

## Management Information Systems: Managing the Digital Firm

Seventeenth Edition



### Chapter 9

Achieving Operational Excellence  
and Customer Intimacy: Enterprise  
Applications

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## Learning Objectives

- 9.1** How do enterprise systems help businesses achieve operational excellence?
- 9.2** How do supply chain management systems coordinate planning, production, and logistics with suppliers?
- 9.3** How do customer relationship management systems help firms achieve customer intimacy?
- 9.4** What are the challenges that enterprise applications pose, and how are enterprise applications taking advantage of new technologies?
- 9.5** How will MIS help my career?

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## Video Cases

- Case 1: Maersk Develops a Global Shipping Management System

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## Lenzing Sustainably Balances Supply and Demand (1 of 2)

- Problem
  - High environmental standards
  - Global operations
  - Inefficient supply chain
  - Manual processes
- Solutions
  - Establish sustainability goals
  - Promote innovation
  - Select new technology
  - Revise supply chain processes
  - Deploy JDA Sales & Operations Planning

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## Lenzing Sustainably Balances Supply and Demand (2 of 2)

- Lenzing implemented JDA's Sales & Operations Planning software to gain better visibility into its supply chain, leading to greater forecast accuracy, better decisions, and higher operational efficiency across the global enterprise
- Helped Lenzing minimize waste and made its entire supply chain "leaner"
- Illustrates the critical nature of supply chain management systems in business

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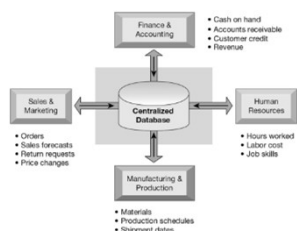
## What Are Enterprise Systems

- Also known as enterprise resource planning (ERP) systems
- Based on a suite of integrated software modules and a common central database
- Collects data from many divisions of firm for use in nearly all of firm's internal business activities
- Information entered in one process is immediately available for other processes

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**Figure 9.1 How Enterprise Systems Work**



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## Enterprise Software

- Built around thousands of predefined business processes that reflect best practices
  - Finance and accounting
  - Human resources
  - Manufacturing and production
  - Sales and marketing
- To implement, firms:
  - Select functions of system they wish to use
  - Map business processes to software processes
    - Use software's configuration tables for customizing

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## Business Value of Enterprise Systems

- Increase operational efficiency
- Provide firm-wide information to support decision making
- Enable rapid responses to customer requests for information or products
- Include analytical tools to evaluate overall organizational performance and improve decision-making

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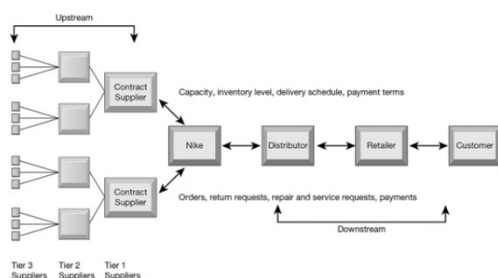
## The Supply Chain

- Network of organizations and processes for:
  - Procuring materials
  - Transforming materials into products
  - Distributing the products
- Upstream supply chain
- Downstream supply chain
- Internal supply chain

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**Figure 9.2 Nike's Supply Chain**



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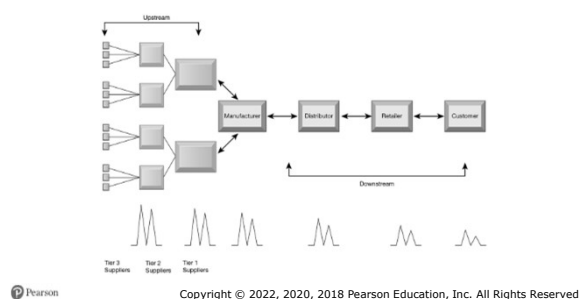
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## Supply Chain Management

- Inefficiencies cut into a company's operating costs
  - Can waste up to 25 percent of operating expenses
- Just-in-time strategy
  - Components arrive as they are needed
  - Finished goods shipped after leaving assembly line
- Safety stock: buffer for lack of flexibility in supply chain
- Bullwhip effect
  - Information about product demand gets distorted as it passes from one entity to next across supply chain

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**Figure 9.3 The Bullwhip Effect****Supply Chain Management Software**

- Supply chain planning systems
  - Model existing supply chain
  - Enable demand planning
  - Optimize sourcing, manufacturing plans
  - Establish inventory levels
  - Identify transportation modes
- Supply chain execution systems
  - Manage flow of products through distribution centers and warehouses

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**Global Supply Chains and the Internet**

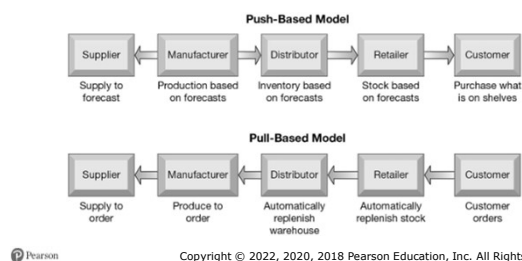
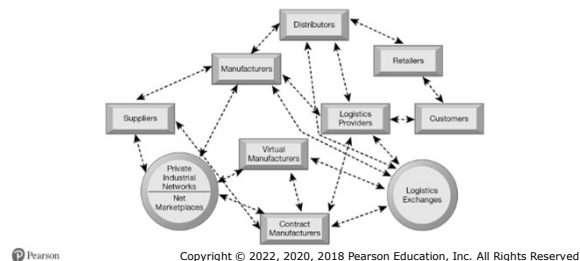
- Global supply chain issues
  - Greater geographical distances, time differences
  - Participants from different countries
    - Different performance standards
    - Different legal requirements
- Internet helps manage global complexities
  - Warehouse management
  - Transportation management
  - Logistics
  - Outsourcing

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**Demand-Driven Supply Chains: From Push to Pull Manufacturing and Efficient Customer Response**

- Push-based model (build-to-stock)
  - Earlier SCM systems
  - Schedules based on best guesses of demand
- Pull-based model (demand-driven)
  - Web-based
  - Customer orders trigger events in supply chain
- Internet enables move from sequential supply chains to concurrent supply chains
  - Complex networks of suppliers can adjust immediately

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**Figure 9.4 Push- Versus Pull-Based Supply Chain Models****Figure 9.5 The Emerging Internet-Driven Supply Chain**

## Business Value of Supply Chain Management Systems

- Match supply to demand
- Reduce inventory levels
- Improve delivery service
- Speed product time to market
- Use assets more effectively
  - Total supply chain costs can be 75 percent of operating budget
- Increase sales

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## Customer Relationship Management

- Knowing the customer
- In large businesses, too many customers and too many ways customers interact with firm
- CRM systems
  - Capture and integrate customer data from all over the organization
  - Consolidate and analyze customer data
  - Distribute customer information to various systems and customer touch points across enterprise
  - Provide single enterprise view of customers

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## Figure 9.6 Customer Relationship Management (CRM)



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## Customer Relationship Management Software (1 of 2)

- Packages range from niche tools to large-scale enterprise applications
- More comprehensive packages have modules for:
  - Partner relationship management (PRM)
    - Integrating lead generation, pricing, promotions, order configurations, and availability
    - Tools to assess partners' performances
  - Employee relationship management (ERM)
    - Setting objectives, employee performance management, performance-based compensation, employee training

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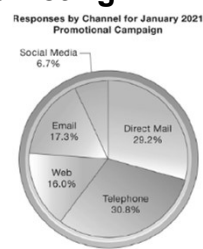
## Customer Relationship Management Software (2 of 2)

- CRM packages typically include tools for:
  - Sales force automation (SFA)
    - Sales prospect and contact information
    - Sales quote generation capabilities
  - Customer service
    - Assigning and managing customer service requests
    - Web-based self-service capabilities
  - Marketing
    - Capturing prospect and customer data, scheduling and tracking direct-marketing mailings or e-mail
    - Cross-selling

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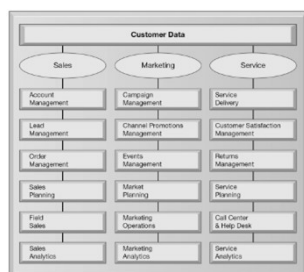
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## Figure 9.7 How CRM Systems Support Marketing



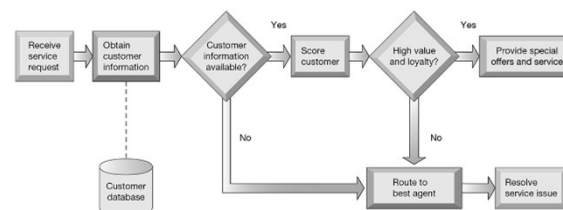
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**Figure 9.8 CRM Software Capabilities**

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**Figure 9.9 Customer Loyalty Management Process Map**

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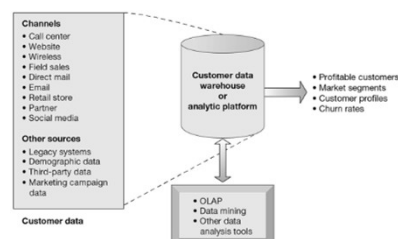
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**Operational and Analytical CRM**

- Operational CRM
  - Customer-facing applications
  - Sales force automation call center and customer service support
  - Marketing automation
- Analytical CRM
  - Based on data warehouses populated by operational CRM systems and customer touch points
  - Analyzes customer data (OLAP, data mining, etc.)
    - Customer lifetime value (CLTV)

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**Figure 9.10 Analytical CRM Data Warehouse**

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**Business Value of Customer Relationship Management Systems**

- Business value of CRM systems
  - Increased customer satisfaction
  - Reduced direct-marketing costs
  - More effective marketing
  - Lower costs for customer acquisition/retention
  - Increased sales revenue
- Churn rate
  - Number of customers who stop using or purchasing products or services from a company
  - Indicator of growth or decline of firm's customer base

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**Interactive Session: Organizations: CRM Helps Adidas Know Its Customers One Shoe Buyer at a Time (1 of 2)**

- Class discussion
  - Analyze Adidas using the competitive forces and value chain model.
  - What is Adidas's business strategy? What is the rule of customer relationship management in that strategy?
  - How do information systems support Adidas's strategy?

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### Interactive Session: Organizations: CRM Helps Adidas Know Its Customers One Shoe Buyer at a Time (2 of 2)

- Class discussion
  - How did using Salesforce.com make Adidas more competitive? How did it change the way the company ran its business?
  - Give an example of two business decisions that were improved by using Salesforce.com



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### Enterprise Application Challenges

- Expensive to purchase and implement
  - Many projects experience cost overruns
  - Long development times
- Technology changes
- Business process changes
- Organizational learning changes
- Switching costs, dependence on software vendors
- Data standardization, management, cleansing



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### Next-Generation Enterprise Applications (1 of 2)

- Enterprise solutions/suites
  - Make applications more flexible, web-enabled, integrated with other systems
- Cloud-based versions
- Functionality for mobile platform
- Versions also available for small and medium-sized businesses



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### Next-Generation Enterprise Applications (2 of 2)

- Social CRM
  - Incorporating social networking technologies
  - Company social networks
  - Monitor social media activity; social media analytics
  - Manage social and web-based campaigns
- Business intelligence
  - Inclusion of BI with enterprise applications
  - Flexible reporting, ad hoc analysis, “what-if” scenarios, digital dashboards, data visualization, AI machine learning



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### Interactive Session: Technology: Versum's ERP Transformation

- Class discussion
  - Define the problem in this case study. What management, organization, and technology factors contributed to this problem?
  - Was the SAP S/4 HANA SaaS solution a good one for Versum? Explain your answer.
  - What challenges did Versum encounter implementing the new system?
  - How did the new system change the way Versum ran its business?



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### How Will MIS Help My Career?

- The Company: XYZ Global Industrial Components
- Position Description: Manufacturing management trainee
- Job Requirements
- Interview Questions
- Author Tips



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