System Analysis and Design

Eighth Edition

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Chapter 12

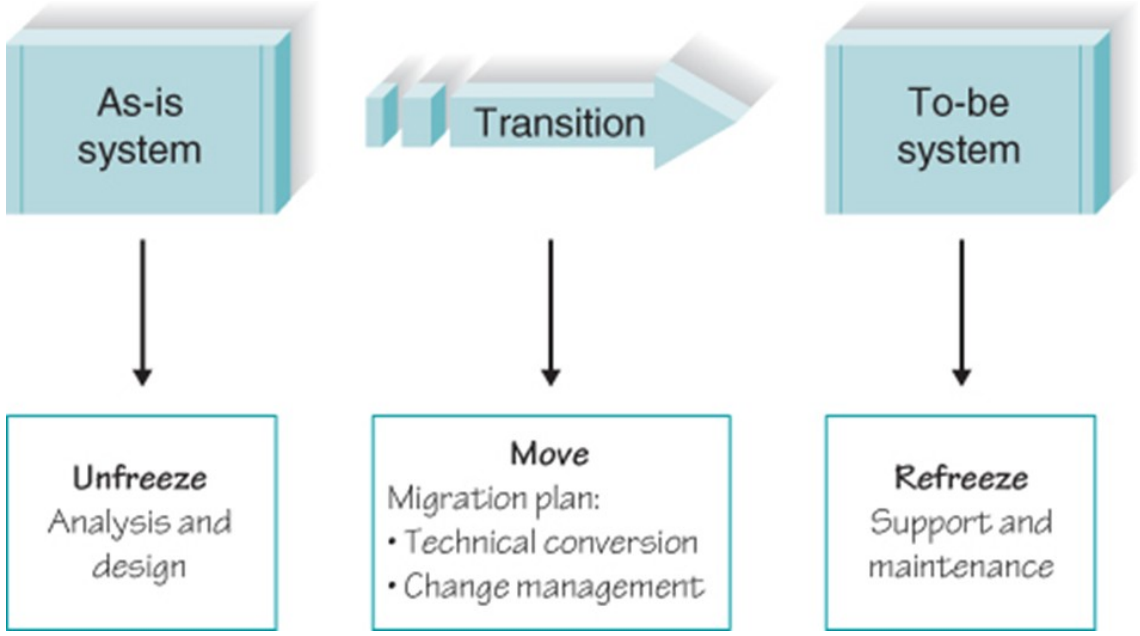
Transition to the New System

Objectives

- Explain the system installation process.
- Describe the elements of a migration plan.
- Explain different types of conversion strategies and when to use them.
- Describe several techniques for managing change.
- Outline postinstallation processes.

Making the Transition to the New System

- 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



The Migration Plan

- 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

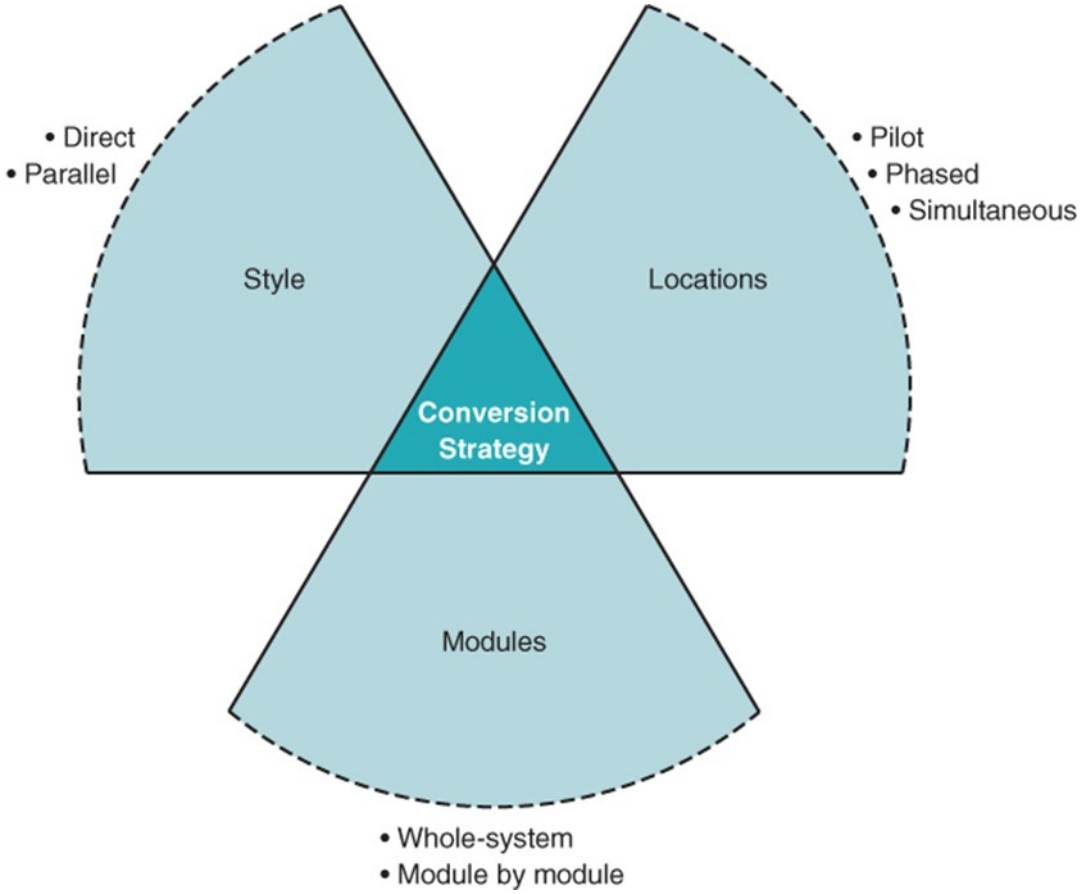
Migration Plan		
Preparing the Business	**Preparing the Technology**	**Preparing the People**
☑ Select a conversion strategy.	☑ Install hardware.	☑ Revise management policies.
☑ Prepare a business contingency plan.	☑ Install software.	☑ Assess costs and benefits.
	☑ Convert data.	☑ Motivate adoption.
		☑ Conduct training.

Business Contingency Plan

- What do we do if things go very wrong during conversion?
  - Technical glitches may occur during the transition
  - Is the old system still available?
  - If not, how do we keep the business running?
  - Can manual procedures be used for a short time?
- Be prepared for the worst-case scenario!
  - Think about the consequences of being unable to operate normally…lost sales, unhappy customers… could we stay afloat?

Selecting the Conversion Strategy

- The process by which the new system is introduced into the organization is called the ***conversion strategy***
- Those implementing this strategy must consider:
  1. How abruptly the change is made (the ***conversion style***)
  2. The organizational span of the introduction (***conversion locations***)
  3. The extent of the system that is introduced (***conversion modules***)



Conversion Style

- Direct conversion
  - The new system instantly replaces the old
- Parallel conversion
  - A more gradual introduction
  - For a time both old and new systems are used
  - The old is abandoned when the new is proven fully capable
  - Reduces risk by providing the organization with a fallback position if major problems are encountered with the new system

Conversion Locations

- Pilot conversion
  - One or more locations are converted to work out bugs before extending to other locations
  - Has the advantage of limiting the effect of the new system to just the pilot location
  - Must be able to tolerate different locations using different systems and business processes for a certain length of time
- Phased conversion
  - Locations are converted in sets
  - Sometimes there is a deliberate delay between the phases, so that any problems with the system are detected before too much of the organization is affected
- Simultaneous conversion
  - All locations are converted at the same time

Conversion Modules

- It may be desirable to decide how much of the new system will be introduced into the organization at a time
- When the modules within the system are separate and distinct, organizations may convert to the new system one module at a time, using modular conversion
- Whole system conversion
  - All modules converted in one step
- Modular conversion
  - When modules are loosely associated, they can be converted one at a time

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

Determining a Conversion Strategy: Risk

- To minimize risk…
  - Parallel conversion style
  - Pilot conversion location
  - Conversion by modules
- Riskiest conversion strategy:
  - Direct conversion style
  - Simultaneous conversion location
  - Conversion of whole system

Determining a conversion strategy: Cost

- To minimize cost…
  - Direct conversion style
  - Pilot or phased conversion location
  - Conversion of whole system
- Highest cost conversion strategy:
  - Parallel conversion style
  - Simultaneous conversion location
  - Conversion of modules

Determining a Conversion Strategy: Time

- To minimize time…
  - Direct conversion style
  - Simultaneous conversion location
  - Conversion of whole system
- Longest time conversion strategy:
  - Parallel conversion style
  - Phased conversion location
  - Conversion of modules

Summary 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

Preparing a Business Contingency Plan

- With new systems, it is appropriate to always expect the worst
- Keeping small technology glitches in the new system from turning into major business disasters is known as business contingency planning
- One of the limitations of problem prevention through perfect project management techniques is the constant pressure of budget constraints and limited time that most projects face

Preparing the Technology

- There are three major steps involved in preparing the technical aspects of the new system for operations:
  1. Install the hardware
  2. Install the software
  3. Convert the data
- Although it may be possible to do some of these steps in parallel, they usually must be performed sequentially at any one location
- Data conversion is usually the most technically complicated step in the migration plan

Preparing People for the New System

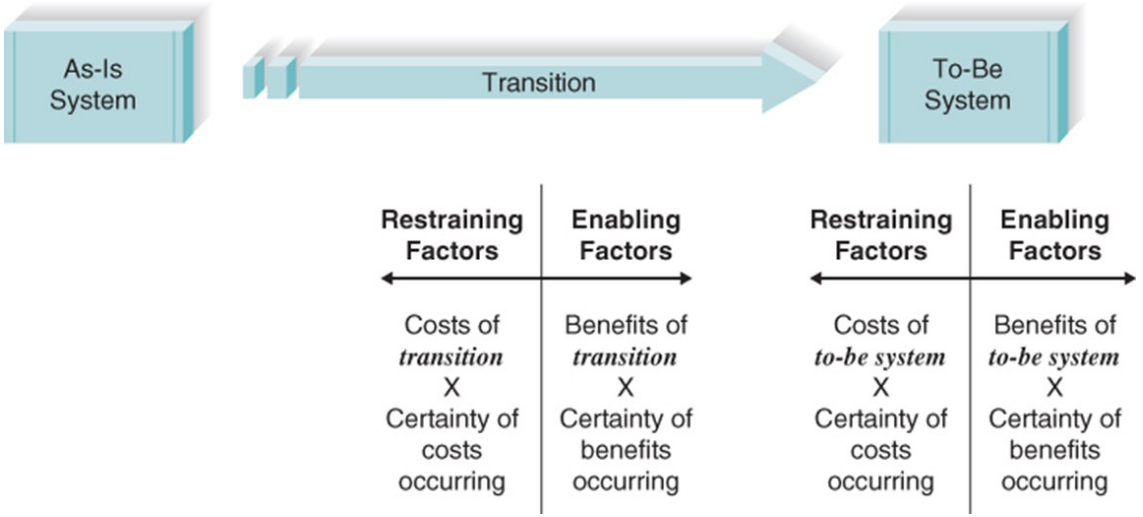
- The ***sponsor*** is the business person who initiated the request for the new system
- The ***change agent*** is the person(s) who lead the change effort
- The ***potential adopter(s)*** are the people who must change

Steps in Change Management

1. Revise management policies
2. Assess costs and benefits models of potential adopters
3. Motivate adoption
4. Enable people to adopt

Understanding Resistance to Change

- Even changes that benefit an organization do not necessarily benefit each individual
- Adapting to new work processes requires effort, for which there may be no additional compensation



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
- SOPs become the habitual routines for how work is performed
- Measurements explicitly define meaning because they provide clear and concrete evidence about what is important to the organization
- Rewards reinforce measurements because “what gets measured gets done”

Assessing Costs and Benefits

- The next step in developing a change management plan is to develop two clear and concise lists of costs and benefits provided by the new system
  - The first list is developed from the perspective of the organization
  - The second list of costs and benefits is developed from the viewpoints of the different potential adopters expected to change, or stakeholders in the change
- An analysis of the costs and benefits for each set of potential adopters or stakeholders will help pinpoint those who will likely support the change and those who may resist the change
- There must also be a compelling reason for the organization to need the change
- The likelihood of successful change is increased when the cost of the transition to individuals who must change is low

Motivating Adoption

- The single most important factor in motivating a change is providing clear and convincing evidence of the need for change
- There are two basic strategies to motivating adoption: informational and political
  1. With an informational strategy , the goal is to convince potential adopters that the change is for the better
  2. With a political strategy, organizational power, not information, is used to motivate change
- Both strategies are often used simultaneously

Change Management Planning

- Potential adopters generally are:
  - 20-30% Ready adopters
  - 20-30% Resistant adopters
  - 40-60% Reluctant adopters
- Strategies should focus on supporting and encouraging ready adopters and helping them win over the reluctant adopters
- ‘Ignore’ the resistant adopters

Enabling Adoption: 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

More on Training

- What to train:
  - IT specialists tend to focus training around system features
  - Instead, focus on helping users accomplish their tasks
  - Use scenarios provide an outline for common activities and a basis to plan training
- Types of training
  - Classroom
  - One-on-one
  - Computer-based

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

Postimplementation Activities

- 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

System Support

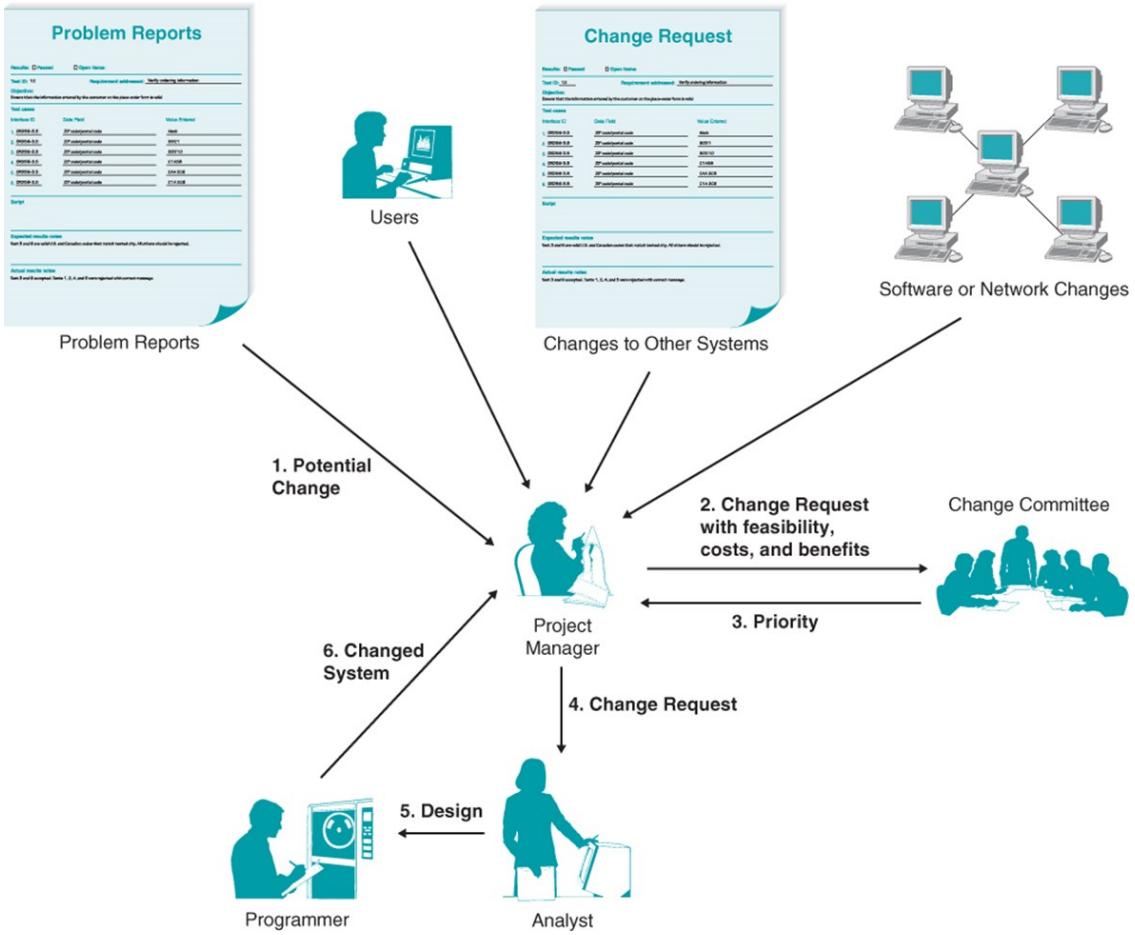
- Once the project team has installed the system and performed the change management activities, the system is officially turned over to the operations group.
- This group is responsible for the operation of the system, whereas the project team is responsible for the development of the system
- On-demand training at time of user need
- Online support
  - Frequently asked questions (FAQ)
- Help desk
  - Phone service for known issues
  - Level 1 Support – Broad knowledge
  - Unresolved issues passed to Level 2 Support – specialists in the application system

Elements of a Problem Report

- Time and date of the report
- Name, e-mail address, and telephone number of the support person taking the report
- Name, e-mail address, and telephone number of the person who reported the problem
- Software and/or hardware causing the problem
- Location of the problem
- Description of the problem
- Action taken
- Disposition (problem fixed or forwarded to system maintenance)

System Maintenance

- Problem reports from the operations group
- Requests for enhancements from users
- Requests from other systems development projects
- Change requests from senior management



Project Assessment

- Important for continued project improvement
  - Were cost estimates accurate?
  - Did expected benefits actually materialize?
  - Was this project really worth doing?
- Especially important for junior personnel to improve quickly

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

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

Chapter Review

- Identify and describe Lewin’s three-step model of organizational change.
- Explain how the activities of systems analysis and design help with the unfreezing process.
- What is the purpose of the migration plan?
- Identify and describe the three dimensions of the conversion strategy and how choices made will impact the cost, time, and risk of conversion.
- Discuss the role and importance of business contingency planning during system migration.

Chapter Review Continued

- Identify and discuss the main reasons underlying people's resistance to change.
- Identify and describe ways to overcome resistance to change.
- Discuss the role and purpose of postimplementation support.
- Describe the sources of change requests.
- Discuss the best way to provide ongoing system maintenance.
- Discuss what is gained from conducting a post-project review?

Key Terms

- Business contingency plan
- Change agent
- Change management
- Change request
- Classroom training
- Computer-based training (CBT)
- Conversion location
- Conversion modules
- Conversion strategy
- Conversion style
- Direct conversion
- Frequently asked questions (FAQs)
- Help desk
- Informational strategy
- Installation
- Institutionalize
- Level 1 support
- Level 2 support
- Management policies
- Measurements
- Migration plan
- Modular conversion
- One-on-one training
- On-demand training
- Online support
- Operations group

Key Terms Continued

- Parallel conversion
- Phased conversion
- Pilot conversion
- Political strategy
- Postimplementation
- Potential adopter
- Problem report
- Project assessment
- Project team review
- Ready adopters
- Refreeze
- Reluctant adopters
- Resistant adopters
- Resource allocation
- Rewards
- Simultaneous conversion
- Sponsor
- Standard operating procedures (SOPs)
- System maintenance
- System request
- System review
- System support
- Training
- Transition
- Unfreeze
- Whole-system conversion