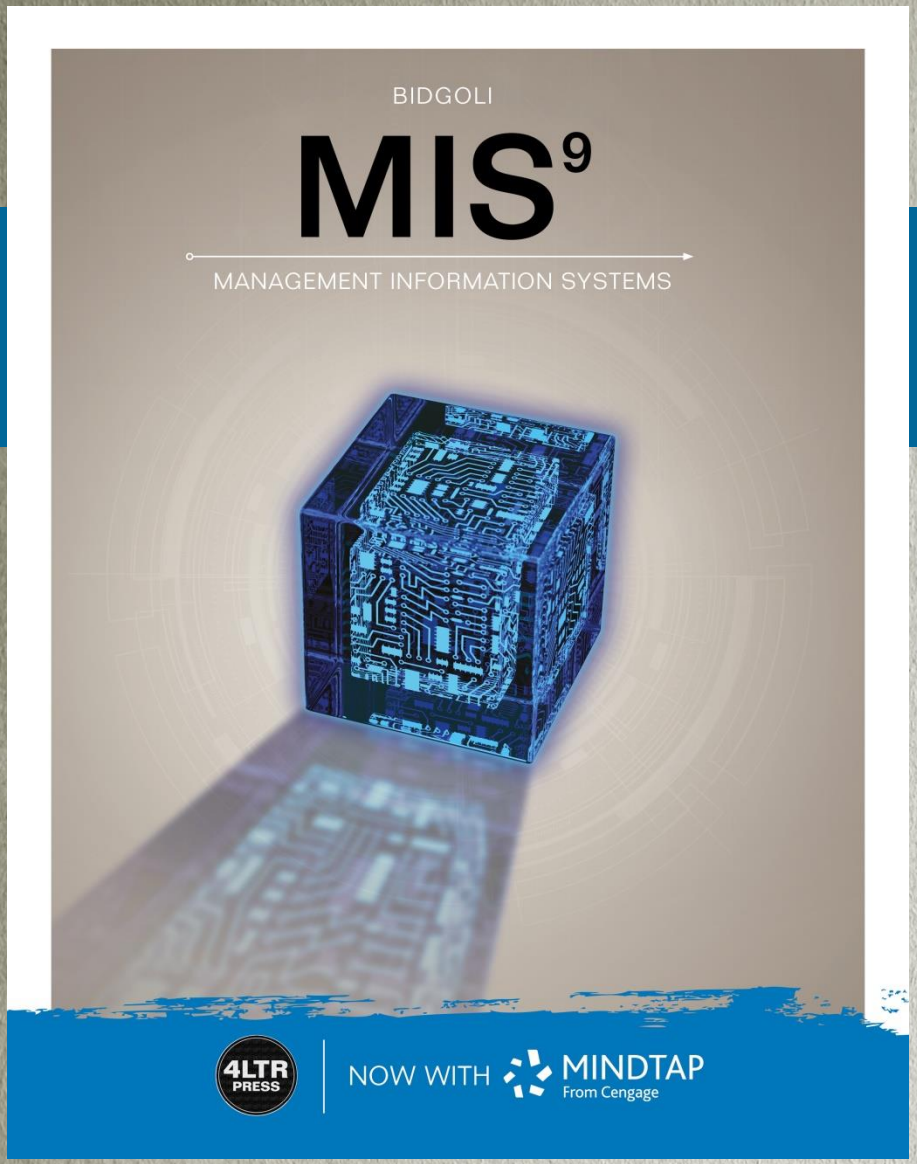


11

Enterprise Systems

Learning Objectives

- Explain how supply chain management is used
- Describe customer relationship management systems
- Describe knowledge management systems
- Describe enterprise resource planning systems

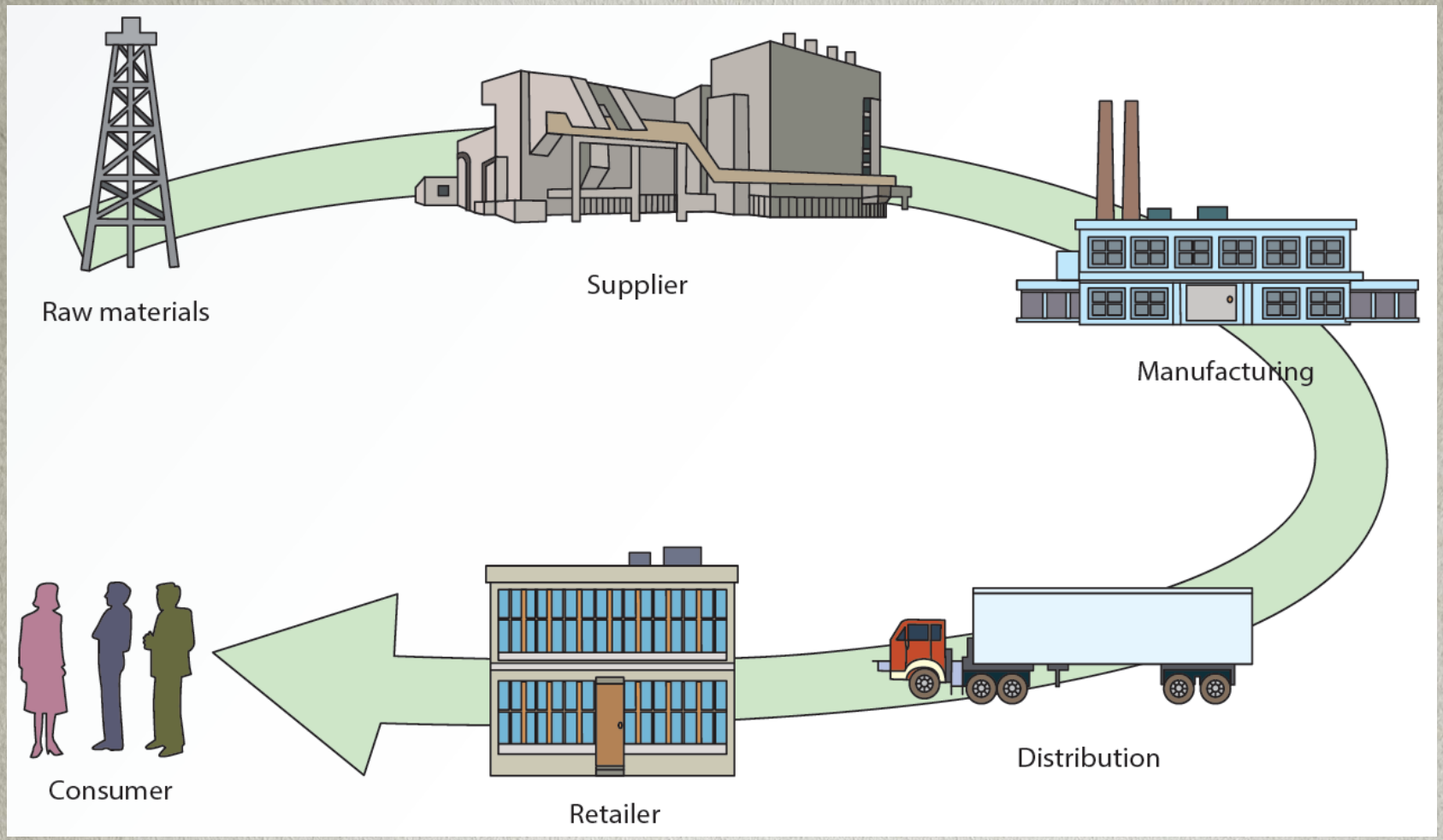
Introduction

- Enterprise system
  - Application used in all the functions of a business
  - Supports decision making throughout the organization
- Enterprise resource planning system
  - Used to coordinate operations, resources, and decision making among manufacturing, production, marketing, and human resources

Supply Chain Management (1 of 4)

- Supply chain
  - Integrated network consisting of an organization, its suppliers, transportation companies, and brokers
  - Used to deliver goods and services to customers

Exhibit 11.1 Supply Chain Configuration



Supply Chain Management (2 of 4)

- Supply chain management (SCM)
  - Process of working with suppliers and other partners in the supply chain
    - Aim is to improve procedures for delivering products and services

Supply Chain Management (3 of 4)

- SCM coordinates several functions
  - Procuring materials
  - Transforming materials into intermediate and finished products or services
  - Distributing finished goods to customers
- Communication in a firm's SCM system
  - Takes place among product flow, information flow, and finances flow

Supply Chain Management (4 of 4)

- Key decisions in SCM related to manufacturing
  - Location, inventory, production, and transportation
- Green logistics and green SCM
  - Growing trend

SCM Technologies

- Major roles in implementing an SCM system
  - Information technologies
  - The Internet

Electronic Data Interchange (1 of 2)

- Enables business partners to exchange information on business transactions
  - Expedites the delivery of accurate information
- Web-based EDI or Open EDI
  - Using the Internet and Web protocols to transmit documents
  - Lowers cost of transmitting documents
  - Platform independent and easy to use

Electronic Data Interchange (2 of 2)

- Drawbacks
  - Uses proprietary standards
  - Cost per partner is higher when the number of partners is small
  - Reduced popularity

Internet-Enabled SCM

- Improves information sharing throughout the supply chain
  - Reduces costs for information transmission and improves customer service
- Improves several SCM activities
  - Purchasing, procurement and scheduling
  - Inventory management and transportation
  - Order processing and customer service

E-Marketplaces (1 of 2)

- Third-party exchange (B2B model)
  - Provide a platform for buyers and sellers to interact and trade more efficiently online
- Help maintain a competitive edge
  - Provides opportunities for partnerships
  - Offers a single platform and reduces costs
  - Solves international time-constraint problems
  - Makes it easy to compare prices and products

E-Marketplaces (2 of 2)

- An e-distributor is a marketplace owned and operated by a third party that provides:
  - Electronic catalog of products
  - Maintenance, repair, and operations (MROs) services
  - Fast delivery of a wide selection of products and services at lower prices
  - Assistance for companies to reduce the time and expense of searching for goods

Online Auctions

- Bring traditional auctions to customers around the globe
  - Make it possible to sell far more goods and services than at a traditional auction
  - Based on the brokerage business model
  - Cost-effective for selling excessive inventory
- Reverse auctions: sellers submit bids
  - One-to-many relationship

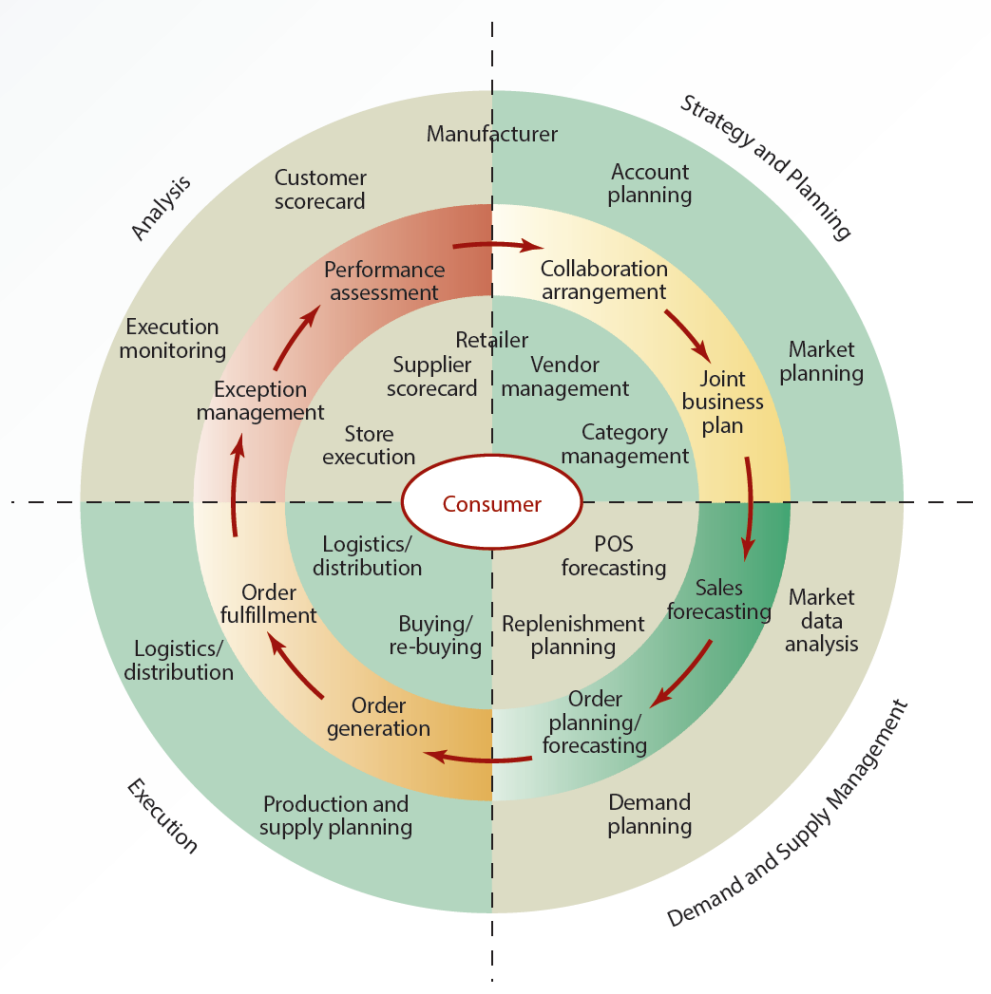
Collaborative Planning, Forecasting, and Replenishment (1 of 2)

- Used to coordinate supply chain members through point-of-sale (POS) data sharing and joint planning
  - Goal is to improve operational efficiency and manage inventory
- Advantage
  - Decreases merchandising, inventory, and logistics costs for all supply chain members

Collaborative Planning, Forecasting, and Replenishment (2 of 2)

- Collaboration part of the process is the agreement between all supply chain partners that establishes how:
  - Data is shared
  - Problems with overstock are solved
  - Costs are shared or minimized
- Exception management
  - Planning for handling unforeseen problems
  - Lessons learned can be used in future planning

Exhibit 11.2 CPFR Process



3D Printing

- Additive manufacturing
  - Making an object from a digital model
- Plays a major role in SCM
  - Significant reduction in manufacturing times
  - Effectiveness in meeting customer demands
  - Elimination of the need to carry inventory
  - Quicker delivery of designs to the market
  - Efficiency in the use of materials

Drones

- Specialized robot that is designed to fly and perform certain automated tasks
  - Available in various shapes and sizes
  - Vary in sophistication
- Several SCM uses
  - Count, carry, and deliver inventory
  - Supervise animals in agriculture
  - Perform maintenance tasks in dangerous environments

Internet of Things (IoTs) (1 of 2)

- Helps achieve several goals
  - Reduces inventory loss in warehouses or in transit
  - Reduces fuel costs
  - Ensures temperature stability during product transit

Internet of Things (IoTs) (2 of 2)

- Manages warehouse inventory for out-of-stock inventory
- Improves customer service and gathers BI regarding product usage

Customer Relationship Management (1 of 3)

- Customer relationship management (CRM): processes a company uses to track and organize its contacts with customers
  - Improves services offered to customers
  - Uses customer contact information for targeted marketing
  - Helps organizations make better use of data, information, and knowledge to understand customers

Customer Relationship Management (2 of 3)

- Marketing strategies focus on long-term relationships and include:
  - Identifying customer segments and a company's profitable and loyal customers
  - Improving products to meet customer needs and customer retention
- Provides a complete picture of an organization's customers
  - Complex analyses on customer data

Customer Relationship Management (3 of 3)

- Activities in a CRM System
  - Sales automation
  - Order processing
  - Marketing automation
  - Customer support
  - Knowledge management
  - Personalization technology

CRM Applications (1 of 2)

- Implemented with one of two approaches
  - On-premises CRM
  - Web-based CRM
- Software packages available for setting up a CRM system
  - Amdocs CRM, Optima Technologies ExSellence, Infor CRM, SAP CRM, and Oracle CRM

CRM Applications (2 of 2)

- Features of CRM software packages
  - Salesforce automation
  - eCRM or Web-based CRM
  - Survey management
  - Automated customer service

Personalization Technology (1 of 5)

- Personalization
  - Process of satisfying customers' needs, building customer relationships, and increasing profits
  - Achieved by designing goods and services that meet customers' preferences better

Personalization Technology (2 of 5)

- Customization
  - Allows customers to modify the standard offering
  - Example: selecting a different home page to be displayed each time the Web browser is opened

Personalization Technology (3 of 5)

- Requires gathering customer information
  - May affect customers' sense of privacy
- Implementation requires:
  - Internet and databases
  - Data warehouse/data marts
  - Data-mining tools
  - Mobile networks
  - Collaborative filtering (CF)

Personalization Technology (4 of 5)

- Collaborative Filtering (CF)
  - Search for specific information or patterns using input from multiple business partners and data sources
  - Identifies groups of people based on common interests and recommends products
  - Works well for a single product category

Personalization Technology (5 of 5)

- Collaborative filtering drawbacks
  - Needs a large sample of users and content to work well
  - Fails to make recommendations across unrelated categories
- Application
  - Making automatic predictions about customer preferences based on similar users

Knowledge Management (1 of 6)

- Knowledge management (KM) is a technique used to improve CRM systems
  - Identifying, storing, and disseminating "know-how"— facts about how to perform tasks

Knowledge Management (2 of 6)

- Draws on concepts of organizational learning, culture, and best practices to:
  - Convert tacit knowledge into explicit knowledge
  - Create a knowledge-sharing culture in an organization
  - Eliminate obstacles to sharing knowledge

Knowledge Management (3 of 6)

- Knowledge repository can be created by storing knowledge captured from experts
  - Can be accessed by employees when needed and used when new products are designed
- Tracks how often an employee participates in knowledge-sharing interactions
  - Can be used to reward employees

Knowledge Management (4 of 6)

- Tools and technologies
  - Groupware to create, manage, and distribute documents in an organization
  - DBMSs and data-mining tools
  - Decision support systems

Knowledge Management (5 of 6)

- Contributions to an organization
  - Promote innovation by encouraging free exchange of ideas
  - Improve customer service by reducing response time
  - Increase revenue by reducing the delivery time for products and services
  - Improve employee retention rates by rewarding employees for their knowledge

Knowledge Management (6 of 6)

- Chief knowledge officer (CKO) ensures:
  - Knowledge resources are collected, stored, and disseminated among key decision makers
  - Organization profits from knowledge resources
  - Return on investment (ROI) is maximized
    - KM and knowledge management systems
    - Processes

Enterprise Resource Planning (1 of 3)

- Enterprise resource planning (ERP): integrated system
  - Collects and processes data
  - Manages and coordinates resources, information, and functions
  - Includes hardware, software, procedures, and input from all functional areas
  - Systems use a unified database to store data for various functions

Exhibit 11.3 ERP Configuration

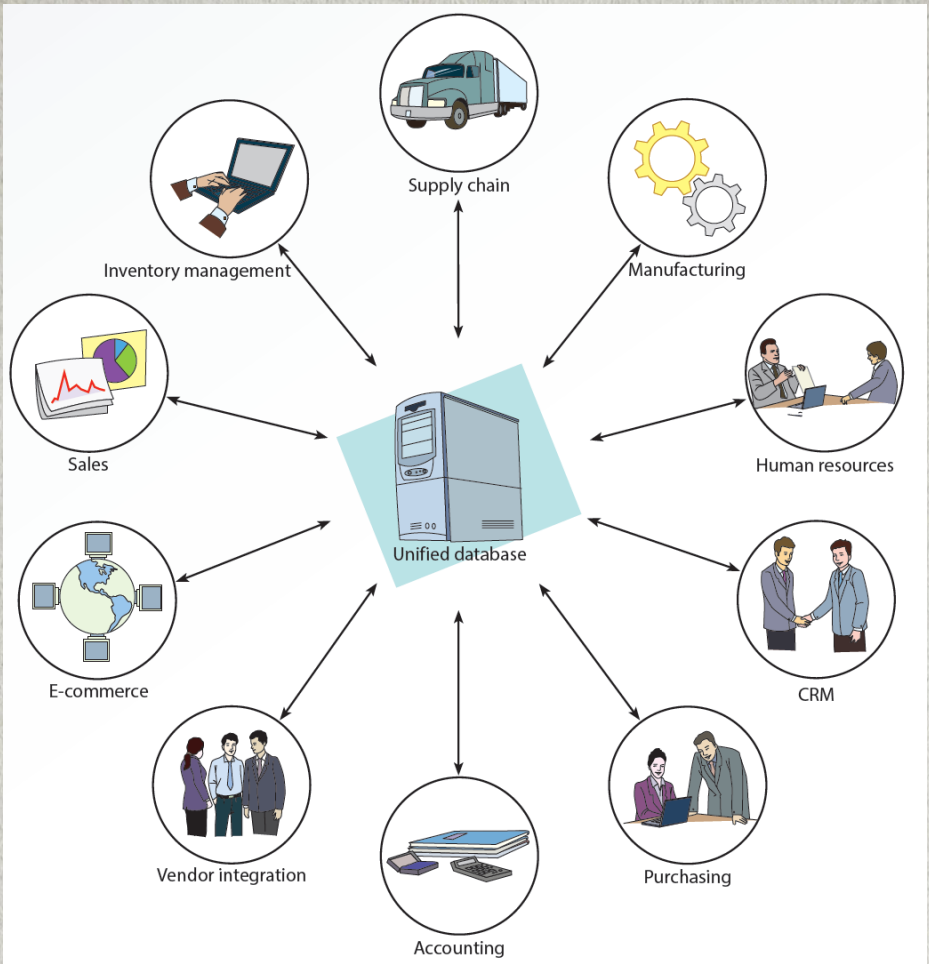


Table 11.1 ERP Components (1 of 2)

Components	Functions
Unified database	Collects and analyzes relevant internal and external data and information needed by other functions
Inventory management	Provides inventory status and inventory forecasts
Supply chain	Provides information on supply chain members, including suppliers, manufacturing, distribution, and customers
Manufacturing	Provides information on production costs and pricing
Human resources	Provides information on assessing job candidates, scheduling and assigning employees, and predicting future personnel needs
CRM	Provides information on customers and their needs and preferences

Table 11.1 ERP Components (2 of 2)

Components	Functions
Purchasing	Provides information related to the purchasing function, including e-procurement
Accounting	Tracks financial information, such as budget allocations and debits and credits
Vendor integration	Integrates information for vendors, such as offering automated downloads of data on product pricing, specifications, and availability
E-commerce	Provides B2C information related to order status and B2B information related to suppliers and business partners
Sales	Provides information on sales and marketing

Enterprise Resource Planning (2 of 3)

- Benefits of a well-designed ERP system
  - Increased availability and timeliness of integrated information
  - Increased data accuracy and response time
  - Improved customer and employee satisfaction, planning and scheduling, supplier relationship, and reliability of information
  - Reduced inventory costs, labor costs, and order-to-fulfillment time

Enterprise Resource Planning (3 of 3)

- Drawbacks
  - High cost
  - Difficulties in installation
  - Need for extensive training
  - Compatibility problems with legacy systems
- Available as modules so organizations can purchase only required components
  - Keeps costs down

Summary

- Supply chains exist in both service and manufacturing organizations
  - CRM systems help organizations make better use of data and knowledge to understand their customers
  - KM systems are used to improve efficiency of CRM systems
  - ERP systems use a unified database to store data for various functions