
PART I

Introduction

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CHAPTER 1

Why Projects Fail, Scorecards, and How This Book Is Organized

Today's Environment

Since the dot-com bust in the year 2000, information technology (IT) and IT people have been under an unprecedented squeeze. Today's high-tech industry has come close to being a \$10 trillion behemoth, of which software is fully more than 25%. There was a time when software was a forgotten appendage to the mighty mainframe, but such is not the case anymore. Now software, even if only 25% of the total content, is the tail that wags the dog.

As paradigm after paradigm is changing in the high-tech landscape of our world, software is increasing in importance and is contributing more business benefits than ever before. But this is not enough.

It seems the honeymoon days for IT are over. The free rein that chief information officers (CIOs) enjoyed not too long ago are gone. Instead, we find ourselves in the midst of very tight operating conditions. In today's software environment, CIOs must:

- Reduce total cost of ownership.
- Increase value to the corporation.
- Contribute to improve bottom and top line.

And the normal things that CIOs were expected to do in addition to the top-level goals continue:

- Decrease complexity in increasingly heterogeneous environment.
- Contribute to creating a real, real-time enterprise.
- Manage resources.
- Do a lot with the little that is available.
- Produce miracles without budget growth.

The champions of IT, the CIOs and their staffs, try to deal with these issues while the project world is delivering the other messages:

- New technologies are being introduced at a more rapid rate than before.
- There are too many vendors to choose from.
- All claim to have practically the same offerings, so it is difficult to differentiate among them.
- So-called neutral consultants are too eager to take your money without contributing much value.
- Requirements are not understood. Promises are made to be broken later.
- And to make matters worse, when projects are finished, chief executive and chief financial officers complain that:
 - Expectations are not met.
 - Too much money was spent for too little return.
 - They want to sue the vendor because it failed to deliver as promised.

When a new technology is first implemented by a group of trailblazer companies, success is far from guaranteed. Success and satisfaction are seldom found in this group of companies. However, as the technology gets old and commonplace, the success rate generally goes up. In fact, the larger the company and larger the project, the more likely project failure is. The frank reality is that larger projects (more than \$3 million in application spend) routinely need harsh turn-around measures, or they get stalled and eventually killed by the weight of their own bureaucracy.

A survey published in 2001 in *Chaos News Letter*¹ has shed light on companies' success by taking the cumulative cost of failure, estimated by the Standish Group at \$145 billion, and by the Meta Group figure at \$180 billion. This amount, they believe, is the amount lost each year in the United States due to failed or challenged projects. The *Chaos* report is full of grim numbers, such as "for every 100 projects, there are 94 restarts" and "only 9% of projects for large companies come in on-time and on-budget." However, the 2004 *Chaos* report,² entitled "CHAOS Chronicles," found a total project costs to be \$255 billion, of which a total failure cost was estimated to be \$110 billion. While this is an improvement over the previous estimates, it is still a large cost of failure. And compare failure or success of a project from the perspective of the stake holders as defined by the chief stakeholders who believe that their IT investments did not give them the desired returns from their perspective.

The question is: What are the promises of technology, and how can technology deliver on those promises?

Human nature is such that first we create problems, then we search for reasons behind them, and then we try to solve them. So, having seen the current complex and heterogeneous landscape of systems, let us examine briefly the reasons for widespread failures of software projects.

A cautionary note about failure is that systems may not necessarily have failed; in the eyes of the stakeholders, however, they may not have fulfilled expectations.

Why Projects Fail

These are the messages we are getting from the media:

- Enterprise software at X Company failed to perform.
- SCM software from Y vendor failed to perform.
- Company Z is suing the vendor A for noncompliance.
- Consulting Group A was thrown out of Company B.

Here are some basic causes of these problems:

- Strategic alignment did not match the business goals.
- There were communication breakdowns.
- Up-front buy-in was not obtained.
- User involvement was inadequate.
- There were poor user inputs.
- Stakeholder conflicts existed.
- The requirements were vague.
- User requirements were not firmly nailed down.
- User requirements may have changed midway.
- Poor cost and schedule estimates existed.
- Skills did not match the job.
- There were hidden costs of going “lean and mean.”
- There was a failure to plan properly.
- Poor architecture existed.
- Failure warning signals came late.
- Company financials may have changed.
- Project manager may not have been skilled.
- The project team may have been unacceptable to management.
- The champion and executive sponsor was transferred, or left the company, or was not there.

Additional problems encountered in the field include:

- Value is not understood.
- Vendors bid without understanding the requirements well.
- Goals are not clearly and succinctly defined.
- Key performance indicators (KPIs) are neither defined nor understood.
- Change management was not practiced.
- Risk planning was not done properly.
- Most projects get initiated as automation of as-is without due business process reengineering (BPR) or to-be views.
- The quality of external consulting was poor.

It is not my intention to discuss the causes and cures here. Suffice it to say that the literature provides plentiful basic causes. The additional causes, just enumerated, constitute the main theme of this book. They will form the key factors to unleashing the quantum improvements in cost, value, and productivity. They will form the bulk of the chapters in Part II which will deal with the technologies—their features and benefits—and in Part III the complete step-wise approach to get the projects to succeed will be discussed.

Are we investing too much money in information technology and information systems? This is a question many of today's CEOs and boards of directors ponder. Until recently companies have made major investments in IT, trusting that this measure alone would increase productivity. Now decision makers are increasingly questioning whether IT projects actually create value.

Jurgen H. Daum, writing about adding value through IT investments,³ cited statistics from a survey conducted by *CFO Magazine*: Only 14% of executives state that their companies' IT investments achieved the expected return on investment (ROI), whereas 74% were unsure of whether they had spent too much money on IT in the past three years. Similarly, in June 2007, as I was talking with Ajay Agrawal, a vice president of a financial services company, he mentioned that most IT projects fail the first time they are attempted. Clearly, doubts are being raised about the benefits of IT investments, and managers are becoming more careful about giving the go-ahead to IT budgets.

These reservations are apparently warranted. According to a study published by the Gartner Group in October 2008,⁴ of the \$570 billion that flowed into IT investments worldwide, a high percentage was spent in vain. My estimate of this wasted spending is around \$246 billion. Figure 1.1 summarizes the basic reasons for the failure.

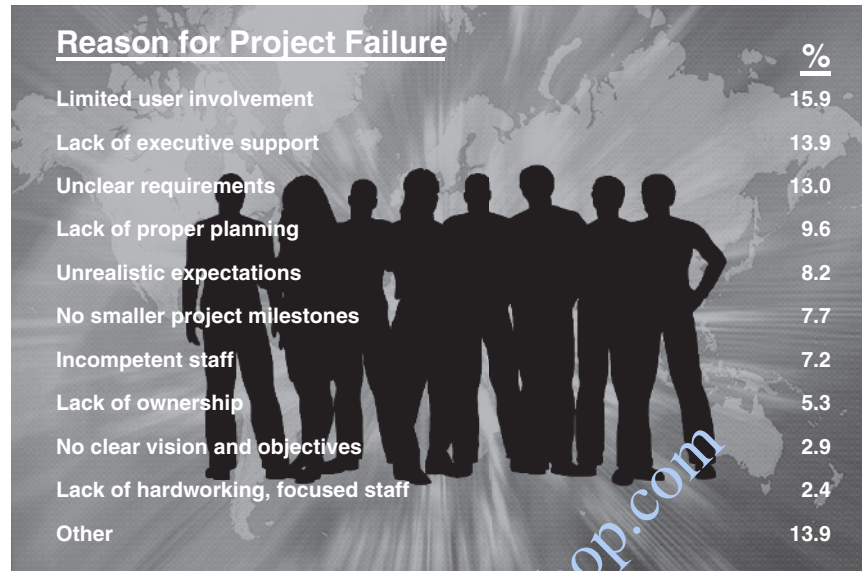


FIGURE 1.1 Why Projects Fail

Numerous studies prove this failure in IT project in particular. One important study, however, set out to understand what the projects that did succeed contribute to business performance. The survey results are discussed in the next section.

Harry's Survey

I collaborated with Harry Sakamaki of SITA Corporation to conduct a survey of companies in the United States to provide bottom-line KPIs. We selected 16 companies in the manufacturing sector representing a mix of small- to midsize and some large companies. We solicited data from their CEOs, heads of IT, and their staff. Figure 1.2 gives the highlights of this survey.

In Figure 1.2, rows 1–14 that are in the smallest type size give the KPIs with respect to systems infrastructure; KPIs in rows 15–25 represent the same of the business performance but specifically of the supply chain; the ones in rows 26–34 are the KPIs of the business performance representing the bottom lines. The improvements shown in the extreme right column are the improvement percentages of each row. Do not add these percentages; they must be looked at as the individual performance improvements.

Row No	Key Performance Indicator	Best practice improvement
1	Systems Infrastructure	
2	Rely on enterprise resource planning (ERP) system to provide analytical/business intelligence information	3%
3	Utilize additional applications such as SAP SEM, Oracle OFA, PeopleSoft EPM, Hyperion or Cognos tools	10%
4	Use spreadsheets and manual processes to provide information	5%
5	Utilize balanced Score Card/metrics	10%
6	Utilize daily key measures	5%
7	Enterprise-wide standard management reporting exists	3%
8	Analytics and business intelligence are integrated into the entire enterprise	
9		
10	Fully integrated ERP system	3%
11	Limited numbers of ERP/legacy systems with modest integration	10%
12	Disparate information systems with multiple ERP systems and applications	5%
13	Utilize balanced Scorecard and SCOR Card metrics	10%
14	No ERP; use legacy system	5%
15	Business Performance/Supply Chain Performance	
16	Increase in customer fill rate	3%
17	Increase in on-time delivery to request	10%
18	Increase in on-time delivery to commit	5%
19	Days Sales Outstanding (DSO) via increasing invoice accuracy etc.	10%
20	Increase in sales via better forecasting and production planning	5%
21	Reduce excessive inventory carrying cost	3%
22		
23	Total days of raw material	3%
24	Total days of work in process	10%
25	Total days of finished goods	5%
26	Bottom Line Business Performance	
27	Product margin improvement via increase in yield, better production planning, increase in machine uptime, etc.	3%
28	Production yield improvement by improvement plant scheduling, reducing scrap, etc.	10%
29	Production cost reduction	5%
30		
31	Reduction in head count (full-time equivalent basis)	3%
32	Cost of goods sold (COGS)	10%
33	Cash flow	5%
34	Profit	10%

FIGURE 1.2 Harry's Survey Summary

Highlights from Figure 1.2 are that bottom-line performance improvements are in the 3% to 10% range. This is a very low number. In fact, it is lower than the earlier number, which said that fully 75% of firms do not fulfill stakeholders' expectations. Whether the figure is 3% to 10% or 25%, it is clear that the success rate as measured by performance improvement is very low. I have tacitly recognized the sad state of affairs of low returns for a long time. My conversations in the field always confirmed that some regular culprits will raise their ugly heads whenever one's guard is down. When I pondered why I often succeeded in delivering values via projects yet sometimes did not, a pattern emerged. This pattern was based on the best practices I employed by design or sheer luck. This is what I want to share with you. The rest of this chapter describes the scorecards and how the major parts of this book are organized. After reading the next section, you will understand the technologies and how to create scorecards that are based on aligning investments and can drive the achievement of business performance.

Scorecards and SCOR Cards

Scorecarding technology has been around since early 1980s. First there was the Balanced Scorecard methodology, where nonfinancial processes are measured based on their impact on company performance. The term *SCOR card* is based on the supply chain operations reference model that was introduced in the mid-1990s for measuring, monitoring, and thereby driving the performance of supply chains. In my practice, I used SCOR cards very successfully. However, I grew into SCOR cards using the Balanced Scorecard. The main difference between the two is that the SCOR card is geared more specifically around the KPIs of the supply chain operations whereas regular scorecards can be applied to all enterprise operations. And best of all, I could use either scorecard to impact the development of strategy to align the IT investments with business performance. An example of the potential power of scorecards comes from a conversation I had with the president of a major automotive company in India. I had redesigned his supply chain and presented him with his company's scorecard. It would drive the implementation and huge reduction in his inventory cost. Upon hearing my presentation and reviewing the scorecard, he said, "Sam, I will hang it right behind my chair in my office so that every time any of my staff comes to see me, they see where we are, where our goals are, and who we have to beat to become the best-in-class business." The scorecard had all of that information in it. Part II of this book describes knowledge essential to creating scorecards. Part III presents case examples that show how scorecards can be developed and can drive

the development of a realistic strategy that then can be used to implement the IT investments and exploit the business benefits (i.e., the business performance).

Promise of Technology: Functionality, Key Performance Indicators, and Business Benefits

Part II explains the concepts behind the value drivers in the value chains from which KPIs can be extracted; they become the basis of functionality required and finally the planning for implementation and development of a business case to benefits exploitation. Thus Part II shows practitioners and stakeholders what is practical to get from the technology. It is divided in three chapters:

Chapter 2 Strategic Enterprise Management

This chapter examines the functionality of strategic enterprise management (SEM) in detail and discusses its benefits

Chapter 3 Supply Chain Management

This chapter examines the functionality benefits and KPIs of supply chain management (SCM). SCM impacts the bottom line the most. A 50% improvement in SCM can increase the net before taxes by as much as 100%.

Chapter 4 Product Life Cycle Management

This chapter examines the functionality, benefits and KPIs of product life cycle management (PLM). This is the application that impacts the top line the most.

Deliver on Promises: Scorecard Methodology to Align Investments to Business Performance

Part III describes scorecard methodology to align IT investments with business performance. The chapters describe all the areas and activities that have to happen to estimate the benefits and exploit them so that the promises are fulfilled. Note the activities are far more than mere project management. My 44 years of field experience in the management of large and complex projects serves as the basis for this part.

Chapter 5 Strategy

Enterprise Strategy

This chapter is about developing IT strategy that is responsive to business strategy. IT strategy formulation or

synchronizing it with the enterprise strategy is based on business goals and strengths, weaknesses, opportunities, and threats (SWOT) analysis. This chapter is the driver for KPI, benchmarking and SCOR carding, as-is and to-be modeling, and business blueprinting. It drives planning for all the activities in the realization phase, such as solution architecting, gap analysis, roll-out planning and configuring, as well as the planning for change, quality, risk, and test management, training, performance measurement, and performance tracking.

Key Performance Indicators

Key performance indicators are the measure of a business goal. Unlike most projects, which concentrate on IT-oriented KPIs, these are the business goals as extracted from the key stakeholders of the project. Remember however that there are KPIs that are action/independent variables that impact the business goals or dependent KPIs.

Benchmarking

Here the comparison is done with the best in class and average in class and the targets the company chooses for KPI (business goal) improvements.

Value/Benefits Estimating

This section provides a succinct calculation of the value contribution as derived from the SCOR card.

Business Process Reengineering

Here the workflow modeling of the as-is and to-be views of the enterprise and processes is covered.

Chapter 6 Realization Phase

Solution Architecting

Translating the business blue print to the hardware, software and network structures creates solution architecture. This solution is entirely IT-centric.

Gap Analysis

This activity pertains to determining whether there is difference between the business requirement and the selected vendors' technology functionality.

Roll-Out Planning

Various alternatives for rolling out solutions are considered. This planning is very important for a global project.

Configuration Planning

This section defines the activities of configuring processes and the ways to plan.

Chapter 7 Human Factors

Project Management

Here various models of project management are presented along with the characteristics of an ideal project manager. Critical success factors and how to do them are given. Also presented are the burning issues of the day in this discipline.

Project Champions

Project champions are the most essential people, the invisible reasons for a project's success. This section discusses how to work with them and get them interested in the project.

Business Case Development.

This section discusses all the human and political aspects of taking the business case to the stakeholders and the board to sell the project.

Chapter 8 Umbrella Considerations

Change Management

This section demonstrates how to rigorously manage the change. Most projects fail because they were not done well enough to proactively manage the change that promotes success.

Implementation Time Risk Analysis and Mitigation of Risk in Enterprise Systems.

This section shows how to estimate and eliminate risk in the various phases of the project. Recovery models are also given.

Quality Management

This section discusses quality as applied to software and explains how to establish and enforce the quality regimen.

Communications Management

This section describes how to plan and enforce the proactive communication system.

Test Plan and Test Procedures

Here we discuss various aspects of the test plan, test procedure, and test methodology through the entire life cycle of the project. This section includes validation and reviews.

Training

This section explains who to train and how much to train. Without a successful graduation from a training program, the project will not succeed.

Chapter 9 Performance Measurement

This chapter explains how to do ongoing measurement and track the KPIs. It discusses where and when KPIs should be presented to the stakeholders in order to continue to buy their support.

Chapter 10 Summary

This chapter provides the overall summary of the book.

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