

Failing Projects:

Harder to Abandon than to Continue

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Abstract

The sad truth is that information technology projects very often fail, and there are no signs that the situation is getting better. Project is an effective and efficient way to organize work, and it is also claimed to be democratic. This paper reports on research in progress of failing information technology projects. Two short cases in an longitudinal study are used to exemplify projects that exhibit a specific pattern that projects often fall into. What we talk about are those projects that seem to take on a life of their own, where it is difficult to decide weather to continue to commit additional resources, abandon the project, or redirect the project. This despite information indicating that the project is in trouble. Often, managers have a tendency to commit additional resources to their projects, i.e., they escalate.

Keywords: project failure, escalation, commitment

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Introduction

Projects are the most used mode of organizing work in information systems development and other efforts to design and implement information technology (IT). An IT project includes activities of analyzing, designing, developing and implementing artifacts for storing, communication and distribution of information.

In most organizations, IT projects are requested to do more with less resources, deliver results faster, reduce turnaround time in maintenance, increased performance, reliability and security of artifacts (e.g., Basili, Caldiera et al. 1992). We have, over the last 20 years, assumed that technological solutions would overcome most of the problems but the awareness of the importance of other factors, e.g., organizational and managerial, have increased.

This paper discusses project as a mode of organizing work as one of these factors. The projects is an efficient and sometimes even democratic mean to organize this work, e.g., participatory design and "the Scandinavian school," but the mode has deficiencies. Many IT projects exceed budgets and time limits dramatically (e.g., Keil 1995b), and it is not unusual that IT projects are abandoned before any product is delivered (Ewusi-Mensah and Prazasnyski 1994) or result in IT artifacts never used (Markus and Keil 1994). There is a higher risk of failure in IT projects than any other aspect of business (e.g., Jones 1995; Willcocks 1991). These failures depend to a large extent on the characteristics of software and computer artifacts (e.g., Brooks 1987), but also on the project as organization of work.

One disadvantage, many times neglected, is that projects have a tendency to escalate, i.e., decision makers elect to commit additional resources to a project where economical and organizational prospects as well as common sense indicate that the project should be canceled, or redirected. Some IT projects even take on a life of their own, "they become like Moses,

condemned to wander till the end of their days without seeing the promised land” (Keil 1995a). This paper claims that people have a tendency to become over-committed, i.e., escalate, and this is partially due to project as a mode of organizing.

The remainder of the paper is organized as follows. The next section discusses commitment and escalation. Then, two small cases are used to illustrate escalation situations in projects, and finally some recommendations on how to avoid projects from being caught in the escalation trap.

Commitment to a Project

Commitment has been studied from so many different theoretical perspectives that the term should be abandoned in favor of a set of concepts (Angle and Perry 1981). Commitment, as used in this paper, is itself not necessarily good or bad, but the level of commitment of various individuals in a project is believed to greatly influence the eventual success of the project since commitment is the state of mind that holds individuals in a line of behavior (Salancik 1977), or the binding of an individual to behavioral acts (Kiesler 1971). Moreover, commitment can also be described as an active counterforce to change (Staw 1982).

For the purpose of managing commitment in organizations it is important to emphasize that when commitment induces a person to complete a difficult or unpleasant task that benefits him and others, then commitment is a good thing. Obviously, without commitment the hard work required will not be done. When, however, commitment leads to a fixation on a policy or behavior of diminishing benefit and rising cost, the situation is obviously less clear. We have over-commitment, or in other words, we have an escalation situation.

Most research on escalation during the past 20 years have been experiments in psychology and sociology termed as; *knee deep in the big muddy* (Staw 1976), *entrapment* (Fox and Staw 1979; Brockner, Nathanson et al. 1984), *too much invested to quit* (Teger 1980), *escalation of commitment* (Staw and Fox 1977; Staw 1981; Staw and Ross 1987a), *knowing when to pull the plug* (Staw and Ross 1987b), *throwing good money after bad* (Garland 1990).

Escalation situations

Past research has found that decision makers can become over-committed to previous decisions, and actually invest more resources in a failing project (e.g., Fox and Staw 1979). This is an escalation situation and it occurs when decision makers have continued commitment to a specific course of action despite information suggesting that the course of action is failing (Staw 1981; Staw and Ross 1987a). Brockner (1992) elaborates this definition further by arguing that an escalation situation is continued commitment in the face of negative information about prior resource allocations coupled with “uncertainty surrounding the likelihood of goal attainment.”

Decision makers become locked into an escalation situation through what Staw (1981; 1982) calls a “syndrome of decision errors.” This is criticized by Bowen (1987) who argues that commitment to a further investment occurs because of the equivocality in the situation and not because of an over-commitment to a failed decision. Bowen continues, that one can not “technically” err in an ill-structured decision situation.

There is controversy concerning the explanation of escalation. Brockner (1992) argues that many, but not all, of the explanations fall into two broad categories complementary with aspects of human nature. These are; expectancy theory—additional resources will lead to goal attainment, and self justification—people do not like that their past decisions were incorrect. Staw and Ross (1987a; 1987b) propose an escalation framework which gives us a promising theoretical base for studying escalation situations. All escalation situations have some common factors that can be isolated (e.g., Staw and Ross 1987): (1) all situations entail some loss or cost—not necessary monetary—that have resulted from an original course of action, (2) the predicaments involve some continuity over time—they are not one-shot affairs, but dilemmas involving ongoing courses of action, and (3) they comprise situations where a simple withdrawal is not an obvious solution. Moreover, (4) the decision maker must have a real choice in deciding whether to persist or withdraw (Brockner 1992), and (5) there must be unambiguous feedback from previous decisions made (Bowen 1987).

Simultaneous with the research on escalation, conducted primarily by organizational behavior researchers, social psychologists did study the same phenomenon using the term entrapment (Schneider 1993). Entrapment situations are those in which decision makers continue to invest their resources in a costly or losing course of action in order to justify the appropriateness of already sunken costs. Although entrapment refers to a decision making process, it is often the outcome of that process that is particularly noteworthy. That is, in the process of justifying already committed resources, the individual can be drawn into an extremely costly or even irrational course of action (Nathanson, Brockner et al. 1982). In contrast to escalation research, subjects in entrapment situations typically incur small continuous losses as they seek or wait to achieve a goal (Bowen 1987).

In order to avoid losing the essence of escalation as a phenomenon, attention should be shifted away from identifying the increasing number of isolated antecedents of escalation situations and toward examining the influence of more general classes of determinants in a range of situations. Staw and Ross (1987a) have proposed a model for studying and understanding escalation situations. They suggest four classes of determinants of escalation situations; project determinants; psychological determinants; social determinants; and organizational determinants.

Project determinants

Project determinants are the objective attributes of a project, the project’s benefits and costs (Brockner 1992). A project is likely to be continued and with high commitment if it is perceived

as a long-term investment, expected to have a large payoff, and a long-term payoff structure (Sabherwal, Sein et al. 1994). High commitment is also likely when closing costs are high and salvage value is low (Staw and Ross 1987b).

Psychological determinants

Psychological determinants cause individuals to see situations from a promising and optimistic view (Brockner 1992). Psychological determinants explain managers' unwillingness to admit that an earlier decision was wrong (Staw and Ross 1987a). Self justification theory—when an individual desire to demonstrate rationality to himself—and prospect theory—individuals exhibit risk averting or risk seeking behavior depending on how a problem or decision situation is framed—are useful theories to explain the psychological determinants of escalating commitment (Keil, Mixon et al. 1995). Also, the human irrational economic behavior to “throw good money after bad” in an attempt to turn around a failing situation, the so called “sunk cost” effect (Arkes and Blumer 1985; Garland 1990). Moreover, the more public a decision is made, the less likely it is for the decision maker to change his original decision.

Social determinants

Social determinants originate from the group where the individual is a member. Social determinants hold the individual to a course of action regardless of the individuals' own beliefs. Examples are face saving and external justification (Staw and Ross 1987a). Social comparison theory posits that people are concerned with evaluating the appropriateness of their attitudes and behavior. Decision makers are likely to regard the behavior of others as a model for their own behavior. This evaluative process is most apt to occur when decision makers are uncertain about the appropriateness of their own attitudes or behavior (Brockner, Nathanson et al. 1984). Social determinants also involve a group's relation to another group. A successful effort by a group may influence other groups to attempt the same approach, e.g., benchmarking. This might lead another group to be more optimistic in viewing the problems encountered. Moreover, the behavior of project members are vitally affected by their relative power position (Hall 1991).

Organizational determinants

Finally, organizational determinants, the structural and political environment of a project, e.g., top management support, administrative inertia, and interorganizational interaction. According to Keil (1995b) projects are more prone to escalate when there is a strong political support and when projects become institutionalized. Institutionalization occurs when a project is tied integrally to the values and purposes of the organization, and when actions are taken for granted because they are so deeply imbedded in the subculture or norms of the organization. Long-standing programs and lines of business are not even considered for discontinuation because they are so identified with the organization.

Case studies

Two short cases serve as examples of projects that exhibits characteristics consistent with the framework presented in the previous section of this paper. Our understanding of project failure will benefit from a greater range of detailed case studies (Sauer 1993). Investigation of troublesome or failing projects presents special problems due to the sensitive nature of the subject matter. The tendency is to forget or put the failure behind and as soon possible move on to the next project. Moreover, there seems to be a code of silence in the systems development community which prohibits discussions about failures (Ewusi-Mensah and Prazasnyski 1994). Both case studies are performed through open ended interviews (Patton 1990) with project managers. The interviews were conducted winter 95/96. The author is grateful to the project managers for sharing experience with their project. It should be stressed that facts are omitted to keep the cases brief.

Case 1 - ADMIN

In 1994 a mid-size company began developing a computer based system called ADMIN. The system was aimed at improving a relatively simple but very important administrative task. It started out as a “quick-n-dirty” attempt, but since ADMIN would be a central part of the company, a more formal and structured approach were suggested. A consultancy firm were hired for the programming. The system was scheduled to be completed in September 1995. Later, the date were moved to November due to programming problems. “This happens,” and the project group did not take any immediate actions. Partly due to this, communication problems surfaced within the group. This lead to more problems and a new date were set to February 1996.

ADMIN was subjected to a first test by the project group at the end of 1995. ADMIN was at this time very unstable and omitted the test group to get a sense for how the system behaved in a simulated work situation. The programmers ensured that the problems were easy to fix. At a new test two weeks later ADMIN behaved the same way as in the last test. The consultancy firm admit that they lack experience with the used tool. The contract is reformulated and ADMIN will be ready and implemented spring 1996.

A third test is performed late January, but the two day test is canceled after two hours. More programmers join the team to speed up the work. A fourth test is performed a week later, and like the previous tests, it fails. The projects manager conduct a smaller revision of the ADMIN. The structure is not satisfactory, but the programmers assure that it will be improved. The project manager does not feel very comfortable with this situation. An extensive revision in performed; the program code is a disaster and the database manager will not work properly in the planned client/server solution. The consultancy firm does not have the situation under control and the project manager decides to halt the project. The project is again reformulated and ADMIN is implemented during the summer.

Retrospectively, the project manager admits that *"there were early warning signals that the project might be in trouble long before the first test."* But he was confident that *"the problems would solve over time,"* and *"the communication with the programmers should improve."* Moreover, a restart or cancellation were never an alternative, since *"our earlier invested resources would be wasted."*

Case 2 - PLAN

The second case describes an IT project aimed at designing and developing a computer based system for long term planning. The project started in 1993 when a subsidiary of a governmental organization decided to improve their routines for planning and resource allocation. The total cost of the project came to be ten times higher than first expected. Moreover, the project was run by five different project managers over a three year period.

An in-house systems analyst and programmer were asked to research the possibilities for a system that would satisfy the requirements. The analyst claimed that he were the right person for this job. He estimated the total cost for the project to \$100000. The governmental subsidiary decided to engage a software development house for the programming. The software house became aware of the analyst's work with the new system, PLAN, and hired him as project manager. This first project manager has a past history with a large database company and had some first hand information on a tool that would be released on the market shortly. He put a lot of hope in this new tool. The second project manager, who at this time was a member of the project group remembers *"the project manager as a very dominant person."* Moreover, *"the project manager did not listen to any negative information."* The tool never made the market and the project had to be reshaped. During the next year two different project managers tried to run a project with problems. As one project manager expressed, *"everybody knew the boat was sinking, but no one came forward with this."*

"Top management had plans to abandon the project," but there was also a strong force to continue since *"we have never abandoned any project in this company."* Eventually, PLAN was completed. The project managers agree that *"we had opportunities to abandon the project, but instead we put in more resources."* Moreover, *"it seemed to be an invisible force to continue the project."* As one manager said, *"I had decided to be tough at the meeting and suggest that PLAN should be abandoned, but I got cold feet's at the meeting."*

Discussion

Evolutionary computer systems design, feedback cycles, software development as a learning and communication process, etc., might be viable in avoiding IT project failures. However, the point made in this paper is that people and organizations become over-committed to a failing course of action, called escalation situations. These situations occur when projects have little salvage value, when decision makers want to justify their own past behavior, when people in a

project are bound to each other, and when organizational inertia and internal politics combine to prevent a project from being shut down, etc.

Avoiding escalation

Again, it must be stressed that there is a very thin line between necessary commitment and over-commitment. Avoidance of escalation traps fall mainly into two areas; individual action, i.e., what project managers can do and organizational actions, i.e., what top management can do (e.g., Keil 1995a; Keil 1995a). This research, on the other hand, suggests three levels, individual, group, and organizational.

Individual level

First, individuals must recognize that there is a natural tendency to escalate when one becomes too committed to a course of action. People are temporarily promoted in projects, i.e., power is temporary distributed. If individuals are aware of other projects trapped in escalation situations and the forces “driving” to persist in a course of action and “restraining” withdrawal in the situation, their propensity to escalate in the next project is probably lower than it was in the previous project. Project managers must be committed to the overall objective of the project, but at the same time open to dismiss particular solutions to the problems encountered.

Group level

Second, on the group level, the project manager should assure that as many decisions as possible are subject for dissent, e.g., no decision should be made without explicit consideration of the disadvantages or risks involved in the decision alternative. If possible, postpone any decision where no disadvantage is put forward. Invest in face-to-face meetings, the benefits are well worth the upfront cost, it is difficult to build a relationship over e-mail and documents.

Organizational level

Organizations should, to a greater extent, use formal methods to monitor the progress of projects. Serious project audits must be executed on a regular basis. Organizations must also be tolerant to failures since failure is a prerequisite for innovation. With an explicit company policy on failure people in the organization have guidelines on how to act in escalation situation. It must, however, be emphasized that formal methods to monitor the progress in projects will not be a solution to avoid escalation. There are no single applicable solution to the problem of escalation in IT projects.

Different reactive activities, such as indicators, evaluation, control and assessments are important questions for project activities. However, a proactive approach to avoid escalation is necessary. No matter how thorough the audits and revisions are, all problems are possible to hide, until it is too late to deal with them.

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