

# MIS

## CHAPTER 11

# ENTERPRISE SYSTEMS

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# learning outcomes

- L01** Describe the purpose of an enterprise system.
- L02** Explain how supply chain management is used.
- L03** Summarize the challenges in supply chain management.
- L04** Describe customer relationship management systems.
- L05** Explain knowledge management systems.

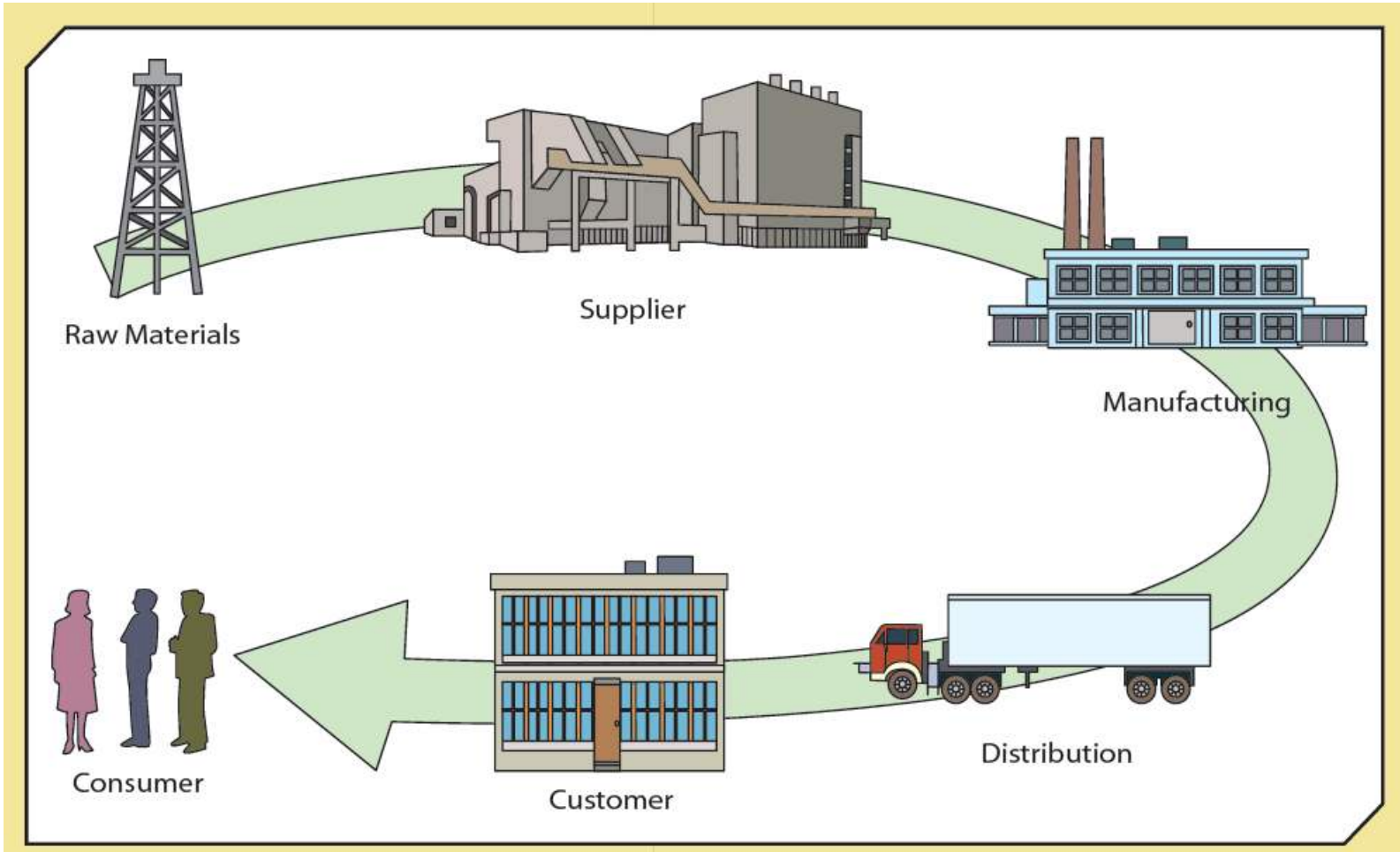
# learning outcomes (cont'd.)

- L06** Explain how personalization technology is used to improve customer service.
- L07** Describe enterprise resource planning systems.

## Supply Chain Management

- **Supply chain**

- Integrated network
- Consisting of an organization, its suppliers, transportation companies, and brokers
- Used to deliver goods and services to customers
- Exist in both service and manufacturing organizations



## Supply Chain Management (cont'd.)

- **Supply chain management (SCM)**

- Process of working with suppliers and other partners in the supply chain to improve procedures for delivering products and services
- Coordinates:
  - Procuring materials
  - Transforming materials into intermediate and finished products or services
  - Distributing finished products or services to customers

## Supply Chain Management (cont'd.)

- In manufacturing firm, information in an SCM system flows between the following areas:
  - Product flow
  - Information flow
  - Finances flow
- Four key decisions in supply chain management:
  - Location
  - Inventory
  - Production
  - Transportation

## Supply Chain Management (cont'd.)

- Vendors offer comprehensive solutions:
  - SAP
  - Oracle
  - JDA Software
  - Manhattan associates



## Dell Computer's Supply Chain

- Modified its supply chain from a “push” to a “pull” manufacturing process
  - Also known as “built to order (BTO)”
- Main sales channel is direct sales to customers
- Dell has been able to reduce costs by eliminating intermediaries and shortening delivery time

## SCM Technologies

- Information technologies and the Internet play a major role in implementing an SCM system
- **Electronic Data Interchange (EDI)**
  - Enables business partners to send and receive information on business transactions
  - Expedites delivering accurate information
  - Lowers the cost of transmitting documents
  - Advantage of being platform independent and easy to use

## SCM Technologies (cont'd.)

- Using EDI has some drawbacks
  - Uses the X.25 standard
  - Beneficial when more companies are in the EDI network
  - Often was not affordable for small suppliers and distributors
- Open EDI
  - Based on XML
  - Traditional EDI has declined in popularity

## Internet-Enabled SCM

- Improves information sharing throughout the supply chain
- Can improve the following SCM activities:
  - Purchasing/procurement
  - Inventory management
  - Transportation
  - Order processing
  - Customer service
  - Production scheduling

## E-marketplaces

- **Third-party exchange**
  - Provides a platform for buyers and sellers to interact with each other and trade more efficiently online
- **Benefits**
  - Increases efficiency and effectiveness in the supply chain
  - Provides opportunities for sellers and buyers to establish new trading partnerships
  - Provides a single platform for prices, availability, and stock levels that's accessible to all participants

### E-marketplaces (cont'd.)

- Solves time constraint problems for international trade and makes it possible to conduct business around the clock
- Makes it easy to compare prices and products from a single source instead of spending time contacting each seller
- Reduces marketing costs more than traditional sales channels can

## E-marketplaces (cont'd.)

- E-distributor
  - Marketplace owned and operated by a third party that provides an electronic catalog of product
  - Maintenance, repair, and operations (MROs) services
    - Includes services from different vendors
    - E-distributor coordinates them into one package for customers
  - Example of a horizontal market

## 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
- Brokerage business model
- **Reverse auctions**
  - Invite sellers to submit bids for products and services

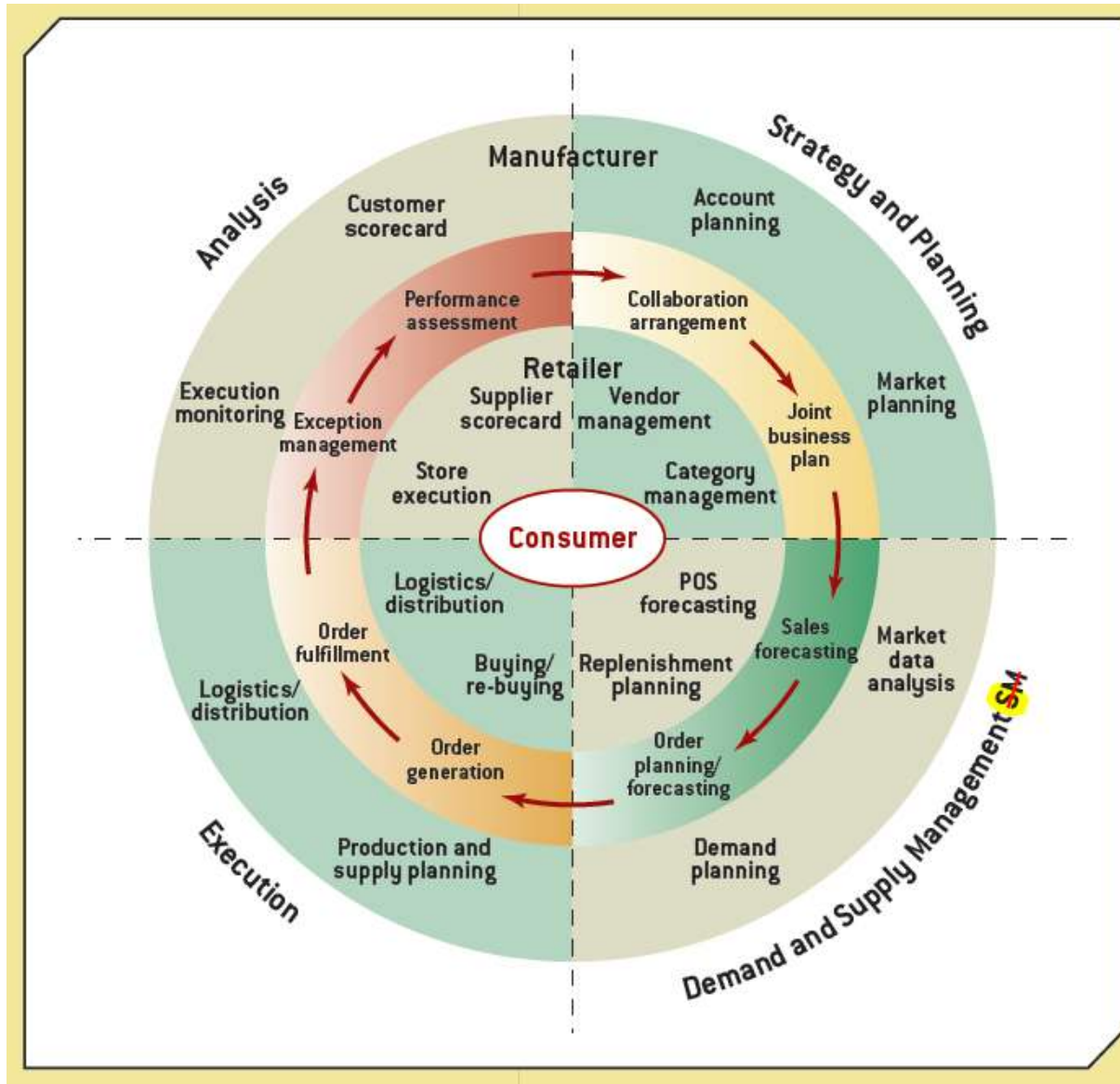


## Collaborative Planning, Forecasting, and Replenishment

- Coordinate supply chain members through point-of-sale (POS) data sharing and joint planning
- Any data collected is shared with all members of the supply chain
- Coordinating the supply chain can be difficult
- CPFR ensures that inventory and sales data are shared across the supply chain
  - So that everyone knows the exact sales and inventory levels

## Collaborative Planning, Forecasting, and Replenishment (cont'd.)

- Costs for each partner are shared or minimized
- Unforeseen problems can crop up



# Customer Relationship Management

- **CRM**
  - Consists of the processes a company uses to track and organize its contacts with customers
- Main goal of a CRM system
  - Improve services offered to customers
  - Use customer contact information for targeted marketing
- Marketing strategies in a CRM system
  - Focus on long-term relationships with customers instead of transactions

## Customer Relationship Management (cont'd.)

- Identifies segments of customers
- Improves products and services to meet customers' needs
- Improves customer retention
- Identifies a company's most profitable (and loyal) customers
- Helps organizations make better use of data, information, and knowledge to understand customers

## Customer Relationship Management (cont'd.)

- Gives organizations more complete pictures of their customers
  - Integrates demographic and other external data with customers' transaction data to better understand customer behavior
- Pays external agencies for additional data about you that might be public or semiprivate

## Customer Relationship Management (cont'd.)

- With a CRM system, organizations can:
  - Provide services and products that meet customers' needs
  - Offer better customer service through multiple channels
  - Increase cross-selling and upselling
  - Help sales personnel close deals faster by offering data on customers' backgrounds
  - Retain existing customers and attract new ones

## Customer Relationship Management (cont'd.)

- CRM systems include:
  - Sales automation
  - Order processing
  - Marketing automation
  - Customer support
  - Knowledge management
  - Personalization technology



## CRM in Action

- Time Warner Cable Business Class
  - CRM system from Salesforce.com
  - Analyze business data, improve the accuracy of forecasts, improve problem solving, and monitor sales and business activities
- Important features of the system include:
  - Dashboards, features for “drilling down,” Web-based knowledge base for employees and customers, and Web log for sales personnel communication
- Has increased productivity by 10%

## CRM Applications

- On-premise CRM or Web-based CRM (SaaS)
- Several software packages are available for setting up a CRM system:
  - Amdocs CRM, Optima Technologies ExSelligence, Infor CRM, SAP mySAP, Oracle PeopleSoft CRM, and Oracle Siebel

## CRM Applications (cont'd.)

- **Features:**
  - Salesforce automation
  - eCRM or Web-based CRM
  - Survey management
  - Automated customer service

## Personalization Technology

- **Personalization**

- Satisfies customers' needs, builds customer relationships, and increases profits
- Designs goods and services that meet customers' preferences better

- **Customization**

- Allows customers to modify the standard offering
  - Such as selecting a different home page to be displayed each time you open your Web browser

## Personalization Technology (cont'd.)

- Using personalization requires gathering a lot of information about customers' preferences and shopping patterns
- Amazon
  - Known for using personalization to recommend products to customers
- Nordstrom.com
  - Suggests shoes or a tie that go with the suit or a similar suit in the same category

## Personalization Technology (cont'd.)

- Apple iTunes
  - Other songs that listeners like you purchased are suggested
- Google account holders
  - Personalized search results that are reordered based on their searching histories

## Personalization Technology (cont'd.)

- Implement a personalization system
  - Internet, databases, data warehouse/data marts, data-mining tools, mobile networks, and collaborative filtering
- **Collaborative filtering (CF)**
  - Searches for specific information or patterns, using input from multiple business partners and data sources

## Knowledge Management

- Improve CRM systems by identifying, storing, and disseminating “know-how”—facts about how to perform tasks
- Knowledge is an asset
  - Should be shared throughout an organization to generate business intelligence and maintain a competitive advantage in the marketplace
- Knowledge is more than information and data
  - Also contextual



## Knowledge Management (cont'd.)

- Knowledge repository
  - Stores knowledge of experts
- Example: knowledge base of typical customer complaints and solutions
- Motivates employees to share knowledge
  - Offer reward
- Simple knowledge management system
  - Using groupware
- Other tools and technologies include:
  - DBMSs, data-mining tools, decision support systems

## Knowledge Management (cont'd.)

- Knowledge management system should help an organization to:
  - 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

## Enterprise Resource Planning

- Integrated system
- Collects and processes data
- Manages and coordinates resources, information, and functions
- Many components, including:
  - Hardware, software, procedures, and input from all functional areas

## Enterprise Resource Planning (cont'd.)

- Well-designed ERP system benefits:
  - Increased availability and timeliness of information
  - Increased data accuracy and improved response time
  - Improved customer satisfaction
  - Improved employee satisfaction
  - Improved planning and scheduling
  - Improved supplier relationship
  - Improved reliability of information
  - Reduction in inventory costs
  - Reduction in labor costs
  - Reduction in order-to-fulfillment time

## Enterprise Resource Planning (cont'd.)

- ERP systems are available as modules
- Organization can purchase only the components it needs
  - Keeps costs down for organizations
- More than 40 vendors offer ERP software

## ERP Streamlines Operations at Naghi Group

- Naghi Group implemented an ERP system to integrate its major functional areas, including finance, sales, and supply chain management
- Using ERP, the firm's managers are able to view financial data, keep track of inventory status, and analyze its customers' purchasing activities in real-time
- The ERP system has streamlined operations and improved customer service; it has also contributed to more timely business decisions

**Table 11.1** *ERP components*

Component	Function
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	Supplies information on production costs and pricing
Human resources	Provides information on assessing job candidates, scheduling and assigning employees, and predicting future personnel needs
CRM	Supplies information on customers and their needs and preferences
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	Supplies information on sales and marketing

## Global ERP in Action

- Jabil Circuit
  - One of the top five electronic manufacturing service providers worldwide
- Integrate information from all branch plants
- Teamed with IBM Business Consulting Services to migrate all branch sites to a global ERP system
- Reduced the time needed to integrate information and generate reports by 60%



### Summary

- Enterprise systems
- Supply chain management (SCM)
  - Technology
- Customer relationship management (CRM)
  - Personalization
  - Customization
- Knowledge management and enterprise resource planning (ERP)