

Week 8 Review

- Business Process Analysis
- Process Flow Diagram
- Planning Information Systems



Management Information Systems (MINSYST) Week Nine



Objectives

- Explain the differences among the alternatives to tailored system development
- Describe which systems acquisition approach is appropriate for a particular set of circumstances



IS Implementation

- Hardware acquisition
- Programming and software acquisition or development
- User preparation (hiring and training of personnel)
- Site and data preparation
- Installation, testing, start-up
- User acceptance



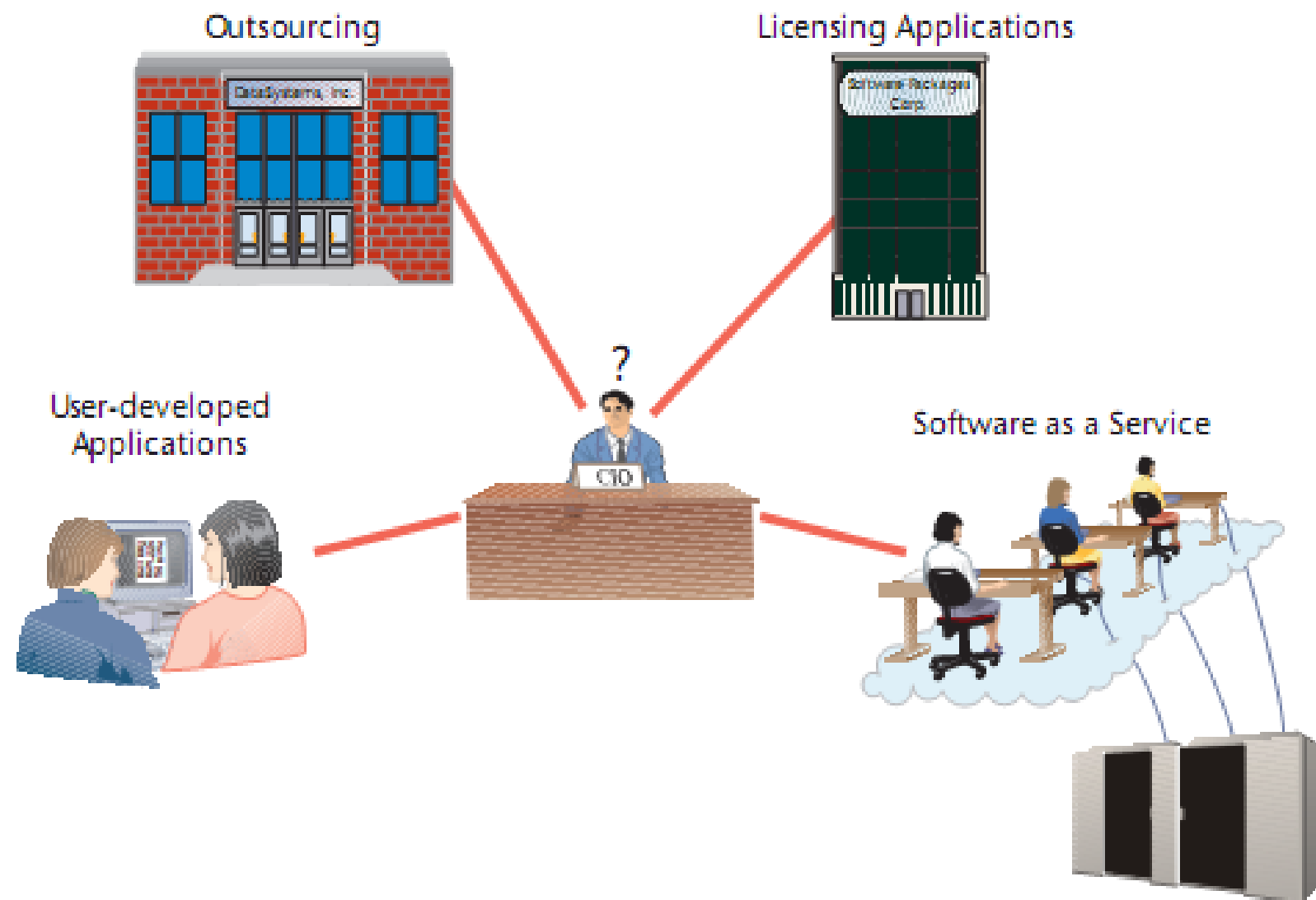
Options and Priorities

- There are four alternatives to in-house development:
 - Outsourcing
 - Licensing
 - Using software as a service (SaaS)
 - Having users develop the system

Options and Priorities

FIGURE 13.1

Alternatives to in-house development of ISs



Reference:

Oz, E. (2011). *Principles of Management Information Systems*. Cengage Learning.



Outsourcing

- Outsourcing has two meanings in the IT arena:
 - To commission the development of an application to another organization
 - To hire the services of another company to manage all or parts of the services usually rendered by an IT unit in the organization



Outsourcing Custom-Designed Applications

- Several advantages:
 - Good fit to need
 - Good fit to culture
 - Dedicated maintenance
 - Smooth interface
 - Specialized security
 - Potential for strategic advantage



Outsourcing Custom-Designed Applications

- Disadvantages:
 - High cost
 - The organization must fund all development costs
 - Staff may be diverted from other projects
 - Software is less likely to be compatible with other organizations' systems

A background image showing a close-up of interlocking puzzle pieces. Some pieces are a light tan color, while others are a dark blue color. The pieces are arranged in a way that suggests a larger picture is being assembled.

Outsourcing Custom-Designed Applications

- Must deal with an inherent conflict when outsourcing software development:
 - Client wants a firm contract and set of requirements
 - Specific requirements may mean that no deviation is allowed if changes are needed later as development progresses
- *Offshoring*: outsourcing to other countries such as India, China, Philippines, etc.



Outsourcing IT Services

- Many businesses turn to IT companies for long-term services:
 - Purchasing and maintaining hardware
 - Developing, licensing, and maintaining software
 - Installing communications networks
 - Maintaining and operating Web sites
 - Staffing help desks
 - Running IT daily operations
 - Managing customer and supplier relations



Outsourcing IT Services

- Outsourcing companies are known as vendors
- IT outsourcing contracts are typically long-term contractual relationships, usually for seven (7) to ten (10) years
 - Clients sometimes find themselves bound by obsolete contracts, and must renegotiate



Advantages of Outsourcing IT Services

- Several advantages of outsourcing:
 - Improved financial planning
 - Reduced license and maintenance fees
 - Increased attention to core business
 - Shorter implementation cycles

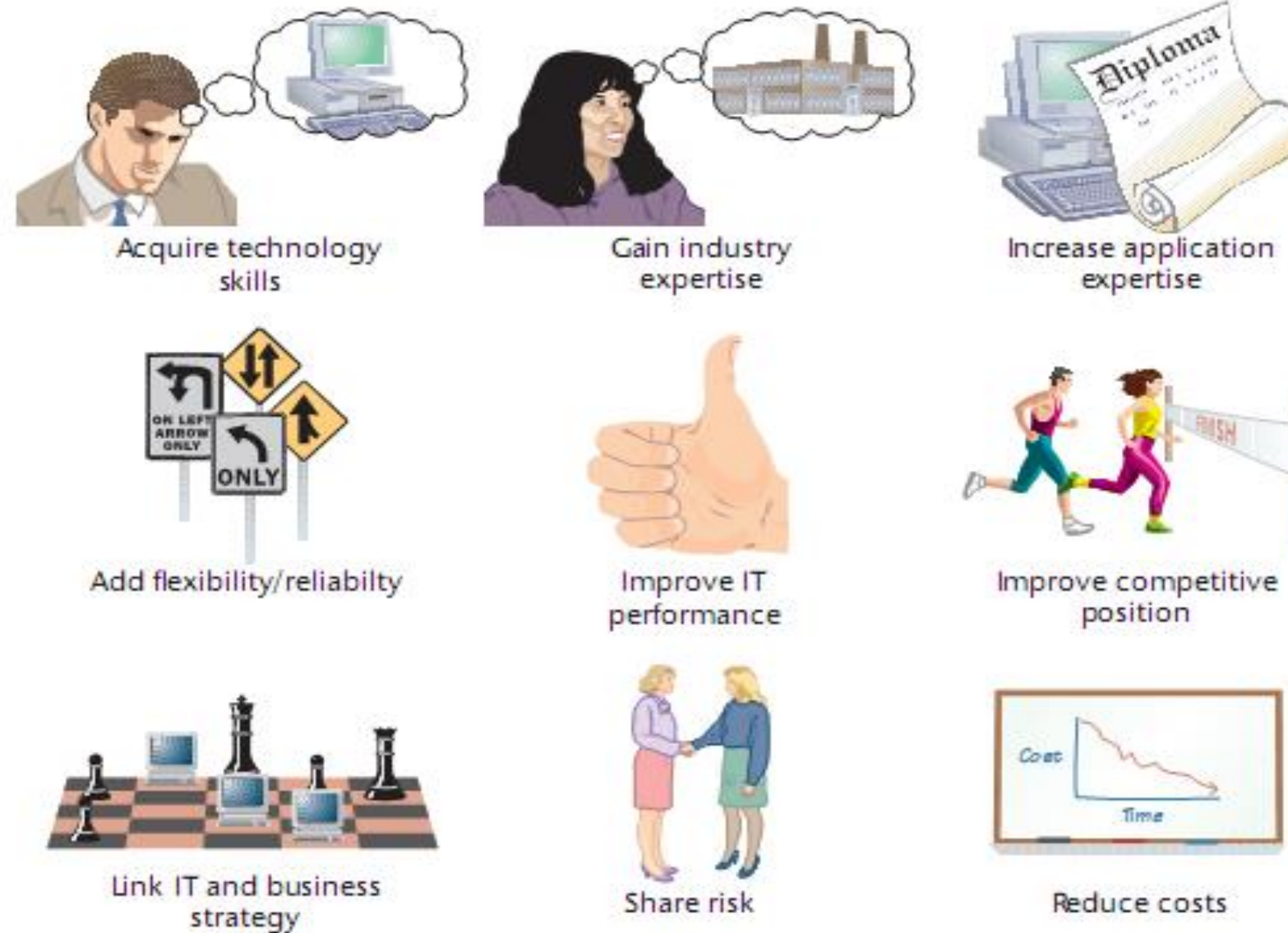


Advantages of Outsourcing IT Services

- Several advantages of outsourcing (contd)
 - Reduction of personnel and fixed costs
 - Increased access to highly qualified know-how
 - Availability of ongoing consulting as part of standard support

Advantages of Outsourcing IT Services

FIGURE 13.4
Expected benefits from IT outsourcing



Reference:

Oz, E. (2011). *Principles of Management Information Systems*. Cengage Learning.



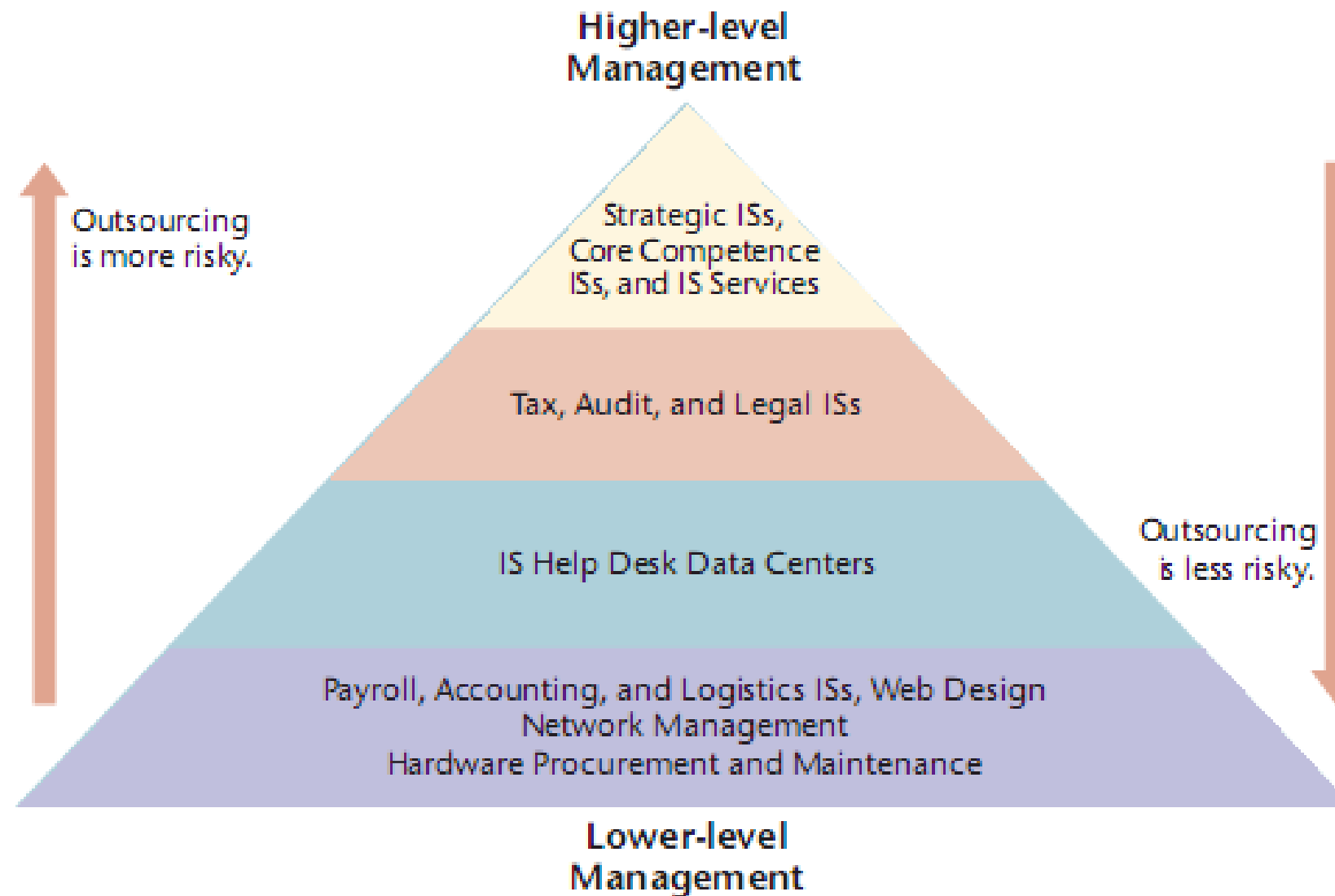
Risks of Outsourcing IT Services

- Disadvantages of outsourcing:
 - Loss of control
 - Loss of experienced employees
 - Risks of losing a competitive advantage
 - High price

Risks of Outsourcing IT Services

FIGURE 13.5

Risks of outsourcing are higher at higher levels of decision making



Reference:

Oz, E. (2011). *Principles of Management Information Systems*. Cengage Learning.



Risks of Outsourcing IT Services

- Service-level agreement
 - Lists all services expected of the vendor
 - Defines the metrics to be used to measure vendor performance



Licensing Applications

- Purchasing software usually means purchasing licenses to use the software
- Two groups of ready-made software:
 - Relatively inexpensive software that helps in the workplace, such as office suites
 - Large applications that support entire organizational functions, such as HR or financial management



Software Licensing Benefits

- Licensing benefits include:
 - Immediate system availability
 - High quality
 - Low price (license fee)
 - Available support



Software Licensing Risks

- Software licensing has risks including:
 - Loose fit between needs and features
 - Difficulties in undertaking custom modifications
 - Dissolution of the vendor
 - High turnover of vendor personnel

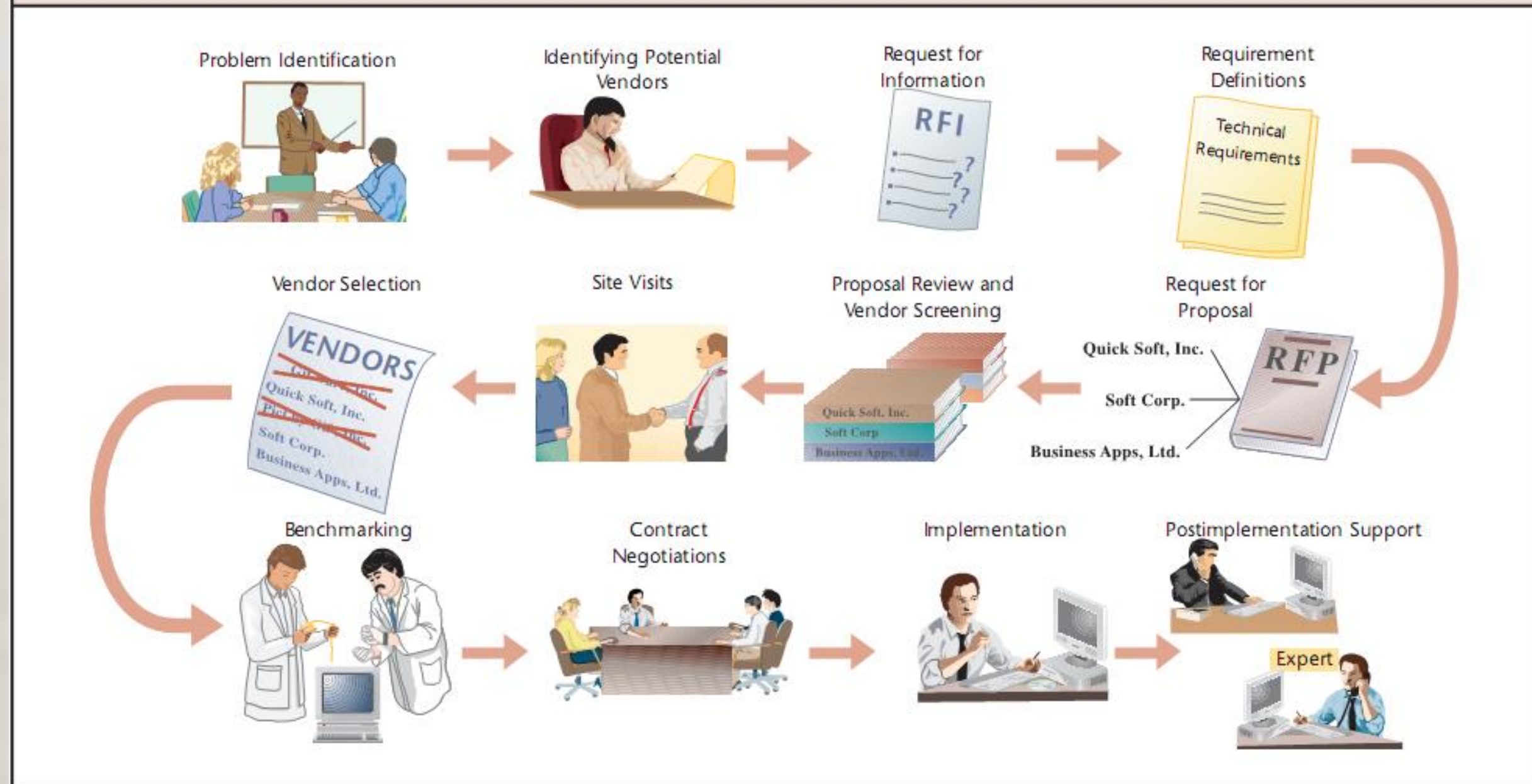


Steps in Licensing Ready-Made Software

- Selecting software involves a large money investment and a long-term commitment
- Factors to consider:
 - Quality of the software
 - Complexity of installation
 - Cost of training
 - Quality and cost of after-sales service

Steps in Licensing Ready-Made Software

FIGURE 13.6
Steps in licensing software



Reference:

Oz, E. (2011). *Principles of Management Information Systems*. Cengage Learning.

Steps in Licensing Ready-Made Software

FIGURE 13.7

How IT managers rank the importance of product purchase factors

FACTOR	RATING
Quality and reliability	_____
Product performance	_____
Quality of after-sale service and support	_____
Trustworthiness of vendor	_____
Price/performance ratio	_____
Ease of doing business with vendor	_____
Vendor's support for industry standards	_____
Openness of future strategies and plans	_____
Vendor financial stability	_____

Reference:

Oz, E. (2011). *Principles of Management Information Systems*. Cengage Learning.



Software as a Service

- *Application service provider (ASP)*: an organization that offers software through communication lines (such as the Web)
 - *Software as a service (SaaS) or software on demand*: applications available through the Web



Software as a Service

- Renting software has benefits:
 - No need to learn how to maintain the software
 - No large start-up fee
 - Storage hardware is unnecessary
 - Software is usually available sooner



Software as a Service

- Renting software also has risks:
 - Lack of control may be an issue
 - Vendor is unlikely to make many customized changes to the software
 - Response time is impacted by traffic levels
 - May be security risks through a public network

The background of the slide features a pattern of interlocking puzzle pieces. On the left side, there is a vertical strip of blue puzzle pieces, while the rest of the background is composed of light tan or beige puzzle pieces.

Caveat Emptor

- ASP may be disappointing in some areas
- Manager guidelines when selecting an ASP:
 - Check the ASP's history
 - Check the ASP's financial strength
 - Ensure you understand the price scheme
 - Get a list of the provider's infrastructure
 - Craft the service contract carefully

Caveat Emptor

- *Uptime*: proportion of time that the ASP's systems and communications links are up
 - No ASP has 100% uptime
 - 99.9 % uptime = up to 500 minutes/year of downtime
 - 99.999% uptime = less than 5 minutes/year of downtime



Software as a Service

- Four categories of typical users of ASP services:
 - Rapidly growing companies
 - Small companies
 - Medium-sized companies
 - Organizational units at remote locations
- *Storage service provider (SSP)*: rents storage space for remote storage of client files



User Application Development

- *User application development*: nonprogrammer users write their own business applications
- User-developed software is usually:
 - Simple and limited in scope
 - Small applications developed for immediate or brief needs
 - Maintained by end users

User Application Development

FIGURE 13.9

Guidelines for end-user development of applications

<i>End users should develop if...</i>	<i>End users should not develop if...</i>
End users have the necessary skills	The application is large or complex
The application is small	The application interfaces with other systems
The application is needed immediately	The application is vital for the organization's survival
The application can be maintained by the users	The application will survive the user-developer tenure
The application will be used briefly and discarded	

Reference:

Oz, E. (2011). *Principles of Management Information Systems*. Cengage Learning.



Managing User-Developed Applications

- Challenges of user-developed applications include:
 - Managing the reaction of IT professionals
 - Providing support
 - Compatibility
 - Managing access



Advantages and Risks

- Advantages of user development of applications:
 - Shortened lead times
 - Good fit to needs
 - Compliance with culture
 - Efficient utilization of resources
 - Acquisition of skills
 - Freeing up IS staff time



Advantages and Risks

- Disadvantages of user-developed applications:
 - Poorly developed applications
 - Islands of information
 - Duplication
 - Security problems
 - Poor or no documentation