Systems Analysis and Design

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Chapter 15: Installation and Operations

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Installation

- Be familiar with the system installation process.
- Understand different types of conversion strategies and when to use them.
- Understand several techniques for managing change.
- Be familiar with post-installation processes.

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Key Ideas

- Transitioning to new systems involves managing change from pre-existing norms and habits.

- Change management involves:
  - Unfreezing -- loosening up peoples' habits and norms
  - Moving -- transition from old to new systems
  - Refreezing -- institutionalize and make efficient the new way of doing things

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Implementing Change
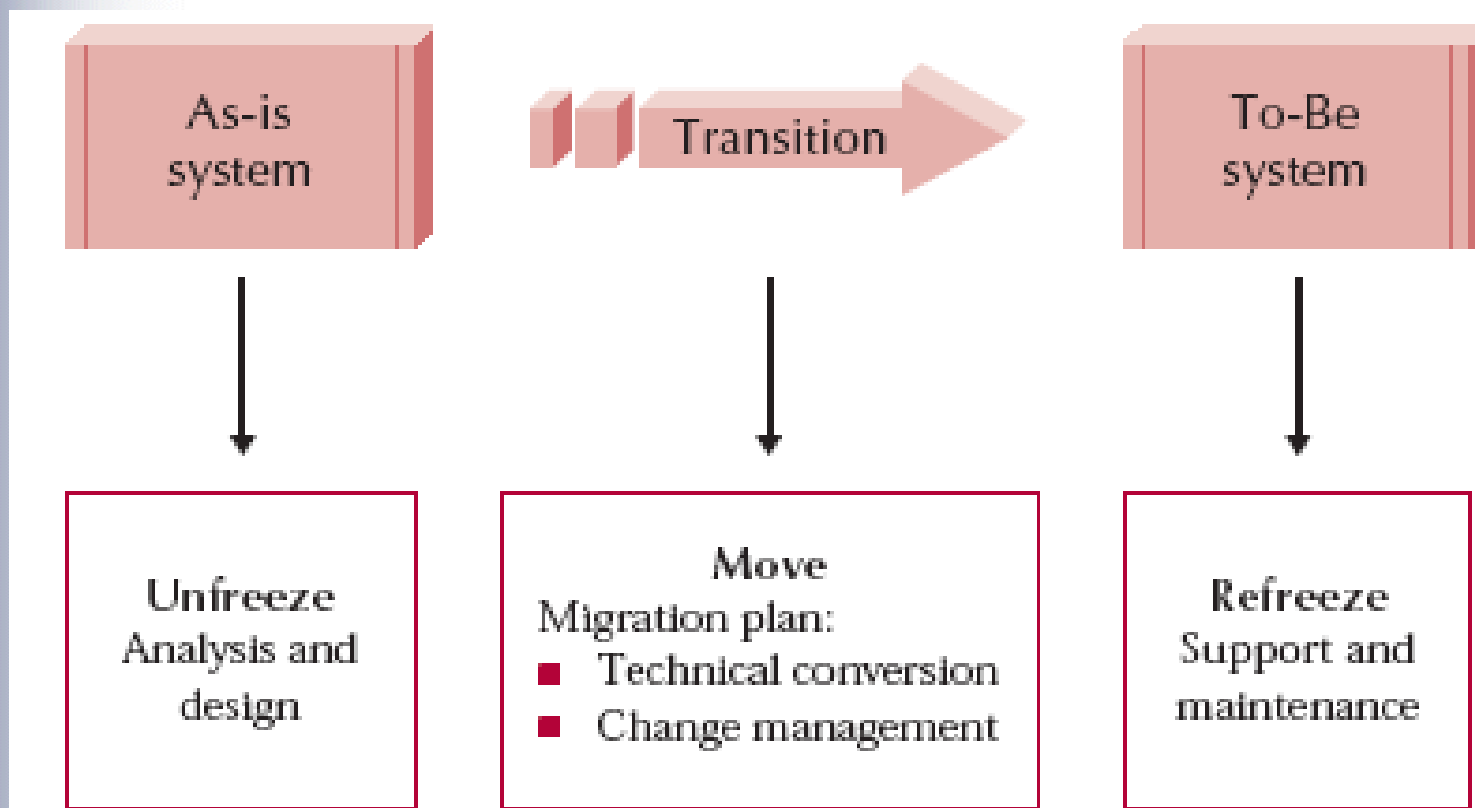
Key Ideas

- Post-implementation activities include providing:
  - System support, such as help desks
  - Systems maintenance, fixing bugs and providing improvements
  - Project assessment, learning how to improve from project experiences
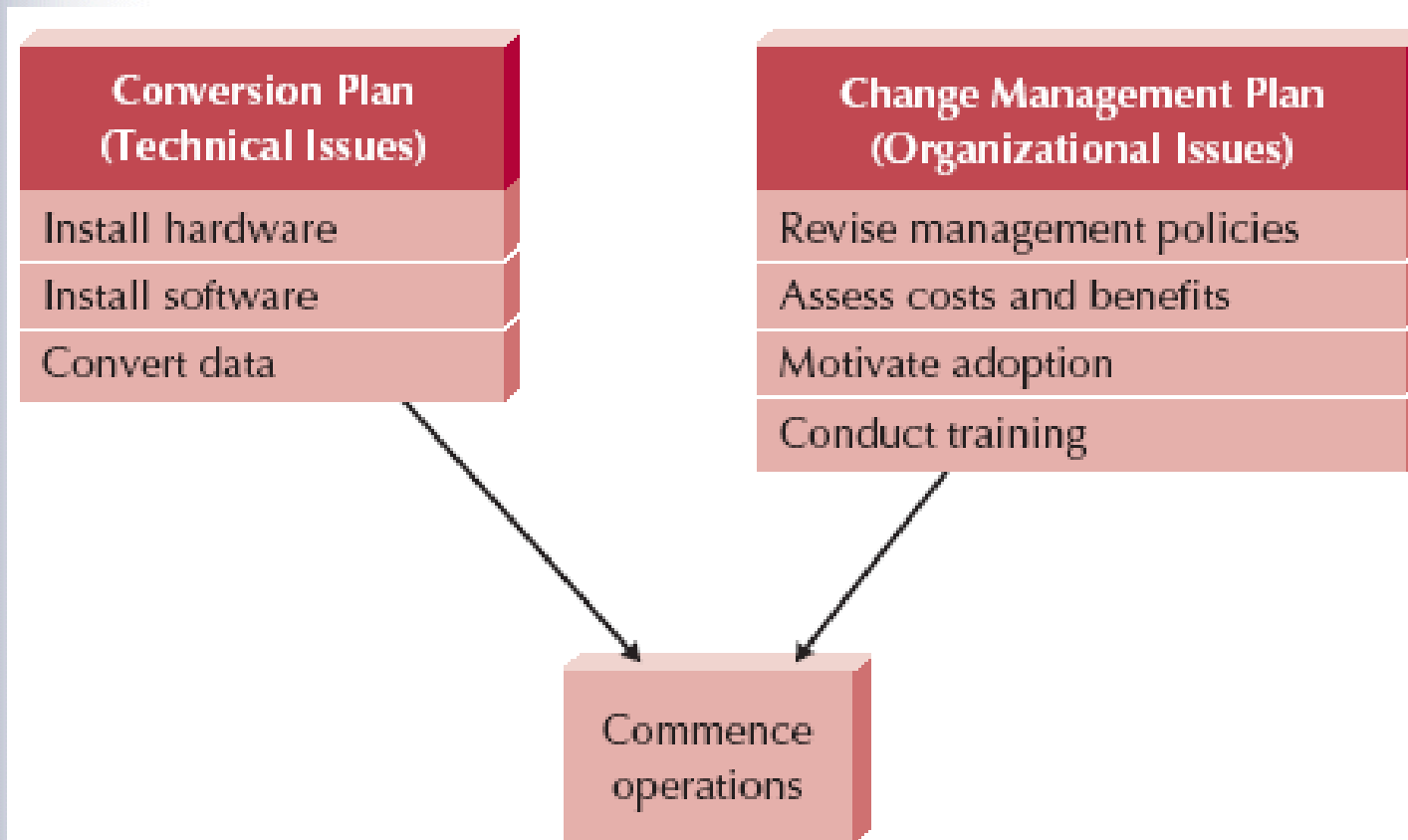
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CONVERSION

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Migration Planning

- What activities will be performed when and by whom
  - Technical aspects
    - Installing hardware and software
    - Converting data
  - Organizational aspects
    - Training users on the system
    - Motivating employees to use the new system to aid in their work

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Elements of a Migration Plan

Conversion Plan (Technical Issues)

- Install hardware
- Install software
- Convert data

Change Management Plan (Organizational Issues)

- Revise management policies
- Assess costs and benefits
- Motivate adoption
- Conduct training

Commence operations

Conversion Styles

- ## Direct conversion
  - The new system instantly replaces the old
- ## Parallel conversion
  - For a time both old and new systems are used. The old is abandoned when the new is proven fully capable

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Conversion Location

- ## Pilot conversion

  - One or more locations are converted to work out bugs before extending to other locations

- ## Phased conversion

  - Locations are converted in sets

- ## Simultaneous conversion

  - All locations are converted at the same time

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Conversion Modules

- **Whole system conversion**
  - All modules converted in one step
- **Modular conversion**
  - When modules are loosely associated, they can be converted one at a time

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Conversion Strategies

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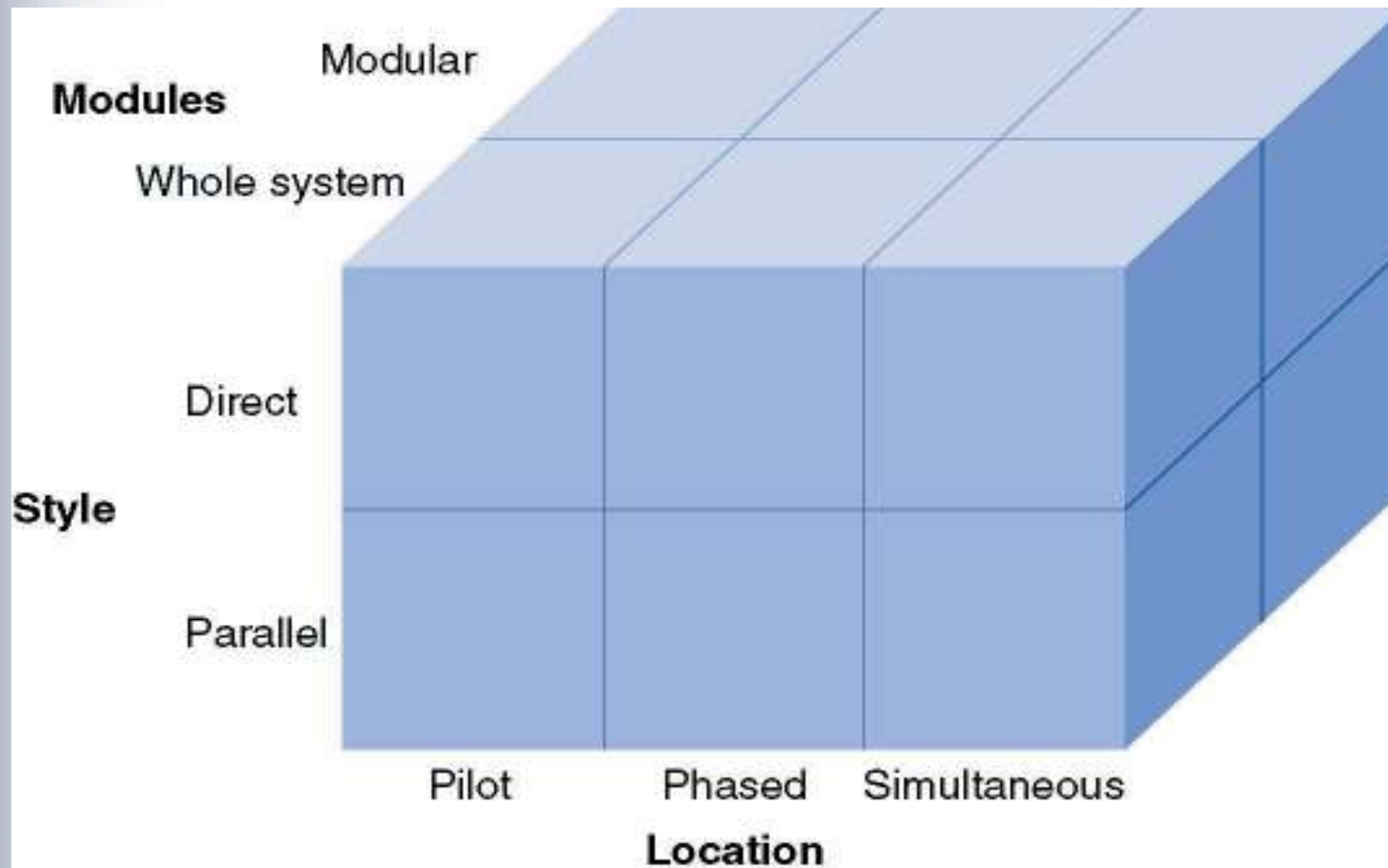
Key Factors in Selecting a Conversion Strategy

- Risk
  - Seriousness of consequences of remaining bugs
- Cost
  - Parallel requires paying for two systems for a period of time
  - Simultaneous requires more staff to support all locations
- Time
  - Parallel, phased, and modular require more time

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Characteristics of Conversion Strategies

| Characteristic | Conversion Style | | Conversion Location | | | Conversion Modules | |
	Direct Conversion	Parallel Conversion	Pilot Conversion	Phased Conversion	Simultaneous Conversion	Whole-System Conversion	Modular Conversion
Risk	High	Low	Low	Medium	High	High	Medium
Cost	Low	High	Medium	Medium	High	Medium	High
Time	Short	Long	Medium	Long	Short	Short	Long

FIGURE 15-4   Characteristics of Conversion Strategies

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Your Turn

- Suppose you are leading the conversion from one word processor to another at your university.

  - Which conversion strategy would you use?

- Suppose you are converting to a new web-based course registration system?

  - Which conversion strategy would you use for this?

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CHANGE MANAGEMENT

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Key Roles in Change Management

- The sponsor is the business person who initiated the request for the new system
- The change agent is the person(s) who lead the change effort
- The potential adopter(s) are the people who must change.

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Change Management Actors

Sponsor	Change Agent	Potential Adopters
The sponsor wants the change to occur.	The change agent leads the change effort.	Potential adopters are the people who must change.
		20–30 percent are ready adopters.
		20–30 percent are resistant adopters.
		40–60 percent are reluctant adopters.

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Understanding Resistance to Change

- What is good for the organization, is not necessarily good for the individuals who work there

- Cost versus benefit of transition as well as of to-be system

- Adapting to new work processes requires effort, for which there may be no additional compensation

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Costs and Benefits of Change
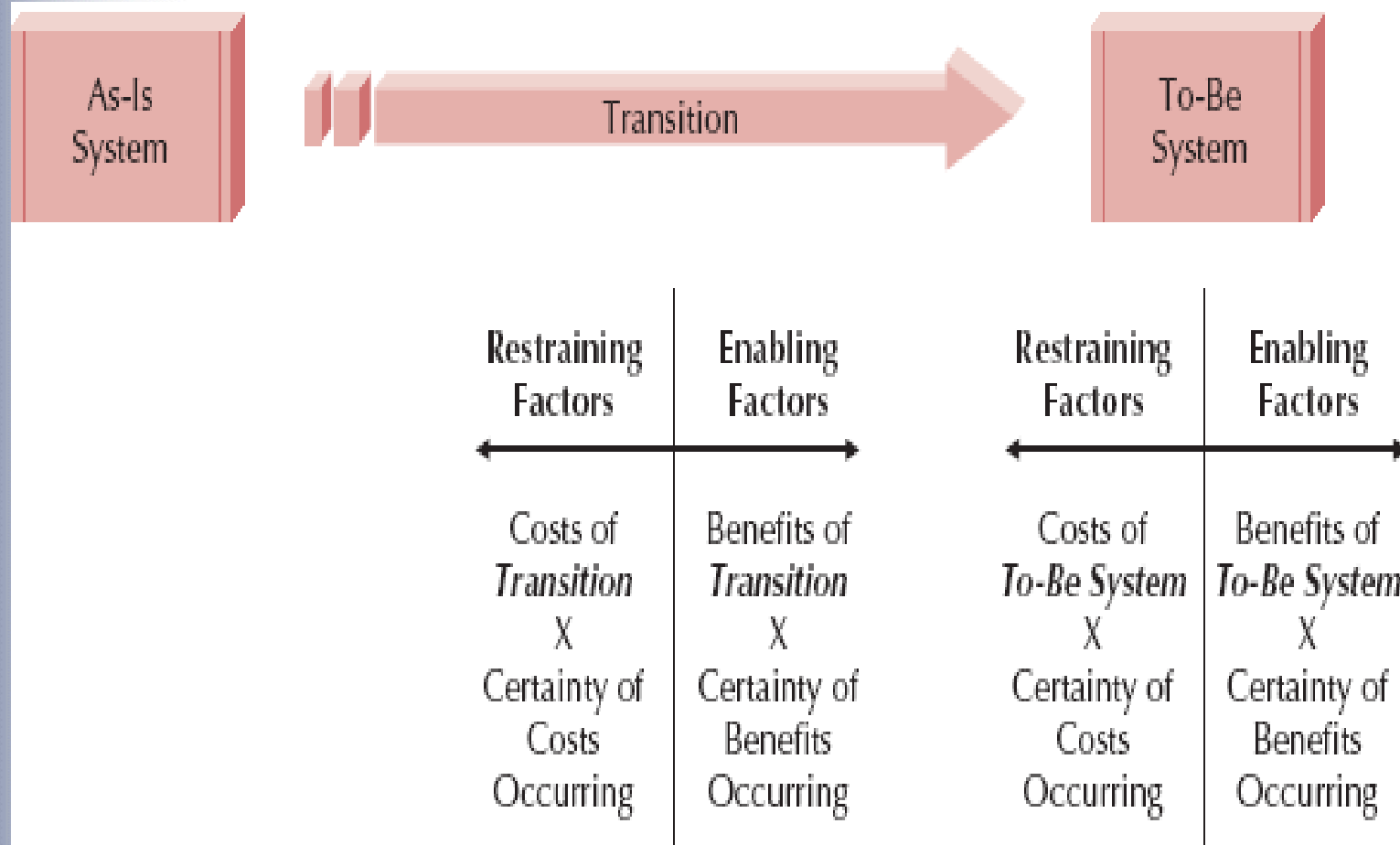
Revising Management Policies

- No computer system will be successfully adopted unless management policies support its adoption

- Management tools for supporting adoption
    - Standard operating procedures (SOPs)
    - Measurements and rewards
    - Resource allocation

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Your Turn

- Identify and explain three standard operating procedures for the course in which you are using this book

- Discuss whether they are formal or informal

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Assessing Costs and Benefits

Factors in Successful Change
Benefits of to-be system Certainty of benefits Costs of transition Certainty of costs

What Actions Will Encourage the Fullest Measure of Each Factor?

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Motivating Adoption

- The information strategy aims to convince adopters that change is better
- The political strategy uses organizational power to motivate change
- Differentiate between ready adopters, reluctant adopters, and resistant adopters

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Training

- Every new system requires new skills
- New skills may involve use of the technology itself
- New skills may be needed to handle the changed business processes

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What to Train

- Should focus on helping users accomplish their tasks

- Use cases provide an outline for common activities and a basis to plan training

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Types of Training

Types of Training
One-to-One Classroom Computer-Based

When Would You Use Each of These Training Methods?

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Selecting a Training Method

	One-on-One Training	Classroom Training	Computer-Based Training
Cost to develop	Low–Medium	Medium	High
Cost to deliver	High	Medium	Low
Impact	High	Medium–High	Low–Medium
Reach	Low	Medium	High

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POST-IMPLEMENTATION ACTIVITIES

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Institutionalization of the System

- ## Provide support
  - Assistance in using the system
- ## Provide maintenance
  - Repair or fix discovered bugs or errors
  - Add minor enhancements to provide added value
- ## Assess the project
  - Analyze what was done well
  - Discover what activities need improvement in the future

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Types of System Support

- On-demand training at time of user need
- Online support
  - Frequently asked questions (FAQ)
- Help desk
  - Phone service for known issues
  - Level 2 Support

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System Maintenance

- System maintenance is the process of refining the system to make sure it continues to meet business needs

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Sources of Change Requests

- Operations group problem reports
- User requested enhancements
- Other system development projects
- Changes in underlying systems
- Organization strategy changes

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Processing a Change Request
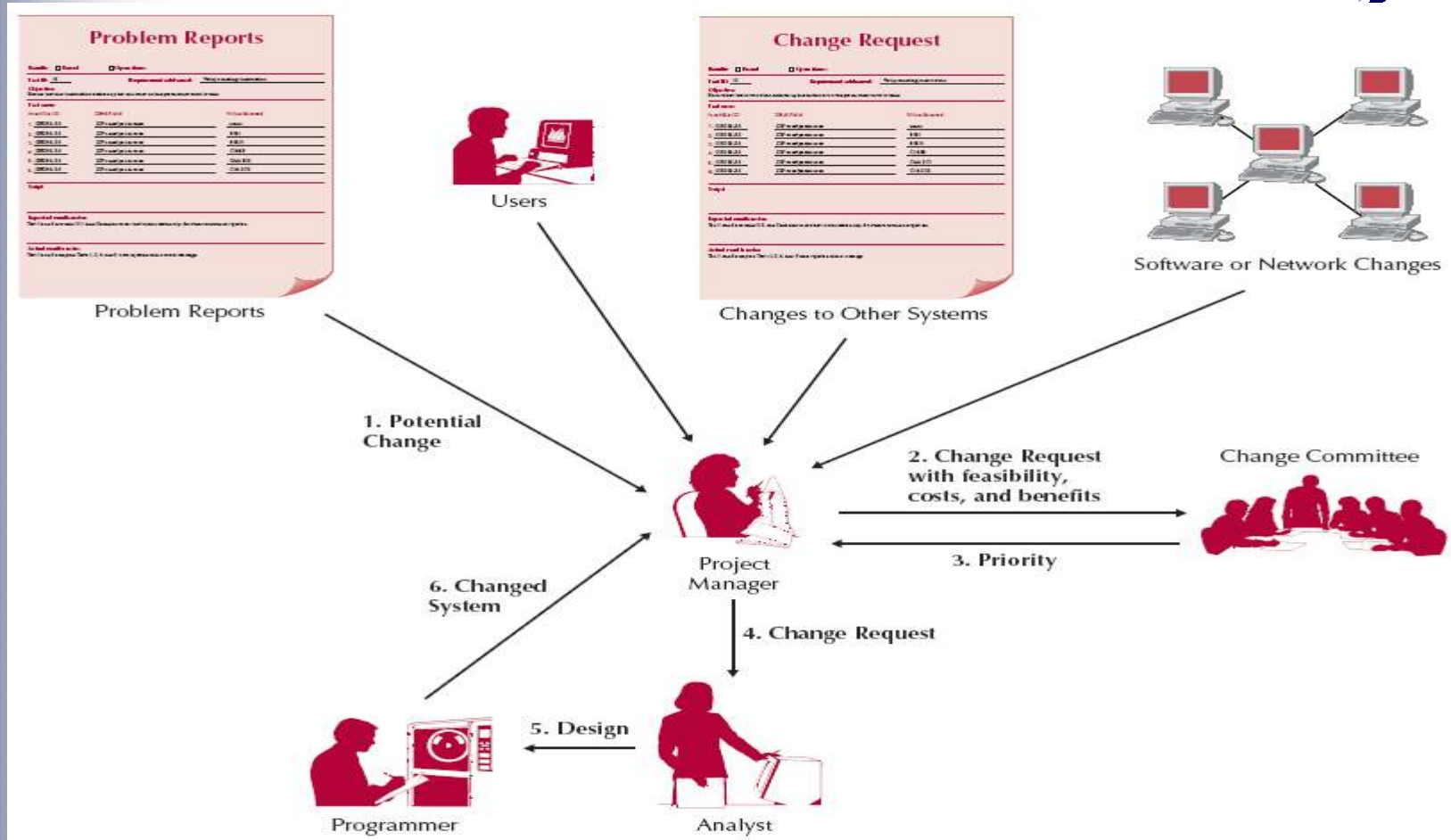
Project Assessment

- Important for continued project improvement
- Especially important for junior personnel to improve quickly

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Project Team Review

- Each member prepares 2-3 page document regarding her or his actions during the project
- Focus on improvement not penalties
- Excellent behaviors are acknowledged and diffused to others
- Team leader summarizes and distributes lessons learned

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System Review

- Examine the extent to which the costs and benefits of the system are realized

- Use this information to help in more accurately estimating costs and benefits for future projects

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CD Selections

- How did the conversion go at CD Selections?

- What did CD Selections do to aid change management processes?

- What were the post-implementation activities at CD Selections?

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Summary

- Conversion is the technical process of replacing the old system with the new one. Designers select the method, timing, and location of the conversion process.

- Change management is aimed at helping system users to adopt the new system and use it productively

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Summary

- Post implementation activities provide on-going support to users, include training people to use the system and provide participants in the development process the opportunity to learn and grow from their experiences

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Expanding the Domain

- An excellent source of information all aspects of training Computer-Based, web-based, and classroom is the American Society for Training and Development:

- *http://www.astd.org/*

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