

## **Unit 6: e-business Systems LH 7**

- Introduction
- Cross-functional enterprise applications
- Enterprise application integration
- Transaction processing systems
  - The transaction processing cycle
  - Enterprise collaboration systems: tools for enterprise collaboration
- Functional business systems
  - Introduction, IT in business
  - Marketing systems: interactive marketing, targeted marketing, sales force automation
  - Manufacturing systems: computer-integrated manufacturing
  - Human resource systems: HRM and Internet, HRM and corporate Intranets
  - Accounting Systems: online Accounting systems
  - Financial management systems

# Learning Objectives

- Identify the following cross-functional enterprise systems, and give examples of how they can provide significant business value to a company
  - Enterprise application integration
  - Transaction processing systems
  - Enterprise collaboration systems

# Learning Objectives

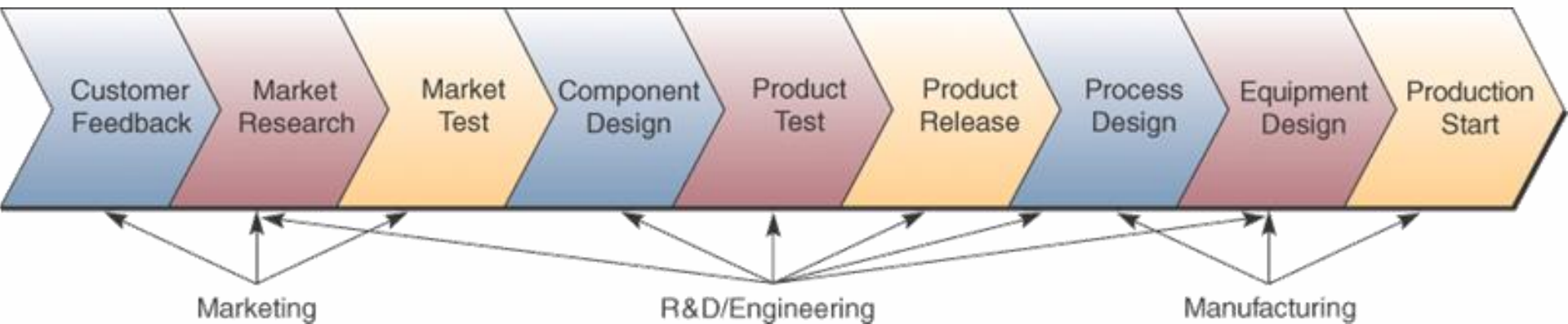
- Give examples of how Internet and other information technologies support business processes within the business functions of
  - Accounting
  - Finance
  - Human resource management
  - Marketing
  - Production
  - Operations management

# Enterprise Business Systems

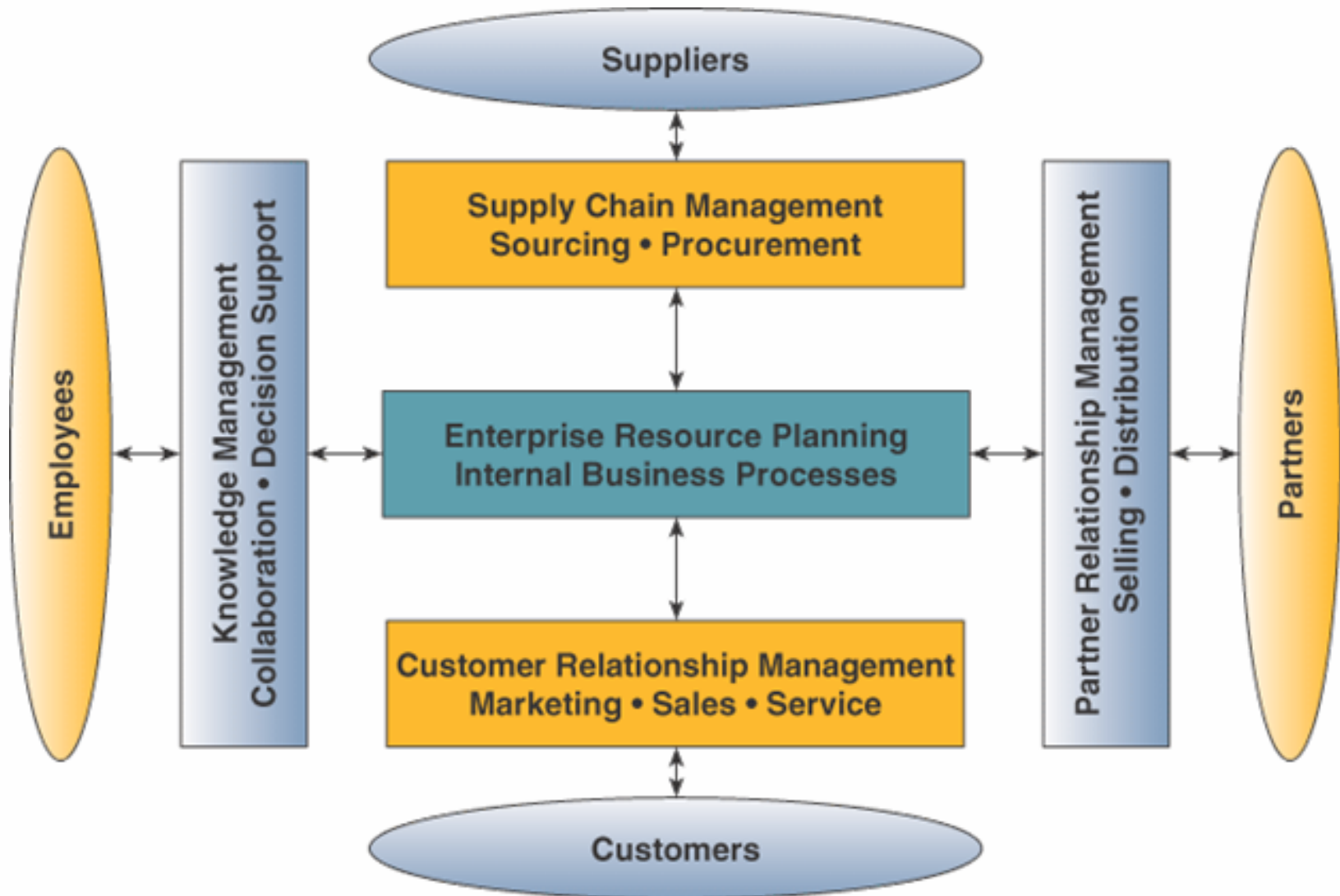
- E-business means using the Internet, other networks, and IT to support
  - Electronic commerce
  - Enterprise communications and collaboration
  - Web-enabled business processes
- E-commerce is the buying, selling, and marketing of products, services, and information over the Internet and other networks

# Cross-Functional Systems

- Cross the boundaries of traditional business functions
  - Used to reengineer and improve vital business processes all across the enterprise



# Enterprise Application Architecture



# Enterprise Application Architecture

- Provides a conceptual framework
  - Helps visualize the basic components, processes, and interfaces of major e-business applications.
- Focuses on accomplishing fundamental business processes in concert with
  - Customers
  - Suppliers
  - Partners
  - Employees

# Enterprise Application Architecture

- Enterprise Resource Planning (ERP)
  - Concentrates on the efficiency of internal production, distribution, and financial processes
- Customer Relationship Management (CRM)
  - Focuses on acquiring and retaining profitable customers via marketing, sales, and services
- Partner Relationship Management (PRM)
  - Aims at acquiring and retaining partners who can enhance the selling and distribution of products and services

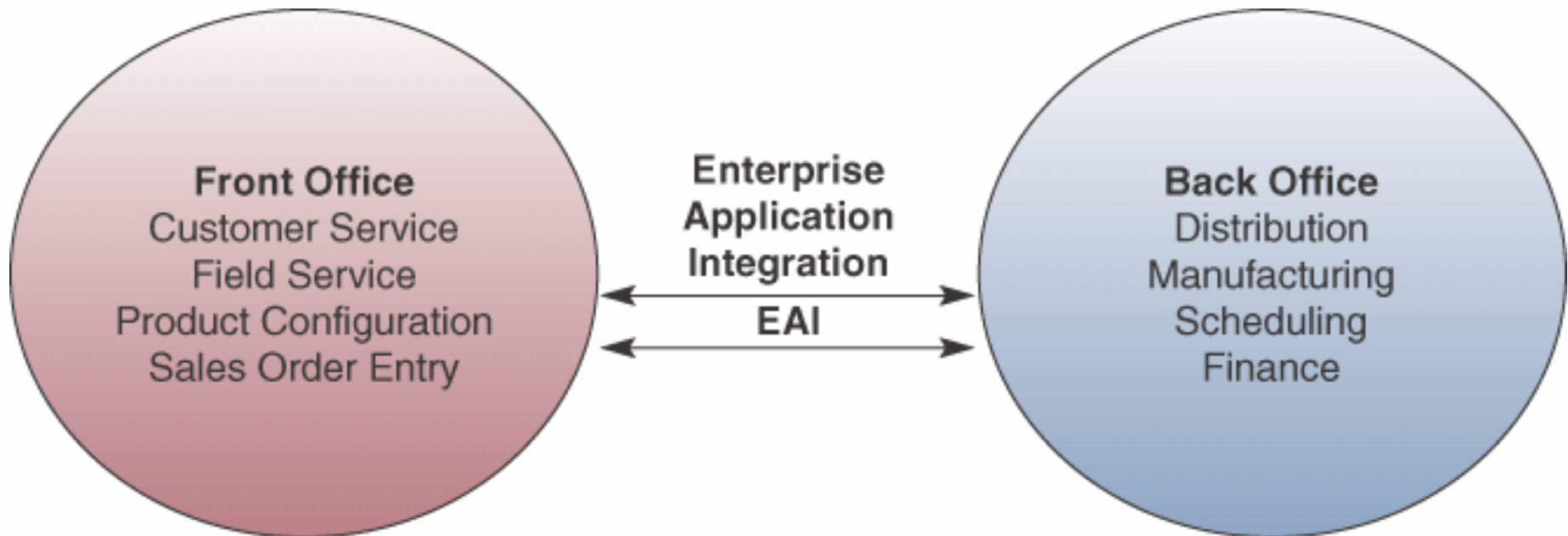


# Enterprise Application Architecture

- Supply Chain Management (SCM)
  - Focuses on developing the most efficient and effective sourcing and procurement processes.
- Knowledge Management (KM)
  - Focuses on facilitating internal group collaboration and decision support

# Enterprise Application Integration

- EAI software connects cross-functional systems
- Serves as middleware to provide
  - Data conversion
  - Communication between systems
  - Access to system interfaces



# How EAI Works

## How EAI works:

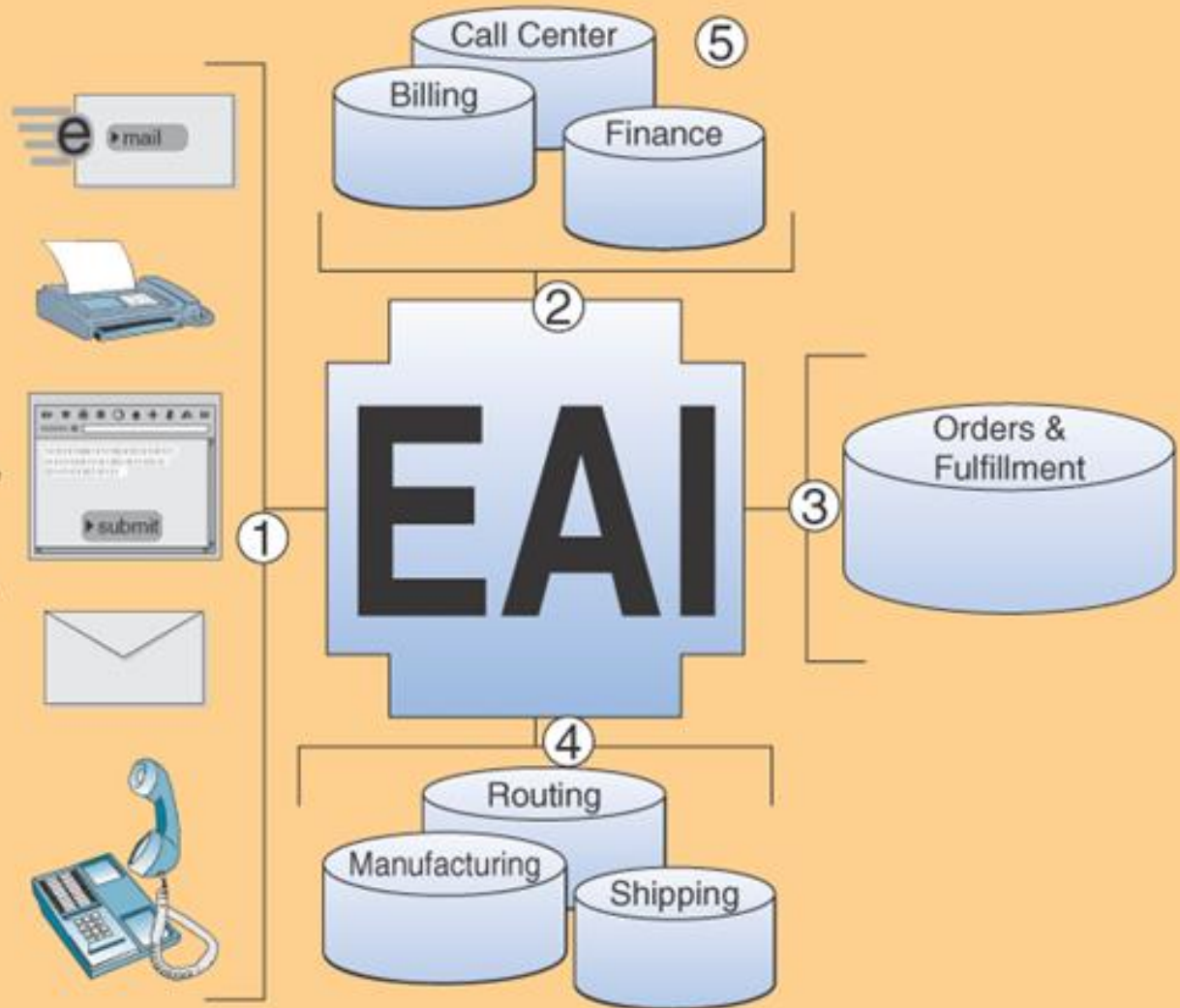
**1** An order comes in via the call center, mail, e-mail, the Web, or fax.

**2** Customer information captured in the order process is sent to a “new customer” process, which distributes the new customer information to multiple applications and databases.

**3** Once the order is validated (customer, credit, items), relevant details are sent to order fulfillment—which may pick the requested items from inventory, schedule them for manufacture, or simply forward them.

**4** Fulfillment returns status and shipment info to the order-entry system...

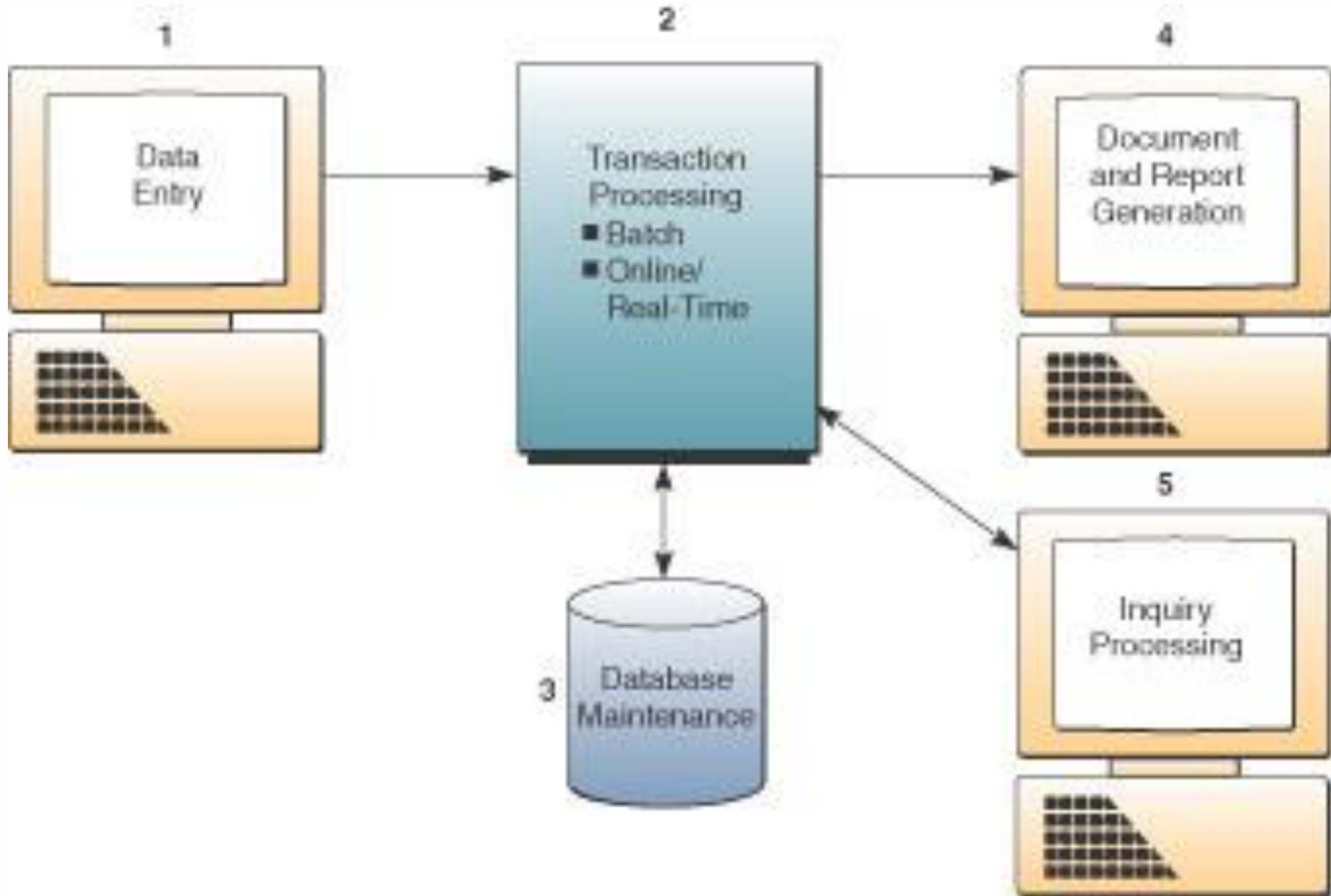
**5** ...and to the call center, which needs to know about outstanding orders.



# Transaction Processing Systems

- Cross-functional information systems that process data resulting from the occurrence of business transactions
  - **Transactions** include sales, purchases, deposits, withdrawals, refunds, and payments
  - **Online transaction processing (OLTP)** is a real-time system that captures transactions immediately

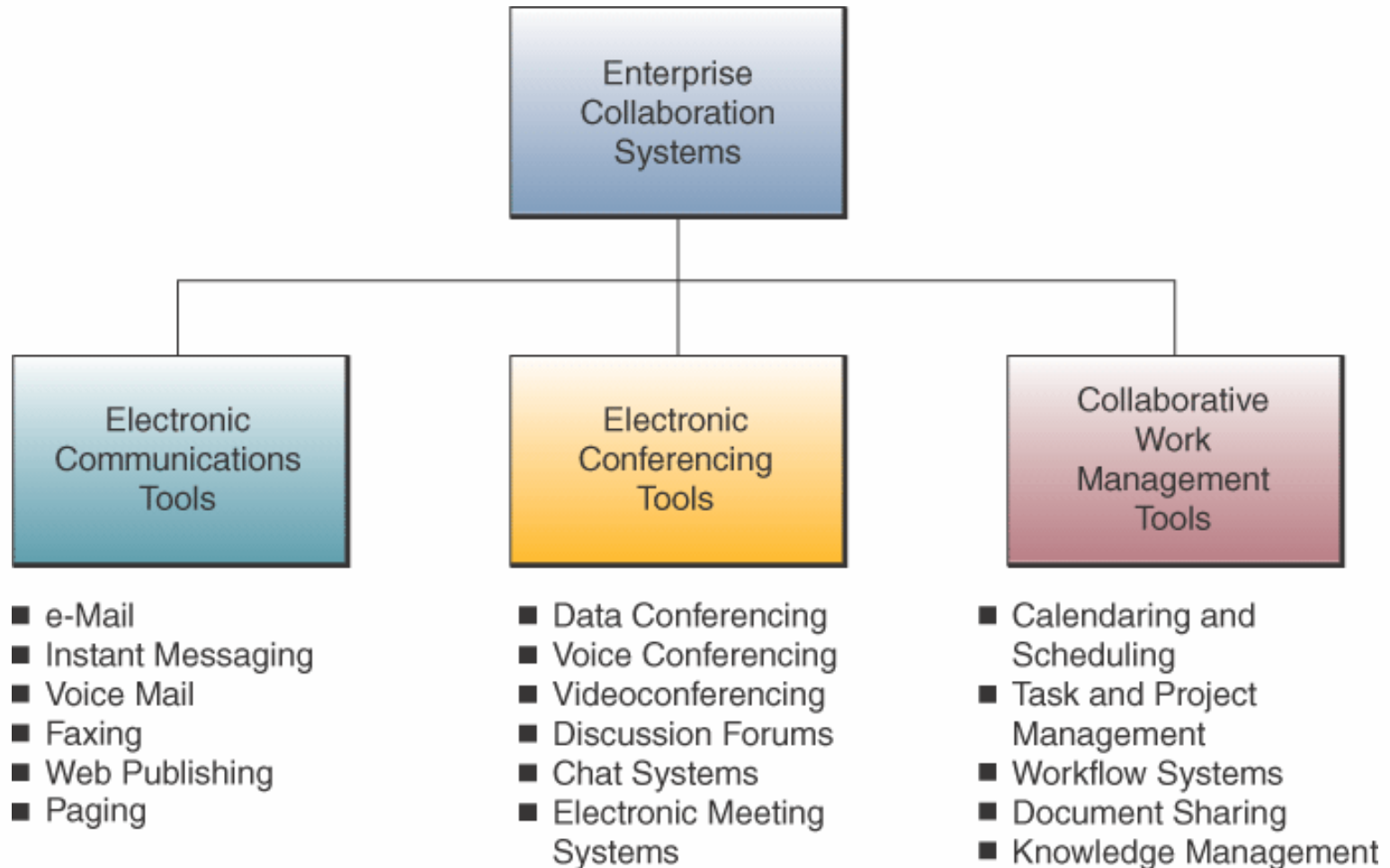
# The Transaction Processing Cycle



# Enterprise Collaboration Systems (ECS)

- EC systems are cross-functional information systems that enhance team and workgroup
  - Communication
  - Coordination
  - Collaboration
- Systems may include
  - Networked PC workstations
  - Servers
  - Databases
  - Groupware and application packages

# ECS Tools



# Functional Business Systems

- A variety of types of information systems that support the business functions of
  - Accounting
  - Finance
  - Marketing
  - Operations management
  - Human resource management



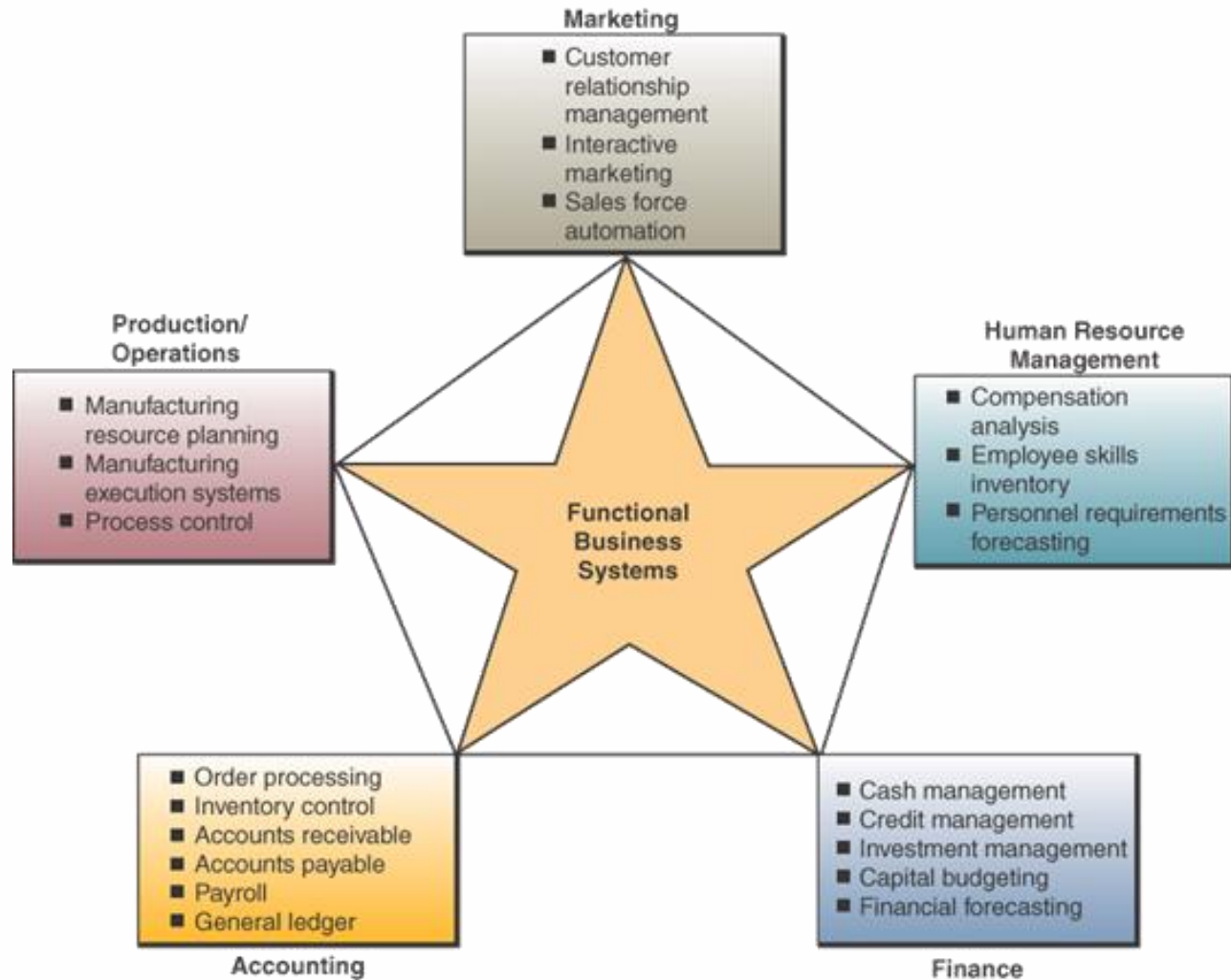
# Case 2: Advertising & Marketing Changes

- The Internet is causing a paradigm shift in advertising
  - Advertisers are moving away from TV, newspapers, and magazine ads
  - Soaring profits from selling online targeted ads are boosting company values
  - The Web is the first global advertising medium
- Broadband
  - Encourages users to spend more time surfing
  - Allows more creative ad formats

# Case Study Questions

- How do Google's online ad revenue sources and strategy differ from Yahoo's?
  - Which online ad strategy is superior for attracting advertising from small companies?
  - For attracting large companies?

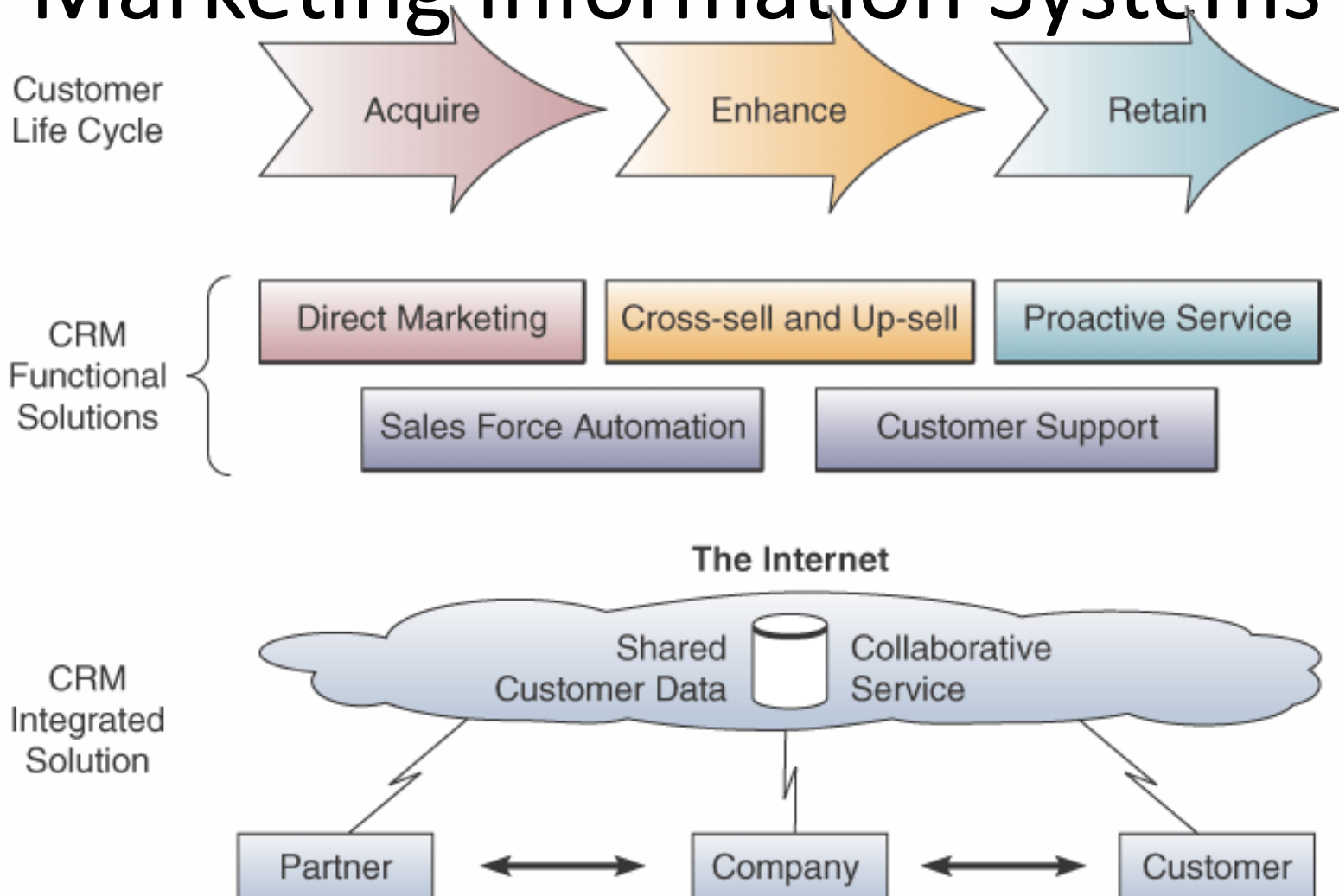
# IT in Business



# Marketing Systems

- Marketing systems are concerned with
  - Planning, promotion, and sale of existing products in existing markets
  - Development of new products and new markets
  - Better attracting and serving present and potential customers

# Marketing Information Systems

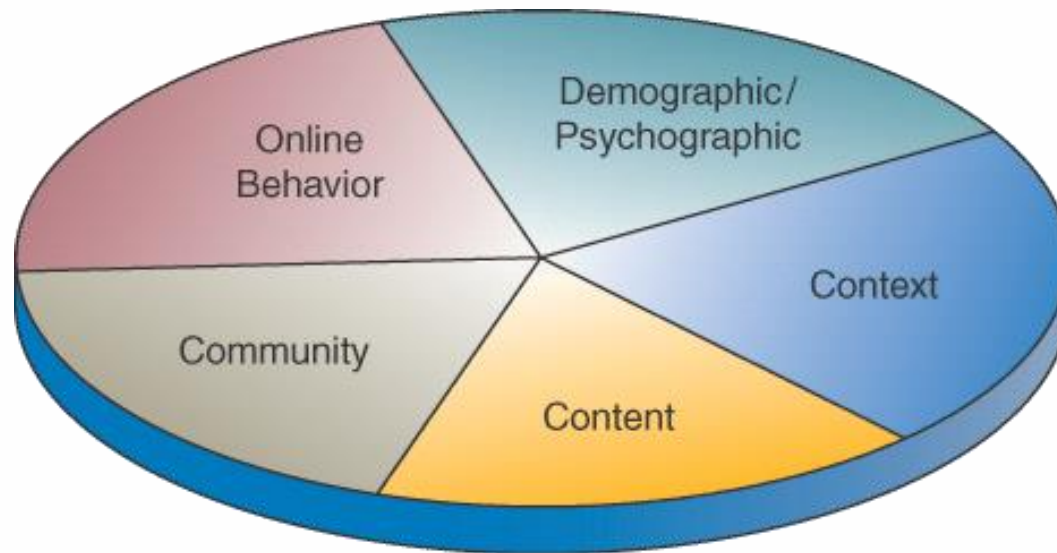


# Interactive Marketing

- Interactive Marketing
  - A customer-focused marketing process
  - Uses the Internet, intranets, and extranets
  - Establishes two-way transactions between a business and its customers or potential customers
- Goal
  - Profitably use networks to attract and keep customers
  - Get customers to help create, purchase, and improve products and services

# Targeted Marketing

- An advertising and promotion management concept with five targeting components



## Targeted Marketing Components

- Community: customized ads to appeal to specific virtual communities
- Content: ads placed on a variety of selected websites, aimed at a specific audience
- Context: ads placed on web pages that are relevant to a product or service
- Demographic/Psychographic: web marketing aimed at specific types or classes of people
- Online behavior: promotions tailored to each visit to a site by an individual



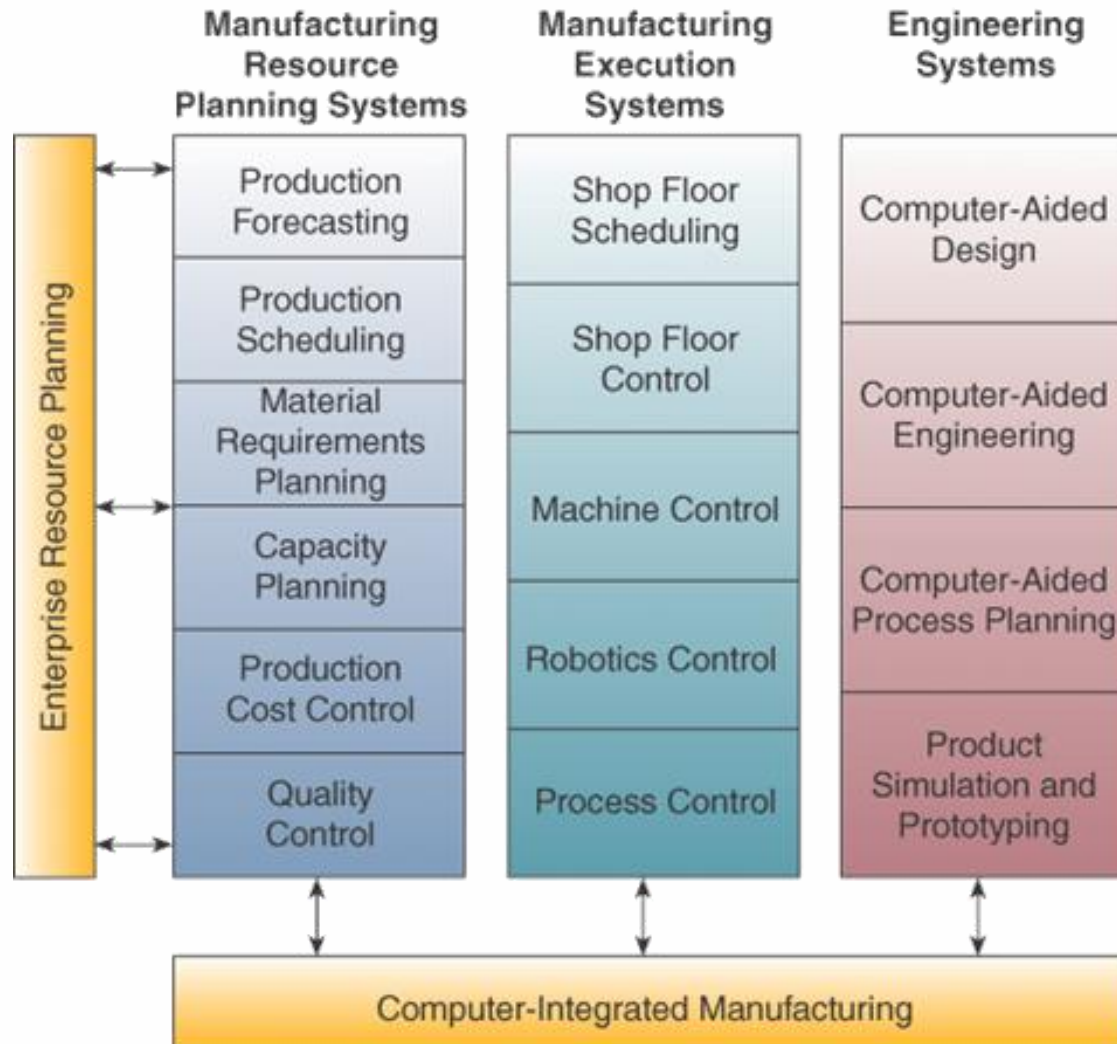
# Sales Force Automation

- Outfit sales force with notebook computers, web browsers, and sales contact software
  - Connect them to marketing websites and the company intranet
- Goals
  - Increase personal productivity
  - Speed up capture and analysis of sales data
  - Gain strategic advantage

# Manufacturing Information Systems

- Supports the production/operations functions
  - Includes all activities concerned with planning and control of the processes producing goods or services

# Computer-Integrated Manufacturing



# CIM Objectives

- **Simplify** production processes, product designs, and factory organization
- **Automate** production processes and the business functions that support them
- **Integrate** all production and support processes using
  - Networks
  - Cross-functional business software
  - Other information technologies

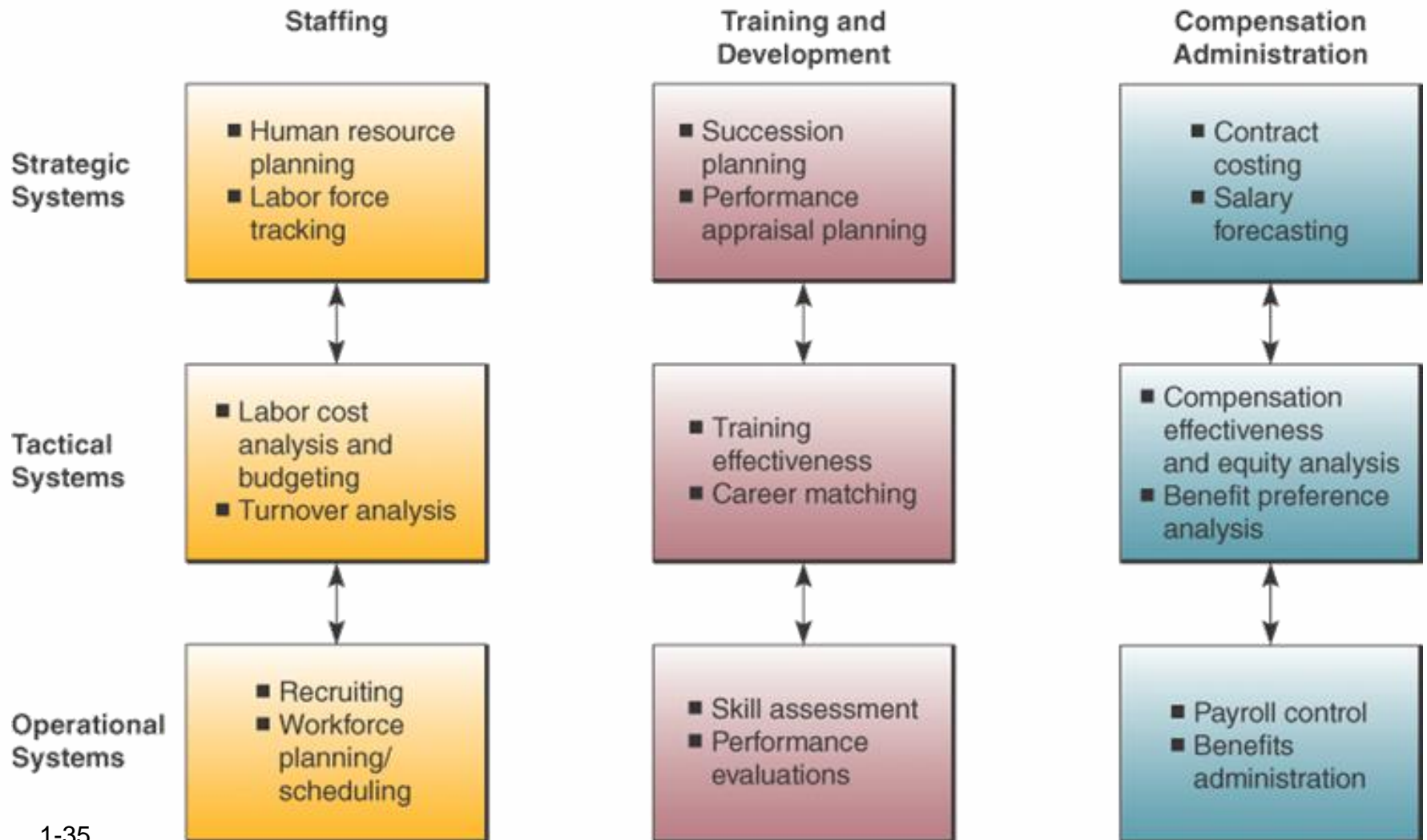
# CIM Systems

- Computer-aided manufacturing (CAM)
  - Automate the production process
- Manufacturing execution systems (MES)
  - Performance monitoring information systems for factory floor operations
- Process control
  - Control ongoing physical processes
- Machine control
  - Controls the actions of machines

# Human Resource Management (HRM)

- Information systems designed to support
  - Planning to meet personnel needs
  - Development of employees to their full potential
  - Control of all personnel policies and programs

# HRM Systems



# HRM and the Internet

- Recruiting employees using the corporate website and commercial recruiting services
- Posting messages in selected Internet newsgroups
- Communicating with job applicants via e-mail



# HRM and Corporate Intranets

- Corporate intranet uses
  - Process common HRM transactions
  - Allow around-the-clock HRM services
  - Disseminate information faster than through previous company channels
  - Collect information from employees online
  - Allow HRM tasks to be performed with little HRM department intervention
  - Training

# Employee Self-Service

- Intranet applications can allow employees to
  - View benefits
  - Enter travel and expense reports
  - Verify employment and salary information
  - Access and update personal information
  - Enter time-sensitive data

# **Accounting Information Systems**

An Accounting as an information system (AIS) is a system of collecting and processing financial and accounting data that are used by decision makers.

## **Internal and External Users:**

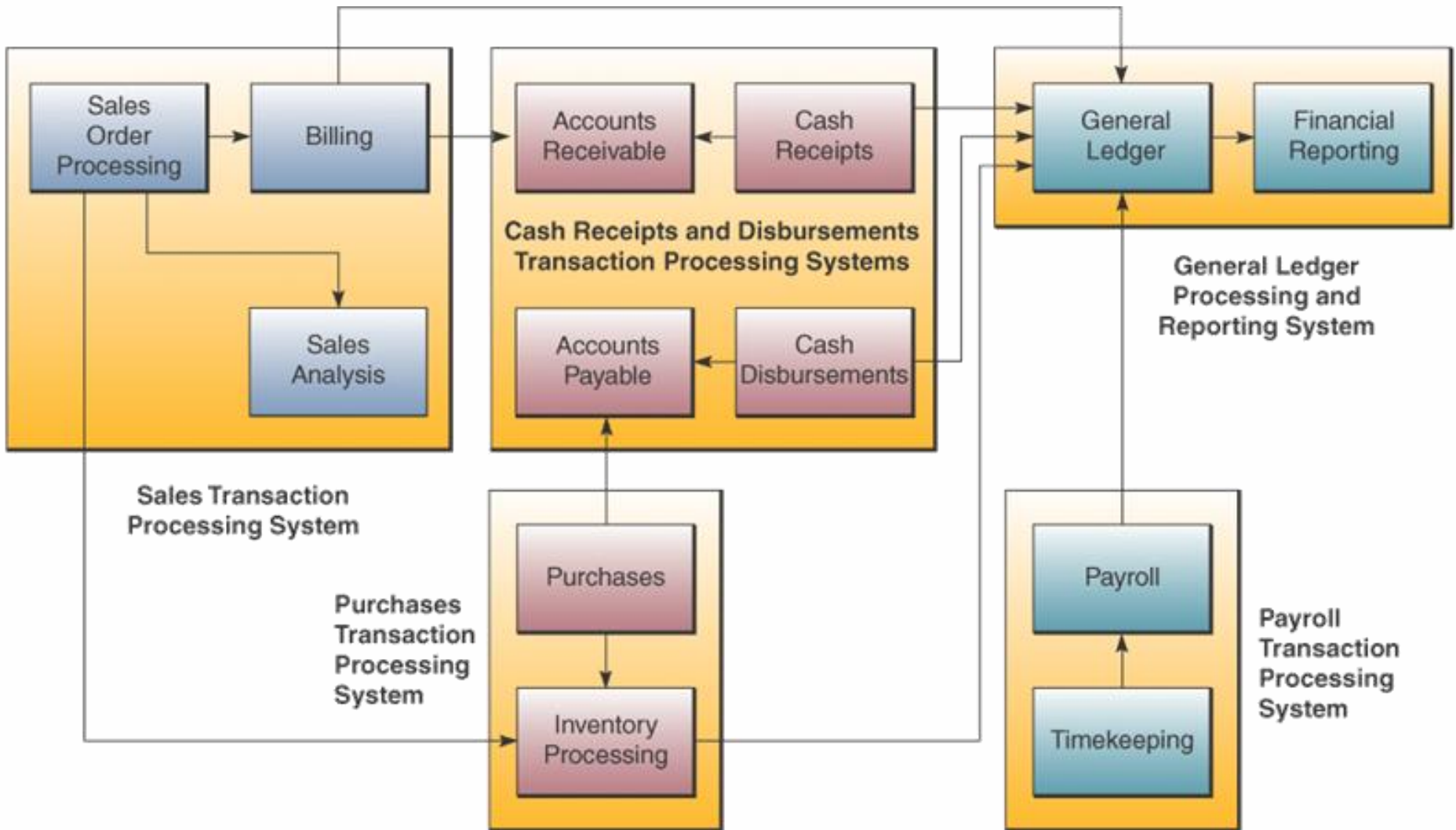
Internal users are owners, manager and employees. External user are people outside the business (Investor, supplier, banks, customers)

, inventory control, accounts receivable, accounts payable, payroll, and general ledger systems.

## **Typically, these systems include transaction processing systems**

- Order processing
- Inventory control
- Accounts receivable
- Accounts payable
- Payroll
- General ledger systems

# Accounting Information Systems



## Common Business Accounting Systems

### **Order Processing**

Captures and processes customer orders and produces data for inventory control and accounts receivable.

### **Inventory Control**

Processes data reflecting changes in inventory and provides shipping and reorder information.

### **Accounts Receivable**

Records amounts owed by customers and produces customer invoices, monthly customer statements, and credit management reports.

### **Accounts Payable**

Records purchases from, amounts owed to, and payments to suppliers, and produces cash management reports.

### **Payroll**

Records employee work and compensation data and produces paychecks and other payroll documents and reports.

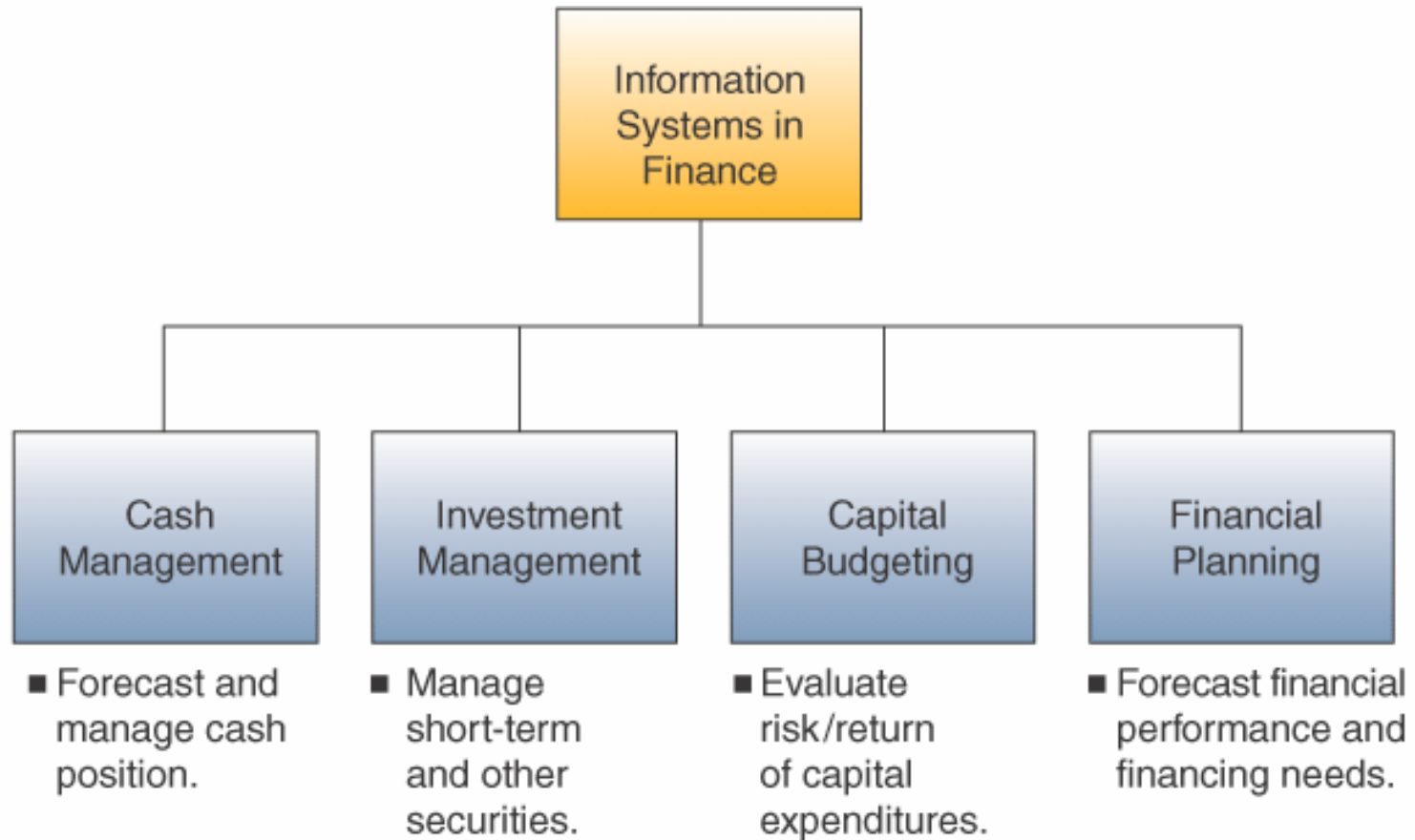
### **General Ledger**

Consolidates data from other accounting systems and produces the periodic financial statements and reports of the business

# Financial Management Systems

- Supports business managers and professionals making decisions concerning
  - The financing of a business
  - The allocation and control of financial resources within a business

# Financial Management System Example





## Case 3: Improving Supply-Chain Results

- Supply chains are a kludge of systems
  - Internal manufacturing, warehousing, inventory control, planning, shipping, and logistics
  - Relationships with suppliers and partners
  - Increasing dependence on customer input
- Now being replaced with two state-of-the-art, major software types
  - Supply-chain execution
  - Supply-chain planning

# Case 4: The Business Case for EAI

- EAI involves using software to connect a variety of applications into a cohesive unit
  - Helps align systems more closely with business processes
- EAI Projects
  - Costly and complex (\$200,000 to \$400,000)
  - Technical staff need lots of training

# Case Study Questions

- Why has EAI recently “become a critical part of the IT strategy at many organizations,” and a high-ranking project of top IT executives?
  - Use Baxter International, GE Power, and Corporate Express as examples
- What is the major difference in the business value of the EAI projects at Baxter International, GE Power, and Corporate Express?

# Case Study Questions

- What are some of the challenges in developing and implementing EAI systems?
  - How can companies meet these challenges?