

# AIS Development Strategies

## Chapter 19

### 1. Purchase Software

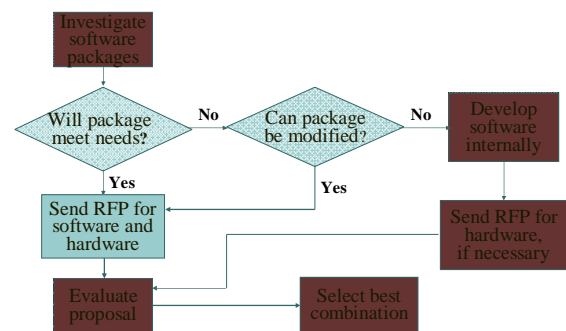
- o **Canned software** is written by computer manufacturers or software development companies.
- o It is sold on the open market to a broad range of users with similar requirements.
- o **Turnkey systems** are a combination of software and hardware sold as a package.

### Systems Development Life Cycle

Classical Model



### The Systems Acquisition Process



### 2. Development by In-House IS Department

- o **Custom software** - when canned software does not meet your specific needs.
- o Expensive, difficult and error-prone.
- o Consumes a great deal of time and resources.

### Development by In-House IS Department

- o Custom software is usually developed and written in house.
- o Can engage an **outside company** to develop a package or assemble it from their inventory of program modules.
- o When contracting with an outside organization, **maintain control** over the development process.

### Development by In-House IS Department

- o What **guidelines** are recommended?
  - carefully select a developer
  - sign a contract
  - plan and monitor each step
  - maintain effective communication
  - control all costs

### 3. End-User-Developed Software

**End-user computing** (EUC) is the hands-on development, use, and control of computer-based information systems by users.

### End-User-Developed Software

- o **Examples** of end-user development uses
  - **retrieving information** from company databases to produce simple reports or to answer one-time queries (MSAccess)
  - performing **"what if"** sensitivity or statistical analyses (MSExcel)
  - **developing applications** using prewritten software (spreadsheet or database system)

### End-User-Developed Software

Benefits of End-User Computing

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User creation, control, and implementation  
Systems that meet user needs  
Timeliness  
Freeing up IS resources  
Versatility and ease of use

### End-User-Developed Software

Risks of End-User Computing

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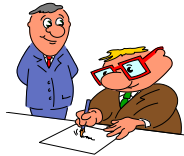
Logic and development errors  
Inadequately tested applications  
Inefficient systems  
Poorly controlled and documented systems  
Systems incompatibility  
Duplication of systems  
Increased costs

### 4. Outsource the System

- o What is **outsourcing**?
  - It is hiring an outside company to handle all or part of an organization's data processing activities.
- o In a **mainframe outsourcing** agreement, the outsourcers buy their client's computers and hire all or most of the client's employees.

## Outsource the System

- In a **client/server or PC outsourcing** agreement, an organization outsources a particular service, a segment of its business, a particular function, or PC support.



## Outsource the System

### Benefits of Outsourcing

- A business solution
- Asset utilization
- Access to greater expertise and more advanced technology
- Lower costs
- Improved development time
- Elimination of peaks and valleys usage
- Facilitation of downsizing

## Outsource the System

### Risks of Outsourcing

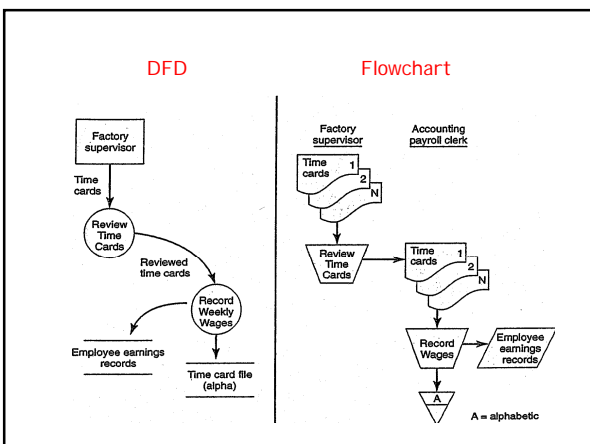
- Inflexibility
- Loss of control
- Reduced competitive advantage
- Locked-in system
- Unfulfilled goals

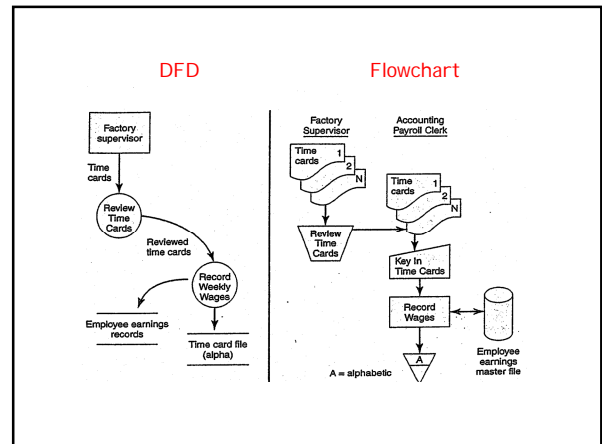
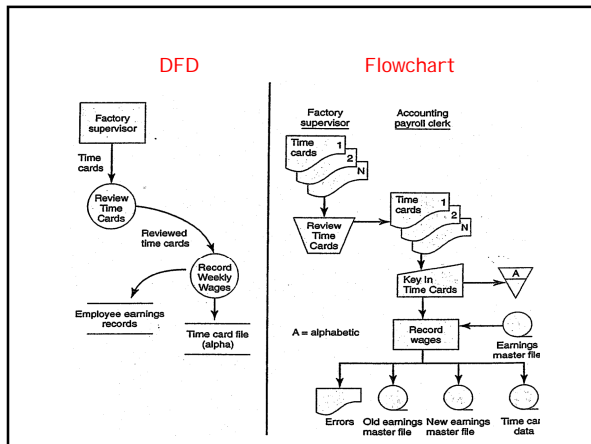
## 5. BPR

- Thorough analysis and complete **redesign of business process** and information systems to achieve performance improvements.
- Challenges traditional organizational values and cultures associated with underperformance.

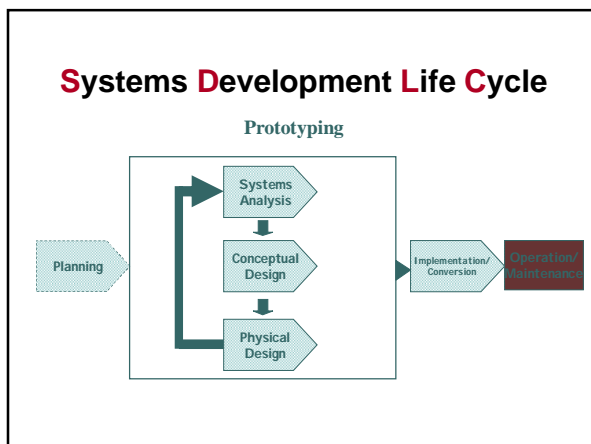
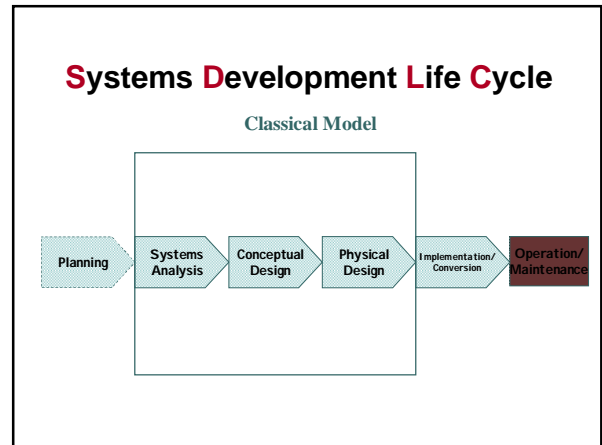
## BPR

- BPR reduces a company to its essential business processes and focuses on **why** they are done rather than on the details of **how** they are done.
- It completely reshapes organizational work practices and information flows to **take advantage of technological advancements**.





- 6. Prototyping
  - Approach to systems design in which a **simplified working model** of a system is developed.
  - A prototype, or "first draft," is quickly and inexpensively built and provided to users for testing.



- Prototyping
  - What **four steps** are involved in developing a prototype?
    - Identify basic systems requirements.
    - Develop an **initial prototype** that meets the agreed-on requirements.
    - Users identify changes**, developers make changes, and the system is turned over to the user.
    - Use the system approved by the users.

## Prototyping

### Advantages of Prototyping

- Better definition of user needs
- Higher user involvement and satisfaction
- Faster development time
- Fewer errors
- More opportunity for changes
- Less costly

## Prototyping

### Disadvantages of Prototyping

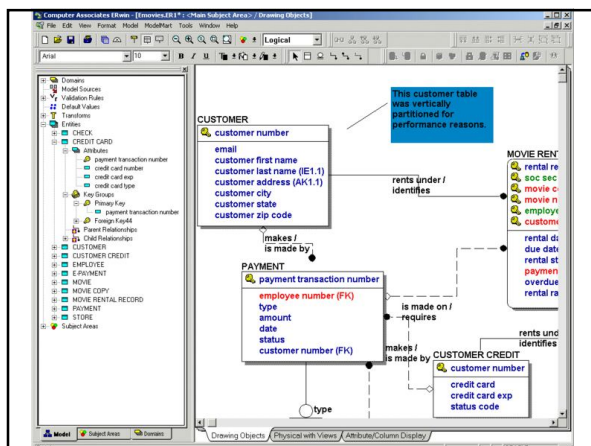
- Significant user time
- Less efficient use of system resources
- Incomplete systems development
- Inadequately tested and documented systems
- Negative behavioral reactions
- Unending development

## 7. Computer-Aided Software Engineering (CASE)

- CASE is an **integrated package of computer-based tools** that automate important aspects of the software development process.
- CASE tools are used to plan, analyze, design, program, and maintain an information system.
- They are also used to enhance the efforts of managers, users, and programmers in understanding information needs.

## Computer-Aided Software Engineering (CASE)

- CASE tools do not replace skilled designers**; instead they provide a host of self-integrated tools that give developers effective support for all SDLC phases.
- CASE software typically has tools for strategic planning, project and system management, database design, screen and report layout, and automatic code generation.



## Computer-Aided Software Engineering (CASE)

### Advantages of CASE Technology

- Improved productivity
- Improved program quality
- Cost savings
- Improved control procedures
- Simplified documentation



## Computer-Aided Software Engineering (CASE)

### Disadvantages of CASE Technology

- Incompatibility
- Unmet expectations



**End of Chapter 19**