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MANAGERIAL CONTROL OVER IT PROJECTS: CONTROL, FORMS, COMMITMENT, AND DOMINANT COALITIONS

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Abstract

This research in progress addresses how managers engage in controlling IT projects, which can be seen as an instance of a classical problem in organizational control: managing sensibly in situations where subordinates have superior task knowledge. Theories used in the study include control theory, theories on commitment and escalation, and theories on IS implementation. An in-depth, retrospective, interpretive case study forms the empirical basis of the study.

Preliminary results include the importance of *input control* as a control form and the role of a *dominant coalition* of controllers. The functioning of the dominant coalition, as it evolves, is closely associated with the organizational commitment to an IT project. Findings on the influence of the project leader (controllee) over managers (controllers) indicate limitations of management control.

Keywords: IS project management, IS project control, managerial control, organizing, case study.

1. INTRODUCTION TO THE PROBLEM AREA

For several decades, the issue of managing—or perhaps struggling to cope with—complex information technology (IT) projects has been a difficult and important problem, both for practitioners and academics (Sauer 1993). IT projects frequently fail, with significant consequences for organizations (e.g. Myers 1994). IT projects take on dysfunctional development patterns, resulting in information systems that are not used or do not achieve intended or expected effects in the organization (e.g., Markus and Keil 1994). Whereas general management involvement in IT increases, and is considered important (Jarvenpaa and Ives 1991; Martin et al. 1995), many of the existing structures and procedures for control of IS projects have been designed by and for IS professionals (Kirsch 1996), such as those control measures embedded in systems development methods and practices.

Furthermore, the management of a large project requires organizational resources, specific competence and various other prerequisites which in several ways differ from those required for managing an ongoing business (Stinchcombe and Heimer 1985). Since general managers frequently have limited knowledge about information technology, and many may have limited knowledge about project work, managerial control over IT projects can be seen as an instance of a classical problem in organizational control: managing sensibly in situations where subordinates have superior knowledge about the task at hand (Perrow 1986).

Whereas managerial control has been suggested as a partial remedy for IS implementation failures (e.g., Markus and Keil 1994), research specifically concerning how managers engage in the control of IT projects, and how managerial use of different control forms is influenced by the organizational context, has been sparse. In this ongoing study, these issues are addressed using control

theory combined with theories on commitment (Salancik 1977) and escalation of commitment (Brockner 1992), which have recently been applied to the study of IS development efforts (Keil 1995; Newman and Sabherwal 1996).

2. RESEARCH OBJECTIVES AND QUESTIONS

The research objective for the study is to contribute to the understanding of how managers influence and control large, intra-organizational information technology projects. Important research questions are:

- How do managers engage in controlling IT projects?
- How do managers use different control forms in the control of IT projects?
- What is the nature of the interaction between controllers (corporate management) and controllee (project management) in this context?

3. THEORETICAL FOUNDATIONS OF THE STUDY

One theoretical foundation for the study is control theory (Eisenhardt 1985; Ouchi 1979), especially as applied to IS projects (Henderson and Lee 1992; Kirsch 1996, 1997). Control forms identified and used in these studies are outcome control, behavior control, clan control (social, value-based), and self control. An additional control form was adopted in this study: *input control* (Sjöstrand 1987). Input control includes selection and replacement of people included in the project, such as project leader, user representatives, and technical experts. The study also uses the concept *dominant coalition* (e.g., Child 1972) to explain how managerial control is carried out. A dominant coalition is here seen as the group of organizational actors who at a given time have a decisive influence over project control activities. The study also uses the concept of *managing your boss* (Gabarro and Kotter 1980) to describe important aspects of the relationship between a controlling body and the controllee, in this case the project leader.

A second theoretical area of importance for the study concerns theories on commitment (Salancik 1977) and escalation of commitment (Brockner 1992), which deal with how and why organizational actors and groups become committed to and pursue failing courses of organizational action. Escalation theory has recently been applied to the study of large IT projects (Keil 1995; Newman and Sabherwal 1996). In this study, commitment is seen as existing on three different levels: as a psychological, a social, and an organizational phenomenon. Commitment on the organizational level is equated with resource allocation (as in the escalation of commitment literature, cf. Brockner 1992), whereas other forms of commitment are seen as having to do primarily with an individual's own perception of commitment and the socially constructed commitment both of individuals and of groups (Salancik 1977).

In addition to the literature specifically focused on organizational control, an important body of research for this study is IS implementation, encompassing issues such as user participation and adoption, change management, and organization politics (e.g., Franz and Robey 1984; Markus 1983). This literature is important for the development of in-depth understanding of the context in which managerial control occurs, and also provides additional perspectives on managers' actions related to IT projects.

4. RESEARCH METHODOLOGY

The research approach chosen for the study is an in-depth, retrospective, interpretive case study. Case studies are often advocated for intensive research where the in-depth understanding of a phenomenon in its context is desired (Benbasat, Goldstein and Mead 1987; Walsham 1993). This knowledge goal is congruent with the study's underlying interpretive epistemology (Myers 1997), and case studies have been suggested as a preferred research method for interpretive research (Walsham 1993).

The process of finding and selecting a research site resulted in the choice of a large, complex IT project conducted in a mid-sized European bank. The six year project concerned the replacement of the transaction-processing information system for all of the bank's private and corporate deposits, and was of crucial importance for retail banking operations. The data collection methods used in the study are interviews, studies of documents and corporate records, and observation of the implemented information system in use. In addition to the collected data, work notes have been saved and sorted chronologically to facilitate reconstruction and description of the research process (Yin 1994).

Whereas reliance on retrospective data collection meant forsaking the richness of direct observation, it also enabled the study of post-implementation developments in the company. Potential biases in retrospective interviewing (see Glick et al. 1990; Golden 1997) were compensated by triangulation within and between different data sources, the use of a time-line to arrange data and build a coherent story, source critique and formulation of alternative explanations (Yin 1994; Golden 1997; Mason, McKenney and Copeland 1997). At the time of the interviews, subsequent developments in the company had led to reassessments of the studied project, and this was used to deepen interview discussions on critical choices during the project process and on the consequences of the project, thereby allowing a richer interpretation of the studied phenomena. Thus, retrospective data collection in this particular case provided a possibility to investigate longer-term organizational consequences of the studied project, and the evolution of organizational control structures and procedures for IT.

The primary level of analysis (Strauss and Corbin 1990) for the case study is managerial influence and control over the studied IT project. Other levels of analysis include project management, the project process, corporate IT management, and the organization. These levels of analysis were used as a basis for the first round of coding of the collected data. In conjunction with the coding, the previously mentioned time-line was used to arrange data chronologically (Mason, McKenney and Copeland 1997). Based on the chronologically arranged, coded data, the case study narrative is constructed. The work with data is carried out in an iterative work process of reading, arranging, structuring, analyzing, and presenting data (Coffey and Atkinson 1996; Mason, McKenney and Copeland 1997).

For evaluation of this interpretive research, criteria suggested by Lee (1998) are used. These criteria state that an interpretation is valid, or good, when apparently irrational or absurd behaviors no longer appear so; when new observations no longer surprise the observer; when new observations would not surprise a different observer, to whom the interpretation has been communicated; and when the observer would be able to enter the organizational world of the human subjects, whereupon she could communicate with them. At this point in time, this evaluation has not been completed.

5. CURRENT STATUS OF THE PROJECT AND PRELIMINARY FINDINGS

The current status of the project is that all data have been collected and coded, coded data have been arranged in a time-line, and the work with further data analysis and writing of the case study narrative is proceeding. Some preliminary findings are presented in the following paragraphs.

In line with Kirsch (1997), controller role expectations, controller competence, and availability of pre-existing mechanisms seem to be of importance for how control forms are chosen by managers. In addition, there are clear indications that input control, in the form of selection and replacement of the project leader and other key personnel, is an important form of management control which has not been included in previous studies.

Preliminary findings also suggest that the study of IS project control could benefit from studying control actions by a *dominant coalition* of user managers and IS managers. This dominant coalition may change over time, and changes in the dominant coalition may be a source of breakdown of the organizational commitment to the project, which in turn may threaten the existence of the project.

The present analysis also indicates that personal and organizational commitment may need to be separated, and that individual control initiatives (or lack thereof) can be seen as tools for changing the level of individual commitment to an organizational course of action. Another finding highlights the phenomenon of "managing your boss," and suggests that the influence of the

project leader (the controllee) over the controllers is an aspect of how these control relationships function, which warrants attention in future studies.

There are important situational characteristics which are likely to be of importance for managerial control over an IT project, including the characteristics of the organizational control structure, the type of project organization (in-house, contracting, partnership, etc.) and the nature and extent of organizational change associated with the IT project. In order to learn more about managerial control in different situational circumstances, a second phase of the research study is planned. In this phase, it is intended to study several complex IT projects in different organizations with differing types of organizational and project control structures. Suitable case sites for this phase include public organizations and highly decentralized multinational companies.

6. CONFERENCE PRESENTATION CONTENTS

The currently planned parts of the Conference presentation are:

- A short review of some key points from the literature.
- A short overview of the study design, highlighting aspects such as how data collection was carried out and how data were analyzed.
- A summary of (preliminary) findings from the current phase of the study.
- Implications for theory and practice.
- An outline for the next phase of the study.

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