

Acquiring Information Systems and Applications

- Planning for and Justifying IT Applications
- 2. Strategies for Acquiring IT Applications
- 3. The Traditional Systems Development Life Cycle
- 4. Alternative Methods and Tools for Systems Development
- 5. Vendor and Software Selection



- 1. Discuss the different cost—benefit analyses that companies must take into account when formulating an IT strategic plan.
- 2. Discuss the four business decisions that companies must make when they acquire new applications.



- 3. Enumerate the primary tasks and the importance of each of the six processes involved in the systems development life cycle.
- 4. Describe alternative development methods and the tools that augment development methods.
- 5. Analyze the process of vendor and soft ware selection.

OPENING



LinkedIn's Fast
 Development
 Process Helps
 Save the Company

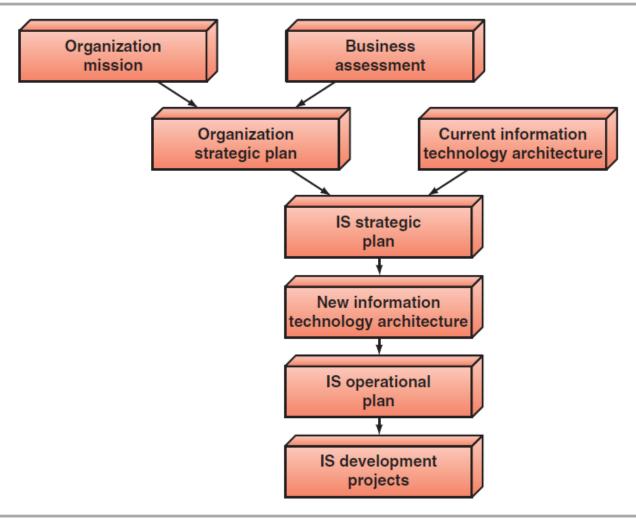


- 1. Describe how freezing new feature development on its Web site "saved" LinkedIn.
- 2. Describe how rapid application development is enabling LinkedIn to add its next feature, mining users' economic and job data.

14.1 Planning for and Justifying IT Applications

- IT Planning
- Evaluation and Justifying IT Investment: Benefits, Costs, and Issues

Figure 14.1: The IS Planning Process



IT Planning

- Organizational Strategic Plan
- IT Strategic Plan
- IT Steering Committee
- IS Operational Plan

IT Strategic Plan

Three Objectives of an IT Strategic Plan:

- Must be aligned with the organization's strategic plan
- Provide for an IT architecture
- Efficiently allocate IS development resources

IT Steering Committee

Major Tasks of an IT Steering Committee

- Link corporate strategy with IT strategy
- Approve the allocation of resources for the MIS function
- Establish performance measures for the MIS function and ensure they are met

IS Operational Plan

Elements of an IS Operational Plan:

- Mission
- IS Environment
- Objectives of the IS Function
- Constraints on the IS function
- Application Portfolio
- Resource Allocation and Project Management

Evaluation and Justifying IT Investment: Benefits, Costs, and Issues

- Assessing the Costs
- Assessing the Benefits
- Conducting the Cost-Benefit Analysis

Conducting the Cost-Benefit Analysis

Four Common Approaches for Cost-Benefit Analysis:

- Net Present Value
- Return on Investment (ROI)
- Breakeven Analysis
- Business Case Approach

14.2 Strategies for Acquiring IT Applications

- Fundamental Decisions
- Acquisition Methods

Fundamental Decisions

- How much computer code does the company want to write?
- How will the company pay for the application?
- Where will the application run?
- Where will the application originate?

Acquisition Methods

- Purchase a Prewritten Application
- Customize a Prewritten Application
- Lease the Application
- Application Service Provider (ASP)
- Software-as-a-Service (SaaS)
- Use Open-Source Software
- Outsourcing
- Employ Custom Development

Table 14.1: Advantages & Disadvantages of Buy Option

Advantages

Many different types of off-the-shelf software are available.

The company can try out the software before purchasing it.

The company can save much time by buying rather than building.

The company can know what it is getting before it invests in the product.

Purchased software may eliminate the need to hire personnel specifically dedicated to a project.

Disadvantages

Software may not exactly meet the company's needs.

Software may be difficult or impossible to modify, or it may require huge business process changes to implement.

The company will not have control over software improvements and new versions.

Purchased software can be difficult to integrate with existing systems.

Vendors may discontinue a product or go out of business.

Software is controlled by another company with its own priorities and business considerations.

The purchasing company lacks intimate knowledge about how and why the software functions as it does.

Figure 14.2: Operation of an ASP

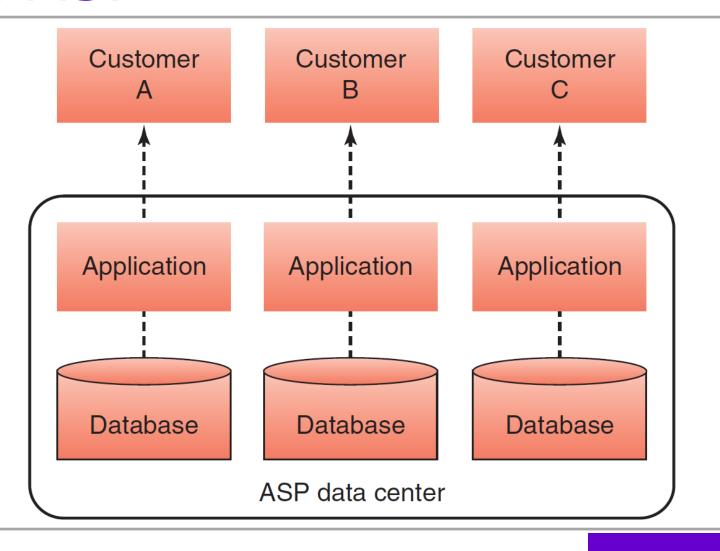
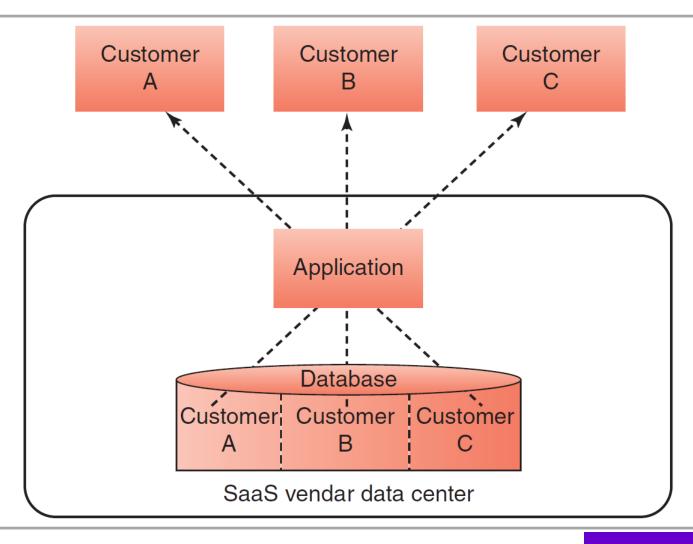


Figure 14.3: Operation of a SaaS Vendor



A Disastrous Development Project

- 1. Debate the lawsuit from the point of view of Deloitte and SAP.
- Debate the lawsuit from the point of view of Marin County.
- 3. Is it a good idea for Marin County to attempt another ERP implementation? Why or why not? Support your answer.
- 4. Are there other types of software that Marin County might use? (Hint: Consider cloud computing (see Plug IT In 4).)
- 5. Is it a good idea for Marin County to use software products from different vendors? Why or why not? Support your answer.

- General Motors Insources Its Information Technology Function
 - 1. What are potential disadvantages of Mott's insourcing strategy?
 - 2. Why did GM's outsourcing strategy result in the company's using 4,000 software applications? In your opinion, will Mott's insourcing strategy resolve this problem? Why or why not?

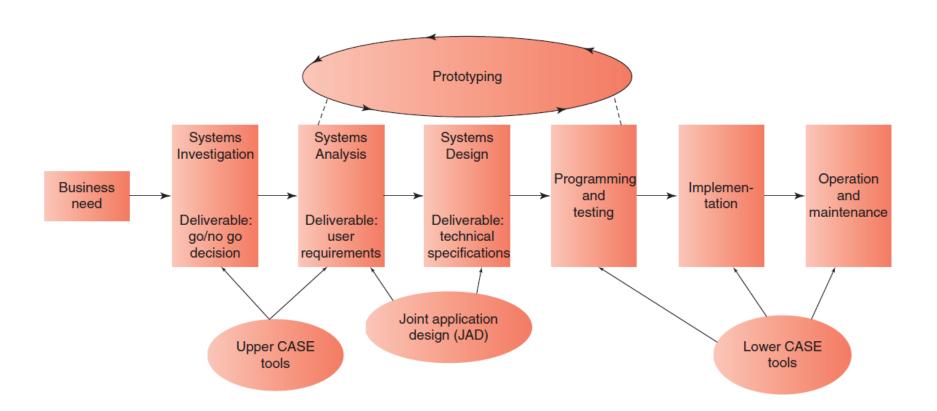
Build Your Apps Yourself

- What are the advantages of learning to code so that you can build your own mobile apps? Provide specific examples to support your answer.
- 2. What are the disadvantages of learning to code so that you can build your own mobile apps? Provide specific examples to support your answer.

14.3 The Traditional Systems Development Life Cycle

- Systems Development Life Cycle (SDLC)
 - 1. Systems Investigation
 - 2. Systems Analysis
 - 3. Systems Design
 - 4. Programming and Testing
 - 5. Implementation
 - 6. Operations and Maintenance

Figure 14.4: A six-stage SDLC with Supporting Tools



SDLC: Systems Investigation

- Three Basic Solutions
- Feasibility Study
- Go / No Go Decision

Systems Investigation: Three Basic Solutions

- 1. Do nothing and continue to use the existing system unchanged
- 2. Modify or enhance the existing system
- 3. Develop a new system.

Systems Investigation: Feasibility Study

- Technical Feasibility
- Economic Feasibility
- Behavioral Feasibility

SDLC: Systems Analysis

The process whereby systems analysts examine the business problem that the organization plans to solve with an IS.

- Deliverable:
 - A set of system requirements (or User Requirements)

SLDC: Systems Design

Describes how the system will resolve the business problem.

- Deliverable:
 - a set of technical system specifications.
- Scope Creep

Systems Design: Technical Specifications

- Technical Specifications include following:
 - System outputs, inputs, and user interfaces
 - Hardware, software, databases, telecommunications, personnel, and procedures
 - A blueprint of how these components are integrated

SDLC: Programming and Testing

- Programming
- Testing

SDLC: Implementation

- Implementation
- Three Major Conversion Strategies
 - Direct
 - Pilot
 - Staged

 Avon Writes Off \$125 Million on Failed Software Implementation



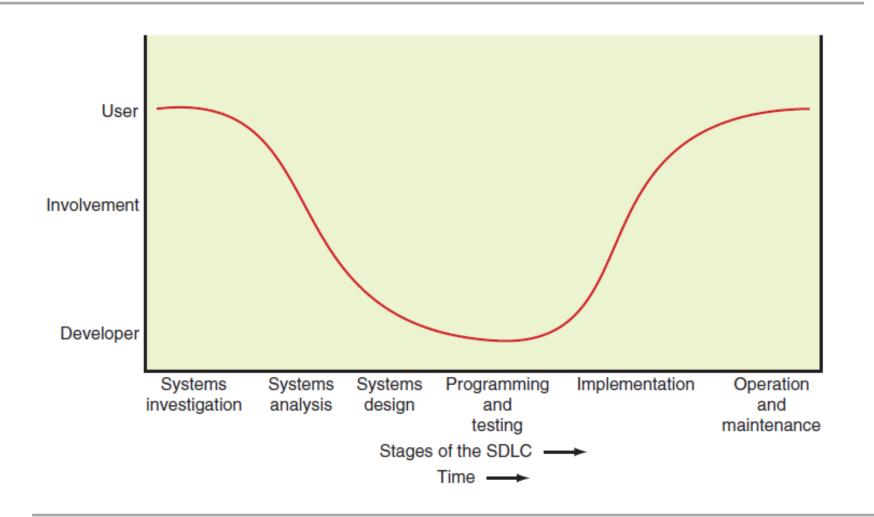
- 1. Is the Avon failure the fault of Avon? SAP? IBM? All three? Explain your answer.
- 2. Recall the discussion of strategic information systems in Chapter 2. Is Avon's new system a strategic information system? Why or why not? Explain your answer.

SDLC: Operations & Maintenance

Systems Require Several Types of Maintenance:

- Debugging
- Updating
- Adding

Figure 14.5: Comparison of user & Developer Involvement Over the SDLC



14.4 Alternative Methods and Tools for Systems Development

- Joint Application Development
- Rapid Application Development
- Agile Development
- End-User Development
- Tools for Systems Development

Agile Development

- Scrum Approach
- Practices and Predefined Roles
 Contained in Scrum:
 - The Scrum Master
 - The Product Owner
 - The Team

Tools for Systems Development

- Prototyping
- Integrated computer-assisted software engineering (CASE)
- Component-based development
- Object-oriented development

Integrated Computer-Assisted Software Engineering (CASE) Tools

- Upper CASE Tools
- Lower CASE Tools
- Integrated CASE (iCASE) Tools

14.5 Vendor and Software Selection

Six Steps in Vendor & Software Selection

- 1. Identify Potential Vendors
- 2. Determine the Evaluation Criteria
- 3. Evaluate Vendors and Packages
- 4. Choose the Vendor and Package

14.5 Vendor and Software Selection (con't)

Six Steps in Vendor & Software Selection (continued)

- 5. Negotiate a Contract
- Establish a Service Level Agreement