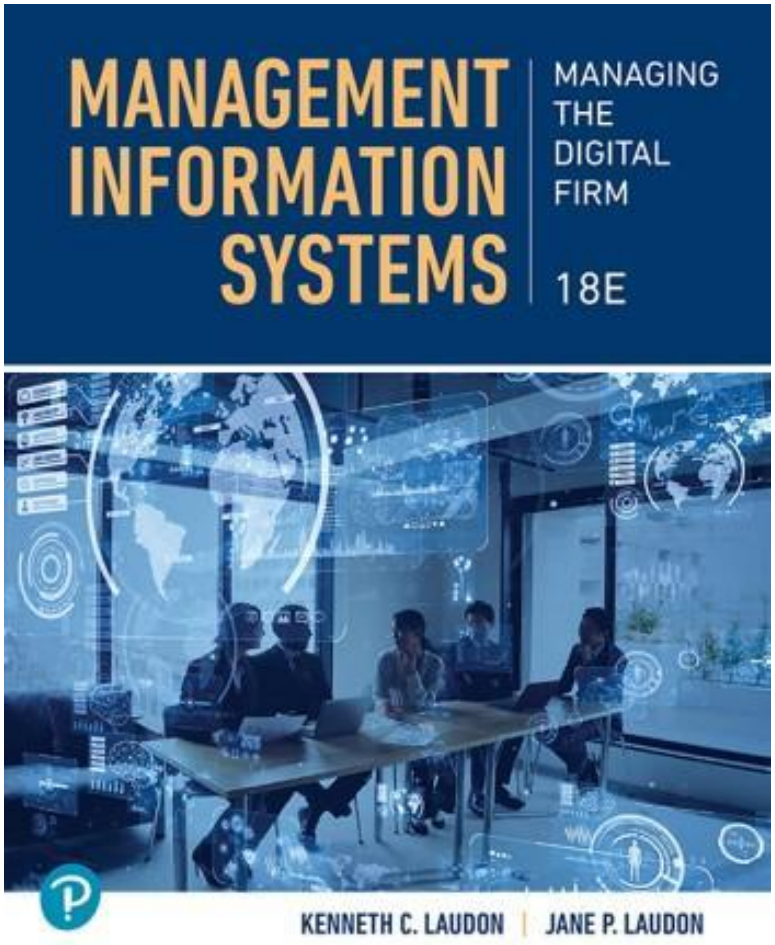
Management Information Systems: Managing the Digital Firm

Eighteenth Edition



Chapter 2

Global E-business and Collaboration

Learning Objectives (1 of 2)

2.1 Understand how business processes relate to information systems.

2.2 Explain how information systems serve different management groups.

2.3 Explain how enterprise applications improve firm performance.

2.4 Understand the importance of collaboration and social business systems.

2.5. Describe collaboration tools.

Learning Objectives (2 of 2)

2.6 Describe social business tools.

2.7 Understand how to evaluate collaboration and social business tools.

2.8 Describe knowledge management systems.

2.9 Describe the role of the information systems function.

2.10. Understand how the information in this chapter can help your career.

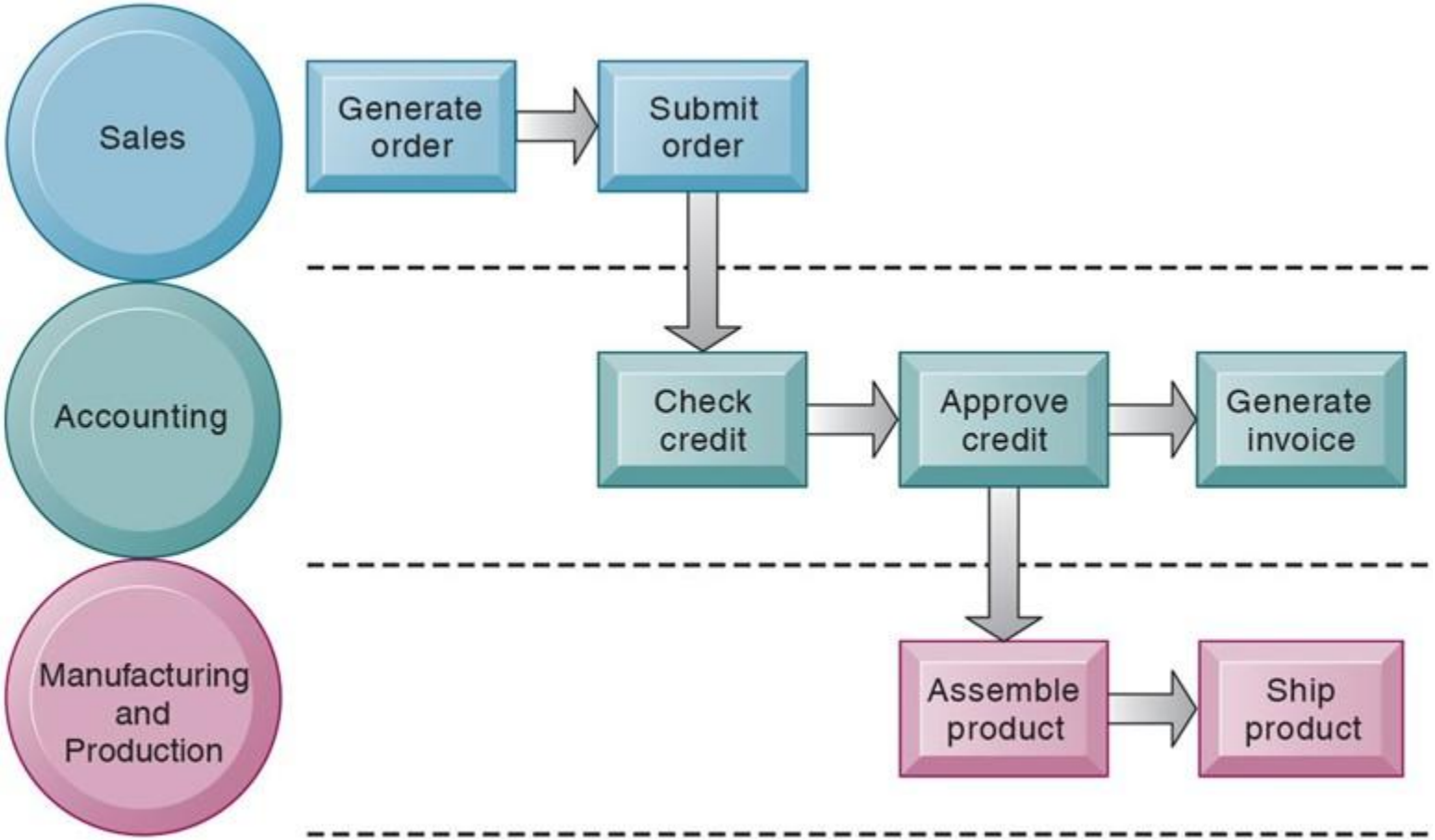
Understand How Business Processes Relate to Information Systems (1 of 3)

- Business processes
  - The way work is organized, coordinated, and focused to produce a valuable product or service
  - the collection of activities required to produce a product or service
  - Supported by flows of material, information, and knowledge among the participants in business processes
- Every business can be seen as a collection of business processes

Understand How Business Processes Relate to Information Systems (2 of 3)

- Examples of function business processes
  - Manufacturing and production
    - Assembling the product
  - Sales and marketing
    - Identifying customers
  - Finance and accounting
    - Creating financial statements
  - Human resources
    - Hiring employees

Figure 2.1 The Order Fulfillment Process



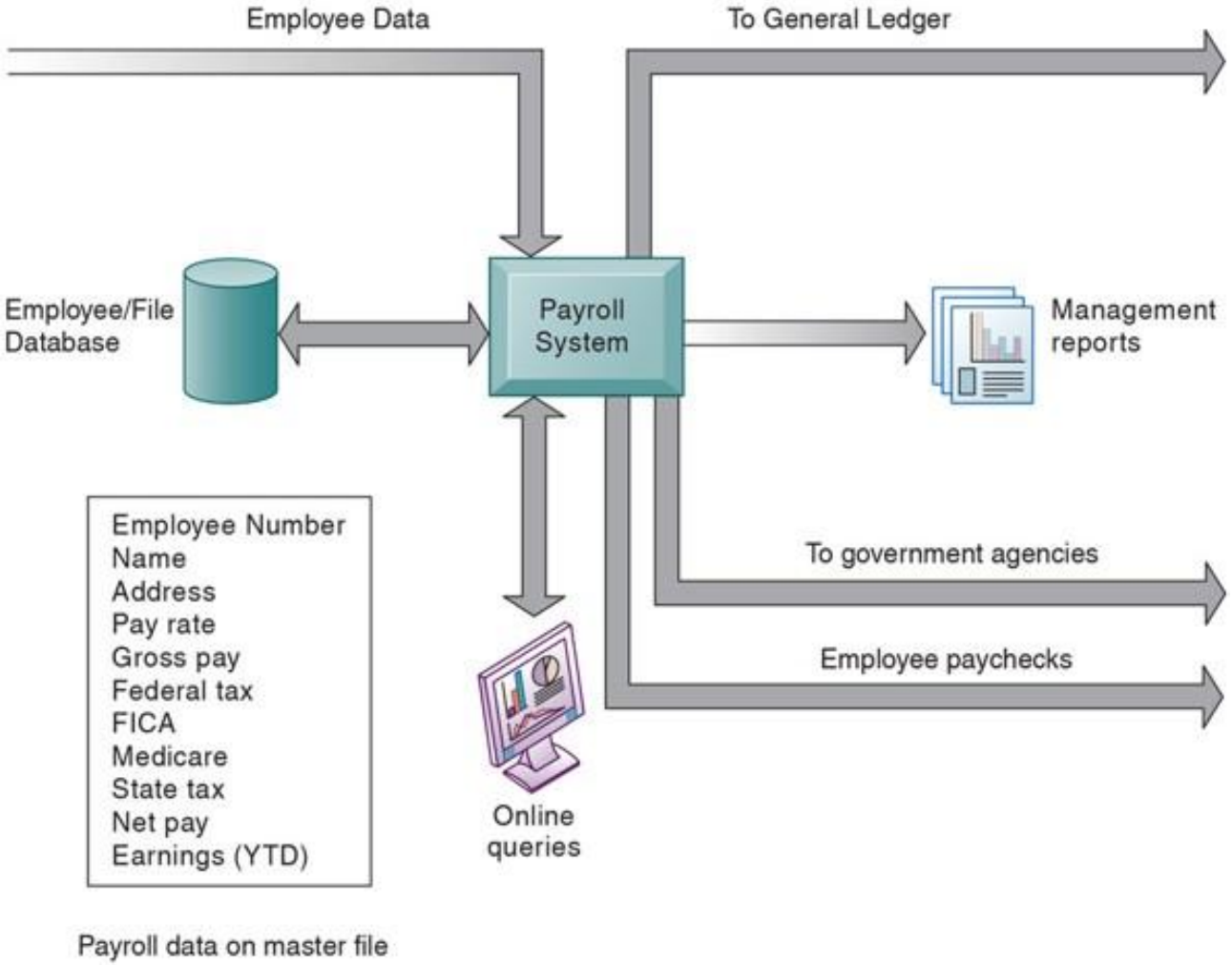
Understand How Business Processes Relate to Information Systems (3 of 3)

- Exactly how do information systems enhance business processes?
  - Information systems automate many steps in business processes that were formerly performed manually
    - Checking a client's credit
    - Generating an invoice
    - Shipping an order
  - New technology can actually change the flow of information
    - Possible for many people to access and share information
      - Replacing sequential steps with tasks that can be performed simultaneously
      - Eliminating delays in decision making

Systems for Different Management Groups (1 of 2)

- Transaction processing system (TPS)
  - Serve operational managers and staff
  - Perform and record daily routine transactions necessary to conduct business
    - Examples: sales order entry, payroll, shipping
  - Allow managers to monitor status of operations and relations with external environment
  - Serve predefined, structured goals and decision making

Figure 2.2 A Payroll TPS



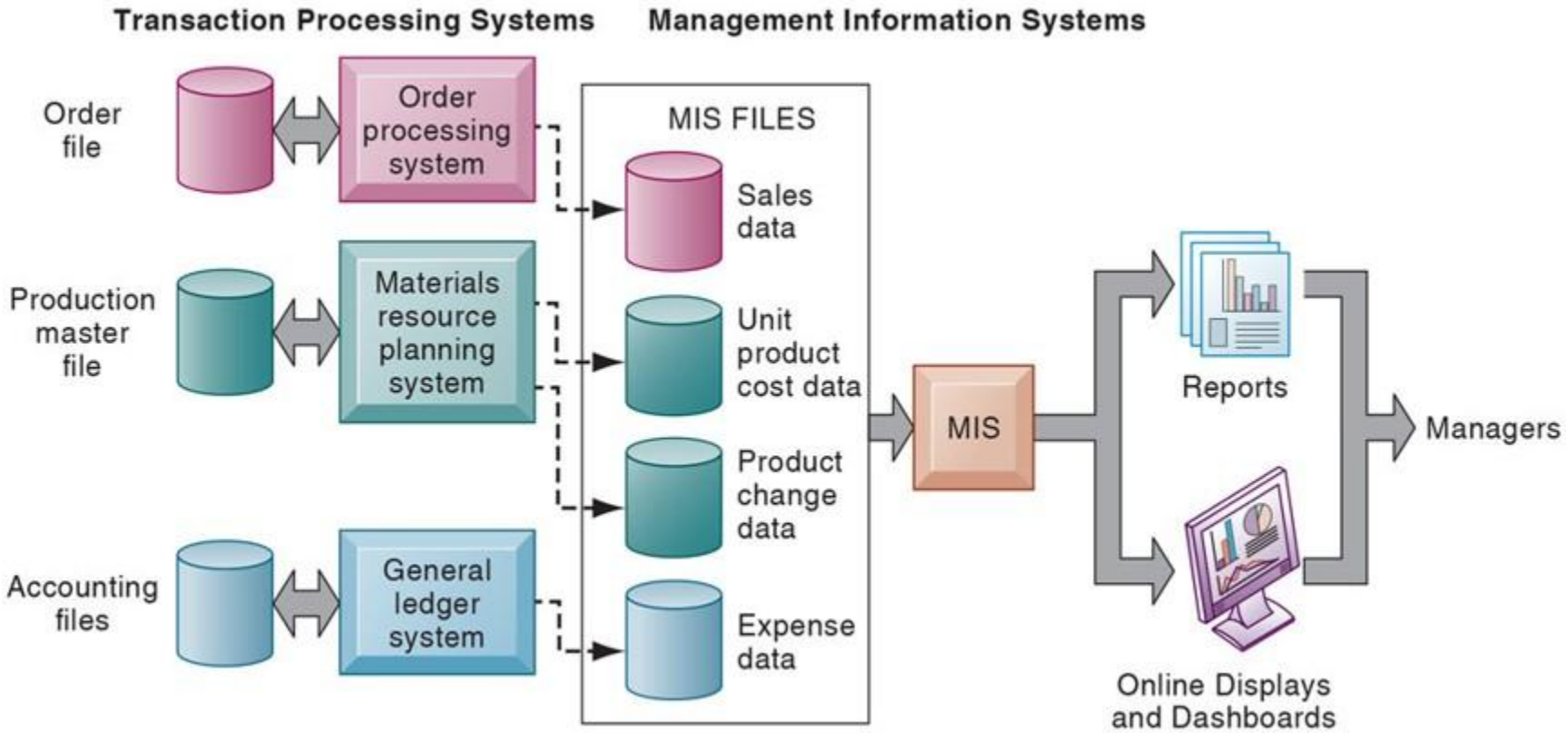
Systems for Different Management Groups (2 of 2)

- Systems for business intelligence
  - Data and software tools for organizing and analyzing data
  - Used to help managers and users make improved decisions
    - Management information systems
    - Decision-support systems
    - Executive support systems

Management Information System

- Serve middle management
- Provide reports on firm's current performance, based on data from T P S
- Provide answers to routine questions with predefined procedure for answering them
- Typically have little analytic capability

Figure 2.3 How Management Information Systems Obtain Their Data from the Organization's TPS



Decision Support System (DSS)

- An information system that combines data and sophisticated analytical models or data analysis tools to support decision making
- Supports nonroutine decision making
  - Example: What is the impact on production schedule if December sales doubled?
- Uses internal information from TPS and MIS
  - But often brings in information from external sources
    - Such as current stock price or product prices of competitors

Executive Support System (ESS)

- Helps senior management make decisions
- Used to address nonroutine decisions
  - Requiring judgment, evaluation, and insight
- Designed to incorporate data about external events (e.g., new tax laws or competitors) as well as summarize information from internal M I S and D S S
  - Example: Digital dashboard with real-time view of firm's financial performance

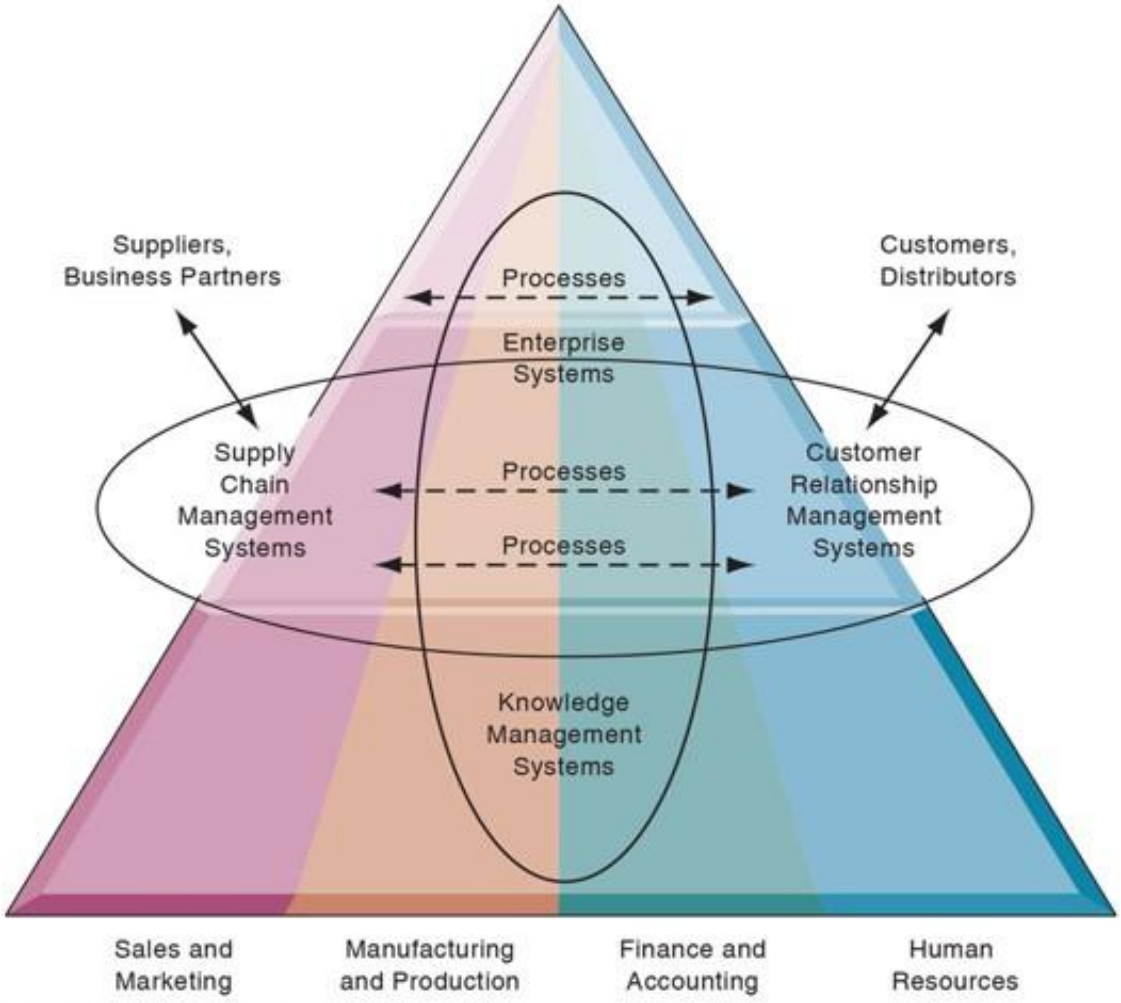
Explain How Enterprise Applications Improve Firm Performance (1 of 2)

- Enterprise applications
  - Systems that coordinate activities, decisions, and knowledge across different functions, levels, and business units in a firm
  - Span functional areas
  - Encompasses processes spanning the entire organization and, in some cases, extending beyond the organization
    - Customers, suppliers, and other key business partners
  - Include all levels of management

Explain How Enterprise Applications Improve Firm Performance (2 of 2)

- Four major applications
  - Enterprise systems
  - Supply chain management systems
  - Customer relationship management systems
  - Knowledge management systems

Figure 2.6 Enterprise Application Architecture



Enterprise System

- Also called enterprise resource planning (E R P) systems
- Used to integrate business processes in
  - Manufacturing and production, finance and accounting, sales and marketing, and human resources into a single software system
- Information previously fragmented in many systems is stored in a single comprehensive data repository

Supply Chain Management (S C M) System (1 of 2)

- Used to help manage relationships with
  - Suppliers, purchasing firms, distributors, and logistics companies
- Manage shared information about orders, production, inventory levels, etc.
- Ultimate objective is to get the right number of products from their source to their point of consumption in the shortest time and at the lowest cost

Supply Chain Management (S C M) System (2 of 2)

- These systems increase firm profitability by lowering the costs of moving and making products
  - And by enabling managers to make better decisions about how to organize and schedule sourcing, production, and distribution
- SCM systems are one type of interorganizational system

Customer Relationship Management (C R M) System

- Help manage relationship with customers
- Enable a firm to coordinate all the business processes that deal with customers in
  - Sales, marketing, and service to optimize revenue, customer satisfaction, and customer retention

Knowledge Management System (KMS)

- Support the creation, capture, storage, and dissemination of firm expertise and knowledge
- Collect relevant knowledge and experience in the firm
- Links to external sources of knowledge
  - Makes that knowledge available wherever and whenever it is needed to improve business processes and management decisions

Intranets and Extranets

- Technology platforms that increase integration and expedite the flow of information
- Intranet
  - An internal network based on Internet standards
  - Often are simply a private access area of a company's website
- Extranet
  - Company website accessible only to authorized vendors and suppliers
  - It facilitates collaboration

Understand the Importance of Collaboration and Social Business Syst (1 of 2)

- Collaboration
  - Working with others to achieve shared and explicit goals
  - Focuses on task or mission accomplishment
  - Usually takes place in a business or other organization, and between businesses
  - Can be short-lived or longer-term
  - Can be one-to-one or many-to-many

Understand the Importance of Collaboration and Social Business System (2 of 2)

- Growing importance of collaboration
  - Changing nature of work
  - Growth of professional work—“interaction jobs”
  - Changing organization of the firm
  - Changing scope of the firm
  - Emphasis on innovation
  - Changing culture of work and business

What is Social Business? (1 of 3)

- Social business
  - Use of social networking platforms, such as Facebook and X, as well as internal corporate social business tools, to engage employees, customers, and suppliers
- Aims to deepen interactions and enhance information sharing and decision making
- "Conversations" to strengthen bonds with customers

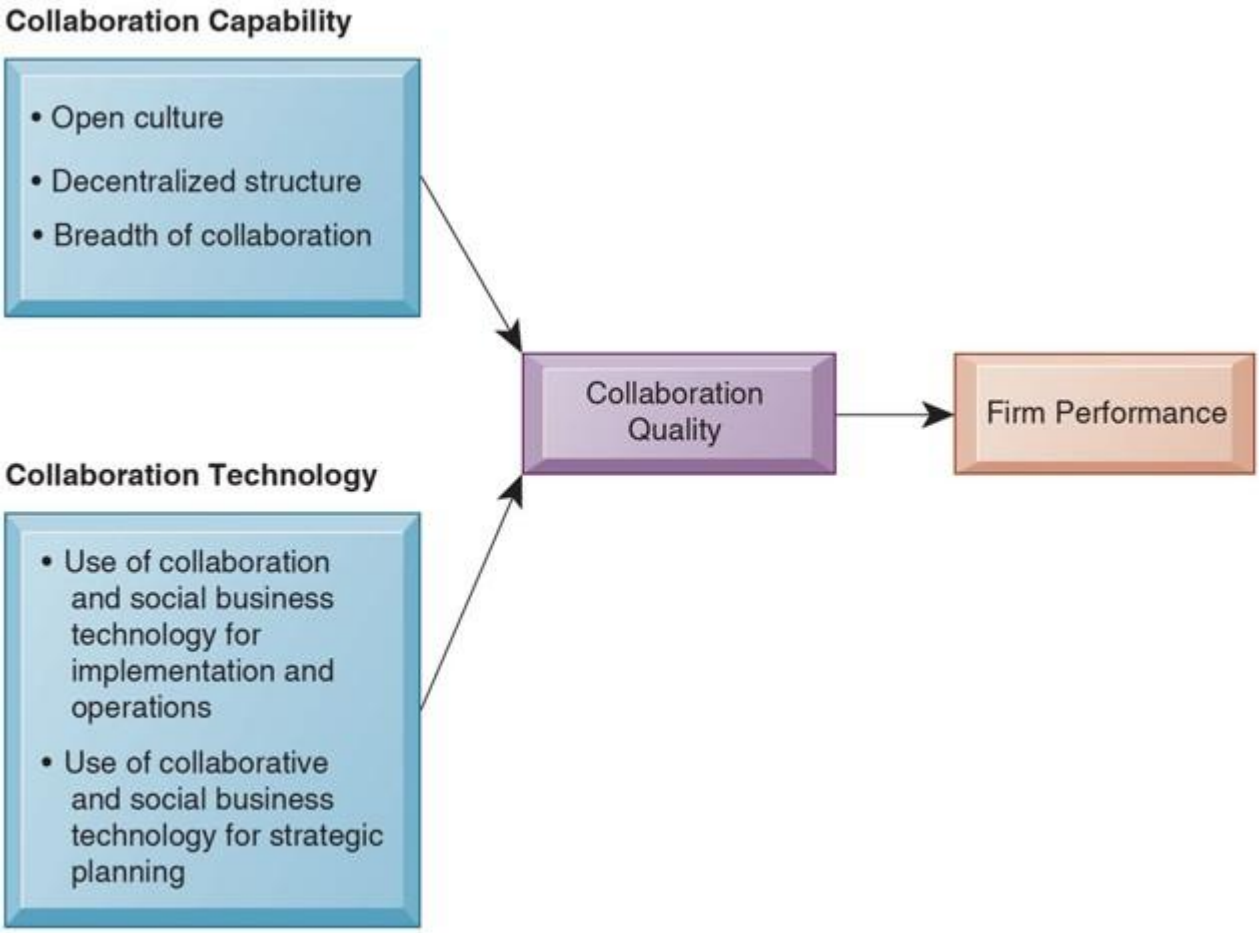
What is Social Business? (2 of 3)

- Requires information transparency
- Seen as a way to drive operational efficiency, spur innovation, accelerate decision making

What is Social Business? (3 of 3)

- Applications for social business
  - Social networks
  - Crowdsourcing
  - Shared workspaces
  - Blogs and wikis
  - Social commerce
  - Files sharing
  - Social marketing
  - Communities

Figure 2.7 Requirements for Collaboration



Describe Collaboration Tools (1 of 3)

- Email, text messaging, and instant messaging (IM)
- Wikis
- Virtual worlds
- Collaboration and social business platforms
  - Virtual meeting systems: videoconferencing, telepresence)
  - Cloud collaboration services (Google Drive, Google Docs, etc.)
  - Microsoft SharePoint and I B M Notes
  - Enterprise social networking tools

Describe Collaboration Tools (2 of 3)

- Email, text messaging, and instant messaging (I<)
- Collaboration platforms
  - Virtual meeting systems
  - Cloud collaboration services
  - Google and Microsoft cloud services
  - Microsoft Teams and Microsoft SharePoint

Describe Collaboration Tools (3 of 3)

- Human-AI collaboration
  - Interactions between humans and artificial intelligence systems
  - Combine their respective complementary strengths to achieve shared goals
- AI technology can assist humans in a wide range of tasks that facilitate team collaboration
  - Scheduling and managing meetings,
  - Transcribing meeting notes
  - Dictating emails
  - Information gathering and data crunching

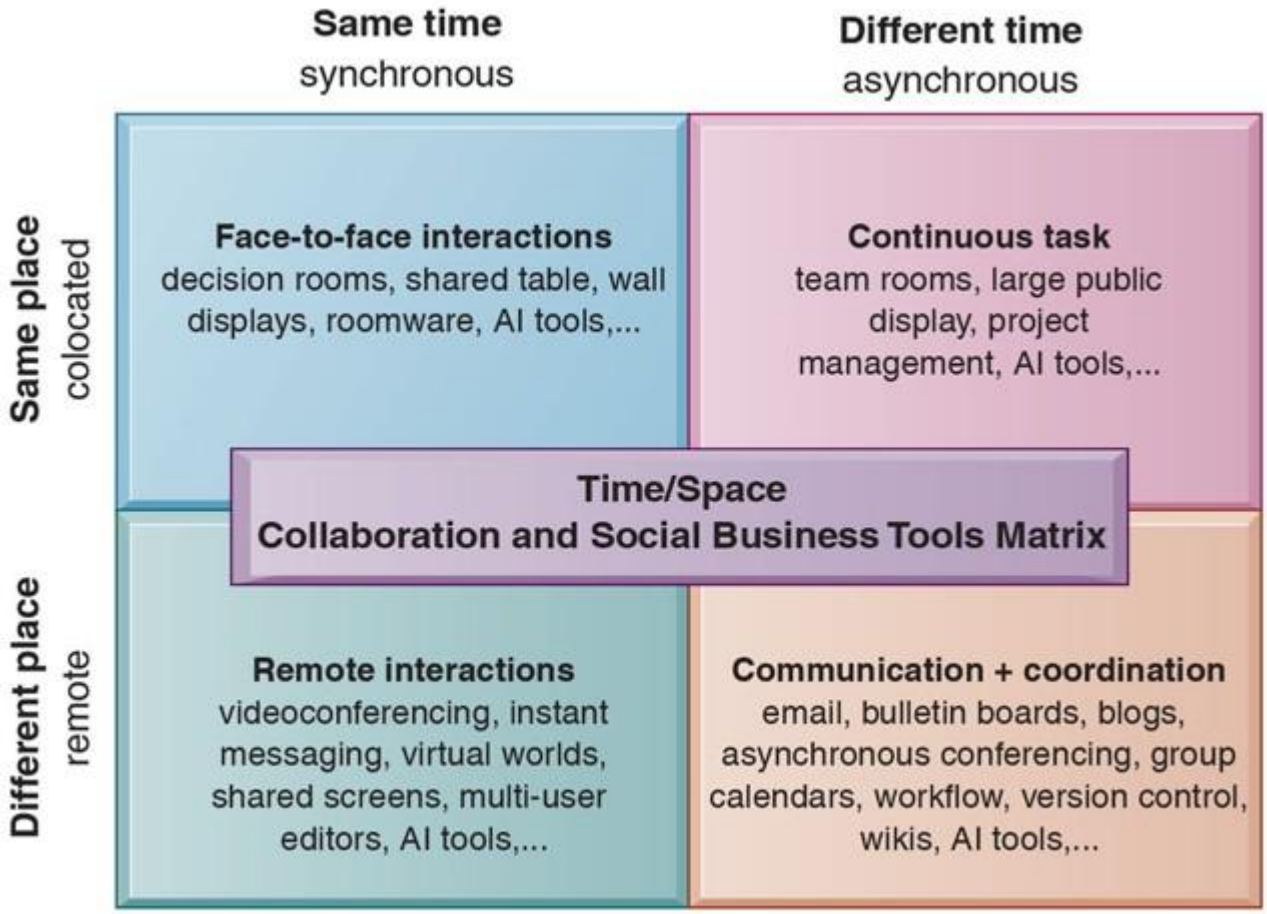
Describe Social Business Tools

- Enterprise social networking tools
  - Create business value by connecting members of an organization through profiles, updates, and notifications
- Virtual worlds
  - Online, 3D environments

Understand How to Evaluate Collaboration and Social Business Tools (1 of 2)

With so many collaboration and social business tools and services available, how do you choose the right technology for your firm?

Figure 2.8 The Time/Space Collaboration and Social Business Tool Matrix



Understand How to Evaluate Collaboration and Social Business Tools (2 of 2)

- Six steps in evaluating software tools
  - Identify your firm's collaboration challenges
  - Identify what kinds of solutions are available
  - Analyze available products' cost and benefits
  - Evaluate security risks
  - Consult users for implementation and training issues
  - Evaluate product vendors

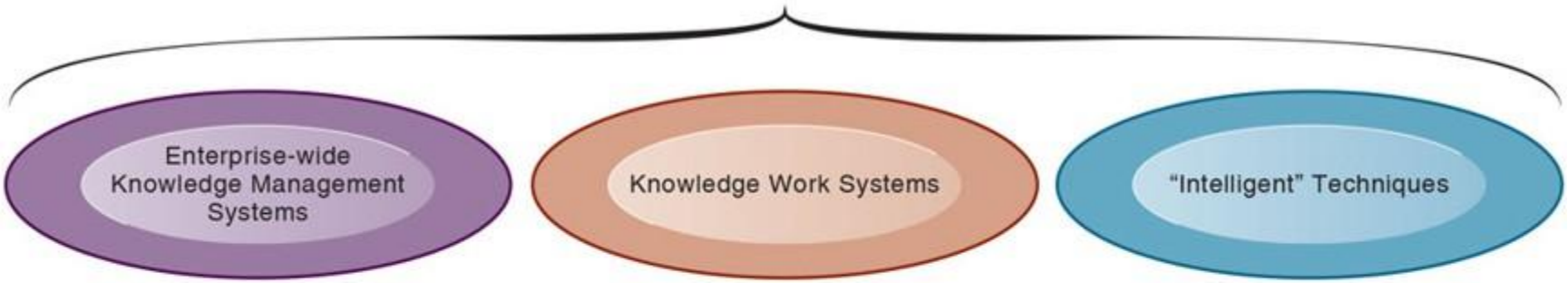
Describe Knowledge Management System (1 of 4)

- Knowledge management
  - Refers to the set of business processes developed in an organization to
    - Create, store, transfer, and apply knowledge
- Knowledge-based core competencies of firms are
  - The two or three things that an organization does best

Describe Knowledge Management System (2 of 4)

- Types of knowledge
  - Structured knowledge
  - Tacit knowledge
  - Explicit knowledge

Figure 2.9 Major Types of Knowledge Management System



General-purpose, integrated, firmwide efforts to collect, store, disseminate, and use digital content and knowledge

Enterprise content management systems
Collaboration and social business tools
Learning management systems

Specialized workstations and systems that enable scientists, engineers, and other knowledge workers to create and discover new knowledge

Computer-aided design (CAD)

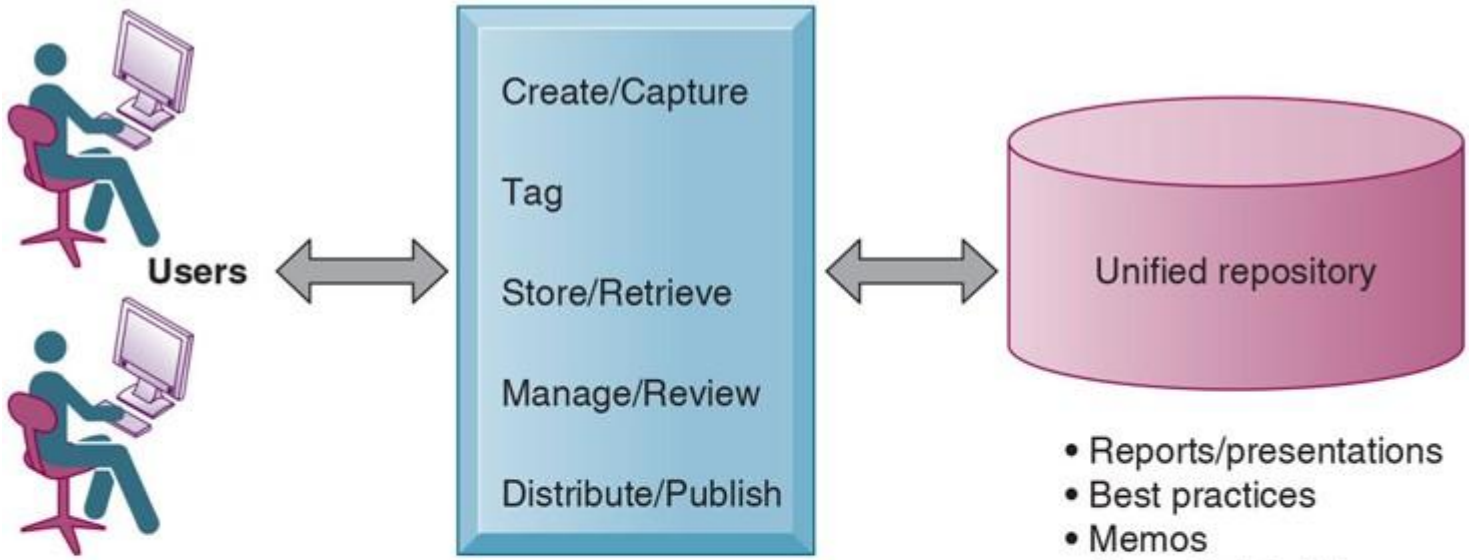
Tools for discovering patterns and applying knowledge to discrete decisions and knowledge domains

Data mining
Neural networks
Machine learning
Natural language processing
Computer vision systems
Robotics
Genetic algorithms
Intelligent agents
Expert systems
Fuzzy logic

Describe Knowledge Management System (3 of 4)

- Enterprise content management system (ECM system)
  - Helps collect and manage structured, semi-structure, and unstructured types of information
- Taxonomy
  - Used to organize information into meaningful categories so that it can be easily accessed

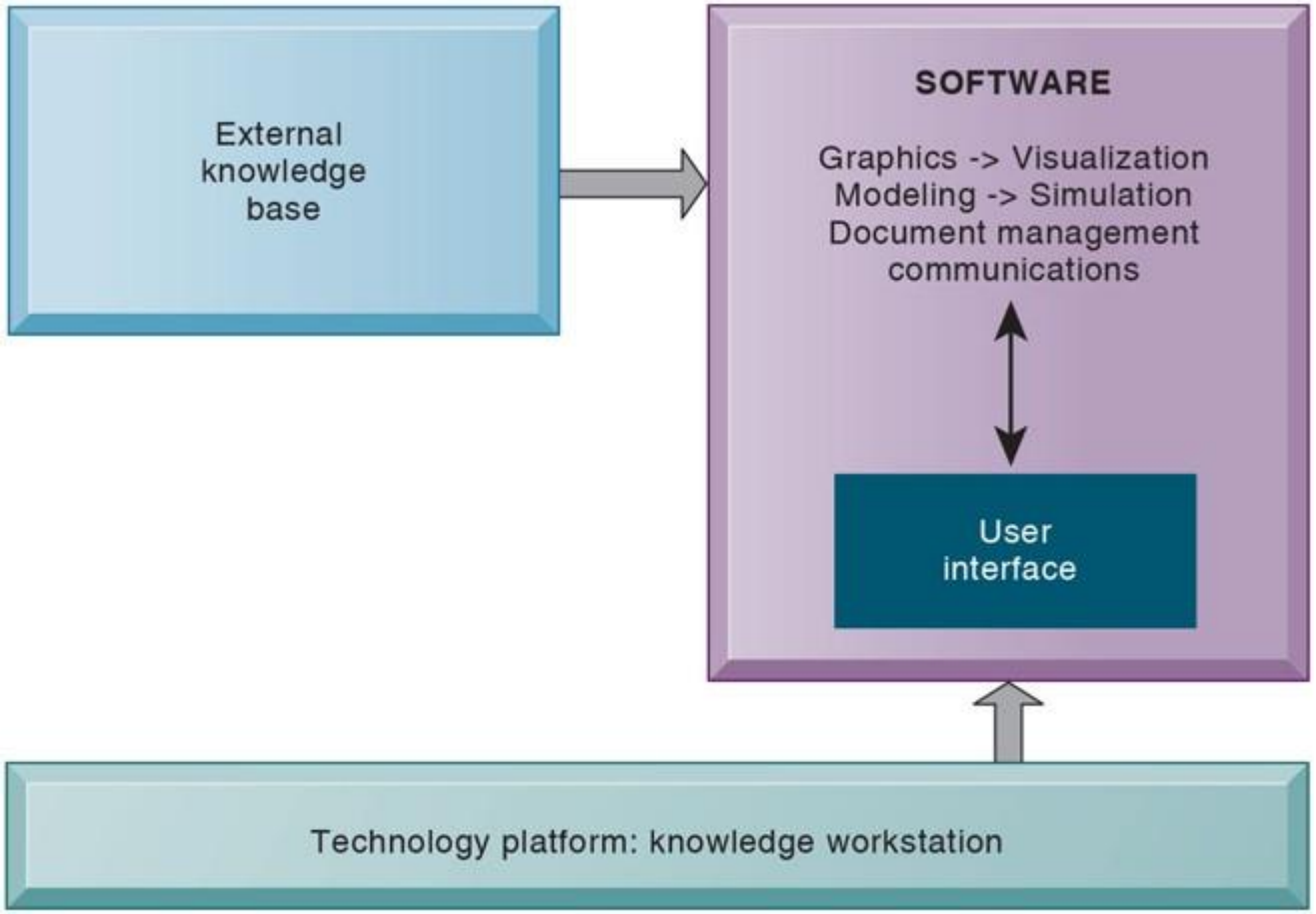
Figure 2.10 An Enterprise Content Management System



Describe Knowledge Management System (4 of 4)

- Learning management system (LMS)
  - Provides tools for the management, delivery, tracking, and assessment of various types of employee learning and training

Figure 2.11 Requirements of Knowledge Work Systems



Describe the Role of the Information Systems Function (1 of 2)

- Information systems department
  - The formal organizational unit responsible for information technology services within the organization
  - Responsible for maintaining the hardware, software, data storage, and networks that comprise the firm's IT infrastructure
  - Positions in an information systems department
    - Programmers, systems analysts, information systems managers, information officers, among others
  - End users
    - Representatives of departments outside the information systems group for whom applications are developed

Describe the Role of the Information Systems Function (2 of 2)

- IT governance
  - Includes strategy and policies for using information technology within an organization

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