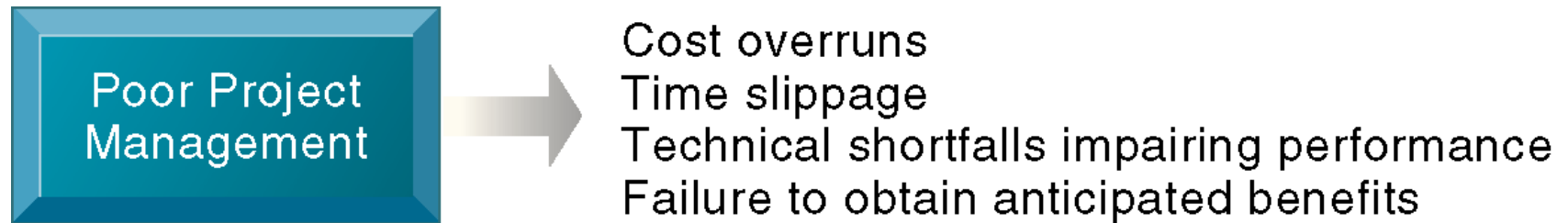


Chapter 6 - IS

Consequences of Poor Project Management



- **Without proper management,**
 - **A systems development project takes longer to complete and**
 - **Most often exceeds the allocated budget**
 - **The resulting information system most likely is technically inferior and**
 - **May not be able to demonstrate any benefits to the organization**

Selecting Projects

- **Enterprise analysis and critical success factors**
 - To develop effective information systems plan, organization must have clear understanding of:
 - Long-term information requirements
 - Short-term information requirements
 - Two principal methodologies for establishing essential information requirements of organization as a whole
 - Enterprise analysis
 - Critical success factors

Enterprise analysis (business systems pl

- Seeks to understand information requirements by examining entire organization in terms of organizational units, functions, processes, and data elements
- Helps identify key entities and attributes of firm's data
- Central method is large survey of managers on how they use information
- Results analyzed and data elements organized into logical application groups
- Disadvantages:
 - Produces enormous amount of data; expensive; time-consuming

Critical Success Factors

- Introduced by John F. Rockart and the MIT Sloan School of Management in 1979
- Developed to help senior executives
- defines the information needs for the purpose of managing their organizations [Rockart 1979]
- CSFs gathers information needs for management decision-making
- Rockart traced his CSF work to its conceptual antecedent, “success factors,” introduced by D. Ronald Daniel in 1961 & Treacy ,1982
- CSFs gets sharpened by the industry, the firm, the manager & the broader environment

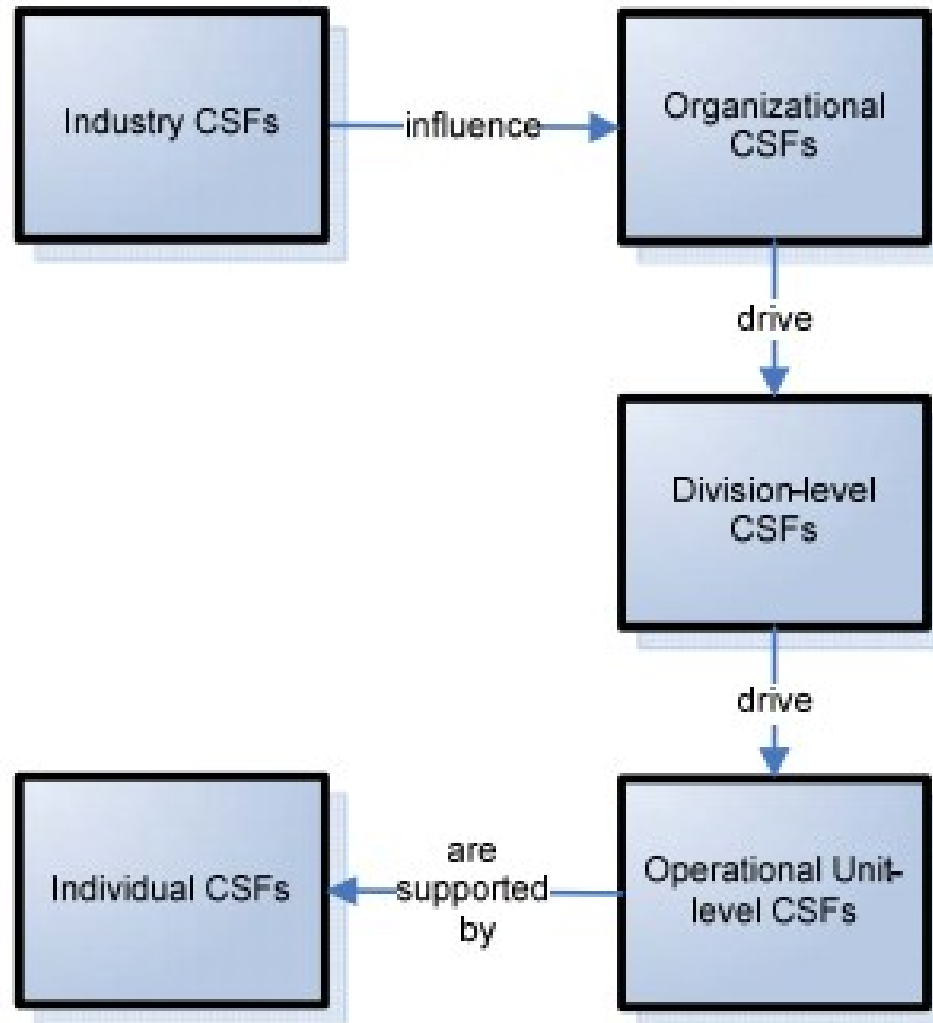
CSF characteristics

- key characteristics
 - CSF hierarchy,
 - types,
 - uniqueness, and
 - stability over time.

CSF Hierarchy

- Bullen and Rockart provide a thorough discussion of the hierarchical nature of CSFs and identify four specific levels of CSFs:
 1. Industry
 2. Organizational
 3. Division and
 4. Individual

Figure: CSF Hierarchy



CSF Types

In addition to the types of CSFs introduced by levels of management, Rockart identified five types of CSFs that reflect the way in which they contribute to the achievement of the mission:

1. the structure of the particular industry (industry CSFs)
2. competitive strategy, industry position, and geographical location (strategy CSFs)
3. the macro environment (environmental CSFs)
4. problems or challenges to the organization (temporal CSFs)
5. management perspective (management CSFs)

Critical Success Factor Method

Rockart introduced a two-phased, interview-based method that began with a discussion of an executive's goals and the underlying CSFs, followed by the development of CSF measures

Caralli offers a five-step method

- 1.define scope
- 2.collect data
- 3.analyze data
- 4.derive CSFs
- 5.analyze CSFs

CSF advantages

- CSF produces smaller data set to analyze than enterprise analysis
 - E.g. Auto industry CSFs might include styling, quality, cost
- Central method:
 - Only Interviews with top managers to identify goals and resulting CSFs
 - Personal CSFs aggregated to develop firm CSFs
- The question focuses on small number of CSFs rather than broad inquiry
- Especially suitable for top level management &
- For development of DSS & ESS
- Unlike enterprise analysis , the CSF method focuses org attention on how information should be handled

CSF disadvantages

- No clear methods for aggregation of personal CSFs into firm CSFs
- Confusion between
 - Interviewers & interviewees &
 - individual CSFs and organizational CSFs

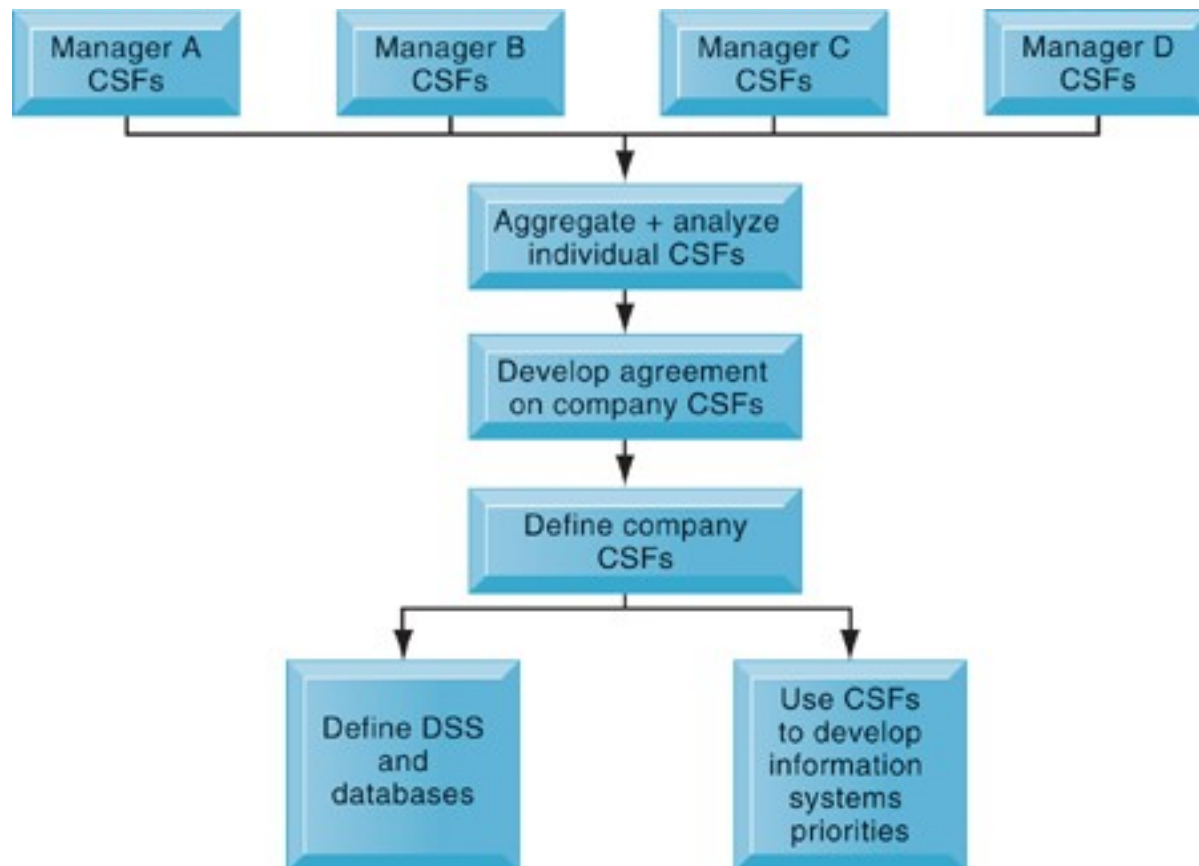
Using CSFs to Develop Systems

- The CSF approach relies on interviews with key managers to identify their CSFs.
- Individual CSFs are aggregated to develop CSFs for the entire firm.
- Systems can then be built to deliver information on these CSFs
- Furthermore, managers are asked to identify their goals & CSF that would ensure attainment of goals

Contd...

- This includes consideration of
 - competitive strategies of the firm,
 - its position in the industry &
 - its economic & political environment
- Managers are also asked to a limited number of key areas (about 5 to 10) where “ things have to go right” ,” failure would hurt the most”
- CSF can be used to develop an IT architecture & IS architecture portfolio

Figure: Using CSFs to Develop Systems



Portfolio Analysis

- Once an association has adopted a strategic plan, the next step is to convert the goals and objectives in that plan to a work plan and budget
- Portfolio analysis has been devised to help associations bridge the gap between strategy formulation and strategy implementation.

Portfolio Analysis

- Portfolio analysis is *a systematic way to analyze the products and services* that make up an association's business portfolio
- Portfolio analysis helps you decide which of these products and services should be emphasized and which should be phased out, based on objective criteria.

Portfolio analysis

- Used to evaluate alternative system projects
- Inventories all of the organization's information systems projects and assets are collected
- Each system has profile of risk and benefit
 - High-benefit, low risk
 - High-benefit, high risk
 - Low-benefit, low risk
 - Low-benefit, high risk
- To improve return on portfolio, balance

A System Portfolio

- Companies should examine their portfolio of projects in terms of potential benefits and likely risks
- Certain kinds of projects should be avoided altogether and others developed rapidly
- There is no ideal mix. Companies in different industries have different profiles

A System Portfolio

		Project Risk	
		High	Low
Potential Benefits to Firm	High	Cautiously examine	Identify and develop
	Low	Avoid	Routine projects

Scoring models

- Used to evaluate alternative system projects, especially when many criteria exist
- Assigns weights to various features of

CRITERIA	WEIGHT	SYSTEM A %	SYSTEM A SCORE	SYSTEM B %	SYSTEM B SCORE
Online order entry	4	67	268	73	292
Customer credit check	3	66	198	59	177
Inventory check	4	72	288	81	324
Warehouse receiving	2	71	142	75	150
ETC					
GRAND TOTALS			3128		3300

Portfolio analysis

advantages:

1. It encourages management to evaluate each of the organization's businesses individually and to set objectives and allocate resources for each.
2. It stimulates the use of externally oriented data to supplement management's intuitive judgment.
3. It raises the issue of cash flow availability for use in expansion and growth.

Portfolio analysis **disadvantages:**

1. It is not easy to define product/market segments.
2. It provides an illusion of scientific rigor when some subjective judgments are involved.

Dimensions of project risk

- **Level of project risk influenced by:**
 - **Project size**
 - Indicated by cost, time, number of organizational units affected
 - Organizational complexity also an issue
 - **Project structure**
 - Structured, defined requirements run lower risk
 - **Experience with technology**

System implementation benefits from

- **High levels of user involvement**
 - System more likely to conform to requirements
 - Users more likely to accept system
- **Management support**
 - Positive perception by both users and technical staff
 - Ensures sufficient funding and resources
 - Enforcement of required organizational changes

User-designer communication gap

- Users and information systems specialists tend to have different backgrounds, interests, and priorities
- Leads to divergent organizational loyalties, approaches to problem solving, and vocabularies

- **User concerns:**

- Will the system deliver the information I need for work?
- How quickly can I access the data?

- **Designer concerns:**

- How much disk storage space will the master file require?

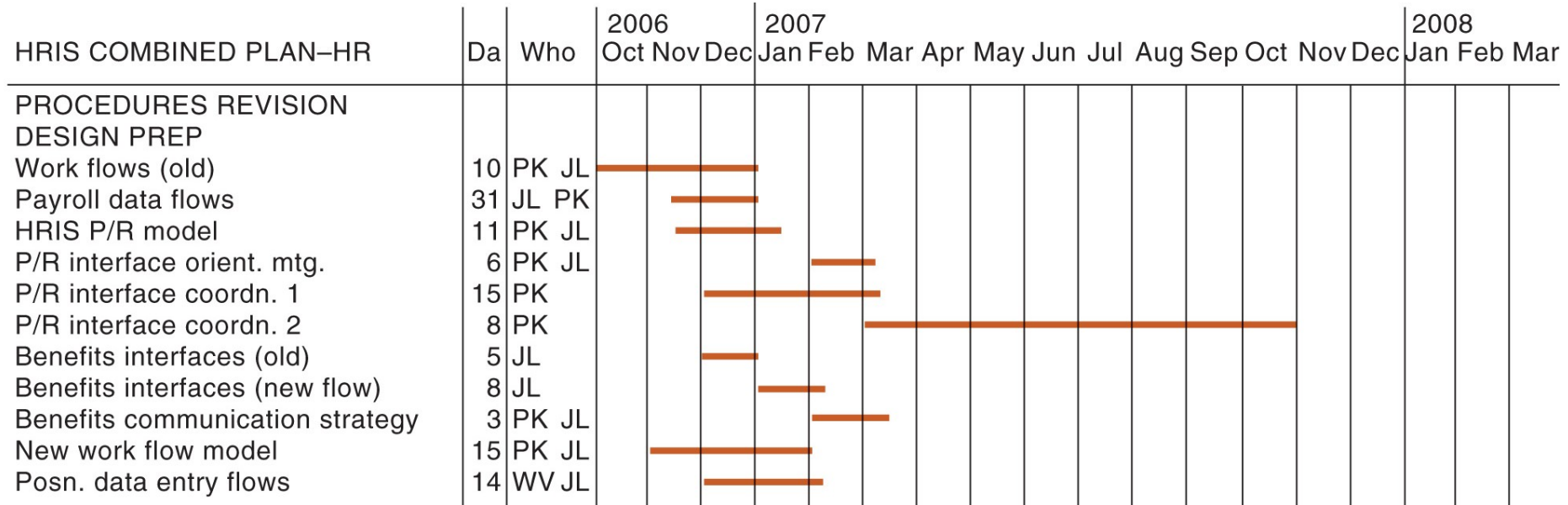
Controlling risk factors

- First step in managing project risk involves identifying nature and level of risk of project
- Each project can then be managed with tools and risk-management approaches geared to level of risk
- **Managing technical complexity**
 - **Internal integration tools**
 - Project leaders with technical and administrative experience
 - Highly experienced team members
 - Frequent team meetings
 - Securing of technical experience outside

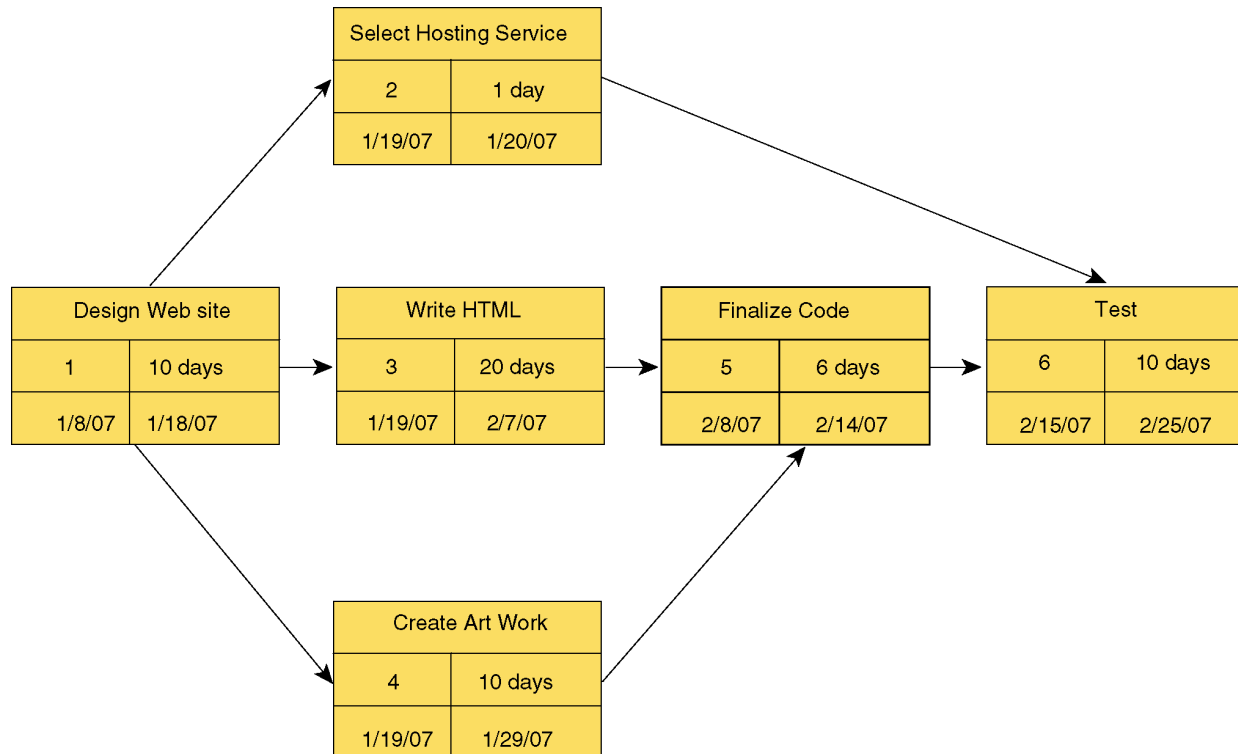
Formal planning and control tools

- Document and monitor project plans
- Help identify bottlenecks and determine impact of problems on project completion times
- Chart progress of project against budgets and target dates
- **Gantt chart**
 - Lists project activities and corresponding start and completion dates
 - Visual representation of timing of tasks and resources required
- **PERT chart**
 - Portrays project as network diagram
 - Nodes represent tasks

A Gantt Chart (cont.)



A PERT Chart



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

Increasing user involvement and overcoming user

- **External integration tools** consist of ways to link work of implementation team to users at all organizational levels
 - Active involvement of users
 - Implementation team's responsiveness to users
- User resistance to organizational change
 - Users may believe change is detrimental to their interests
 - **Counter implementation:** Deliberate strategy to thwart implementation of an information system or an innovation in an organization
 - E.g. increased error rates, disruptions,

Strategies to overcome user resistance

- User education and training
- Management edicts and policies
- Incentives for cooperation
- Improvement of end-user interface
- Resolution of organizational problems prior to introduction of new system

Getting Buy-In and ROI for CRM

- Read the Interactive Session: Organizations, and then discuss the following questions:
 - Why was the director of IT assigned the job of implementing a CRM system? Would this job be better performed by the sales manager?
 - Why were sales reps reluctant to share customer information with other sales reps? What strategies did Kirstin Johnson use to overcome user resistance? How would you recommend the firm overcome this problem?
 - What do you think the metrics for CRM success should be in a firm like this? How would you change the sales rep compensation plan to

Designing for the organization

- Information system projects must address ways in which organization changes when new system installed
 - Procedural changes
 - Job functions
 - Organizational structure
 - Power relationships
 - Work structure
- **Ergonomics:** Interaction of people and machines in work environment
 - Design of jobs
 - Health issues
 - End-user interfaces

Contd...

- **Organizational impact analysis**
 - How system will affect organizational structure, attitudes, decision making, operations
- **Sociotechnical design**
 - Addresses human and organizational issues
 - Separate sets of technical and social design solutions
 - Final design is solution that best meets both technical and social objectives

- **Project management software**
 - Can automate many aspects of project management
 - Capabilities for
 - Defining, ordering, editing tasks
 - Assigning resources to tasks
 - Tracking progress
 - Microsoft Project
 - Most widely used project management software
 - PERT, Gantt charts
 - Critical path analysis
 - Product Guide wizards
 - Enterprise Project Management Solution version

System Development & Organizational change

- IT promotes various degrees of organizational change,
- Ranging from incremental to far reaching
- Most common form of organizational change ranges from
 1. Automation
 2. Rationalization-streamlining standard operating procedures
 3. Reengineering- business process analyzed ,simplified & redesigned
 4. Paradigm shifts – in order to get very high productivity

THE IMPORTANCE OF CHANGE MANAGEMENT IN INFORMATION SYSTEMS SUCCESS AND FAILURE

Change Management and the Concept of Implementation

Change Management:

- Changes in the way that information is defined, accessed and used to manage the Organizations resources for various benefits.
- Changes breeds resistance and opposition.
- Managing it is called change management

Implementation: All organizational activities working toward the adoption, management, and routinization of a new system change agent

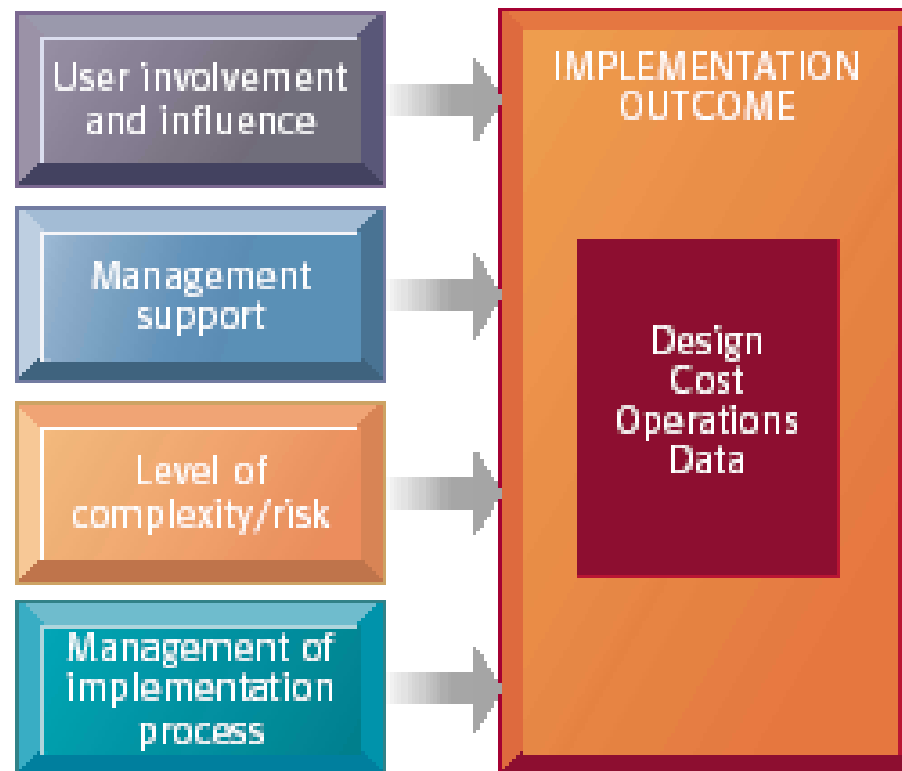
Change Management and the Concept of Implementation (Continued)

The systems analyst who develops technical solutions and redefines the configurations, interactions, job activities, and power relationships of various organizational groups

Acts as catalyst for the entire change process and is responsible for ensuring that all parties involved accept the changes created by a new system

Causes of Implementation Success and Failure

Information Systems Success or Failure Factors



User Involvement and Influence

If users are heavily involved in systems design, they have more opportunities to mold the system according to their priorities and business requirements and control the outcome.

Involved users are more likely to react positively to the completed system.

User-Designer Communications Gap:

Users can have limited understanding of other issues and solutions.

Management Support and Commitment:

Commitment of management to

An information systems project usually results in a more positive perception and acceptance by users and the technical services staff.

Management Support and Commitment: (Continued)

Management backing also ensures that a systems project receives sufficient funding and resources to be successful

All the changes in work habits and procedures and any organizational realignment associated with a new system depend on management backing

Level of Complexity and Risk

The level of project risk is influenced by:

- Project size

- Project structure

- Level of technical expertise of the information systems team

Likely Consequences of Poor Project Management:

Costs that vastly exceed budgets

Unexpected time slippage

Technical shortfalls resulting in performance that is significantly below the estimated level

Likely Consequences of Poor Project Management:

Failure to obtain anticipated benefits

Possible reasons for poor management:

Ignorance and optimism

Mythical man-month

Falling behind: Bad news travels slowly upward

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

Successful implementation includes addressing employees' concerns about change

- Resistance by key managers

- Changing job functions, career paths, recruitment practices

- Managing training

System Implications of Mergers and Acquisitions (M&As):

As are major growth engines for businesses, enabling firms to

Gain market share and expertise very quickly

Critical issues include the organizational characteristics of the merging companies and IT infrastructures

System Implementation of Mergers and Acquisitions (M&As): (Continued)

Realistic costs of integration

Estimated benefits of economies in operation, scope, knowledge, and time

Problematic systems that require major investments to integrate

More than 70 percent of all M&As result in a decline in shareholder value

Controlling Risk Factors

Managing technical complexity:

Formal planning and control tools

Increasing user involvement and overcoming user resistance

MANAGING IMPLEMENTATION

Managing technical complexity: (Continued)

External integration tools: Ways to link the work of the implementation team to users at all organizational levels

Counter implementation: Deliberate strategy to thwart the implementation of an information system or an innovation in an organization

MANAGING IMPLEMENTATION

Formal Planning and Control Tools Help to Manage Information Systems Projects Successfully

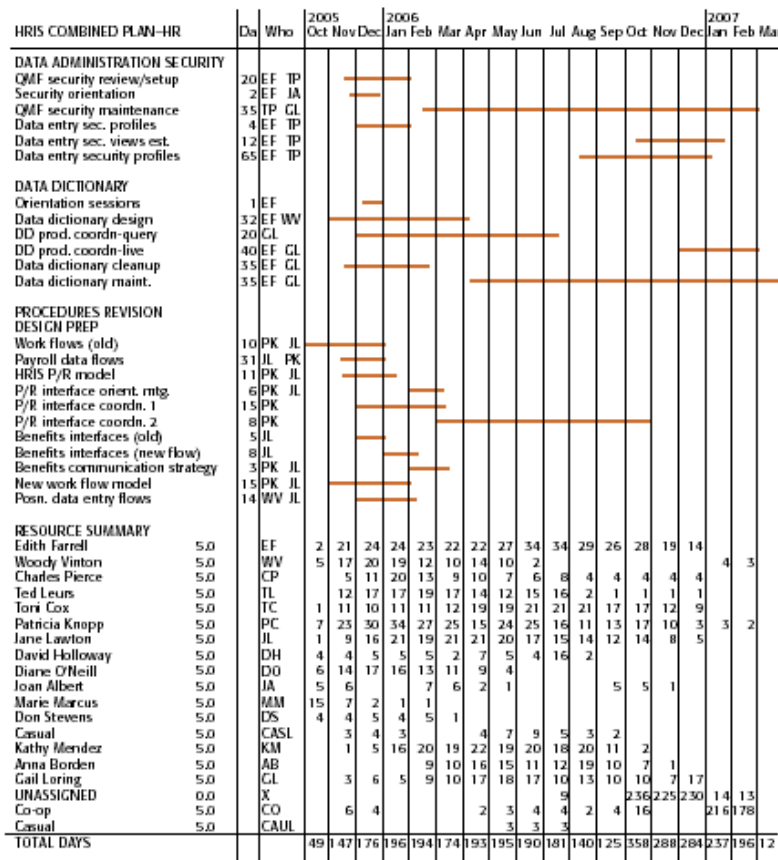


Figure 15-7

MANAGING IMPLEMENTATION

Designing for the Organization

Systems development must address how the organization will change when the new system is installed, including installation of intranets, extranets, and Web applications

Organizational impact analysis

MANAGING IMPLEMENTATION

Designing for the Organization: (Continued)

Allowing for the human factor

User performance standards

Ergonomics

MANAGING IMPLEMENTATION

Sociotechnical Design:

Explores workgroup organization and impacts from technical solutions

Blends technical efficiency with sensitivity to human and organizational needs

Raises productivity without sacrificing human and social goals

MANAGEMENT OPPORTUNITIES, CHALLENGES, AND SOLUTIONS

Management Opportunities:

New information systems can produce extraordinarily high returns if system builders can

Manage the change process and

Accurately calculate the costs and benefits of the investments

MANAGEMENT OPPORTUNITIES, CHALLENGES, AND SOLUTIONS

Management Challenges:

Determining system benefits and costs when they are difficult to quantify

Dealing with the complexity of large-scale systems projects

MANAGEMENT OPPORTUNITIES, CHALLENGES, AND SOLUTIONS

Solution Guidelines:

Obtaining more value from information technology investments:

Full documentation of the firm's applications and IT infrastructure
and periodic reviews of the firm's IT portfolio

Use of appropriate metrics for monitoring project outcomes

MANAGEMENT OPPORTUNITIES, CHALLENGES, AND SOLUTIONS

Solution Guidelines: (Continued)

Ensure IS investments are closely linked to business objectives.

Clear identification of project risks and returns, with real options analysis

Measure business value throughout the duration of new system projects and weed out underperforming projects if necessary

MANAGEMENT OPPORTUNITIES, CHALLENGES, AND SOLUTIONS

Solution Guidelines: (Continued)

New approaches to project management:

Assuming an enterprise-wide focus, driven by the firm's strategic business vision and technology architecture

Solving problems and meeting challenges as they arise rather than simply meeting formal project milestones

Emphasize learning as well as planning, seeking ways to adapt to unforeseen uncertainties and chaos that, if properly handled, could provide additional opportunities and benefits