

# Chapter Learning Objectives

*After reading this chapter, you will be able to answer the following questions:*

- How do **enterprise systems** help businesses achieve operational excellence?
- How do **supply chain management** systems coordinate planning, production, and logistics with suppliers?
- How do **customer relationship management** systems help firms achieve customer intimacy?
- What are **Knowledge Management Systems**?
- What are the **challenges** posed by enterprise applications?

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- How do **enterprise systems** help businesses achieve operational excellence?

# Enterprise Systems

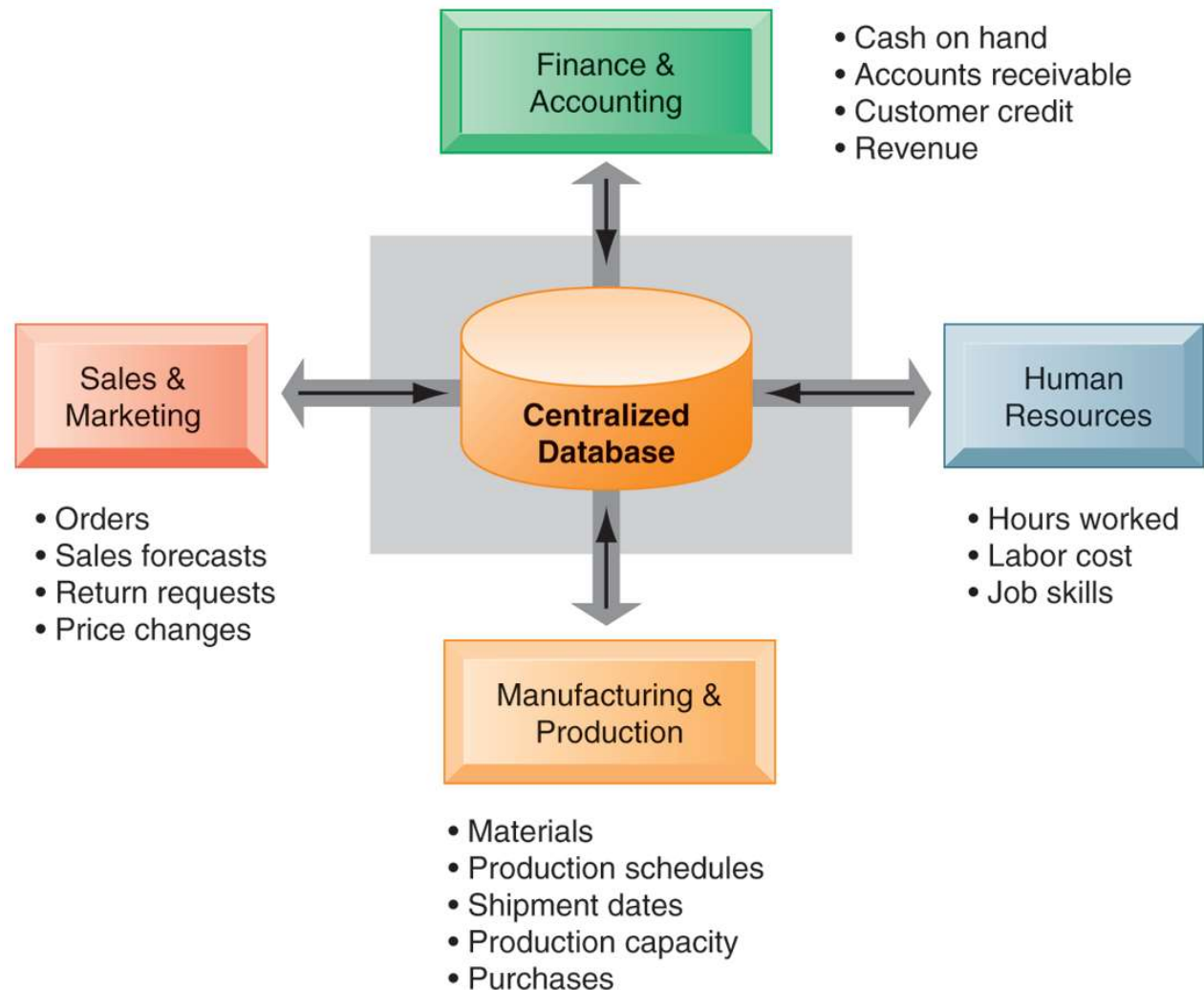
Enterprise systems:

- Also called “**enterprise resource planning (ERP) systems**”
- 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

# Enterprise Systems

## Enterprise systems

feature a set of integrated software modules and a central database that enables data to be shared by many different business processes and functional areas throughout the enterprise.



# Enterprise Systems

## Enterprise software

Built around thousands of predefined business processes that reflect **best practices**

- *Finance/accounting*: General ledger, accounts payable, etc.
- *Human resources*: Personnel administration, payroll, etc.
- *Manufacturing/production*: Purchasing, shipping, etc.
- *Sales/marketing*: Order processing, billing, sales planning, etc.

To implement, firms:

- Select functions of system they wish to use
- Map business processes to software processes
- Use software's configuration tables for customizing

# Enterprise Systems

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

# Enterprise Systems

Benefits realization:

ERP systems are adopted to **enhance business performance**, which is usually interpreted as either **financial gains, operational improvements, or intangible gains**.

**Qualitative measures combined with quantitative measures** give a fuller picture of overall benefits of ERP systems to an organization.

# Enterprise Systems

Lifecycle:

1. Adoption decision phase
2. Acquisition phase
3. Implementation phase
4. Use and maintenance phase
5. Evolution phase
6. Retirement phase



# Enterprise Systems

Cost estimation:

## **Cost drivers are:**

1. Hardware
2. Software
3. Human resources
4. Change management
5. Vendor services

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- How do **supply chain management systems** coordinate planning, production, and logistics with suppliers?

# Supply Chain Management Systems

Supply chain:

The **supply chain is a network of organizations and processes** for:

- Procuring raw materials
- Transforming them into products
- Distributing the products

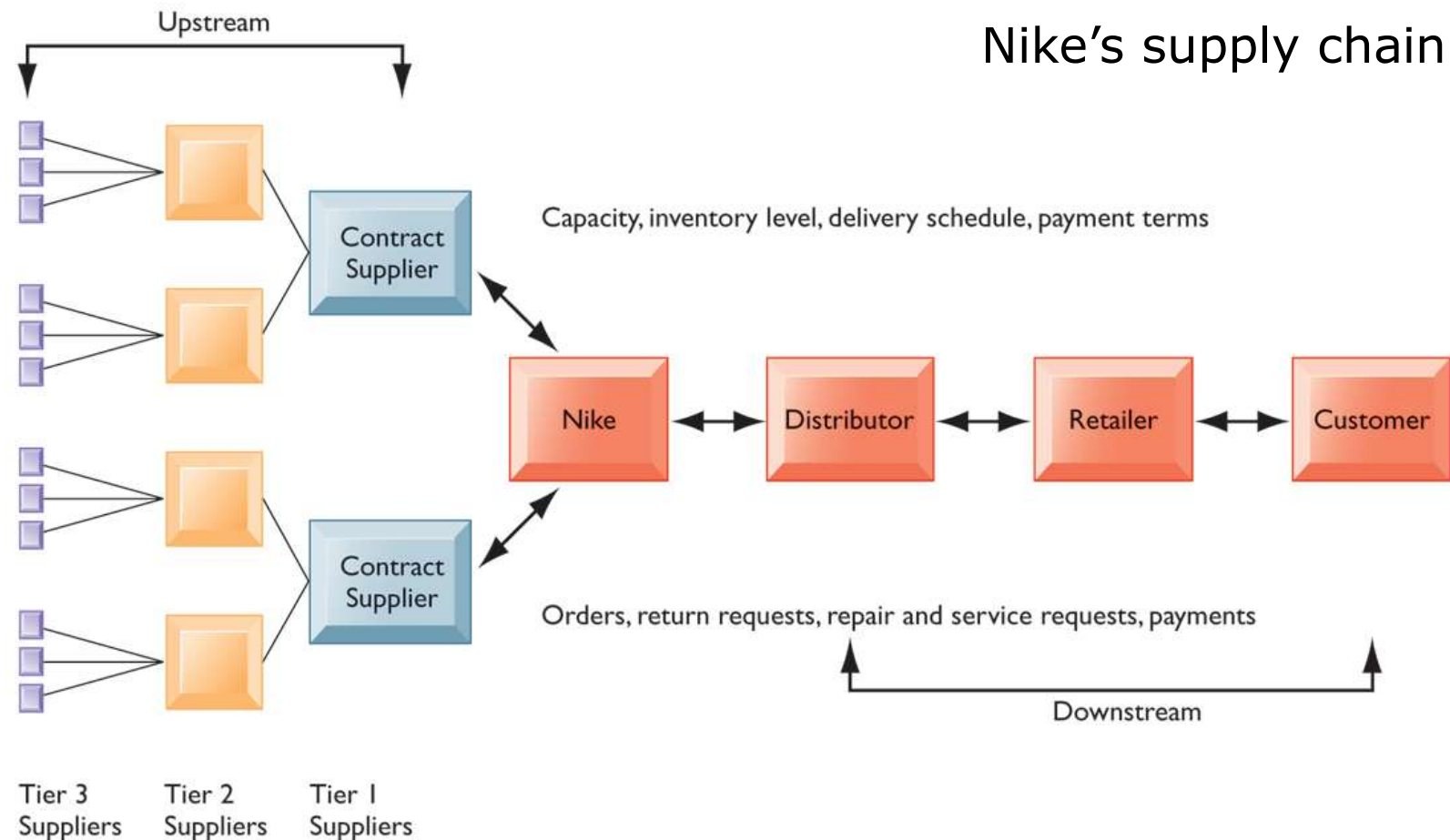
## **Upstream supply chain:**

- Firm's suppliers, suppliers' suppliers, processes for managing relationships with them

## **Downstream supply chain:**

- Organizations and processes responsible for delivering products to customers

# Supply Chain Management Systems



This figure illustrates the major entities in Nike's supply chain and the flow of information upstream and downstream to coordinate the activities involved in buying, making, and moving a product. Shown here is a simplified supply chain, with the upstream portion focusing only on the suppliers for sneakers and sneaker soles.

# Supply Chain Management Systems

## Information and supply chain management

Inefficiencies cut into a company's operating costs and can waste up to 25% of operating expenses **What causes inefficiencies in supply chain?**

### Just-in-time strategy:

- Components arrive as they are needed **Perfect information!**
- Finished goods shipped after leaving assembly line

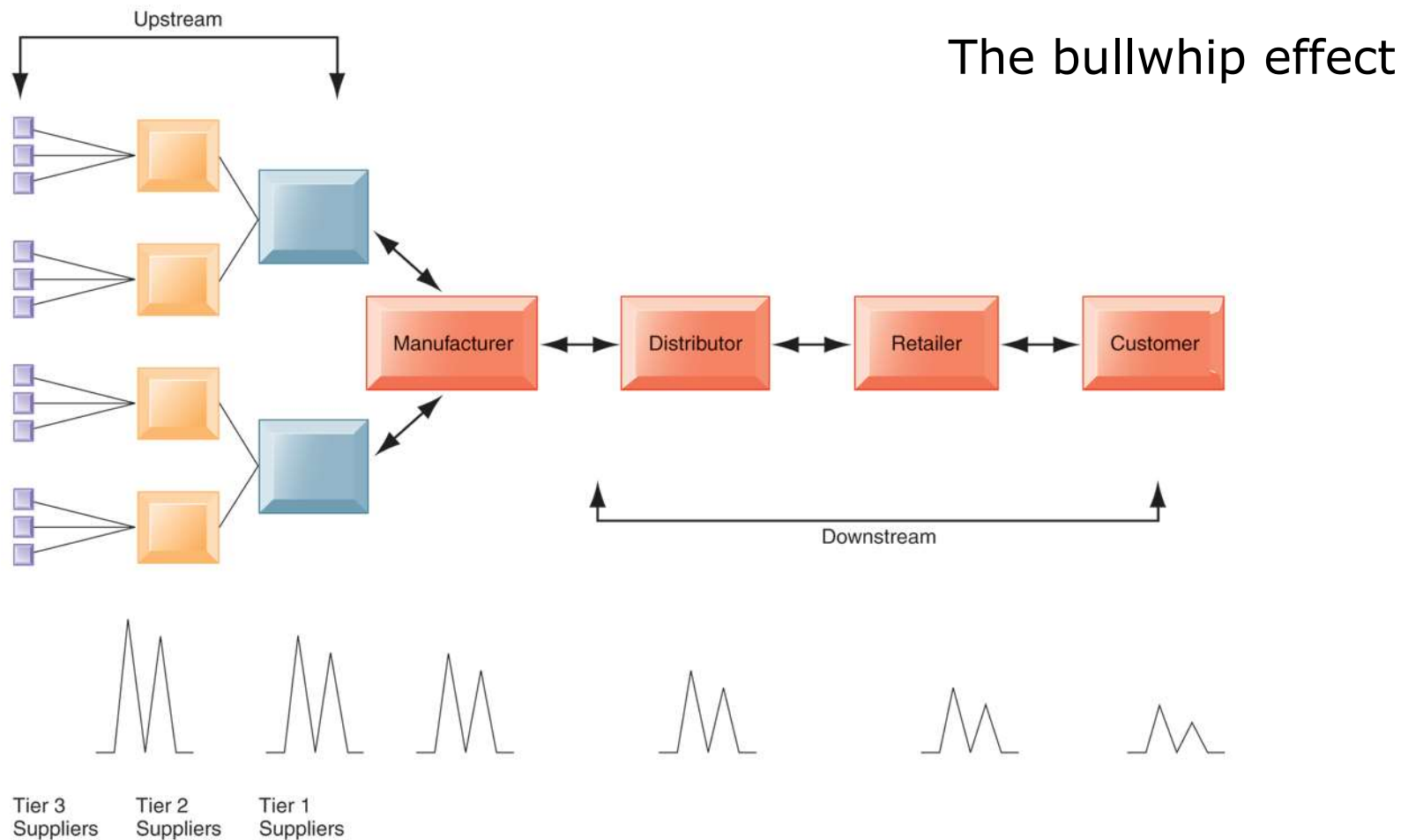
### Safety stock:

- Buffer for lack of flexibility in supply chain **Lack of timely information!**

### Bullwhip effect:

- Information about product demand gets distorted as it passes from one entity to next across supply chain

# Supply Chain Management Systems



Inaccurate information can cause minor fluctuations in demand for a product to be amplified as one moves further back in the supply chain. Minor fluctuations in retail sales for a product can create excess inventory for distributors, manufacturers, and suppliers.

# Supply Chain Management Systems

Supply chain management software

## **Supply chain planning systems:**

- Model existing supply chain
- Demand planning
- Optimize sourcing, manufacturing plans
- Establish inventory levels
- Identifying transportation modes

## **Supply chain execution systems:**

- Manage flow of products

# Supply Chain Management Systems

Global supply chain issues:

- Typically span greater geographic distances and time differences:
- More complex pricing issues (local taxes, transportation, etc.)
- Foreign government regulations



# Supply Chain Management Systems

Demand-driven supply chains

## **Push-based model (build-to-stock)**

- Schedules based on best guesses of demand

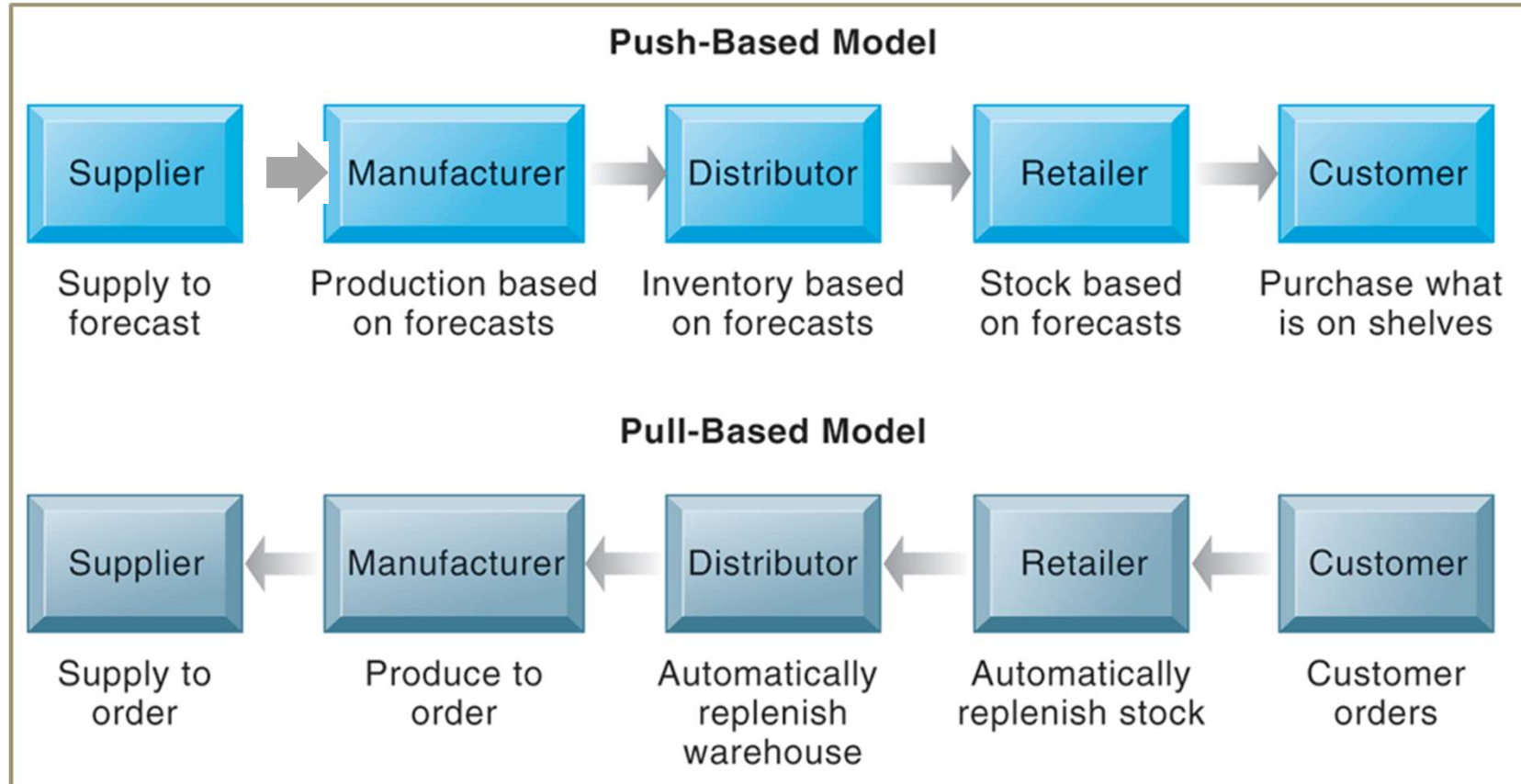
## **Pull-based model (demand-driven)**

- Customer orders trigger events in supply chain

What are some examples?

# Supply Chain Management Systems

Push- versus pull-based supply chain models



The difference between push- and pull-based models is summarized by the slogan  
**'Make what we sell, not sell what we make.'**

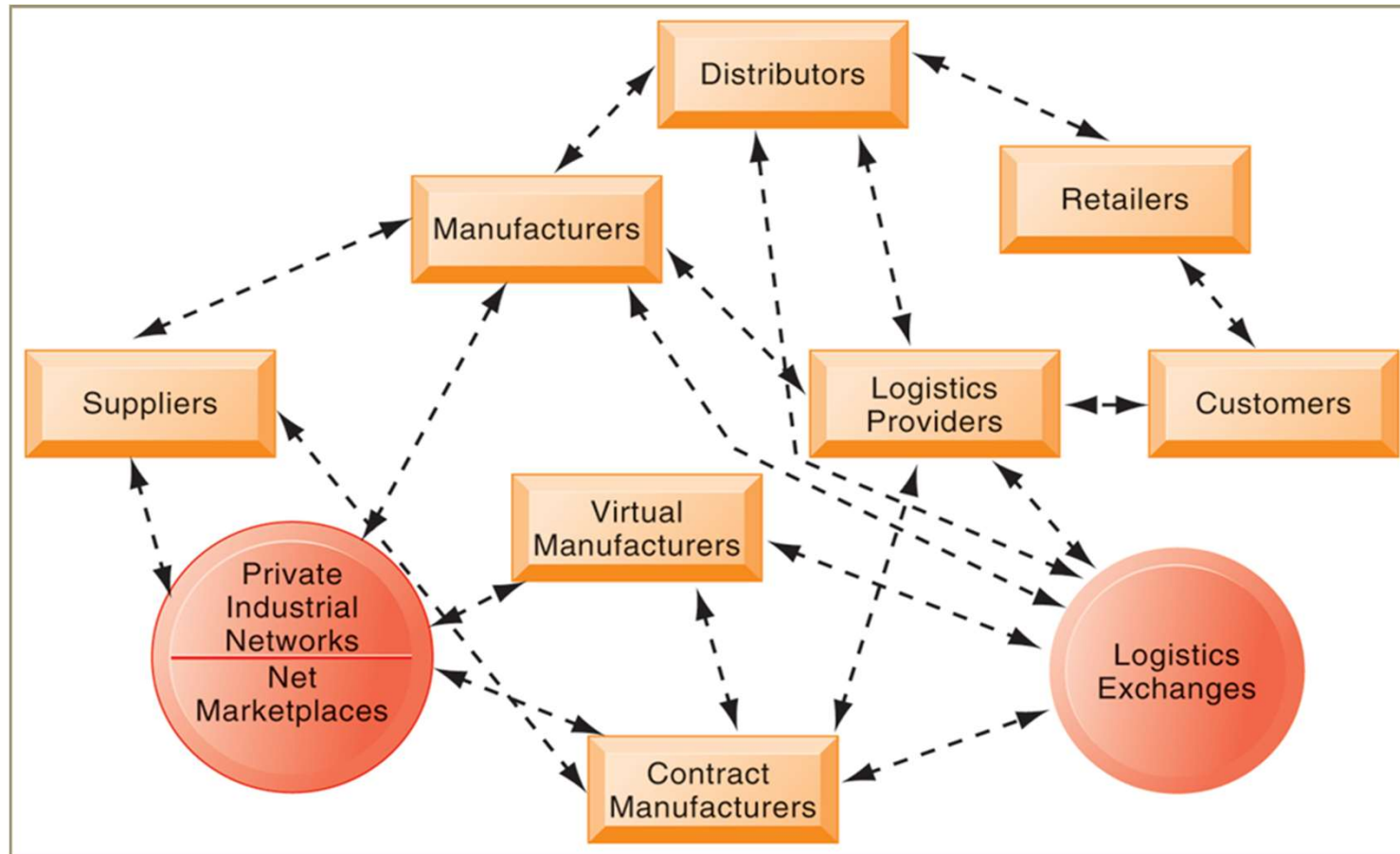
# Supply Chain Management Systems

Business value of SCM systems:

- Match supply to demand
- Reduce inventory levels
- Improve delivery service
- Speed product time to market
- Use assets more effectively
- Reduced supply chain costs lead to increased profitability
- Increased sales

# Supply Chain Management Systems

The future internet-driven supply chain



The future internet-driven supply chain operates like a digital logistics nervous system. It provides multidirectional communication among firms, networks of firms, and e-marketplaces so that entire networks of supply chain partners can immediately adjust inventories, orders, and capacities.

# Chapter Learning Objectives

*After reading this chapter, you will be able to answer the following questions:*

- How do **customer relationship management** systems help firms achieve customer intimacy?

# Customer Relationship Management Systems

Customer relationship management (CRM) systems

**Customer relationships represent a firm's most valuable asset**

Customer relationship management (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

# Customer Relationship Management Systems

CRM systems examine customers from a multifaceted perspective.

These systems use a set of integrated applications to address all aspects of the customer relationship, including customer service, sales, and marketing.



# Customer Relationship Management Systems

## CRM software

CRM packages range from niche tools to large-scale enterprise applications

More comprehensive CRM systems have modules for:

- **Partner relationship management (PRM)** Specially for B2B transactions
  - Integrating lead generation, pricing, promotions, order configurations, and availability
  - Tools to assess partners' performances
- **Employee relationship management (ERM)**

Example, setting objectives, employee performance management, performance-based compensation, employee training



# Customer Relationship Management Systems

CRM packages typically include tools for:

- **Sales force automation (SFA)**

Example, sales prospect and contact information, and sales quote generation capabilities

- **Customer service**

Example, assigning and managing customer service requests; web-based self-service capabilities

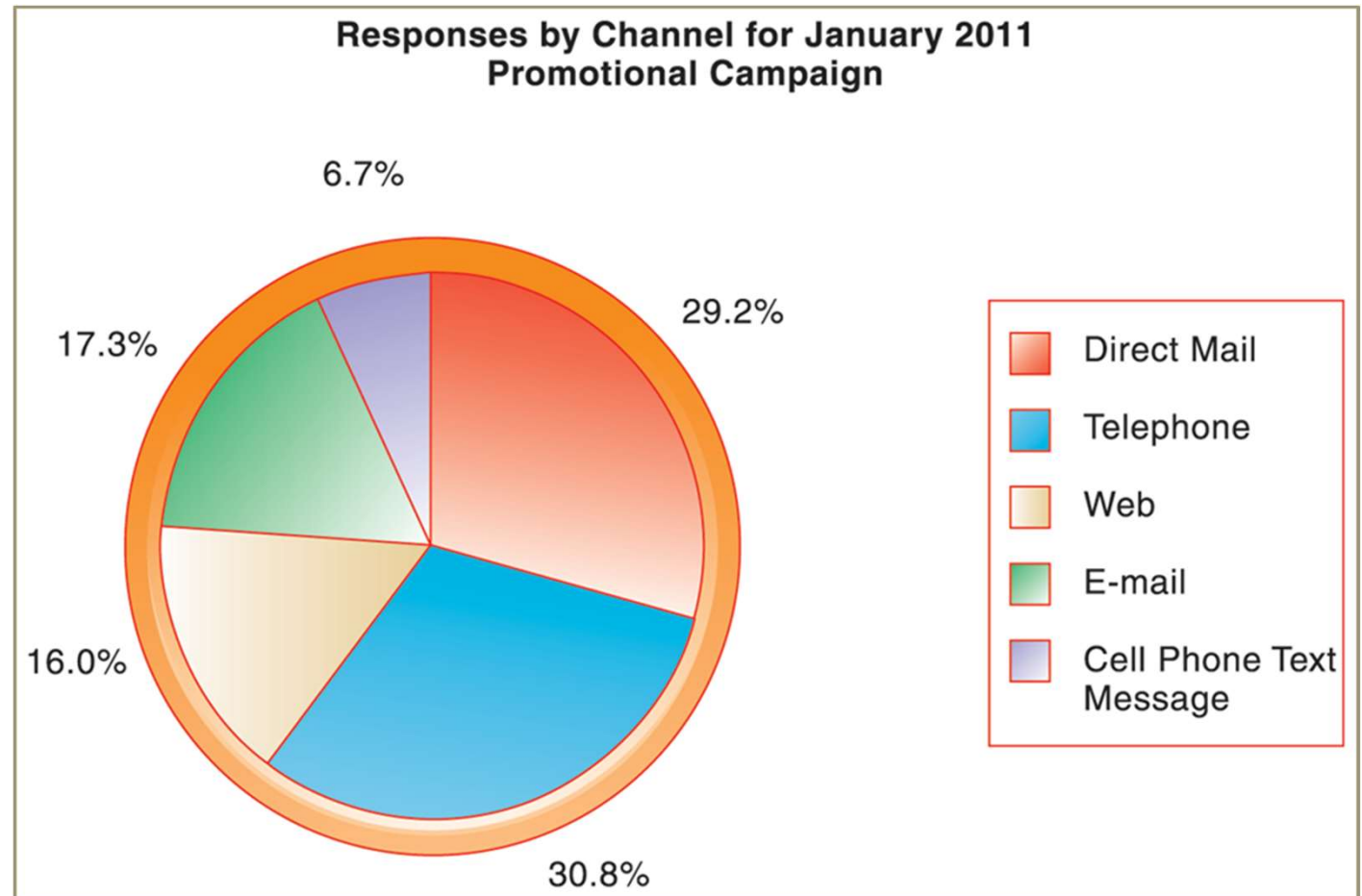
- **Marketing**

Example, capturing prospect and customer data, scheduling and tracking direct-marketing mailings or e-mail

# Customer Relationship Management Systems

## How CRM systems support marketing

CRM software provides a **single point** for users to **manage and evaluate marketing campaigns** across multiple channels, including e-mail, direct mail, telephone, the web, and wireless messages.



# Customer Relationship Management Systems

CRM packages typically include tools for:

## Operational CRM

- Customer-facing applications

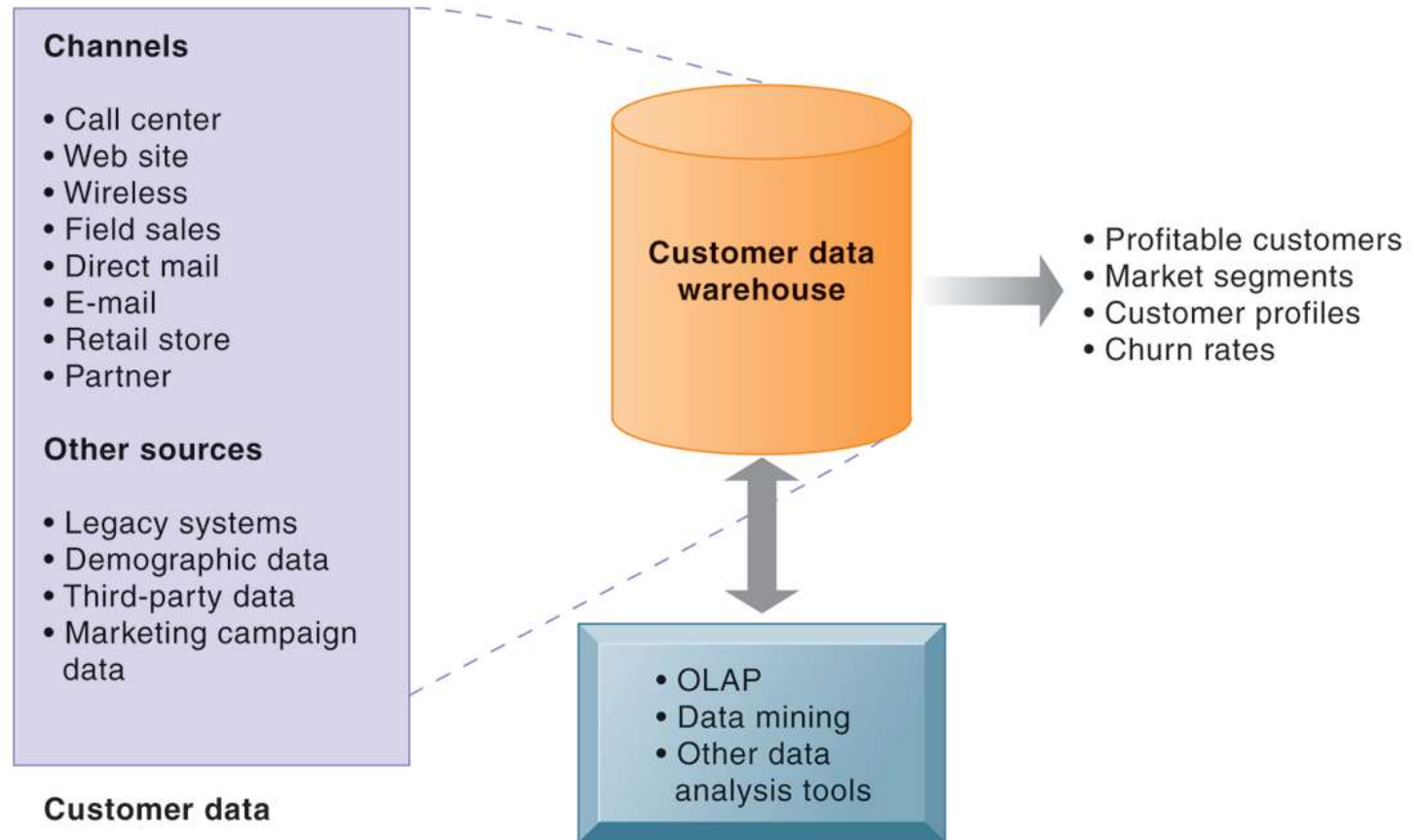
Example, sales force automation, call center and customer service support, and marketing automation

## Analytical CRM

- Analyze customer data output from operational CRM applications
- Based on data warehouses populated by operational CRM systems and customer touch points
  - Customer lifetime value (CLTV)

# Customer Relationship Management Systems

## Analytical CRM data warehouse



Analytical CRM uses a customer data warehouse and tools to analyze customer data collected from the firm's customer touch points and from other sources.

# Customer Relationship Management Systems

## Business value of CRM

Increased customer satisfaction

Reduced direct-marketing costs

More effective marketing

Lower costs for customer acquisition/retention

Increased sales revenue

Reduce 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

# What are Knowledge Management Systems?



# What is the Role of Knowledge Management Systems in Business?

- **Knowledge management systems** among fastest growing areas of software investment
- **Information economy**: production and distribution of information and knowledge a major source of wealth and prosperity
- Substantial part of a firm's **stock market value** is related to intangible assets: knowledge, brands, reputations, and unique business processes
- Well-executed **knowledge-based projects** can produce extraordinary ROI

- The Knowledge Management Landscape

## Knowledge management:

Set of **business processes** developed in an organization to **create, store, transfer,** and **apply knowledge**

- Knowledge is primary **source of profit** and **competitive advantage**
- That **cannot** be **purchased easily by competitors**

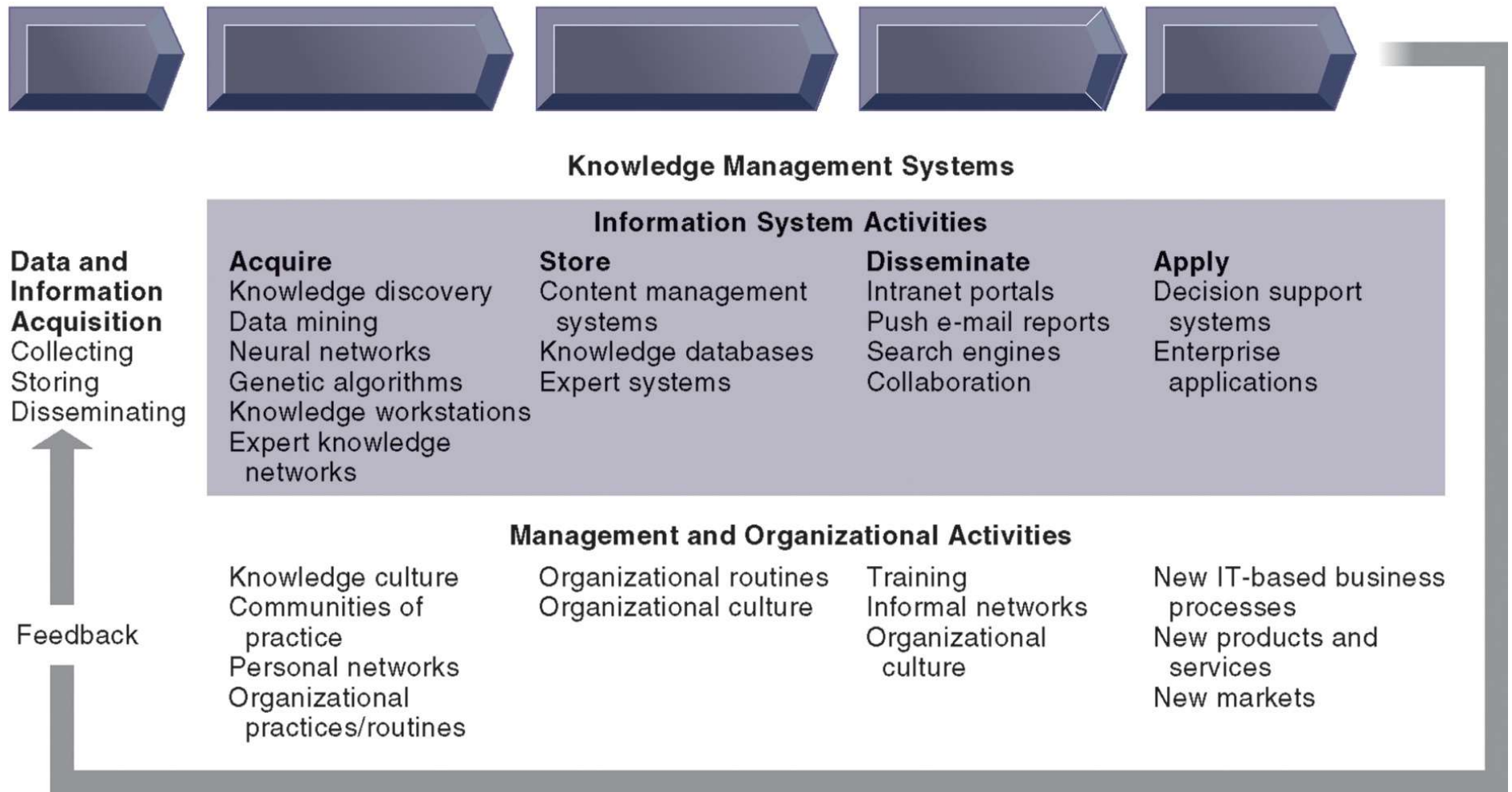
To transform **information** → into **knowledge**

### Firm must :

- **Spend** for additional resources
- To **discover** **patterns**, **rules**, and **contexts** where knowledge works
- **Knowing** how to **do things effectively and efficiently in ways other organizations cannot duplicate**



## Knowledge Business Value Chain



**Three major types of  
knowledge management  
systems**

**1- Enterprise-  
wide knowledge  
management  
systems**

**2- Knowledge  
work systems  
(KWS)**

**3- Intelligent  
techniques**

- The Knowledge Management Landscape

## **Three** major types of **knowledge management systems**:

### **1- Enterprise-wide knowledge management systems**

- **General-purpose**
- firm-wide efforts to **collect, store, distribute, and apply** digital content and knowledge

### **2- Knowledge work systems (KWS)**

- **Specialized systems** built for **engineers**, **scientists**, other **knowledge workers**
- charged with **discovering** and **creating new knowledge**

### **3- Intelligent techniques**

- Used to **capture individual** and **collective knowledge** and to **extend knowledge base**
- **Diverse group of techniques** such as **data mining** used for various goals

- The Knowledge Management Landscape

## Three major types of **knowledge management systems**:

Feature	Enterprise-wide knowledge management systems	Knowledge work systems (KWS)	Intelligent techniques
Purpose	Collect, store, distribute, and apply digital content and knowledge across the entire organization.	Support the work of knowledge workers by providing them with access to relevant information and tools.	Capture individual and collective knowledge and extend the knowledge base.
Examples	Microsoft Sharepoint	CAD systems, research management systems	Data mining, machine learning, natural language processing
Use cases	Storing and managing company documents, sharing best practices, managing employee training, and providing customer support.	Helping engineers design products, scientists conduct research	Identifying patterns in data, making predictions, and automating tasks.

# Chapter Learning Objectives

*After reading this chapter, you will be able to answer the following questions:*

- What are the **challenges posed** by enterprise applications?

# Enterprise applications: new opportunities and challenges

- Highly expensive to purchase and implement
  - US\$3.5 million to over US\$12 million
- Technological changes
- Business process changes
- Organizational changes
- Switching costs, dependence on software vendors
- Data standardization, management, cleansing

# Enterprise applications: new opportunities and challenges

## Next-generation enterprise applications

Move is to make applications more flexible, web-enabled, integrated with other systems

### Enterprise suites

- Software to enable CRM, SCM, and enterprise systems work together and with suppliers and client systems
- Utilize web services
- Open source & on-demand solutions
- Mobile compatible; Web 2.0 capabilities
- Complementary analytics products

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