empirical data gathered in two project portfolio management research projects at the Helsinki University of Technology, Finland. The research projects were initiated in the early 2001 and they aim at developing project portfolio management practices for one chosen case portfolio in both organisations. The case portfolios consisted of internal development projects. Both case portfolios include projects that cross organisational units. The organisation and management structure in both organisations is a matrix. The role of projects in a matrix organisation and related problems are discussed widely in the literature (e.g. [9,10]).

Both the type of the project and the organisational environment presumably affect the recognition of problems and features in the case portfolios. Both organisations have, since several years, introduced local processes and guidelines for managing single projects.

Shenhar et al. [11] classify projects into external and internal. External projects are typically preceded by developing products to the market, Wheelwright and Clark [12] call such projects commercial development projects. Shenhar et al. [11] divide internal development projects further into problem solving, utility, maintenance and research projects. They can be either strategic or operational in their nature. Internal development projects typically aim at performance improvements. Typical examples of internal development projects in our two empirical case portfolios include development of business processes, internal information technology development, organisational change or re-engineering, and investments in new equipment, major software, and other capital projects.

### 5. Existing research on managerial problems in project portfolios

We have not found studies on problems related directly to the management of a portfolio of internal development projects. However, in the following, we introduce problems encountered in managing portfolios of other project types. Cooper et al. [1,13] have identified six problems in project selection and portfolio management faced by companies developing new products. We use the categorisation of Cooper et al. to study the current knowledge on problems:

1. *No link between strategy and project selection.* Despite clear business and new product strategies, the spending on R&D projects does not often reflect the stated strategy and priorities. Thus, there is no clear link between the strategy and the selection of projects.

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