



# The resource allocation syndrome: the prime challenge of multi-project management?

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Received 22 January 2002; received in revised form 20 September 2002; accepted 11 December 2002

## Abstract

This paper explores the nature of organizational settings, where a large extent of the operations is organized as simultaneous or successive projects. Anchored in qualitative case studies, the paper analyzes why the *resource allocation syndrome* is the number one issue for multi-project management and discusses the underlying mechanisms behind this phenomenon.

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**Keywords:** Multi-project setting; Multi-project management; Project portfolio management; Resource allocation; Interdependencies

## 1. Introduction

Multi-project contexts and temporary systems are extensively common in contemporary business [1–3]. Even though influential thinkers [4,5] predicted this situation decades ago, research on these multi-project settings has traditionally been sparse. However, following the seminal work of Gareis [6], a number of articles have addressed issues such as multi-project scheduling [7], strategies for composing project portfolios [8–11], nature of program management [12–14], resource allocation between simultaneous projects [15–17], inter-project learning [18], and organizing mechanisms in projectified organizations [19–22].

So far however, theories on multi-project settings have a limited empirical foundation; most of the contributions are either based on the author's practical experience or on research findings from one specific industry, one type of project, or one type of organization. We have little knowledge concerning which factors are context-specific and which factors are universal. Consequently, there is a need for comparative studies of multi-project settings from different contexts, with dif-

ferent kind of project portfolios, and working under different environmental contingencies.

This paper gives a small contribution to such systematic, empirically based, cross-sectional analyses. Empirically anchored in comparative case study of multi-project management in two radically different organizations, it addresses the following two research questions;

- (1) On a project portfolio-level, are there any operational problems that are general to multi-project management?
- (2) If so, which underlying mechanisms of the multi-project setting cause these problems?

A multi-project organizational setting, as defined here, is constituted by an organizational unit that executes a substantial share of its operations as projects. Such a setting could be a result of an explicit strategy [23–25], but it could also be an unintended result, where many different projects with independent existence and separate goals, happen to run simultaneously [8]. In a multi-project setting there are several projects that are accomplished side by side, while drawing, at least some, resources from a common resource pool. This means that the projects are integrated into the management control and reporting system of some common resource pool owner [25], e.g. a general manager.

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In literature on multi-project management, the primary theme is the issue of allocation of resources between simultaneous projects [17,25,26]. Multi-project settings is describe as highly political, with a constant competition going on between different managers and projects concerning priorities, personnel, attention, and resources [13,27,28]. Most literature addresses multi-project resource allocation as a problem of a priori portfolio composition, planning, and scheduling [10,13,17,25,29]. There are only a few studies reported on the dynamics of multi-project settings and how management tries to coordinate the portfolio in action.

This is one such study. In the next section, the research methodology and the empirical cases are outlined. In the following section the two cases are compared and a common pattern of management problems is identified. Thereafter, the underlying mechanisms to this “resource allocation syndrome” are analyzed. The paper concludes by outlining implications for research and practice.

## 2. Empirical research

### 2.1. Method

The empirical basis is two, qualitative case studies. The first case study was executed from April 1998 to June 1999 at a contract division of a major supplier of signaling systems for railways. The purpose was to generate concepts, theoretical models, and empirical issues, which would guide further studies on multi-project settings as an empirical phenomenon. In order to acquire an in-depth understanding of the practices an ethnographic approach was chosen. During 14 months, one researcher spent approximately 3 days a week at the company. As in most ethnographic research, several sources of data were used, e.g. observations, interviews, and studies of written material, such as project documentation, technical documents, minutes, company instructions, and memos [30,31].

The second study was initiated in order to test the validity of the findings from the first case. It was carried out during the fall 1999 at an R&D division of a middle-sized, private telecom operator. This multi-project organization was chosen in order to contrast the organization in the first case. Consequently, the study had a similar research design, but it was executed over a third of the time period.

At the first study, 22 persons were formally interviewed, many of them several times. In the second study, the number of respondents was 15. All interviews were semi-structured. They lasted between 1/2 and 2 h and were recorded and transcribed.

Finally, the generated written description was in each case reviewed and discussed with key-informants. The cases are summarized in Table 1.

### 2.2. Empirical setting one: the contract division

The Contract Division was one out of four divisions in a middle-sized engineering company. The company was more than 100 years old and had a strong industrial tradition. During the time of the study, the company had approximately 500 employees, who engineered, produced, and installed signaling and safety systems for railways. The clients were railway operators, subways, and commuter train systems from all over the world. The sales for 1998 were US\$ 94 million, which made it one of the leading companies on the international market.

The Contract Division had a matrix organizational design. It had approximately 200 employees and was responsible for all engineering activities involved in the execution of major contracts (projects) to different clients all around the world (80% of the company's turnover). Twenty project managers coordinated the project activities, which were carried out by personnel at three engineering departments (40–70 engineers respectively). Most employees were engaged in several projects simultaneously. Each department had the technical responsibility for a specified set of products. Due to safety requirements, all technical designs had to be approved by the department manager.

At the time of the study, the division had a portfolio of approximately 30 projects. The size of these projects varied between US\$ 0.3 and 17 million in budget, and 1 and 5 years in duration. Their scopes varied from improvements of existing designs and products, to deliveries of entirely new systems for new clients. The projects were based a few, common technical platforms; however each project was technically complex and comprised tailored applications for each specific client.

### 2.3. Empirical setting two: the R&D Division

The R&D Division was one out of six divisions within a middle-sized, private telecom operator. At the time of the study the company was only four years old (founded in 1995), but it had the third biggest telecom capacity in the country. It owned and operated networks for telecommunication, data communication and Internet. In 1998, it had approximately 500 employees and its turnover was US\$ 150 millions.

The R&D Division was formed during the spring of 1999 in order to facilitate a creative environment for the development of products and services. The division engaged approximately 50 employees, localized together at an office formed by a couple of old down town apartments.

The R&D Division had a matrix structure. It had five specialist departments (2–15 employees/department) and one department for project management with seven project managers. All together, these project managers coordinated 12–15 project assignments. However, the

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