System Documentation Deployment and Maintenance

Lecture 23

Documentation

Includes

- Analysis document

- Design document design

- Operations documentation
  - Input files and where they originate; and output files and destinations
  - E-mail and report distribution lists
  - Special forms required, including online forms

- Test documenta

- User Document user manuals, Help screens, and tutorials

Management Approval

After system testing is complete,

- One need to present the results to management

- describe the test results
- update the status of all required documentation,
- summarize input from users who participated in system testing

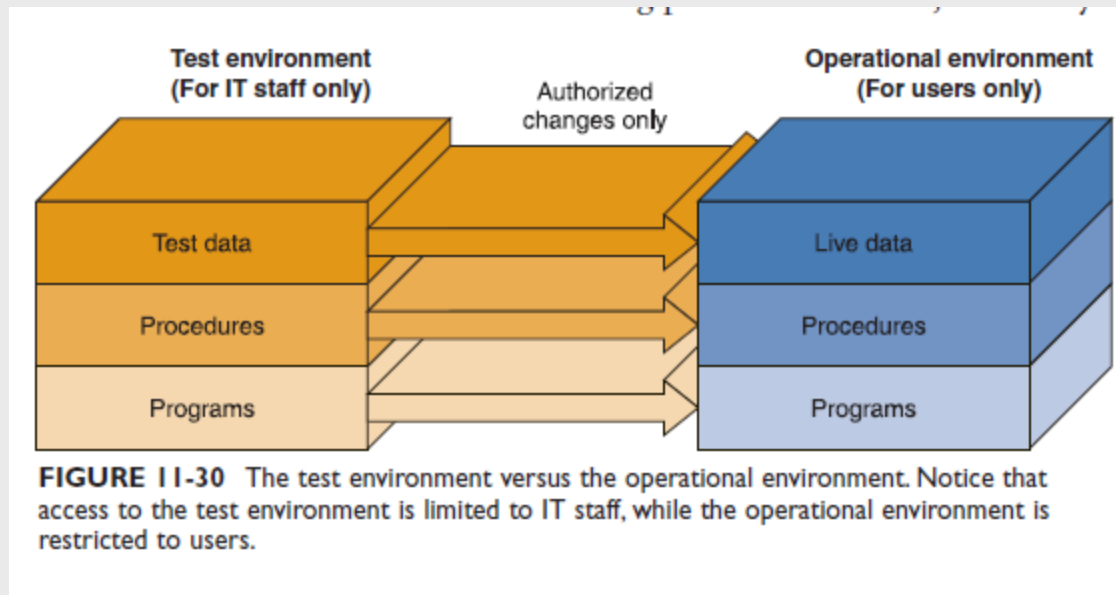# System installation and Evaluation

After approval one need to

- Prepare a separate operational and test environment
- Provide training for users, managers, and IT staff
- Perform data conversion and system changeover
- Carry out a post-implementation evaluation of the system
- Present a final report to management

System installation and Evaluation

- Prepare a separate operational and test environment

FIGURE 11-30 The test environment versus the operational environment. Notice that access to the test environment is limited to IT staff, while the operational environment is restricted to users.

System installation and Evaluation

Perform data conversion

- During data conversion, existing data is loaded into the new system.

- Depending on the system, data conversion can be done before, during, or after the operational environment is complete

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System installation and Evaluation
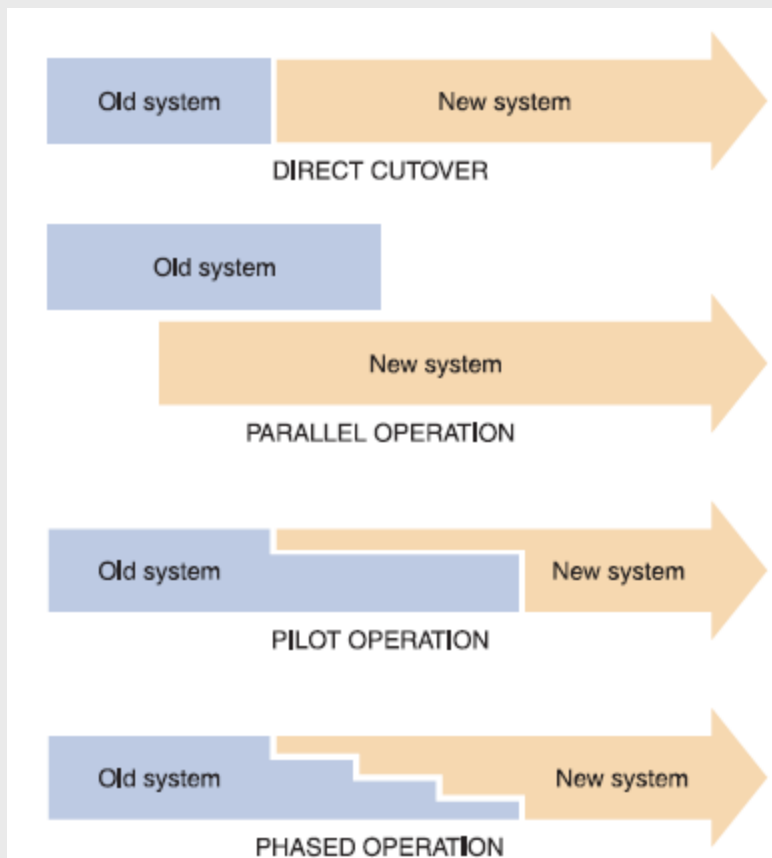
Perform system chnageover

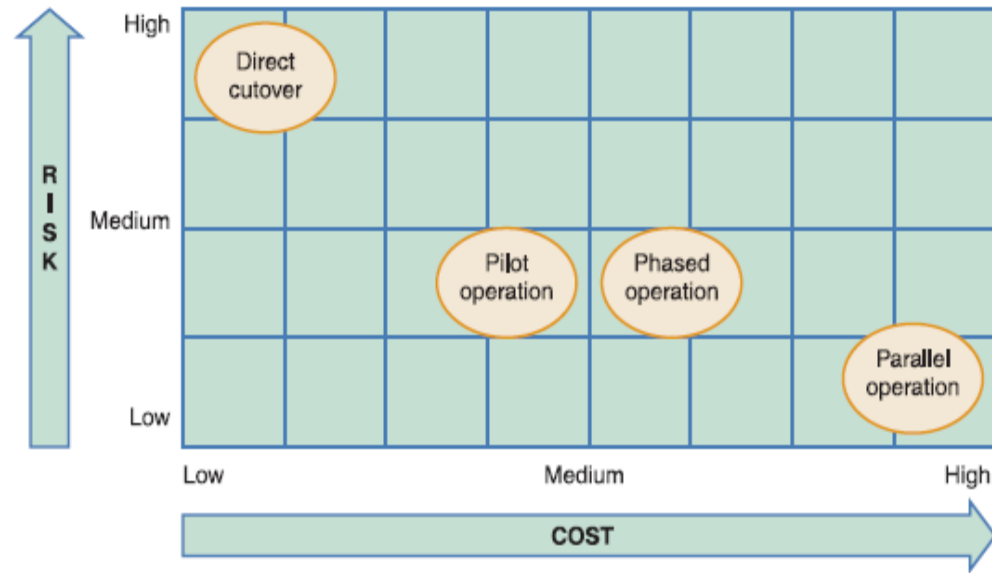FIGURE 11-39 The four system changeover methods.

FIGURE 11-40 Relative risk and cost characteristics of the four changeover methods.

Topic in this class

- Maintenance Practice
- Training
- Security and Privacy
- Total quality management

Maintenance Practices

- **Reduce** maintenance costs.
- **Improve** the existing software.
- **Update** software in response to the changing organization.
- **Ensure** channels for feedback.

Auditing

- Having an expert who is not involved in setting up or using the system examine information in order to ascertain its reliability

- There are internal and external auditors.

- Internal auditors study the controls used in the information system to make sure that they are adequate.

- External auditors are used when the information system processes data that influences a company's financial statements.

Training

- Who to train
- People who train users
- Training objectives
- Training methods
- Training sites
- Training materials

Who to Train

- All people who will have primary or secondary use of the system

- Ensure that users of different skill levels and job interests are separated.

People Who Train Users

- Vendors
- Systems analysts
- External paid trainers
- In-house trainers
- Other system users

Appropriate Training Objectives, Methods, Sites, and Materials Are Contingent on Many Factors

Elements	Relevant Factors
Training Objectives	Depend on requirements of user's job
Training Methods	Depend on user's job, personality, background, and experience; use combination of lecture, demonstration, hands-on, and study
Training Sites	Depend on training objectives, cost, availability; free vendor sites with operable equipment; in-house installation; rented facilities
Training Materials	Depend on user's needs; operating manuals, cases, prototypes of equipments and output; online tutorials

Security Concerns

- **Physical** security
- **Logical** security
- **Behavioral** security

Security Concerns

- Physical security is securing the computer facility, its equipment, and software through physical means.

- Logical security refers to logical controls in the software itself.

- Behavioral security is building and enforcing procedures to prevent the misusing of computer hardware and software.

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Special Security Considerations for Ecommerce

- Virus protection software

- Email filtering products

- URL filtering products

- Firewalls, gateways, and virtual private networks

- Intrusion detection products

Special Security Considerations for Ecommerce

- Vulnerability management products
- Security technologies such as secure socket layering (SSL) for authentication
- Encryption technologies
- Public key infrastructure (PKI) use and obtaining a digital certificate

Privacy Considerations for Ecommerce

- Start with a corporate policy on privacy.
- Only ask for information required to complete the transaction.
- Make it optional for customers to fill out personal information on the Web site.

Privacy Considerations for Ecommerce

- Use sources that allow you to obtain anonymous information about classes of customers.
- Be ethical.

Disaster Recovery Planning

- Identify teams responsible for managing a crisis.

- Eliminate single points of failure.

- Determine data replication technologies that match the organization's timetable.

- Create detailed relocation and transportation plans.

Disaster Recovery Planning

- Provide recovery solutions that include an off-site location.

- Ensure the physical and psychological well-being of employees and others.

Disaster response decisions and responsibilities

- Whether business operations will continue
- How to support communications
- Where people will be sent if the business is uninhabitable
- Where personnel will go in an emergency
- Addressing personal and psychological needs
- Restoring computing and working environments

Single Points of Failure and Data Replication Technologies

- Redundancy of data provides the key for servers running Web applications

- Storage area network (SANs) and data mirroring (synchronous replication)

Relocation and Transportation Plans

- Send employees home.
- Remain on site.
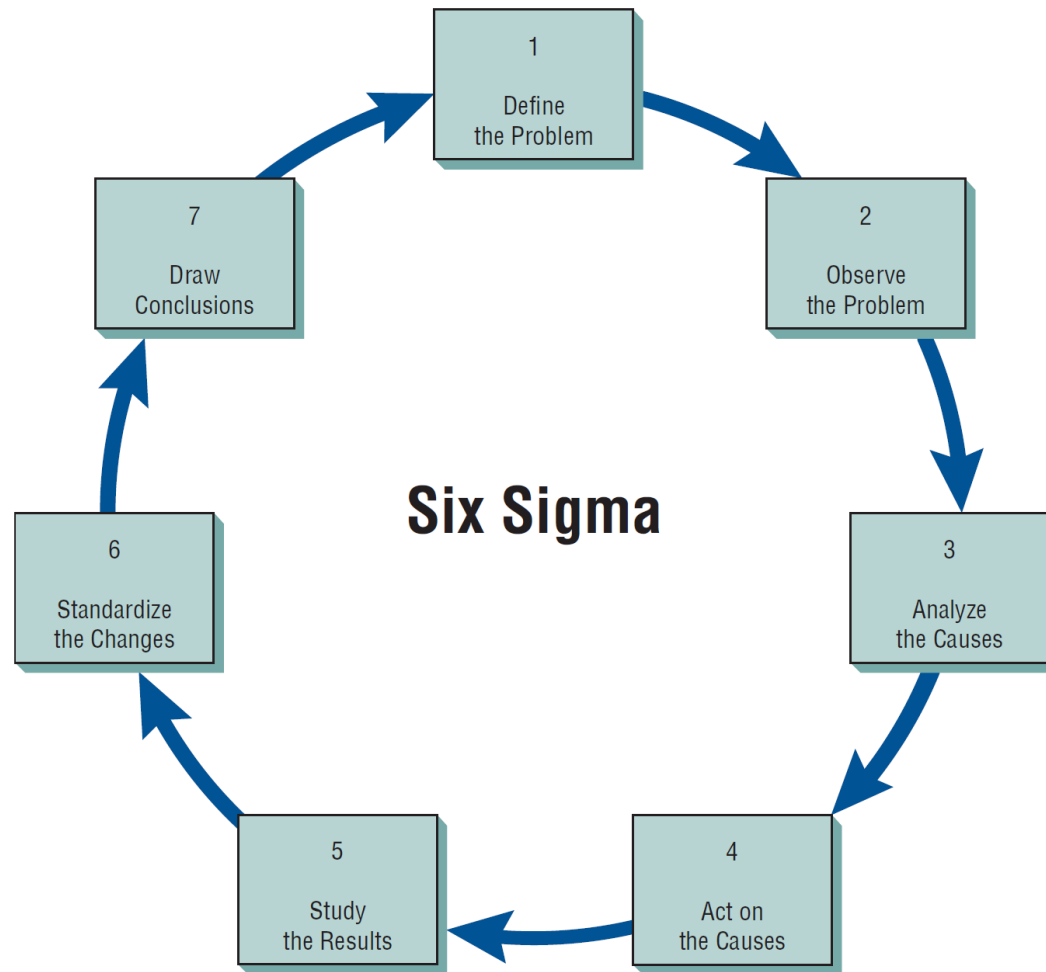- Relocate to a recovery facility.

Total Quality Management

- Philosophy of continual improvement of products and processes
- Quality is the responsibility of everyone involved in the creation and use of the products and services offered
- TQM improves quality by ensuring conformance to internal requirements

Six Sigma

- A culture built on quality
- Uses a top-down approach
- Roles:
  - Project leader is called a Black Belt.
  - Project members are called Green Belts.
  - Master Black Belts have worked on many projects and are available as a resource to project teams.
- Six Sigma improves quality by reducing the number of defects

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Every Systems Analyst Should Understand the Methodology and Philosophy of Six Sigma

Thank You