Chapter 13

IT Strategy & Planning

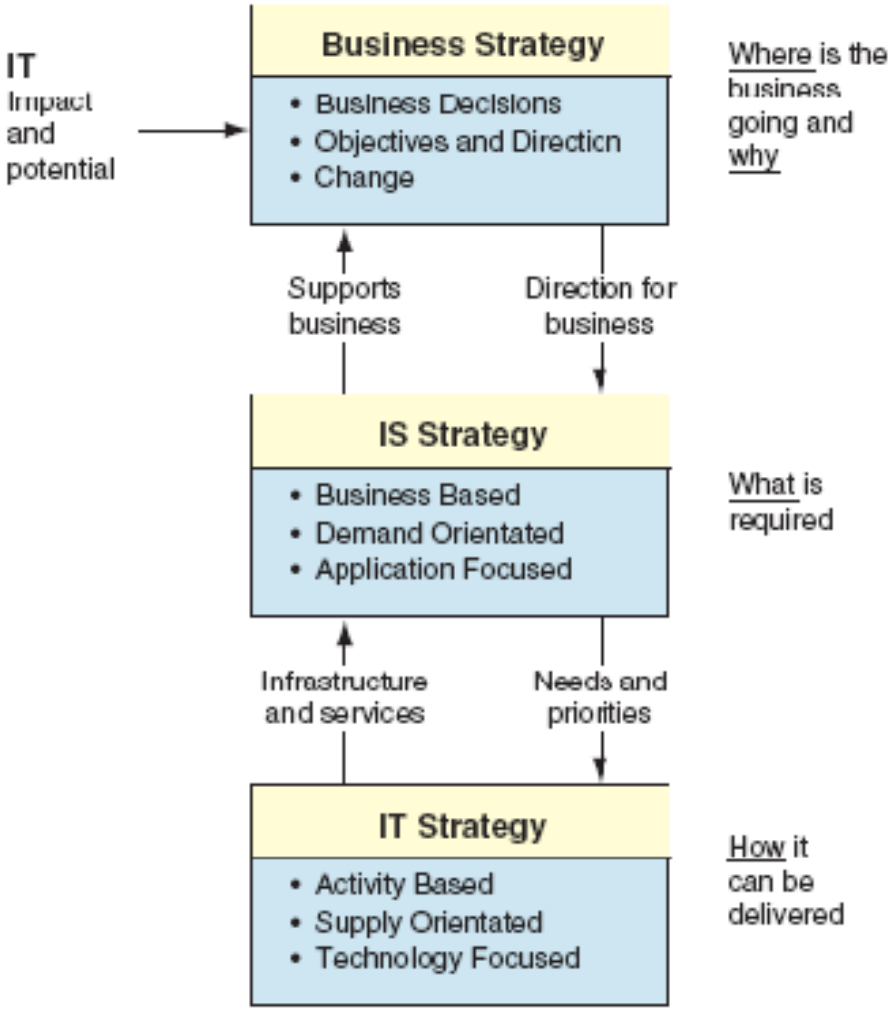
Information Technology For Management 6th Edition
Turban, Leidner, McLean, Wetherbe
Lecture Slides by L. Beaubien, Providence College

John Wiley & Sons, Inc.

Learning Objectives

- Explain how IT can contribute to strategic objectives and competitive advantage.
- Assess potential impacts of IT using several frameworks
- Explain the value and challenges of aligning business and IT strategies.
- Describe the importance of IT planning and methodologies to facilitate it.
- Discuss factors to be considered to optimize that allocation of an organization's IT resources.
- Identify and describe how to build strong relationships between information systems department and business units.

Strategic Information System



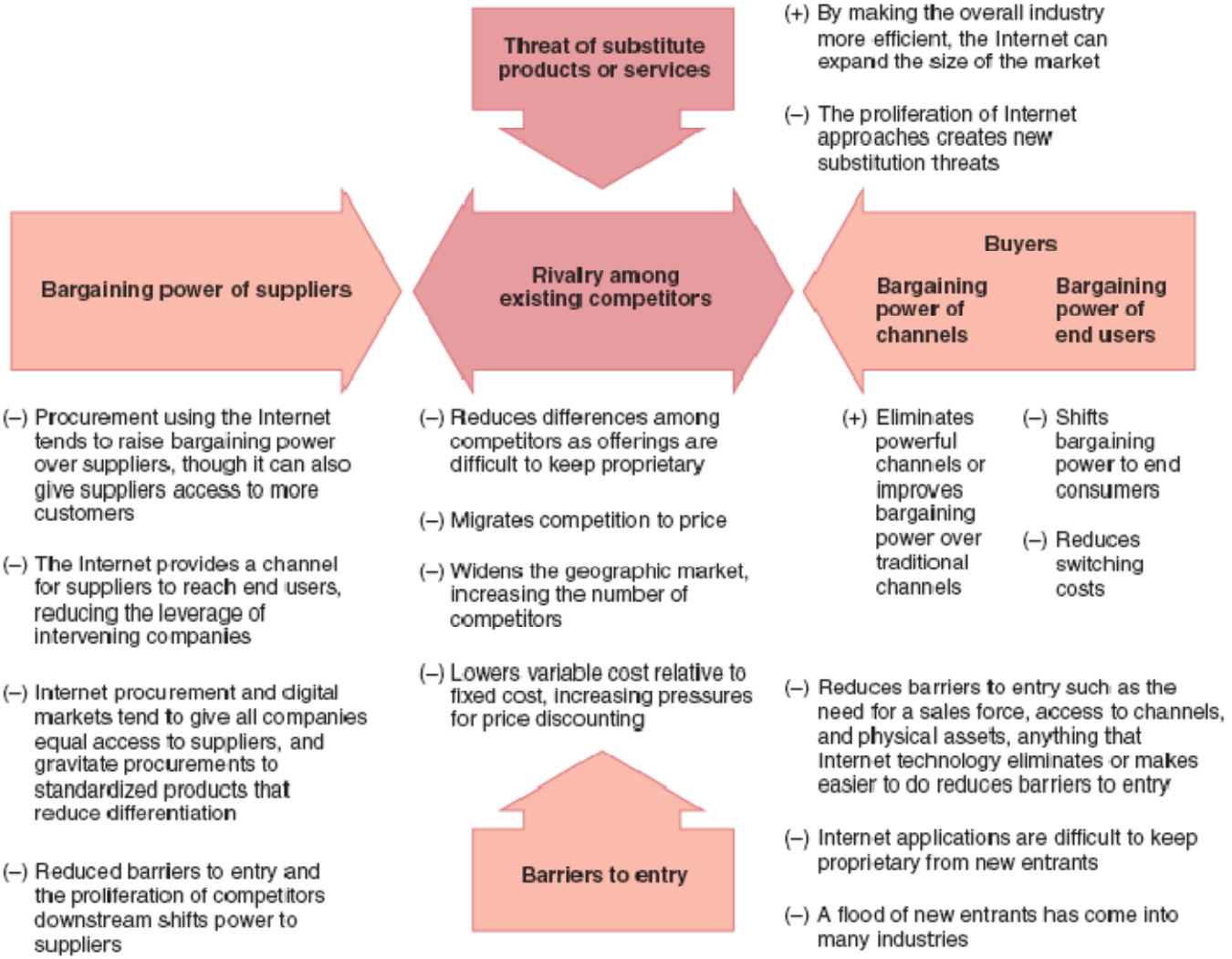
Information Technology – Supports Strategic Management

- **Innovative applications:** Create innovative applications that provide direct strategic advantage to organizations.
- **Competitive weapons:** Information systems themselves are recognized as a competitive weapon
- **Changes in processes:** IT supports changes in business processes that translate to strategic advantage
- **Links with business partners:** IT links a company with its business partners effectively and efficiently.

Information Technology – Supports Strategic Management (Continued)

- **Cost reductions:** IT enables companies to reduce costs.
- **Relationships with suppliers and customers:** IT can be used to lock in suppliers and customers or to build in switching costs.
- **New products:** A firm can leverage its investment in IT to create new products that are in demand in the marketplace.
- **Competitive intelligence:** IT provides competitive (business) intelligence by collecting and analyzing information about products, markets, competitors, and environmental changes .

Porter's Competitive Forces Model



We Develop a Competitor Analysis

We Analyze the Entry Barriers

We Analyze the Substitute Products

We Analyze the Supply Chain

ach element adds value –

Generic Strategies
Developing a Sustained Competitive Advantage

Analyzing the forces that influence a company's competitive position will assist management in crafting a *strategy* aimed at establishing a sustained competitive advantage. To establish such a position, a company needs to develop a strategy of performing activities differently than a competitor.

- Cost leadership strategy: Produce products and/or services at the lowest cost in the industry.
- Differentiation strategy: Offer different products, services, or product features.
- Niche strategy: Select a narrow-scope segment (niche market) and be the best in quality, speed, or cost in that market.

Generic Strategies

Developing a Sustained Competitive Advantage (Continued)

- Growth strategy: Increase market share, acquire more customers, or sell more products.
- Alliance strategy: Work with business partners in partnerships, alliances, joint ventures, or virtual companies.
- Innovation strategy: Introduce new products and services, put new features in existing products and services, or develop new ways to produce them.
- Operational effectiveness strategy: Improve the manner in which internal business processes are executed so that a firm performs similar activities better than rivals.

Generic Strategies

Developing a Sustained Competitive Advantage (Continued)

- Customer-orientation strategy: Concentrate on making customers happy
- Time strategy: Treat time as a resource, then manage it and use it to the firm's advantage.
- Entry-barriers strategy: Create barriers to entry.
- Lock in customers or suppliers strategy: Encourage customers or suppliers to stay with you rather than going to competitors.
- Increase switching costs strategy: Discourage customers or suppliers from going to competitors for economic reasons.

The Value Chain

According to the value chain model (Porter, 1985), the activities conducted in any organization can be divided into two parts: primary activities and support activities.

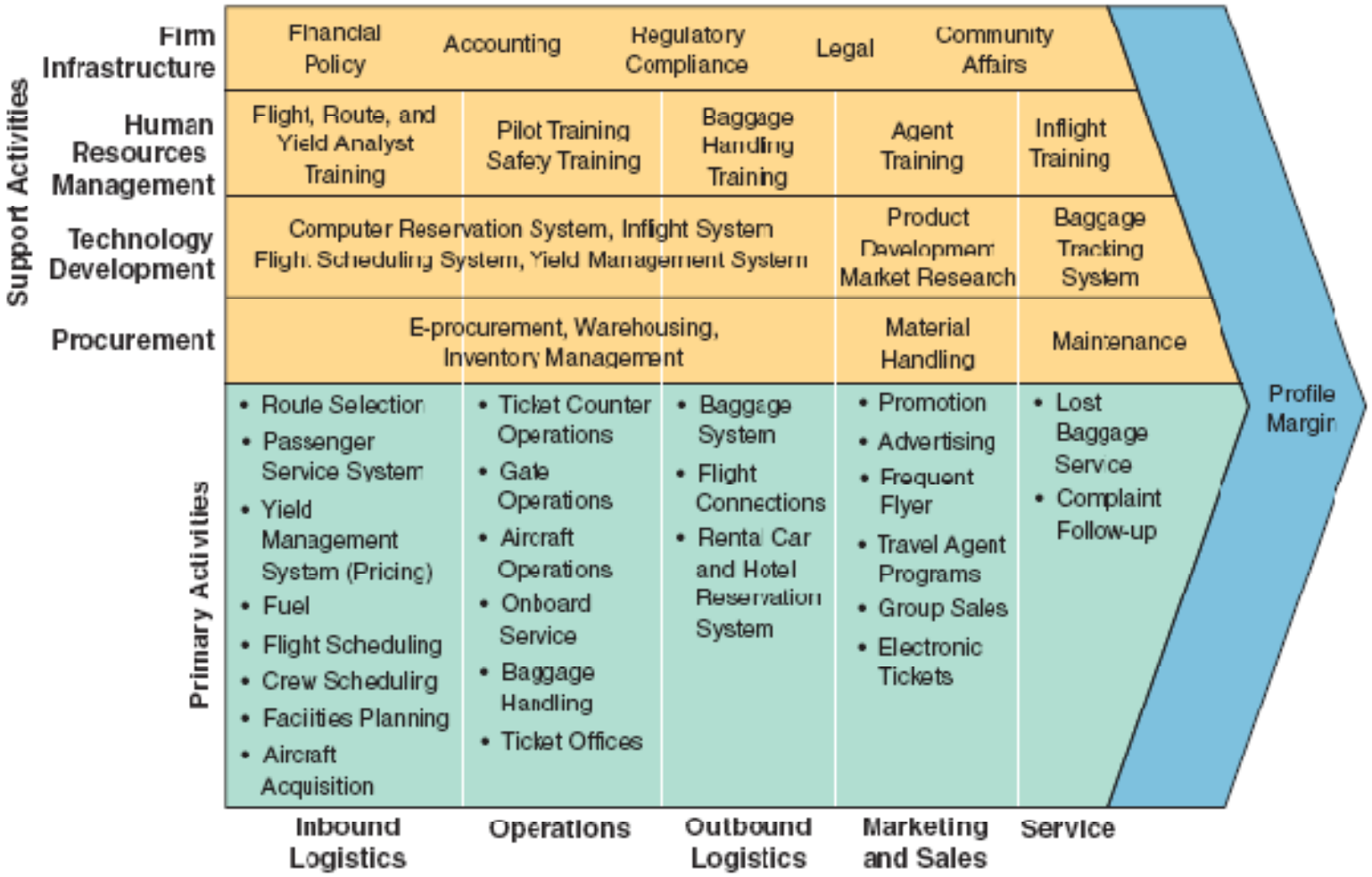
- Primary activities are those activities in which materials are purchased, processed into products, and delivered to customers. Each adds value to the product or service hence the value chain.
  - Inbound logistics (inputs)
  - Operations (manufacturing and testing)
  - Outbound logistics (storage and distribution)
  - Marketing and sales
  - Service

The Value Chain (Continued)

- Unlike the primary activities, which directly add value to the product or service, the support activities are operations that support the creation of value (primary activities)
  - The firm's infrastructure (accounting, finance, management)
  - Human resources management
  - Technology development (R&D)
  - Procurement

The initial purpose of the value chain model was to analyze the internal operations of a corporation in order to increase its efficiency, effectiveness, and competitiveness. We can extend that company analysis by systematically evaluating a company's key processes and core competencies to eliminate any activities that do not add value to the product.

The Value Chain (Continued)



The Value System

A firm's value chain is part of a larger stream of activities, which Porter calls a value system. A *value system* includes the suppliers that provide the inputs necessary to the firm and their value chains. This also is the basis for the *supply chain management* concept. Many of these alliances and business partnerships are based on Internet connectivity are called *interorganizational information systems* (IOSs)

- These Internet-based EDI systems offer strategic benefits
  - Faster business cycle (PO to Receiving)
  - Automation of business procedures (Automated Replenishment)
  - Reduced operational costs
  - Greater advantage in a fierce competitive environment

Sustaining a Strategic Information System (SIS)

Strategic information systems are designed to establish a profitable and sustainable position against the competitive forces in an industry. Due to advances in systems development it has become increasingly difficult to sustain an advantage for an extended period. Experience also indicates that information systems, by themselves, can rarely provide a sustainable competitive advantage. Therefore, the major problem that companies now face is how to sustain their competitive advantage.

- These Internet-based EDI systems offer strategic benefits.
  - One popular approach is to use *inward systems* that are not visible to competitors. These proprietary systems allow the company to perform the activities on their value chain differently than their competitors.

Strategic Resources And Capabilities

TABLE 13.3 Key Resource Attributes that Create Competitive Advantage

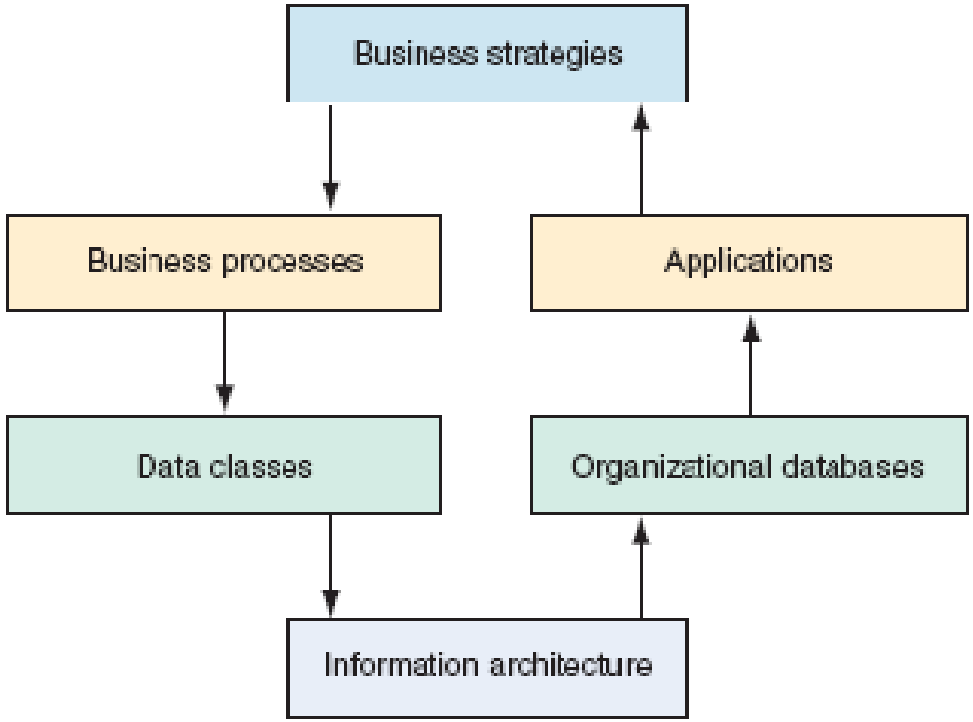
Resource Attributes	Description
Value	The degree to which a resource can help a firm improve efficiency or effectiveness.
Rarity	The degree to which a resource is nonheterogeneously distributed across firms in an industry.
Appropriability	The degree to which a firm can make use of a resource without incurring an expense that exceeds the value of the resource.
Imitability	The degree to which a resource can be readily emulated.
Mobility	The degree to which a resource is easy to transport.
Substitutability	The degree to which another resource can be used in lieu of the original resource to achieve value.

Strategic Resources And Capabilities (Continued)

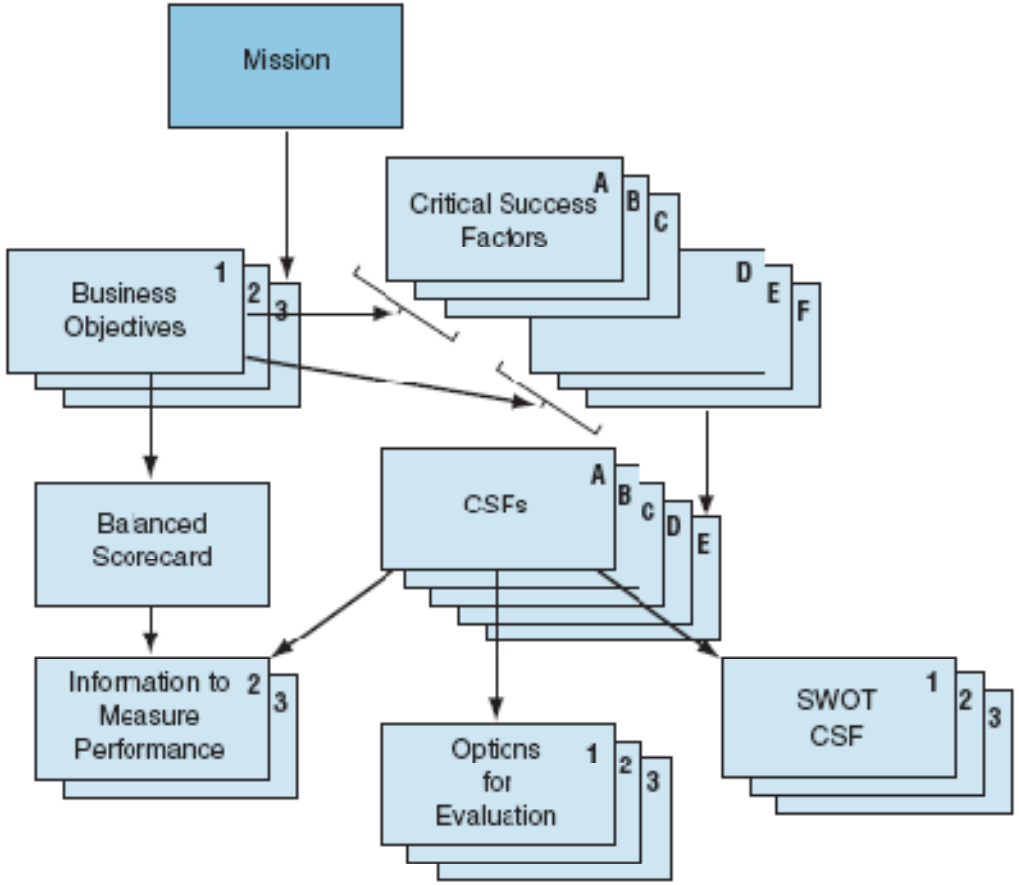
TABLE 13.4 IS Resources and Capabilities

IS Resource/Capability	Description	Relationship to Resource Attributes
Technology resources	Includes infrastructure, proprietary technology, hardware, and software.	Not necessarily rare or valuable, but difficult to appropriate and imitate. Low mobility but a fair degree of substitutability.
IT skills	Includes technical knowledge, development knowledge, and operational skills.	Highly mobile, but less imitable or substitutable. Not necessarily rare but highly valuable.
Managerial IT resources	Includes vendor and outsourcer relationship skills, market responsiveness, IS-business partnerships, IS planning and management skills.	Somewhat more rare than the technology and IT skill resources. Also of higher value. High mobility given the short tenure of CIOs. Nonsubstitutable.

IT Planning – Critical



IT Planning — A Critical Issue for Organizations (Continued)



Strategic Information Technology Planning - Stage 1

The first stage of the IT planning model identifies the *applications portfolio* through which an organization will conduct its business. This stage can also be expanded to include the process of searching for *strategic information systems (SIS)* that enable a firm to develop a competitive advantage. This involves assessing the current business environment and the future objectives and strategies.

- **IT Alignment with Organizational Plans:** The primary task of IT planning is to identify information systems applications that fit the objectives and priorities established by the organization.
- Analyze the external environment *(industry, supply chain, competition)* and the internal environment *(competencies, value chain, organizational structure)* then relate them to technology (*alignment*).
- **Alignment** is a complex management activity whose complexity increases in accordance with the complexity of organization.

Strategic Information Technology Planning – Methodologies

Several methodologies exist to facilitate IT planning.

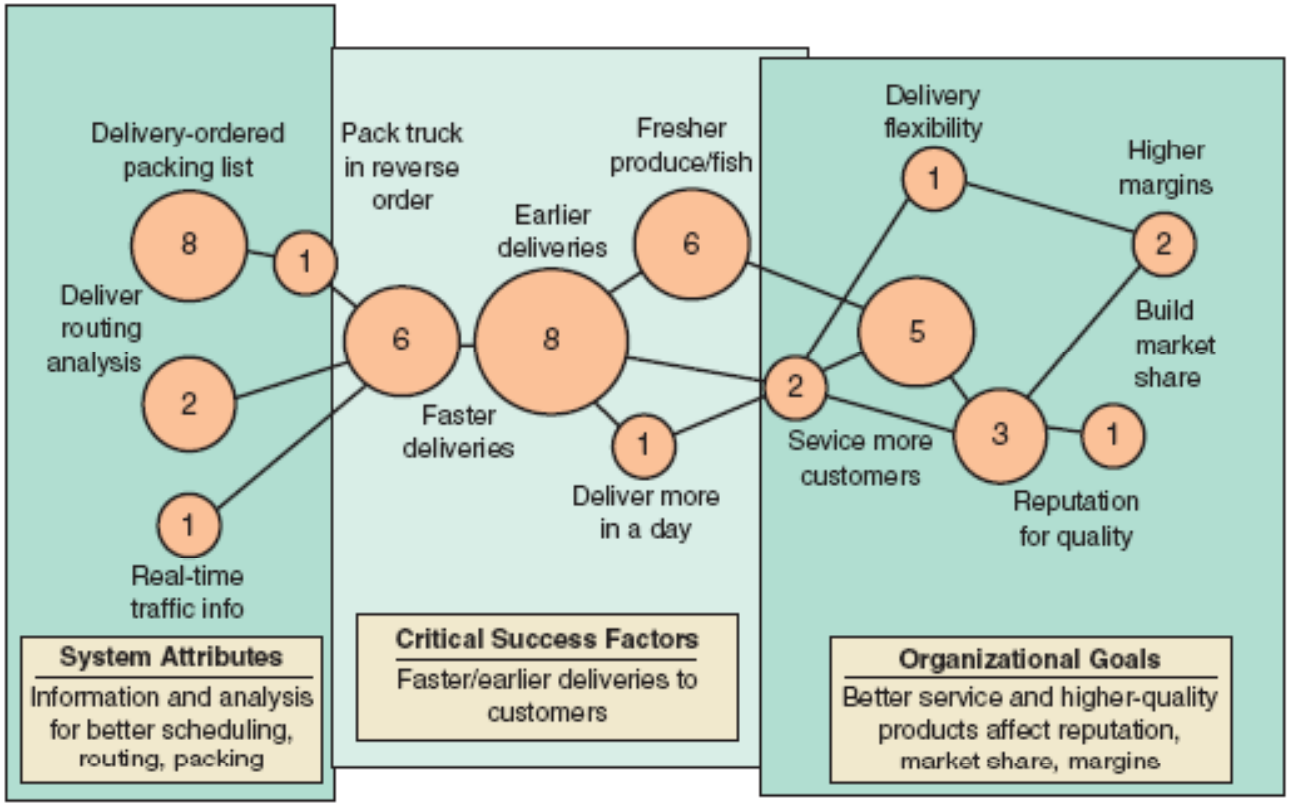
- **The business systems planning (BSP) model**, developed by IBM, deals with two main building blocks which become the basis of an information architecture.
  - **Business processes**
  - **Data classes**
- **Stages Of IT Growth Model,** indicates that organizations go through six stages of IT growth
  - **Initiation. When computers are initially introduced.**
  - **Expansion (Contagion). Centralized growth takes place as users demand more applications.**
  - **Control. In response to management concern about cost versus benefits, systems projects are expected to show a return.**
  - **Integration. Expenditures on integrating (via telecommunications and databases) existing systems**
  - **Data administration. Information requirements rather than processing drive the applications portfolio.**
  - **Maturity. The planning and development of IT are closely coordinated with business development**

Strategic Information Technology Planning – Methodologies (Continued)

- **Critical success factors (CSFs)** are those few things that must go right in order to ensure the organization's survival and success. Critical success factors vary by industry categories—manufacturing, service, or government—and by specific industries within these categories. Sample questions asked in the CSF approach are:
  - What objectives are central to your organization?
  - What are the critical factors that are essential to meeting these objectives?
  - What decisions or actions are key to these critical factors?
  - What variables underlie these decisions, and how are they measured?
  - What information systems can supply these measures?
- **Scenario planning** is a methodology in which planners first create several scenarios, then a team compile possible future events that may influence the outcome of each scenario.

Strategic Information Technology Planning – Methodologies (Continued)

Critical success factors (CSFs)



Global Competition

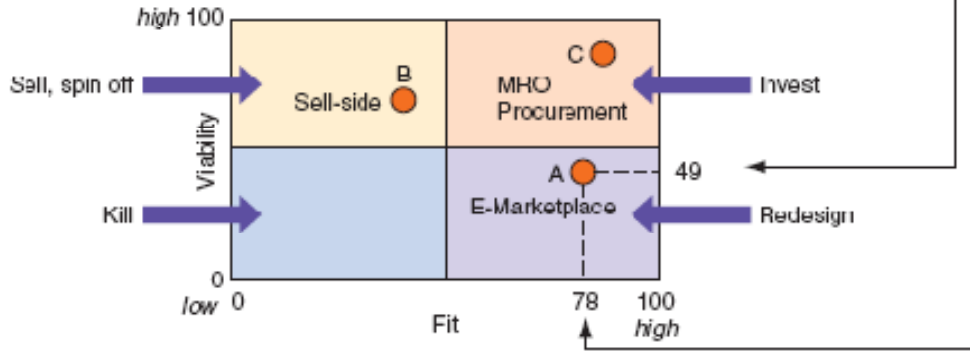
Many companies are operating in a *global environment*. Doing business in this environment is becoming more challenging as the political environment improves and as telecommunications and the Internet open the door to a large number of buyers, sellers, and competitors worldwide. This increased competition is forcing companies to look for better ways to compete globally.

- Global dimensions along which management can globalize
  - **Product**
  - **Markets & Placement**
  - **Promotion**
  - **Where value is added to the product**
  - **Competitive strategy**
  - **Use of non-home-country personnel - labor**
  - ***Multidomestic Strategy:*** Zero standardization along the global dimensions. *Global Strategy:* Complete standardization along the seven global dimensions.

IT Planning — Web-based Systems

EC Application	Market-Value Potential	Time to Positive Cash Flow	Personnel Requirement	Funding Requirement	Average
E-Marketplace (A)	85	70	20	20	49
Sell-side (B)	70	70	60	50	63
MRO Procurement (C)	80	60	80	90	80

Viability Metric (on 1–100 scale)



EC Application	Alignment with Core Capabilities	Alignment with Other Company's Initiatives	Fit with Organizational Structure	Fit with Company's Culture and Values	Ease of Technical Implement-ation	Average, Overall Fit
e-Marketplace	90	60	90	70	80	78
Sell-side	10	30	30	40	60	35
MRO Procurement	90	60	90	90	90	94

Fit Metric (on 1–100 scale)

Managerial Issues

- Sustaining competitive advantage.
- Importance.
- Organizing for planning.
- Fitting the IT architecture to the organization.
- IT architecture planning.
- IT policy.
- Ethical and legal issues.
- IT strategy.

Chapter 13

Copyright © 2008 John Wiley & Sons, Inc. All rights reserved. Reproduction or translation of this work beyond that permitted in Section 117 of the 1976 United States Copyright Act without the express written permission of the copyright owner is unlawful. Request for further information should be addressed to the Permissions Department, John Wiley & Sons, Inc. The purchaser may make back-up copies for his/her own use only and not for distribution or resale. The Publisher assumes no responsibility for errors, omissions, or damages, caused by the use of these programs or from the use of the information contained herein.