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The Turnaround ERP Project: Strategies and Issues

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ABSTRACT

A case study of an ERP project within a Fortune 100 company in the transportation industry is used to identify the strategies which facilitate a turnaround ERP project. The case study was developed using in-depth interviews with the President and the Chief Information Officer of the firm. The strategies described in this paper include project sponsorship, top management accountability, change control procedures, customization decision-making, measurement of project outcomes, management perception of the value of the ERP system, vendor relationship, and organizational change. To facilitate the turnaround project, top management involvement and accountability were critical. Modifications to the ERP system were minimized, and accountability mechanisms to monitor project outcomes—both in time and cost—were established.

Keywords

ERP, project management, organizational factors.

INTRODUCTION

Many IT projects entail a significant investment, and many of these projects encounter difficulties in implementation. In an international study of 7,400 IT projects, the Standish Group discovered that 34 per cent of the projects were late or over-budget, 31 per cent were abandoned, scaled back or modified, and only 24 per cent were completed on time and on budget (Cunningham, 1999). Examples of high profile IT project failures reported in the literature include the American Airlines Corporation AMR Information Services (AMRIS), London Ambulance System, the FoxMeyer Drug Co. SAP Project, and the California State Automated Child System (SACSS) (Willcocks and Graeser, 2001).

Troubled ERP projects, which are projects which encounter significant time and cost overruns, are reported extensively in the literature. Several examples are provided in Table 1.

FoxMeyer Corporation SAP ERP System	Drug distributor FoxMeyer claimed that the bungled ERP installation in 1996 helped drive it into bankruptcy.
W.W. Grainger, Inc. SAP ERP System	Grainger spent \$9 million on SAP software and services in 1998 and 1999. During the worst six months, Grainger lost \$19 million in sales and \$23 million in profits.
Hershey Foods Corp. IBM-led installation and integration of SAP, Manugistics Group Inc. and Siebel Systems, Inc. software	To meet 1999's Halloween and Christmas candy rush, Hershey compressed the rollout of a new \$112 million ERP system by several months. Sales fell 12% in the quarter after the system went live.

Table 1: Troubled ERP Projects

In their study of firms that have implemented ERP systems, Mabert, et. al. tried to determine what strategies enabled organizations to implement ERP either on-budget or under-budget (Mabert, et. al., 2001). Their sample included firms ranging from large firms with annual revenues of more than \$5 billion and more than 20,000 employees to smaller firms with revenues of less than \$500 million per year and fewer than 20,000 employees. Although their response data indicated that 70% of the firms felt that their ERP projects were successful, the majority of firms (55.5%) indicated that the actual cost of implementing an ERP system exceeded the original estimated budget by an average of 60.6%. When they compared the differences between the under- or on-budget firms and the over-budget firms, they found that under-budget or on-budget firms made fewer modifications than the over-budget firms, and that modifications contributed to a 50% increase in project

duration. In addition, under-budget or on-budget firms established greater authority for project implementation and implemented more effective communications (Mabert, et. al., 2001).

REVIEW OF THE LITERATURE

Prior research has provided insight into important questions, including: What risk factors contribute to troubled information technology projects? What strategies for managing ERP implementation contribute to successful project completion? What are the differences between unsuccessful and successful ERP projects? An overview of what has been learned from these studies provides a context for the present study. As yet, there is no study which describes how a troubled project was turned into a successful project. It seems logical to raise this question, because many projects fall into trouble, and management needs to understand how to change their course.

RISK FACTORS IN INFORMATION TECHNOLOGY PROJECTS

One set of factors influencing project outcomes are the various risks associated with initiating and implementing IT projects (Jiang and Klein, 2001). Lack of risk analysis and risk management during a project's life-cycle can contribute to failure (Willcocks and Griffiths, 1997).

In a study by Baccarini, et. al. (2004), the respondents ranked 27 IT risks in terms of likelihood and consequences. The top five risks were: personnel shortfalls; unreasonable project schedule and budget; unrealistic expectations; incomplete requirements; and diminished window of opportunity due to late delivery of software. Risk management entailed project management processes, not technical processes. Project management, including scope management, quality management, and human resource management, is an effective risk management strategy.

Studies dealing with risk factors in information systems projects describe issues of organizational factors, skill set, management support, software design, user involvement, technology planning, project management, and project escalation.

Some risk factors are associated with organizational factors, including the extent of changes being proposed, sufficiency of resources, and magnitude of potential loss (Barki, Rivard, and Talbot, 1993). Project managers may have to address issues over which they have no control, such as changing scope/objectives and conflicts between user departments (Keil, Cule, Lyytinen, Schmidt, 1998). Lack of development expertise, lack of application-specific knowledge, and lack of user experience all contribute to project risk (Barki, Rivard, and Talbot, 1993; Ewusi-Mensah, 1997).

Lack of senior management commitment (Keil, Cule, Lyytinen, Schmidt, 1998) and lack of agreement on a set of project goals/objectives (Ewusi-Mensah, 1997) are factors leading to time/cost overruns. Misunderstanding requirements and continuously changing requirements contribute to project risk. Lack of an effective methodology and poor estimation can lead to cost and time overruns (Keil, Cule, Lyytinen, Schmidt, 1998). Software risk factors include developing the wrong functions, developing the wrong user interface, shortfalls in externally furnished components, and shortfalls in externally performed tasks (Boehm, 1991).

Lack of user commitment, ineffective communications with users, and conflicts among user departments are all sources of risk (Keil, Cule, Lyytinen, Schmidt, 1998). Lack of adequate technical expertise and lack of an adequate technology infrastructure to support project requirements contribute to escalating time and cost overruns and are associated with project abandonment (Ewusi-Mensah, 1997). Technological newness (need for new hardware, software), application size (project scope, number of users, team diversity), application complexity (technical complexity, links to existing legacy systems) and failure of technology to meet specifications are all project "hazards" (Barki, Rivard, and Talbot, 1993).

Project risk assessment is based upon project size, experience with the technology, and project structure (McFarlan, 1981), and managers need to control these risks. Project management and control failures, caused by inadequate planning and tracking, can contribute to unrealistic schedules and budgets and project failure (Boehm, 1991). In information technology projects, there is a tendency to discount problems and their severity may remain unknown for a long period of time. When projects run into difficulty, there is a tendency to escalate projects because of societal norms (e.g. needing to save face) and to keep pouring resources into a failing project. This creates greater risk of failure (Keil and Montealegre, Spring 2000).

SUCCESS FACTORS IN ERP PROJECTS

What success factors associated with ERP implementation? As in all large-scale IT projects, top management support, presence of a champion, good communication with stakeholders, and effective project management, are critical success factors in ERP projects (Bancroft, Seip and Sprengel, 1998). Factors which are unique to ERP implementation include re-

engineering business processes, understanding corporate cultural change, and using business analysts on the project team (Sumner, 2000). Management support of the project team, a project team with the appropriate balance of technical/business skills, and commitment to change by all the stakeholders are all of paramount importance (Parr, Shanks, and Darke, 1999).

A number of research studies have addressed the differences between successful and unsuccessful ERP projects. These studies have investigated ERP implementation factors (e.g. project justification, customization, supplier relationship management, project management), organizational factors (e.g. leadership, management, the role of the champion), people factors (skill mix, use of consultants), and technology factors (technological challenges).

System Implementation Factors

Project Justification. It is important to establish measurable benefits at the outset of an ERP project, so that these results can be assessed (Ross, Vitale, and Willcocks, 2003). By continuously monitoring project outcomes, firms can capitalize on small successes (Scott and Vessey, 2002).

Customization. Numerous studies indicate that it costs more and takes much longer to implement ERP when the modules are modified (Mabert, et. al., 2003). Implementing the “best practices” embedded in the vendor package greatly increases the chance of project success (Brown and Vessey, 2003), and enables the organization to reap the benefits of re-engineering business processes.

Supplier Relationship Management. Vendors and external consultants are critical, and it is important to build effective relationships, to facilitate contracts, and to monitor contracts (Willcocks and Sykes, 2000). Successful ERP projects use a vendor accelerated implementation strategy to help implement the system on time (Mabert, et. al., 2003).

Project Management. It is a good idea to subdivide the project into smaller projects, and to achieve tangible business benefits for each project (Motwani, et. al., 2002; Willcocks and Sykes, 2000). Since unforeseen issues will arise in an ERP project, some slack should be built into the project schedule. In more successful projects, managers create contingency plans (Scott and Vessey, 2002).

User Training. User training is critical to ERP success, because people’s jobs will change. User training should focus on business processes, not just technical training in how to use the software (Willcocks and Sykes, 2000). Training should enable managers to use query and reporting tools to generate needed reports (Ross, Vitale, and Willcocks, 2003).

Organizational Factors

Change Management. In implementing ERP, companies often fail to address resistance to change, especially resistance to changes in job design. Individuals need to understand the interrelationships the ERP system creates. For example, if you enter bad data in one place, it will affect others (Ross, Vitale, Willcocks, 2003). Since ERP implementation entails changes in business processes, change management is essential (Brown and Vessey, 2003). An organizational culture which fosters open communications is important to avoid resistance to change (Scott and Vessey, 2002).

Project Leadership. Project leadership is a very important issue, and project leaders need to have a proven track record (Brown and Vessey, 2003). One of the lessons learned in case studies of ERP projects is that a strong project leader needs to keep the project on track, even when changes require following contingency plans (Scott and Vessey, 2002).

People Factors

Use of External Consultants. Effective management of external consultants is important for the success of an ERP project, because they can offer valuable expertise in analyzing cross-functional business processes and in configuring application specific modules, such as financial modules (Brown and Vessey, 2003). However, problems can occur when management outsources the entire ERP project to a contractor, without involving internal IT people. Organizations should use consultants, but take advantage of opportunities to develop internal knowledge (Willcocks and Sykes, 2000).

Role of the Project Champion. A project champion is also essential (Willcocks and Sykes, 2000). Beyond this, project team members need to have the authority to make decisions on behalf of their functional area (Brown and Vessey, 2003).

Technology Factors

Technological Challenges. Technological challenges can be complex. To be successful in implementing ERP, firms need to recognize the complexity of converting data and developing interfaces (Scott and Vessey, 2002).

PROJECT TURNAROUND STRATEGIES

In many cases, the success or failure of a troubled project depends on the effectiveness of management actions taken to turn around or redirect such projects. This means that managers must be able to recognize problems and take appropriate corrective measures. While prior research has identified many factors that contribute to the escalation of commitment to failing projects, there has been little research on the factors contributing to the deescalation of commitment. Deescalation is needed in order to turn around a troubled project. In some cases, a troubled project can be abandoned.

In their study of de-escalation strategies, Keil and Robey identified twelve specific factors associated with de-escalation and generated qualitative data from interviews with forty-two auditors to determine which of these factors were most effective in turning troubled projects around (Keil and Robey, 1999). They found many actors, such as senior managers, internal auditors, or external consultants, who were involved in triggering de-escalation of projects. Additionally, they learned that de-escalation was achieved both by managing existing resources better and by changing the level of resources committed to the project.

RESEARCH QUESTION

The fundamental research question addressed in this study is: What strategies facilitate the turnaround ERP project?

BACKGROUND

The project was initiated by a transportation services company in 1997, largely because legacy systems had fallen apart. The original project scope was \$3 million over a 3 year timeframe. The responsibility for project oversight was given to the Chief Financial Officer and Information Technology Manager. Three and a half years into the project, it was clear that the project had run beyond original time and budgetary estimates. Over the next four years, deliberate strategies were implemented to bring the project back on track and to realize the business outcomes which were the basis for the original project justification. In the end, the project was accomplished in eight years at a cost of \$8 million. See Table 2.

	Planned	Actual
Project Justification	Legacy systems had fallen apart	Business objectives needed to be achieved
Project Cost	\$3 million	\$8 million
Project Time	3 years	8 years
% of Business Processes Affected	95%	95%
Benefits	Improved financial credibility; Reduction in IT costs	Improved financial credibility; Reduction in IT costs

Table 2: Project Characteristics

FINDINGS

A single case study was used to develop an understanding of factors associated with a turnaround project. Given a number of possible ERP projects to study, this one was unique in that it did transition from a failed project to a turnaround project. Interviews with the President and the Chief Information Officer were conducted to gather information on the strategies which were employed to bring the project back on track. These interviews dealt with project leadership, project characteristics (e.g. planned vs. actual completion date; planned vs. actual project cost), and project justification (e.g. planned vs. actual benefits). Further information was gathered regarding the degree of risk which the ERP project represented for the firm (e.g. planned vs. actual percent of business processes affected by the ERP implementation decision). The interviews also gathered information on the degree of planned vs. actual customization (e.g. how much was spent on customization), and the planned vs. actual achievement of business objectives.

In order to get the project back on track and to achieve the business objectives originally established for the project, a number of deliberate strategies were implemented. Top management commitment to achieving project time and cost outcomes was essential. Before top management took control of the project, change requests were not monitored carefully. After top management asserted accountability for the project, the cost implications of all change requests were reviewed and these modifications were not approved. A key factor in the turnaround was the adoption of the process changes supported by the software.

Interestingly, the vendor relationship changed from a confrontational one to a vendor/company partnership. With top management leadership, the business justification for the project was understood, accepted, and implemented. Details regarding these turnaround strategies are illustrated in Table 3.

	Before the Turnaround	Turnaround Strategies
Project Sponsorship	CFO and IT Manager	President and Chief Information Officer (Vice-President of IT)
Top Management Accountability	Not Involved	Top Management was evaluated based upon project performance to budget and time
Change Request Procedure	N/A	If a change in the software was requested, a committee met to evaluate the cost implications of the change
Customization	50% process modifications	0% process modifications
Project Outcomes	Not measured	Outcomes evaluated based upon profitability
Project Issues	Cost overruns Vendor problems	Project on-track Vendor partnership (corporate representative served on the executive council of the vendor)
Management Perception of the Value of the ERP System	Skeptical of value	Agreed that the project made business sense
Vendor Relationship	Contractual Relationship; Confrontational	Vendor/company Partnership; Collaborative
Organizational change	Limited; software modified to accommodate current management preferences (e.g. to keep processes the same)	Adoption of best practices

Table 3: Strategies for the Turnaround Project

CONCLUSION

Based upon the case analysis of an ERP project which was transformed from a troubled project to a successful project, a number of proactive strategies were implemented. These strategies included top management accountability, the commitment to the adoption of best practices, and the evolution of a vendor/company partnership which assured responsiveness and joint responsibility. The study has implications for practice, because it documents the importance of senior management accountability, conformance with best practices, and joint vendor/company responsibility. The study also provides ample opportunities for further research, including the use of additional case studies to identify commonly used strategies for turning about troubled projects. These strategies can be analyzed in terms of industry type, project stage, the percent of business processes affected by the ERP implementation, the business value of the investment in the ERP system, and the extent of organizational change.

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