

Chapter 14

Managing Projects

Section 14.4, "What are the principal risk factors in information systems projects and how can they be managed?"

There's a risk to every project—large and small. Ignore those risks and you're simply asking for failure.

There are three dimensions of project risk: size, structure, and experience with technology. Change management can diminish the potential failure rate of projects regardless of these dimensions. Many organizations' projects have failed mostly because they didn't understand the behavioral changes the new system would cause. The user-designer communication gap is a good example of a common problem that can cause an information systems project to fail.

Dimensions of Project Risk

Most managers don't like to think about risk and most make no attempt to measure it. Most managers are optimists and think about benefits. As we all know from the financial meltdown a few years back, financial managers did not seriously consider risk, and they might be fired if they did. A great many systems projects fail which could have been avoided had managers a better understanding of project risk.

Here are three dimensions of risk associated with every project:

- *Project size:* As projects grow larger, the associated risk of failure increases. It's not just technical complexity that jeopardizes large projects. The number of units and groups that will use the new system and the potential influence the project has on business processes affect risk.
- *Project structure:* Are requirements clear and straightforward or are they undefined, fluid, and constantly changing? Are users constantly changing their ideas about what the system should do? Do users even agree on what they want the new system to do?
- *Experience with technology:* Will the project team and information system staff have to learn new skills associated with the new system? If so, that will expose the project to technical problems and probably take more time to implement.

Change Management and the Concept of Implementation

Change is a given element in the business world. From mergers and acquisitions, to complete corporate purchases, to changing work processes and methodologies within the same company, change is hard on people and organizations. The introduction or alteration of an information system has a powerful behavioral and organizational impact. Change management is required to counter resistance and opposition. Change management is one of those necessary evils that keep companies in the lead or helps destroy them.

The Concept of Implementation

Implementation of a new system is *not* just about how to put the hardware and software into place. You have to address and manage people and processes to make sure they are in sync with the hardware and software. In essence you become a *change agent*. You have to convince users that the system is going to improve their world and that the new will be better than the old. If people are going to lose their jobs because of the new system or if they are going to experience a significant difference in responsibilities, you must be clear in communicating those changes to them.

The Role of End Users

Make users feel they own the new system instead of it being an enemy or something they should fear. That's why we stress user involvement through the entire development process. The new system shouldn't be a surprise on Monday morning! Familiarity doesn't always breed contempt; it should breed acceptance when it comes to new information systems.

TABLE 14-4 THE USER-DESIGNER COMMUNICATIONS GAP

USER CONCERNS	DESIGNER CONCERNS
Will the system deliver the information I need for my work?	How much disk storage space will the master file consume?
How quickly can I access the data?	How many lines of program code will it take to perform this function?
How easily can I retrieve the data?	How can we cut down on CPU time when we run the system?
How much clerical support will I need to enter data into the system?	What is the most efficient way of storing these data?
How will the operation of the system fit into my daily business schedule?	What database management system should we use?

Table 14.4 gives you good insight into the user-designer communications gap.

As a manager, your job is to bridge that gap to help ensure success of the new system. Too little discussion and communication between the techies

and the nontechnies will be apparent through design flaws and a poorly implemented project. Understand where both sides are coming from, and you'll do a better job of getting them to work together. You can never have too *much* communication.

Management Support and Commitment

If managers don't like the new system or fear it, then how in the world can you expect the workers to accept it? The best way to get managers to like, support, and fund the new system is to communicate with them every step of the way. Make sure they know what's going on. After all, managers are people too, and they have the same fears as anyone else. If management gives high priority to a project then the project will more likely be treated the same way by users.

Management support and commitment for new projects is required for these reasons:

- Creates a positive perception for both users and technical information services staff
- Ensures sufficient funding and resources are devoted to the project
- Implementing changes in work habits and procedures are easier
- Enforcing organizational realignments

Change Management Challenges for Business Process Reengineering, Enterprise Applications, and Mergers and Acquisitions

The text gives the startling fact that 70 percent of all business process reengineering projects fail to deliver promised benefits. It doesn't have to be that way. One abiding theme in most of the failures and successes is people. If the changes required by and in people are managed properly, then the success rate increases. Conversely, if people are poorly managed or, just as likely not managed at all, then the project stands a good chance of failing. The leading threats of BPR projects are:

- Dealing with fear and anxiety throughout the organization
- Overcoming resistance by key managers
- Changing job functions, career paths, and recruitment practices
- Training

In spite of the size of the information system, some kind of organizational change must take place. Even if the project involves only two people, they will have to do things differently. As projects grow in size and scope, organizational change will grow accordingly.

Remember when you got married? Or maybe you're sharing an apartment with someone. Maybe you had to move your favorite chair to another room to accommodate the other's large-size sofa. Or perhaps your microwave was different than your spouse's, therefore he had to learn a new way to operate yours. Regardless of the circumstances someone had to change the way they do things. The same thing happens in the business world when two companies merge.

The business world is fraught with examples of mergers and acquisitions that didn't work out or were not cost effective. Many of the problems can be traced to employees who didn't adapt to the changes or to poorly integrated systems. To ensure a successful merger managers must recognize:

- The realistic costs of integration
- The estimated benefits of economies in operation scope, knowledge, and time
- Any problematic systems that require major investments to integrate
- Any likely costs and organizational changes required to upgrade the IT infrastructure

Controlling Risk Factors

Identify the nature and level of risk associated with the project first. Then you can use the appropriate tools and risk-management approaches to reduce the risk of the project failing.

Managing Technical Complexity

You can use special tools to help you manage the implementation of a new information system (internal integration tools). It's important that the project leaders and team members have the appropriate level of expertise and experience in the project's technology. Otherwise, you should obtain it from outside sources.

Formal Planning and Control Tools

Automated management tools such as PERT or Gantt charts (formal planning and control tools) can also help you manage a complex project. They are extremely beneficial for scheduling events and tracking the hundreds of details involved.

Look at Figure's 14-4A, 14-4B and 14-4C below. They show the top, middle, and bottom portions of a Gantt Chart. The orange lines show the beginning,

duration, and end of each task. Organizing a project in this way can allow a manager to see what is or should be worked on at any given time

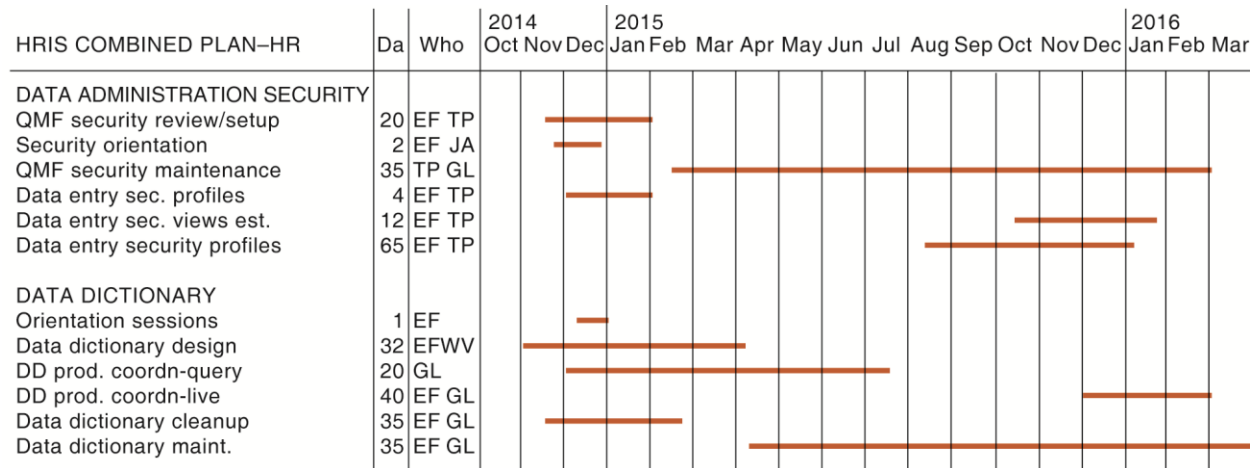


Figure 14-4A - The Gantt chart in this figure shows the task, person-days, and initials of each responsible person, as well as the start and finish dates for each task. The resource summary provides a good manager with the total person-days for each month and for each person working on the project to manage the project successfully. The project described here is a data administration project.

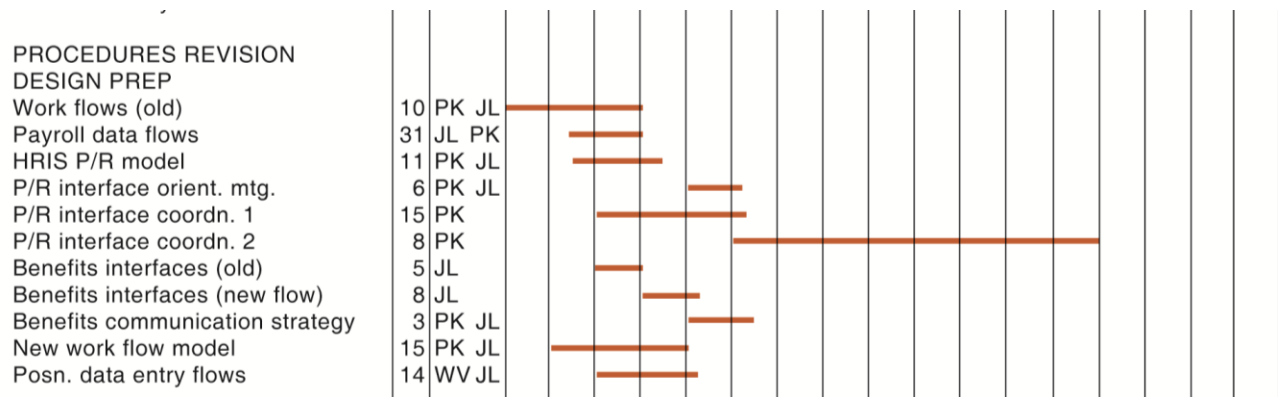


Figure 14-4B - This figure shows the middle of the Figure 14-4 Gantt chart.

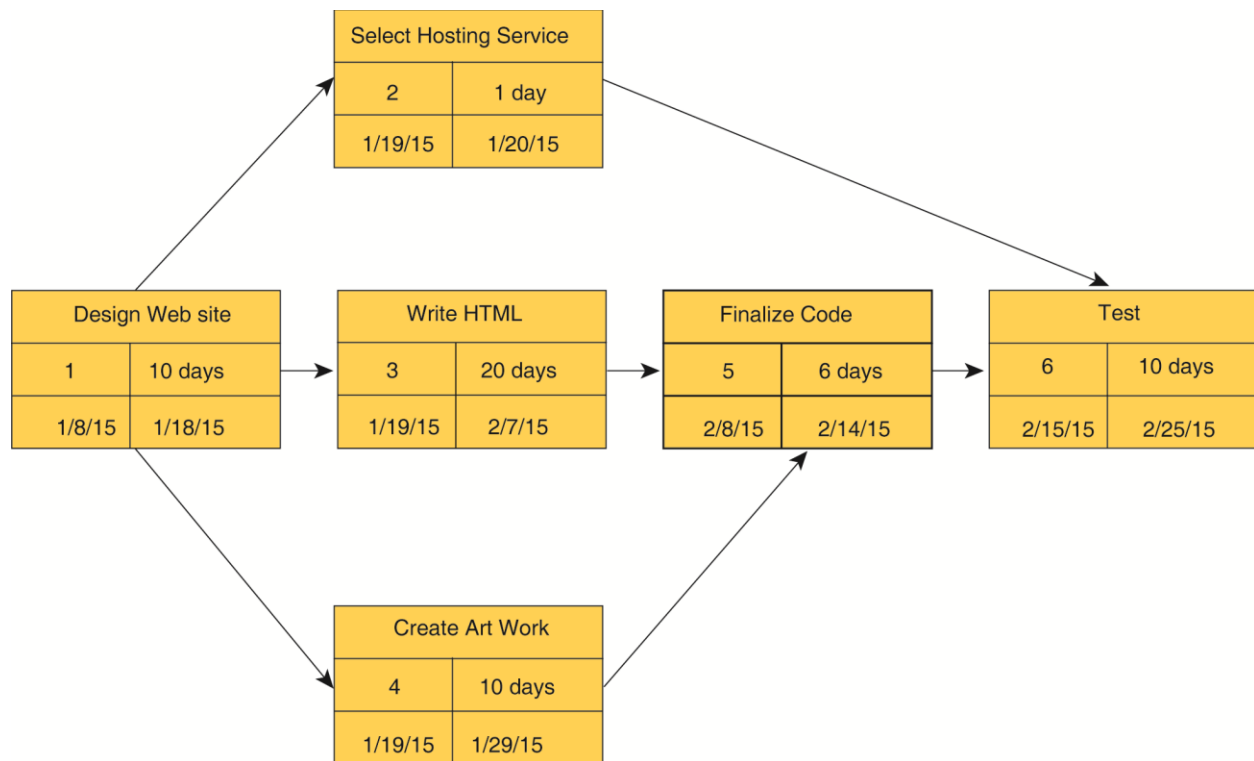


Figure 14-5 - This is a simplified PERT chart for creating a small Web site. It shows the ordering of project tasks and the relationship of a task with preceding and succeeding tasks.

Increasing User Involvement and Overcoming User Resistance

I simply can't say it enough! Get users involved from the very beginning of a project and keep them involved. Use external integration tools to keep people involved and informed. Guard against destructive, although innocent, sabotage of the system (counterimplementation). Remember, people will weigh their own needs against those of the organization. You have to make sure the two agree as much as possible.

Some of the strategies you can use to overcome user resistance include:

- User participation
- User education and training
- Management edicts and policies
- Better incentives for users who cooperate
- Improve the end-user interface
- Solve organizational problems before introducing a new system

Designing for the Organization

“Just what will this new system do for us?” That’s a very appropriate question but unfortunately, it’s often ignored. What’s in it for me (WIIFM)! Everyone seems to get caught up in the hustle and bustle of the implementation process and they forget to address basic questions about the new system. An organizational impact analysis will help answer questions about organizational structure changes, attitudes, decision making, and operations. We urge you to write down what you want the end result to be in terms of the organization. If you do so, you can use these notes as the basis for your impact analysis. The analysis can also be a great communication tool to explain to people how their jobs will be affected, to explain the changes required, and to help them plan the individual efforts required for a successful new system.

How will the new system fit into the human element? That’s the idea behind ergonomics; getting human and machine to agree and complement each other.

Sociotechnical Design

Unless you design a system that will be totally controlled and operated by robots, you must pay attention to the sociotechnical design of your system. Simply stated, this means how the technical aspects of your system will fit in with the human aspects.

Project Management Software Tools

Because project management is so difficult, there are some great software programs you can use to help you manage projects regardless of their size. The programs automate many of the mundane tasks such as defining tasks, assigning resources, establishing start and end dates, tracking progress, and creating and maintaining PERT and Gantt charts. Best of all, when one element of a project changes, it’s easy to see how other elements are affected. That will help you make better decisions about the project and keep track of the myriad of details.

If your organization has several projects in the works, managers should consider using project portfolio management software to help track the proposals and projects against budgets and resource capacity. The software also helps manage dependencies among the projects and helps executives and managers determine the optimal mix and sequencing of projects.

Summary

How well changes in an organization caused by implementation of a new system are managed can spell success or failure.

The causes of implementation success and failure are user involvement and influence, management support and commitment, controlling risk factors, and designing projects for the organization.