



Chapter 2

Global E-business and Collaboration



Essentials of Management Information Systems

Chapter 2 Global E-Business and Collaboration

STUDENT LEARNING OBJECTIVES

- **What major features of a business are important for understanding the role of information systems?**
- **How do systems serve different management groups in a business and how do systems that link the enterprise improve organizational performance?**



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STUDENT LEARNING OBJECTIVES

- **Why are systems for collaboration and teamwork so important and what technologies do they use?**
- **What is the role of the information system's function in a business?**



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VIDEO CASES AND LEARNING TRACKS

Learning Tracks

1. Systems from a Functional Perspective
2. IT Enables Collaboration and Teamwork
3. Challenges of Using Business Information Systems
4. Organizing the Information Systems Function

Video Cases

Case 1: Walmart's Retail Link Supply Chain

Case 2: CEMEX – Becoming a Social Business

Instructional Video 1: US Foodservice Grows Market with Oracle CRM on Demand



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Social Business at BASF

- **Problem:** The challenges of managing a far-flung global enterprise.
- **Solutions:** Use social technology as a platform to solve the challenges.



Social Business at BASF

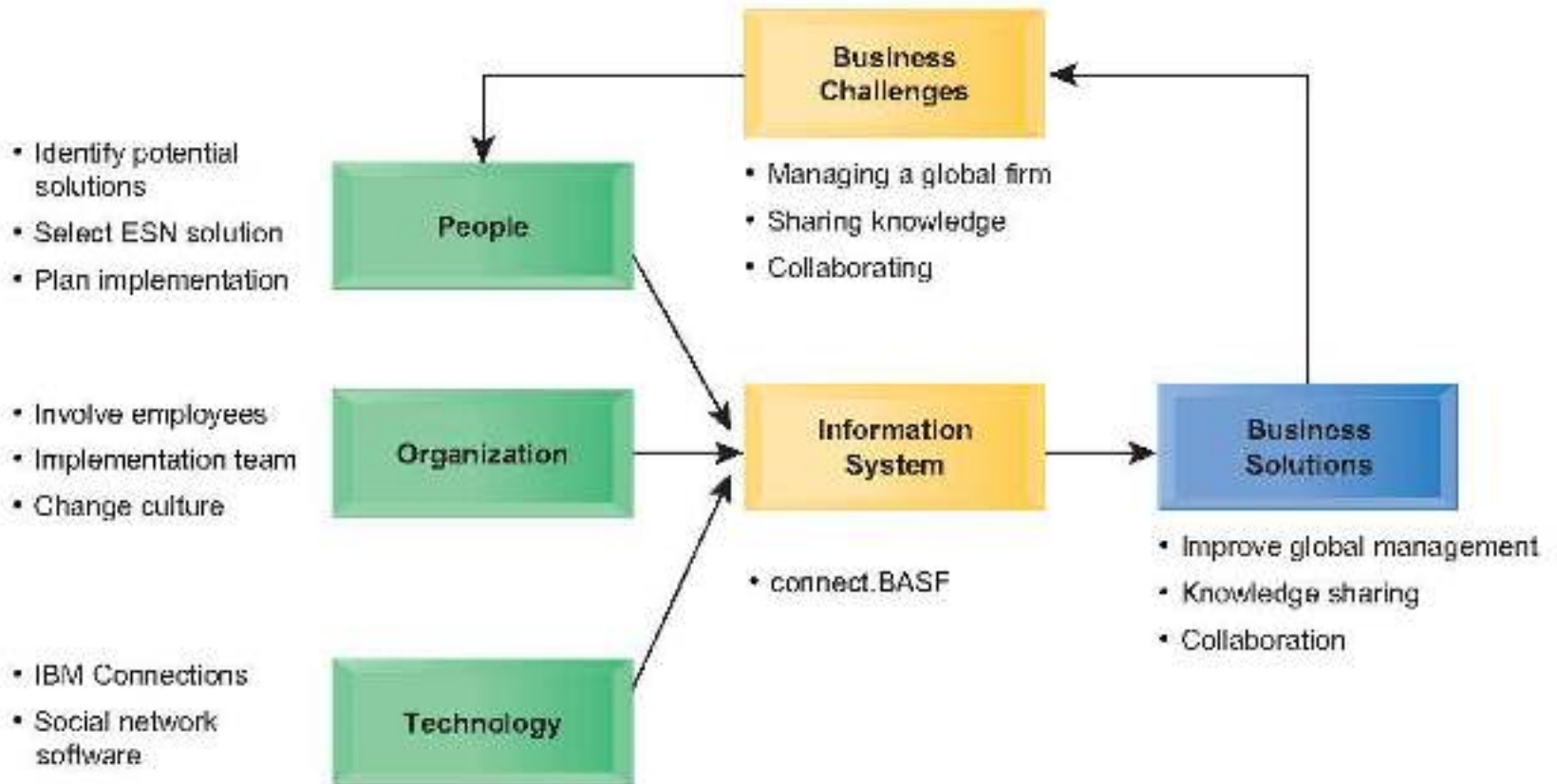
- **Connect.BASF** provided enterprise-wide social networking platform to share knowledge, collaborate, and encourage employees and managers to discuss their work.
- Demonstrates IT's role in collaboration and improving the flow of knowledge
- Illustrates the ability of information systems to improve an organization's ability to innovate, execute, and grow profits.



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Social Business at BASF





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Major Features of a Business

Business: formal organization that makes products or provides a service in order to make a profit

Organizing a Business: Basic Business Functions

- **Four basic business functions**
 - **Manufacturing and production**
 - **Sales and marketing**
 - **Finance and accounting**
 - **Human resources**



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What major features of a business are important for understanding the role of information systems?

The Four Major Functions of a Business

Every business, regardless of its size, must perform four functions to succeed. It must produce the product or service; market and sell the product; keep track of accounting and financial transactions; and perform basic human resources tasks, such as hiring and retaining employees.



Figure 2.1



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What major features of a business are important for understanding the role of information systems?

Five Basic Business Entities

- **Suppliers**
- **Customers**
- **Employees**
- **Invoices/payments**
- **Products and services**



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What major features of a business are important for understanding the role of information systems?

Business Processes

- **Logically related set of tasks that define how specific business tasks are performed**
 - The tasks each employee performs, in what order, and on what schedule
 - E.g., Steps in hiring an employee
- **Some processes tied to functional area**
 - Sales and marketing: identifying customers
- **Some processes are cross-functional**
 - Fulfilling customer order



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What major features of a business are important for understanding the role of information systems?

The Order Fulfillment Process

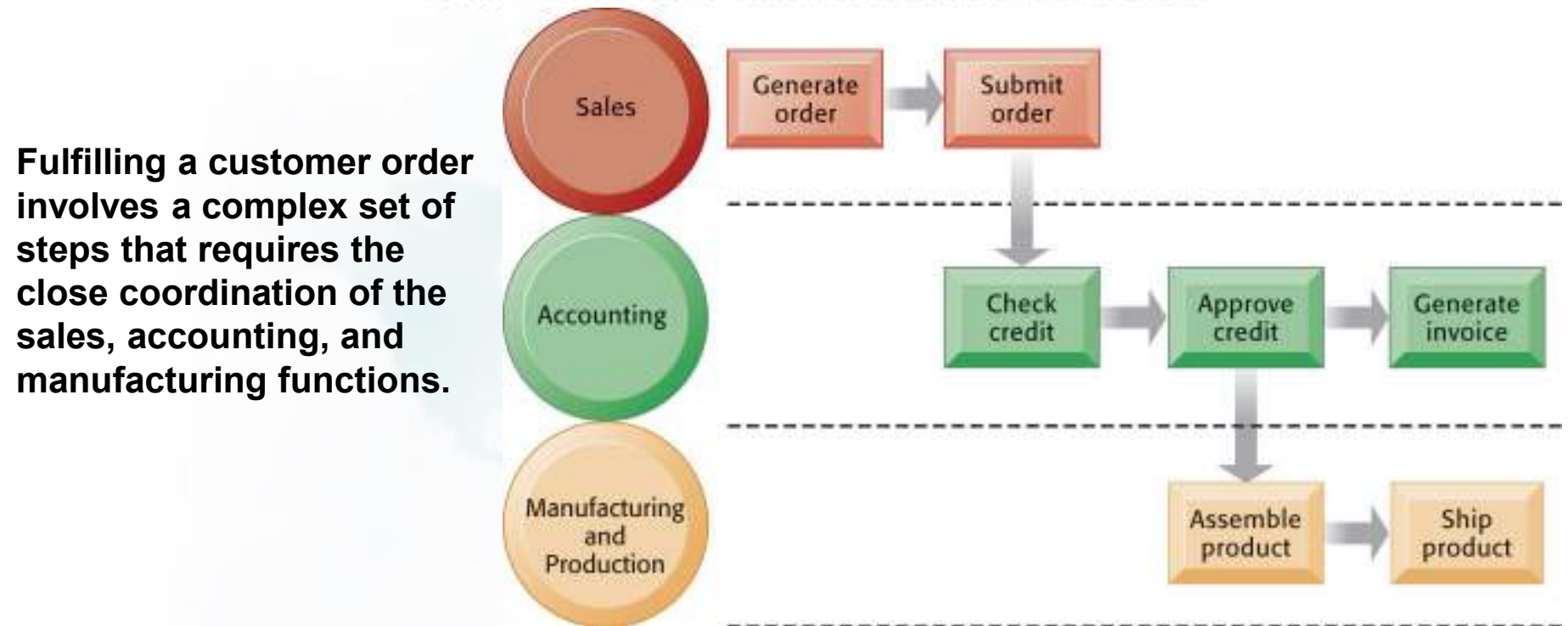


Figure 2.2



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What major features of a business are important for understanding the role of information systems?

How IT Enhances Business Processes

- **Automation of manual processes**
- **Change the flow of information**
- **Replace sequential processes with simultaneous activity**
- **Transform how a business works**
- **Drive new business models**



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What major features of a business are important for understanding the role of information systems?

Managing a Business and Firm Hierarchies

- Firms coordinate work of employees by developing hierarchy in which authority is concentrated at top.
 - Senior management
 - Middle management
 - Operational management
 - Knowledge workers
 - Data workers
 - Production or service workers
- Each group has different needs for information.



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What major features of a business are important for understanding the role of information systems?

Levels in a Firm

Business organizations are hierarchies consisting of three principal levels: senior management, middle management, and operational management. Information systems serve each of these levels. Scientists and knowledge workers often work with middle management.

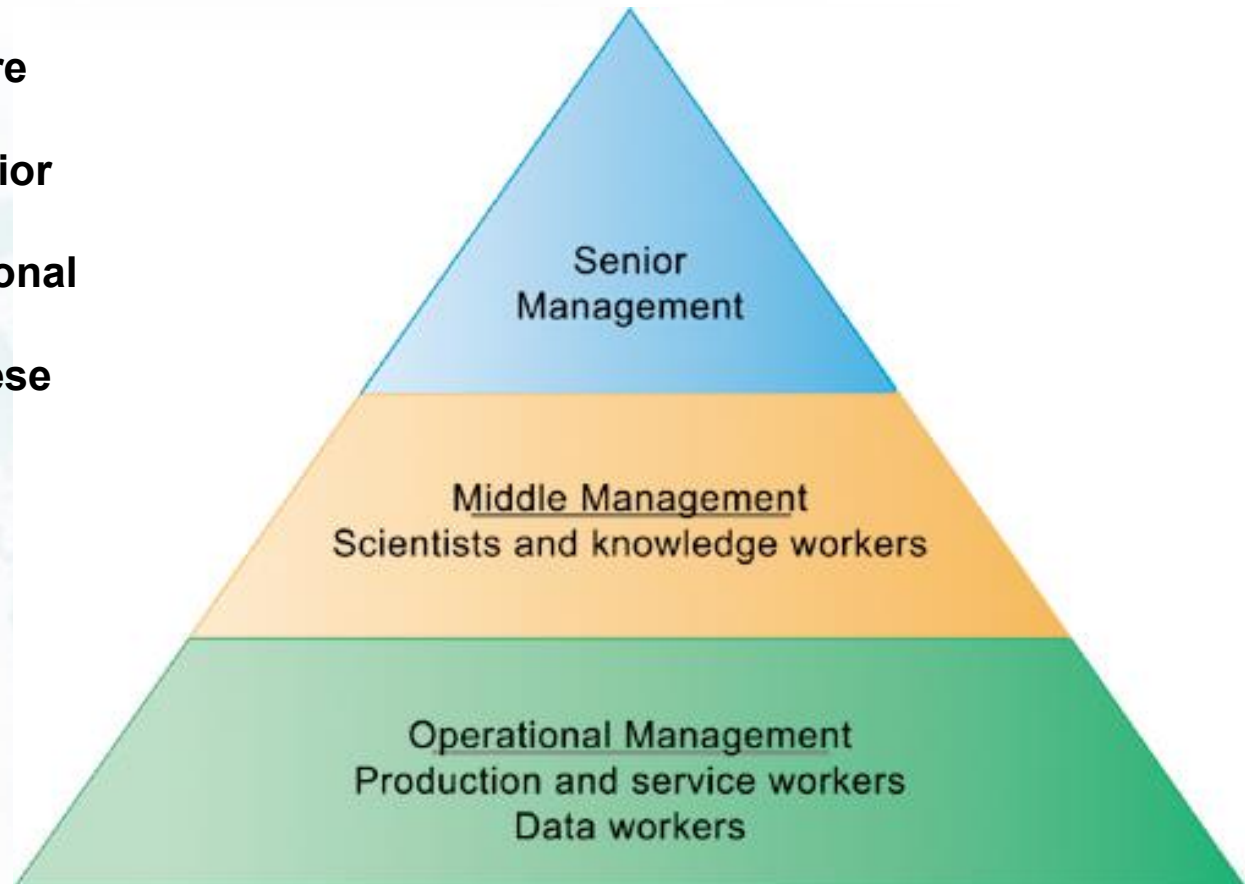


Figure 2.3



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What major features of a business are important for understanding the role of information systems?

The Business Environment

- **Global environment factors**
 - **Technology and science**
 - **Economy**
 - **Politics**
 - **International change**
- **Immediate environment factors**
 - **Customers**
 - **Suppliers**
 - **Competitors**
 - **Regulations**
 - **Stockholders**



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What major features of a business are important for understanding the role of information systems?

The Business Environment

To be successful, an organization must constantly monitor and respond to—or even anticipate—developments in its environment. A firm's environment includes specific groups with which the business must deal directly, such as customers, suppliers, and competitors as well as the broader general environment, including socioeconomic trends, political conditions, technological innovations, and global events.

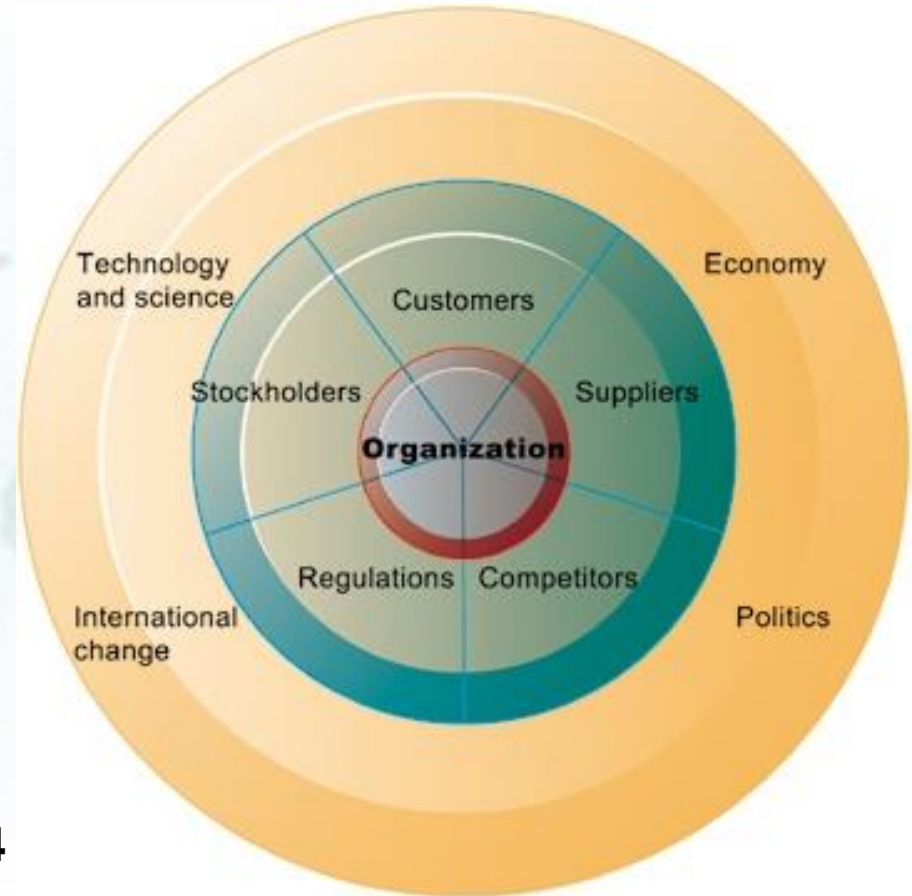


Figure 2.4



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What major features of a business are important for understanding the role of information systems?

The Role of Information Systems in a Business

- **Firms invest in information systems in order to:**
 - **Achieve operational excellence.**
 - **Develop new products and services.**
 - **Attain customer intimacy and service.**
 - **Improve decision making.**
 - **Promote competitive advantage.**
 - **Ensure survival.**



How do systems serve managers and improve organizational performance?

Systems for Different Management Groups

- **Transaction processing systems (TPS)**
 - Keep track of basic activities and transactions of organization
- **Systems for business intelligence**
 - Address decision-making needs of all levels of management
 - **Management information systems (MIS)**
 - **Decision support systems (DSS)**
 - **Executive support systems (ESS)**



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How do systems serve managers and improve organizational performance?

- **Transaction processing systems:**
 - **Serve operational managers.**
 - **Principal purpose is to answer routine questions and to track the flow of transactions through the organization.**
 - **E.g., inventory questions, granting credit to customer**
 - **Monitor status of internal operations and firm's relationship with external environment.**
 - **Major producers of information for other systems.**
 - **Highly central to business operations and functioning.**



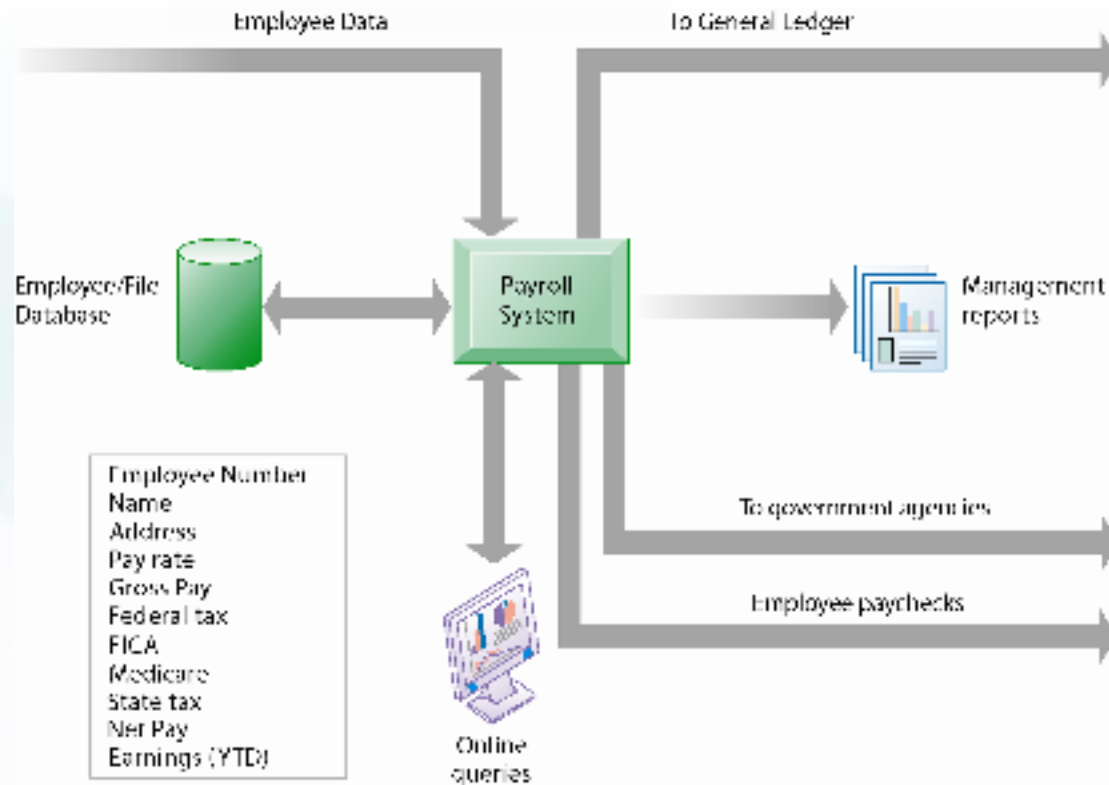
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How do systems serve managers and and improve organizational performance?

A Payroll TPS

A TPS for payroll processing captures employee payment transaction data (such as a timecard). System outputs include online and hard copy reports for management and employee paychecks.



Payroll data on master file

Figure 2.5



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How do systems serve managers and improve organizational performance?

- **Management information systems:**
 - Provide middle managers with reports on firm's performance, to help monitor firm and predict future performance.
 - Summarize and report on basic operations using data from TPS.
 - Provide weekly, monthly, annual results, but may enable drilling down into daily or hourly data.
 - Typically not very flexible systems with little analytic capability.



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How do systems serve managers and improve organizational performance?

How MIS Obtain Their Data from TPS

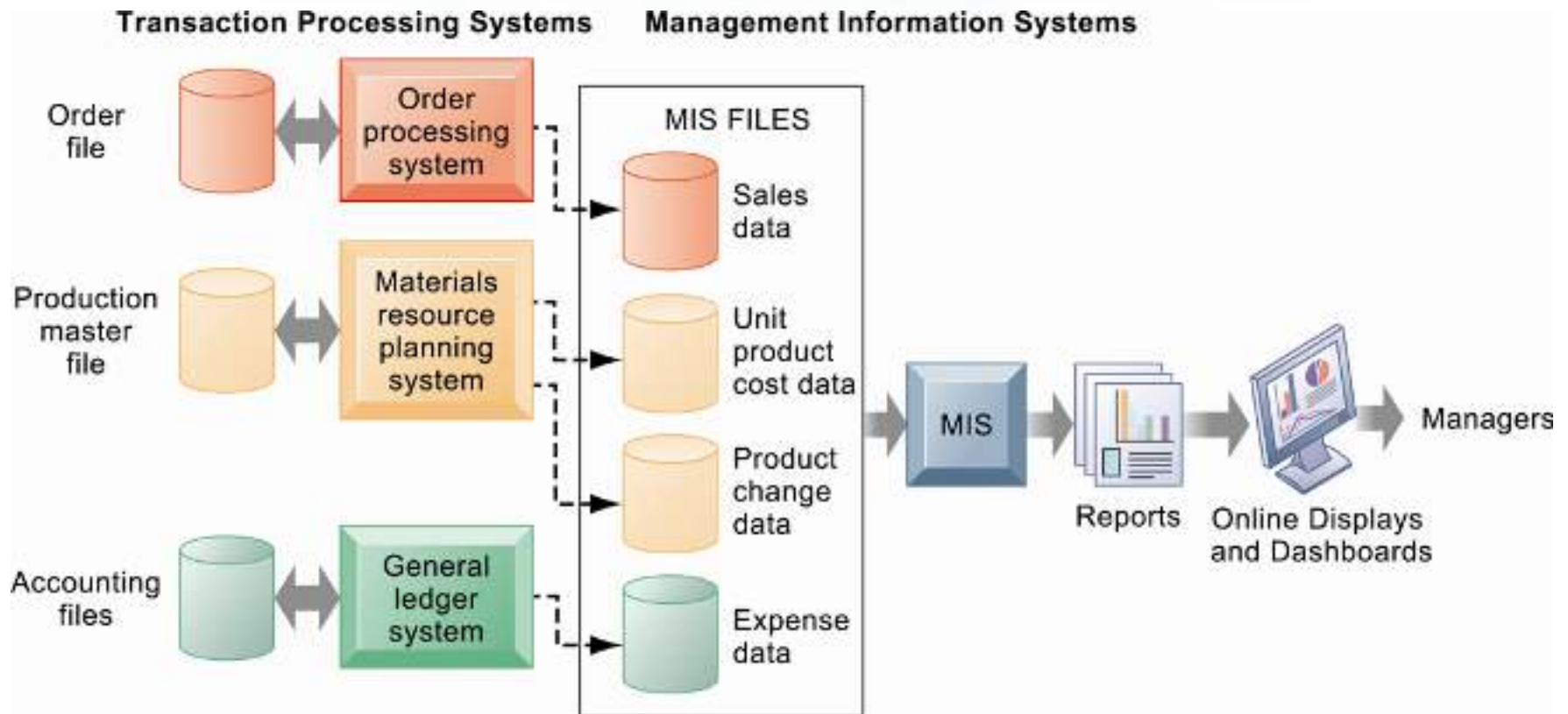


Figure 2.6



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How do systems serve managers and and improve organizational performance?

Sample MIS Report

Consolidated Consumer Products Corporation Sales by Product and Sales Region: 2014

PRODUCT CODE	PRODUCT DESCRIPTION	SALES REGION	ACTUAL SALES	PLANNED	ACTUAL versus PLANNED
4469	Carpet Cleaner	Northeast	4,066,700	4,800,000	0.85
		South	3,778,112	3,750,000	1.01
		Midwest	4,867,001	4,600,000	1.06
		West	4,003,440	4,400,000	0.91
		TOTAL		16,715,253	17,550,000
5674	Room Freshener	Northeast	3,676,700	3,900,000	0.94
		South	5,608,112	4,700,000	1.19
		Midwest	4,711,001	4,200,000	1.12
		West	4,563,440	4,900,000	0.93
		TOTAL		18,559,253	17,700,000

This report, showing summarized annual sales data, was produced by the MIS in Figure 2-6.

Figure 2.7



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How do systems serve managers and improve organizational performance?

- **Decision support systems (DSS):**
 - **Serve middle managers.**
 - **Support nonroutine decision making**
 - Example: What is impact on production schedule if December sales doubled?
 - **Often use external information as well from TPS and MIS**
 - **Model driven DSS**
 - Voyage-estimating systems
 - **Data driven DSS**
 - Intrawest's marketing analysis systems

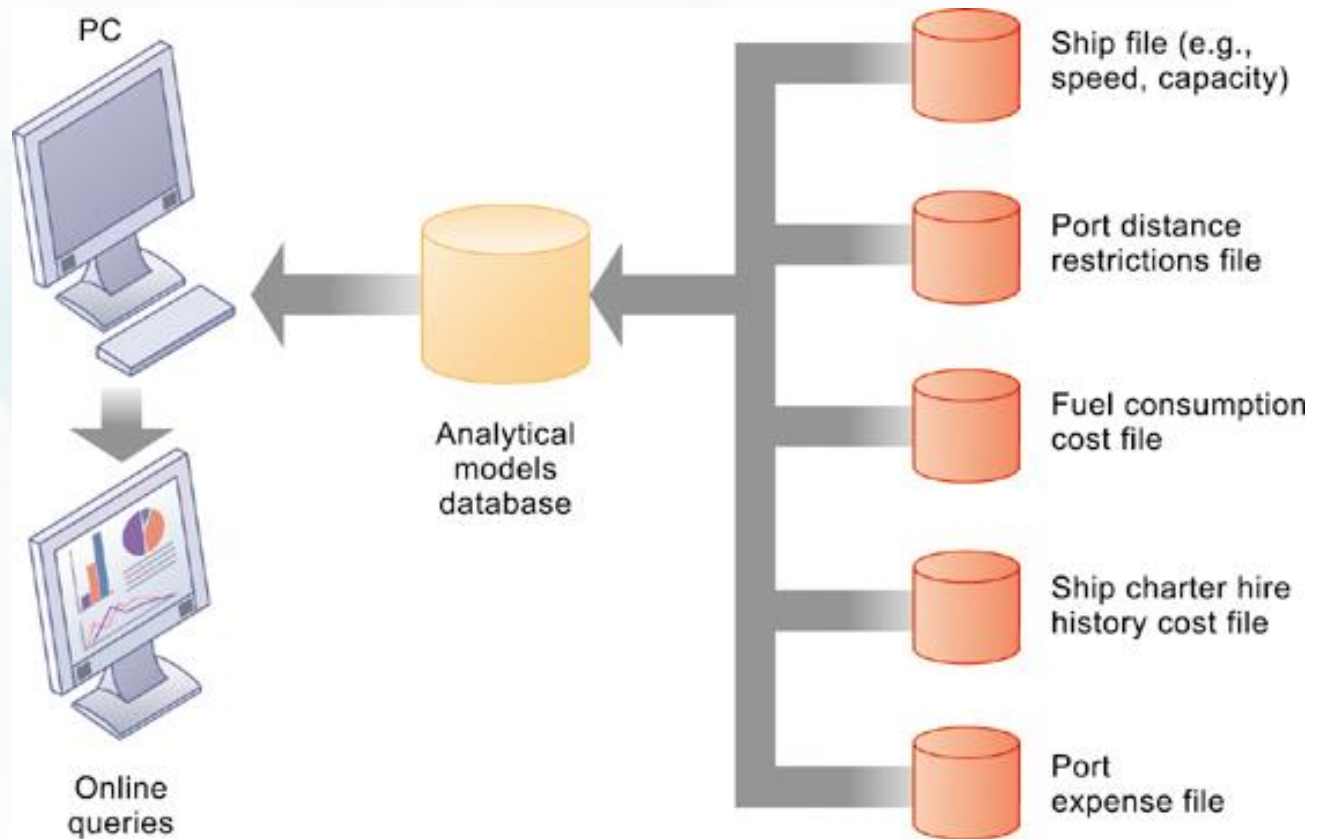


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How do systems serve managers and improve organizational performance?

Voyage-Estimating Decision Support System



This DSS operates on a powerful PC. It is used daily by managers who must develop bids on shipping contracts.

Figure 2.8



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How do systems serve managers and improve organizational performance?

- **Executive support systems (ESS):**
 - **Serve senior managers.**
 - **Address strategic issues and long-term trends.**
 - **E.g., what products should we make in five years?**
 - **Address nonroutine decision making.**
 - **Provide generalized computing capacity that can be applied to changing array of problems.**
 - **Draw summarized information from MIS, DSS, and data from external events.**
 - **Typically use portal with Web interface, or digital dashboard, to present content**



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How do systems serve managers and improve organizational performance?

Digital Dashboard

A digital dashboard delivers comprehensive and accurate information for decision making often using a single screen. The graphical overview of key performance indicators helps managers quickly spot areas that need attention.





How do systems serve managers and improve organizational performance?

Interactive Session: Technology **Schiphol International Hub to Become Faultless...** **Truth or Dare?**

- **How many levels of complexity can you identify in Schiphol's baggage conveyor network?**
- **What are the management, organization, and technology components of baggage handling systems?**
- **Think of the data that the network uses. What kinds of management reports can be generated from that data?**



How do systems serve managers and improve organizational performance?

Systems for Linking the Enterprise

- **Enterprise applications**
 - **Systems that span functional areas, focus on executing business processes across the firm, and include all levels of management**
 - **Four major types**
 1. **Enterprise systems**
 2. **Supply chain management systems**
 3. **Customer relationship management systems**
 4. **Knowledge management systems**



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How do systems serve managers and improve organizational performance?

Enterprise Application Architecture

Enterprise applications automate processes that span multiple business functions and organizational levels and may extend outside the organization.

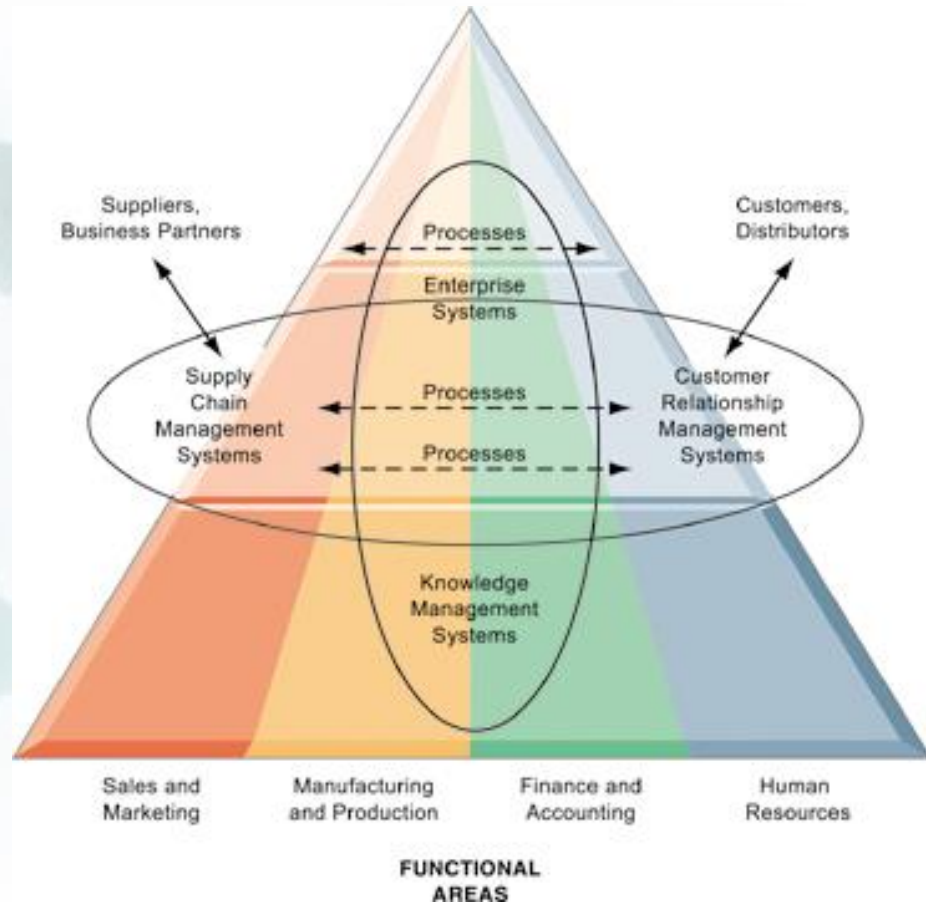


Figure 2.9



How do systems serve managers and improve organizational performance?

Enterprise Systems

- Also called enterprise resource planning (ERP) systems
- Integrate data from key business processes into single system.
- Speed communication of information throughout firm.
- Enable greater flexibility in responding to customer requests, greater accuracy in order fulfillment.
- Enable managers to assemble overall view of operations.



How do systems serve managers and improve organizational performance?

Supply Chain Management (SCM) Systems

- **Manage relationships with suppliers, purchasing firms, distributors, and logistics companies.**
- **Manage shared information about orders, production, inventory levels, and so on.**
 - **Goal is to move correct amount of product from source to point of consumption as quickly as possible and at lowest cost**
- **Type of interorganizational system:**
 - **Automating flow of information across organizational boundaries**



How do systems serve managers and improve organizational performance?

Customer Relationship Management (CRM) Systems

- **Help manage relationship with customers.**
- **Coordinate business processes that deal with customers in sales, marketing, and customer service**
- **Goals:**
 - **Optimize revenue**
 - **Improve customer satisfaction**
 - **Increase customer retention**
 - **Identify and retain most profitable customers**
 - **Increase sales**



How do systems serve managers and improve organizational performance?

Knowledge Management Systems

- **Manage processes for capturing and applying knowledge and expertise**
- **Collect relevant knowledge and make it available wherever needed in the enterprise to improve business processes and management decisions.**
- **Link firm to external sources of knowledge**



How do systems serve managers and improve organizational performance?

Intranets and Extranets

- **Technology platforms that increase integration and expedite the flow of information**
 - **Intranets:**
 - Internal networks based on Internet standards
 - Often are private access area in company's Web site
 - **Extranets:**
 - Company Web sites accessible only to authorized vendors and suppliers
 - Facilitate collaboration



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How do systems serve managers and improve organizational performance?

E-Business, E-Commerce, and E-Government

- **E-business:**
 - Use of digital technology and Internet to drive major business processes
- **E-commerce:**
 - Subset of e-business
 - Buying and selling goods and services through Internet
- **E-government:**
 - Using Internet technology to deliver information and services to citizens, employees, and businesses



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Why are systems for collaboration and social business so important and what technologies do they use?

What Is Collaboration?

- **Growing importance of collaboration:**
 - **Changing nature of work**
 - **Growth of professional work**
 - **Changing organization of the firm**
 - **Changing scope of the firm**
 - **Emphasis on innovation**
 - **Changing culture of work and business**



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Why are systems for collaboration and social business so important and what technologies do they use?

What is Social Business?

- **Use of social networking platforms to engage employees, customers, suppliers**
- **Conversations to strengthen bonds**
- **Requires information transparency**
- **Seen as way to drive operational efficiency, spur innovation, accelerate decision making**



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Why are systems for collaboration and social business so important and what technologies do they use?

Business Benefits of Collaboration and Social Business

- Investment in collaboration technology can return large rewards, especially in sales and marketing, research and development
- **Productivity:** Sharing knowledge and resolving problems
- **Quality:** Faster resolution of quality issues
- **Innovation:** More ideas for products and services
- **Customer service:** Complaints handled more rapidly
- **Financial performance:** Generated by improvements in factors above



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Why are systems for collaboration and social business so important and what technologies do they use?

Collaboration Capability

- Open culture
- Decentralized structure
- Breadth of collaboration

Collaboration Technology

- Use of collaboration technology for implementation and operations
- Use of collaborative technology for strategic planning

Collaboration Quality

Firm Performance

Figure 2.10
Requirements for Collaboration

Successful collaboration requires an appropriate organizational structure and culture, along with appropriate collaboration technology.



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Why are systems for collaboration and social business so important and what technologies do they use?

Tools and Technologies for Collaboration and Teamwork

- **E-mail and instant messaging (IM)**
- **Wikis**
- **Virtual worlds**
- **Collaboration and social business environments**
 - **Virtual meeting systems (telepresence)**
 - **Cloud collaboration services**
 - **Google Drive, Dropbox**
 - **Microsoft SharePoint and IBM Notes**
 - **Enterprise social networking tools**



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Why are systems for collaboration and social business so important and what technologies do they use?

Evaluating and Selecting Collaboration Software Tools

1. What are your firm's collaboration challenges?
2. What kinds of solutions are available?
3. Analyze available products' cost and benefits.
4. Evaluate security risks.
5. Consult users for implementation and training issues.
6. Select candidate tools and evaluate vendors.



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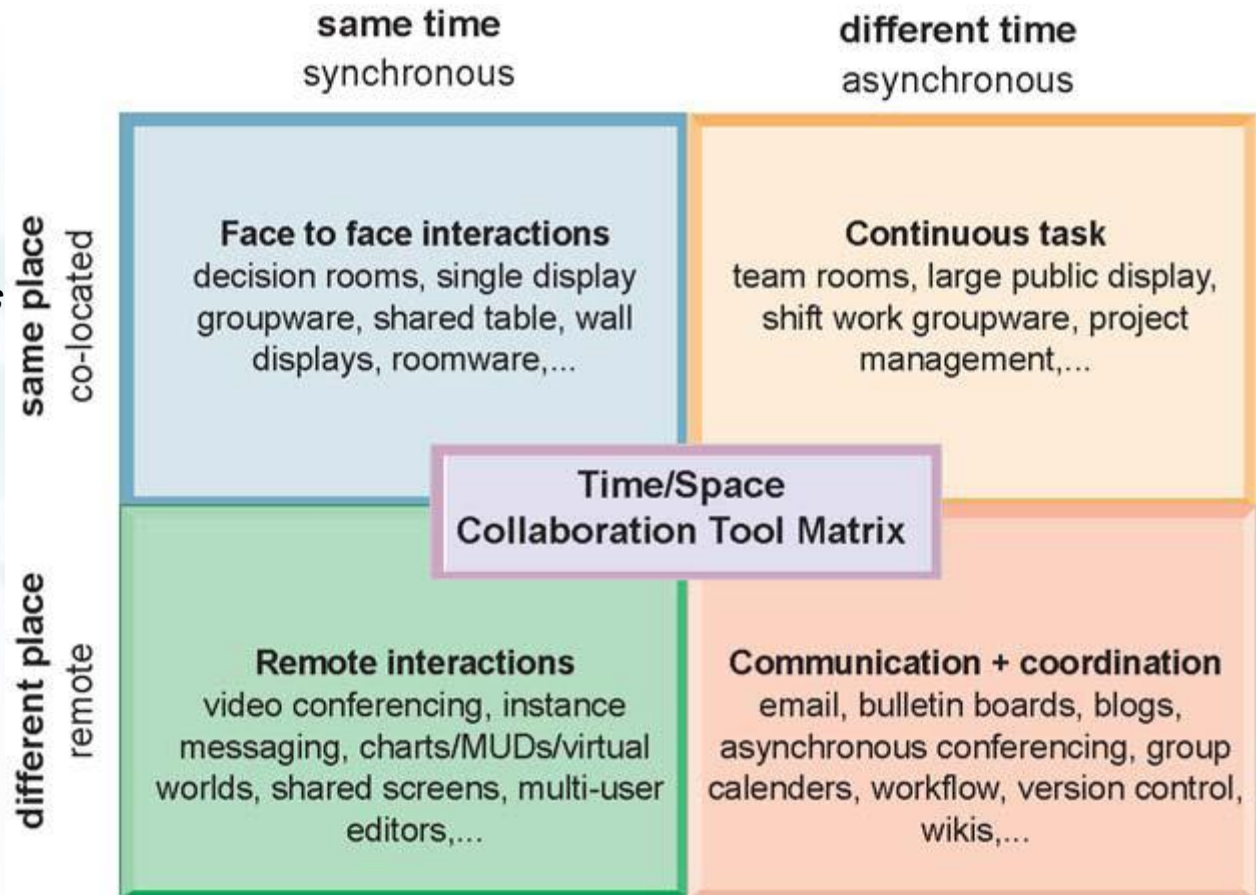
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Why are systems for collaboration and social business so important and what technologies do they use?

The Time/Space Collaboration Tool Matrix

Collaboration technologies can be classified in terms of whether they support interactions at the same or different time or place, and whether these interactions are remote or colocated.

Figure 2.11





Is Social Business Working Out?

Interactive Session: People **Is Social Business Working Out?**

- **Read the Interactive Session and then discuss the following questions:**
- **Identify the people, organization, and technology factors responsible for impeding adoption of internal corporate social networks.**
- **Compare the experiences implementing internal social networks of the two organizations. Why was one more successful than the other? What role did management play in this process?**
- **Should all companies implement internal enterprise social networks? Why or why not?**



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What is the role of the information systems function in a business?

The Information Systems Department

- **Programmers**
- **Systems analysts**
 - Principle liaisons to rest of firm
- **Information systems managers**
 - Leaders of teams of programmers and analysts, project managers, physical facility managers, telecommunications managers, database specialists, managers of computer operations, and data entry staff
- **Senior managers: CIO, CPO, CSO, CKO**
- **End users**



What is the role of the information systems function in a business?

Information Systems Services

- **Computing services**
- **Telecommunications services**
- **Data management services**
- **Application software services**
- **Physical facilities management services**
- **IT management services**
- **IT standards services**
- **IT educational services**
- **IT research and development services**