

UGBS 609: Management Information Systems

E-Business: How Businesses Use Information Systems

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Course Text

- Laudon, K. C. and Laudon, J. P. (2009) *Essentials of Management Information Systems*. 8th/9th/10th Edition, Pearson Education Inc., Upper Saddle River, NJ 07458.
- **Chapters: 1,2,3,7,8,9,10,12**
- **Class website: www.vivaafrika.net**

Chapter 2



E-Business: How Businesses Use Information Systems

Essentials of Management Information Systems

Chapter 2 E-Business: How Businesses Use Information Systems

STUDENT LEARNING OBJECTIVES

- **What are the major features of a business that are important for understanding the role of information systems?**
- **How do systems serve the various levels of management in a business and how are these systems related?**

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STUDENT LEARNING OBJECTIVES

- **How do enterprise applications and intranets improve organizational performance?**
- **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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Components 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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Components of a Business

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

Components of a Business

Organizing a Business: Basic Business Functions

- **Five basic business entities:**
 - **Suppliers**
 - **Customers**
 - **Employees**
 - **Invoices/payments**
 - **Products and services**

Components of a Business

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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Components of a Business

The Order Fulfillment Process

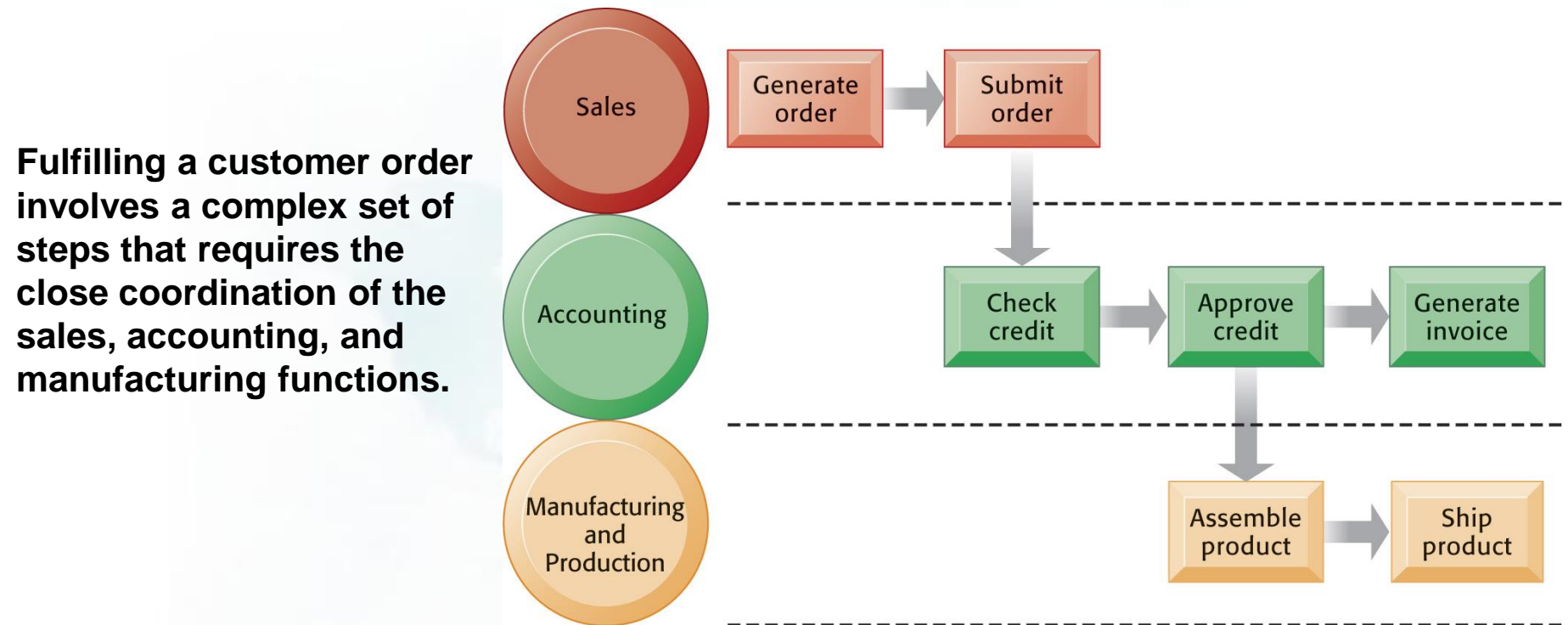


Figure 2-2

Components of a Business

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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Components of a Business

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.

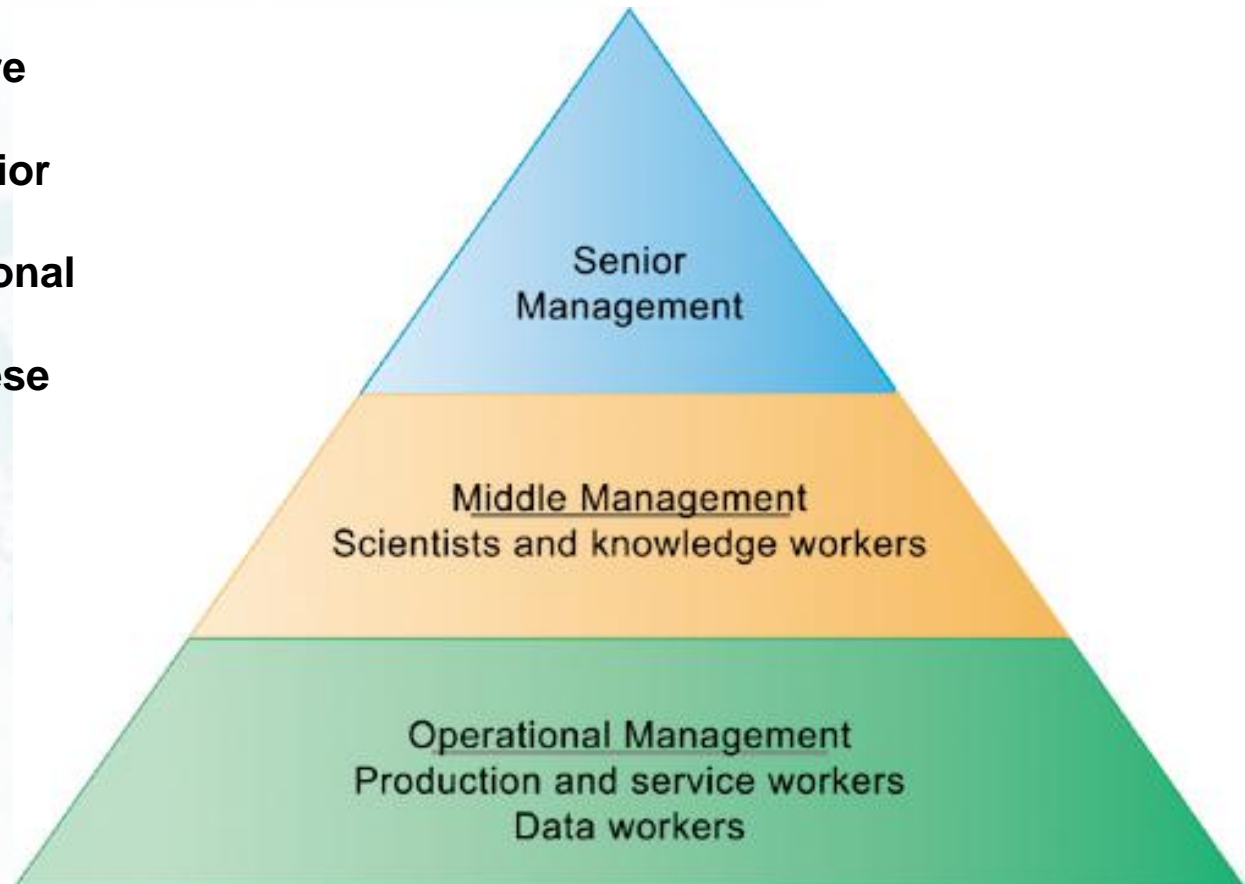


Figure 2-3

Types of Information Systems

1. Executive Support System (ESS)

Strategic-Level

Plan and Project,
Forecast
- **Senior Managers**

2. Decision Support Systems (DSS)

Management-Level

Decision Analysis;
Summary Reports
- **Staff Managers & Middle Managers**

3. Management Information Systems (MIS)

Knowledge-Level

Models; Graphics;
Documents & Mail
- **Professionals & Clerical Workers**

4. Knowledge Work Systems (OS)

5. Office Systems (OS)

Operational-Level

Sorting; lists; Detailed
Reports; Pay Slips
- **Operations Personnel; Supervisors**

6. Transaction Process Systems (TPS)

Systems that Span the Business

SAP ERP:

Human Resource Systems - Leave Request
Example

Executive Support Systems – Sales Planning and
Forecasting

Visit the class website and click on videos

Types of Business Information Systems

- **Transaction processing systems**
 - 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 operational levels
 - Serve predefined, structured goals and decision making

How MIS Obtain Their Data from TPS

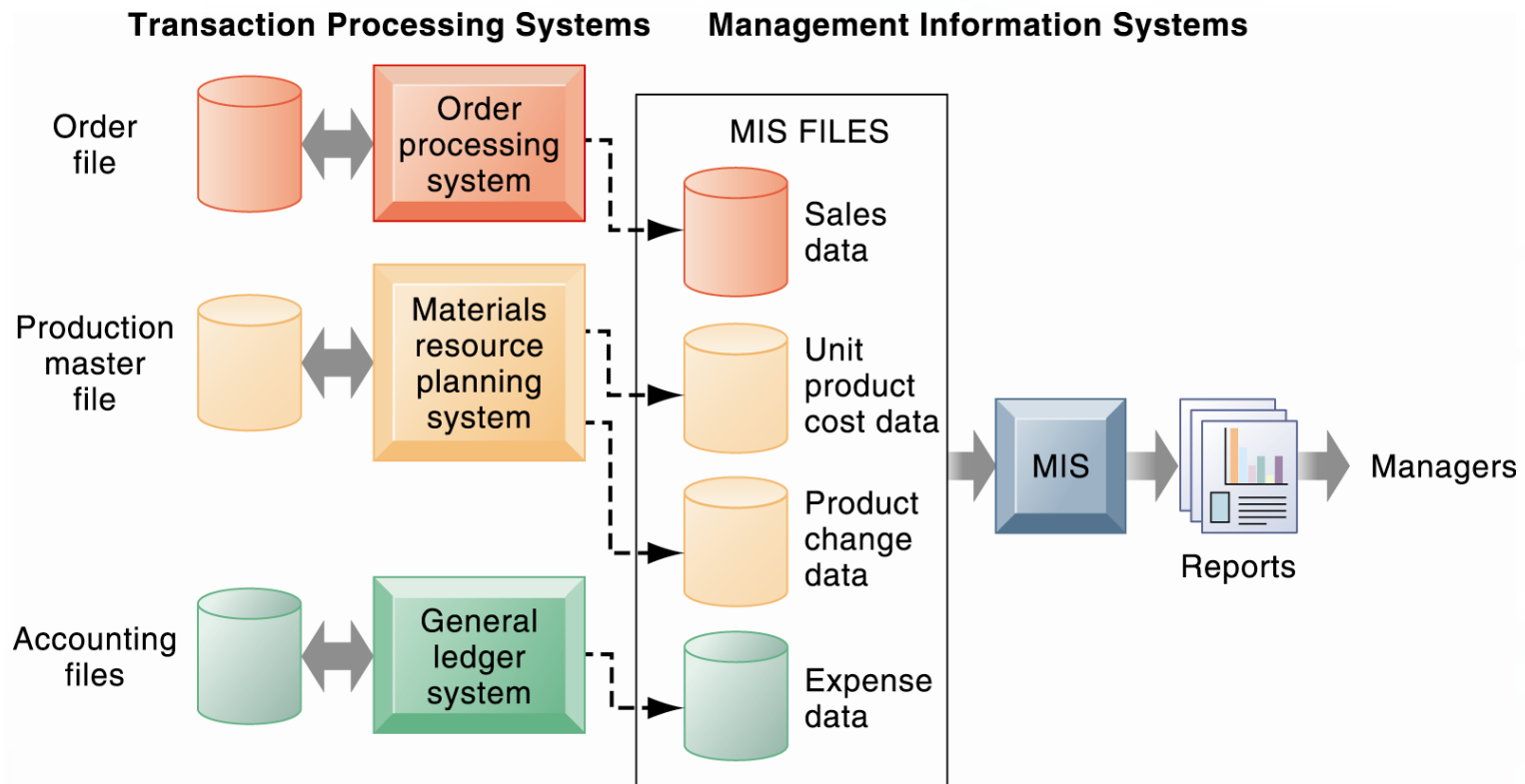


Figure 2-6

Types of Business Information Systems

- **Management information systems**
 - Serve middle management
 - Provide reports on firm's current performance, based on data from TPS
 - Provide answers to routine questions with predefined procedure for answering them
 - Typically have little analytic capability

Sample MIS Report

Consolidated Consumer Products Corporation Sales by Product and Sales Region: 2008

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	0.95
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	1.05

This report, showing summarized annual sales data, was produced by the MIS in Figure 2-9.

Figure 2-7

Types of Business Information Systems

- **Decision support systems**
 - Serve middle management
 - 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

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.

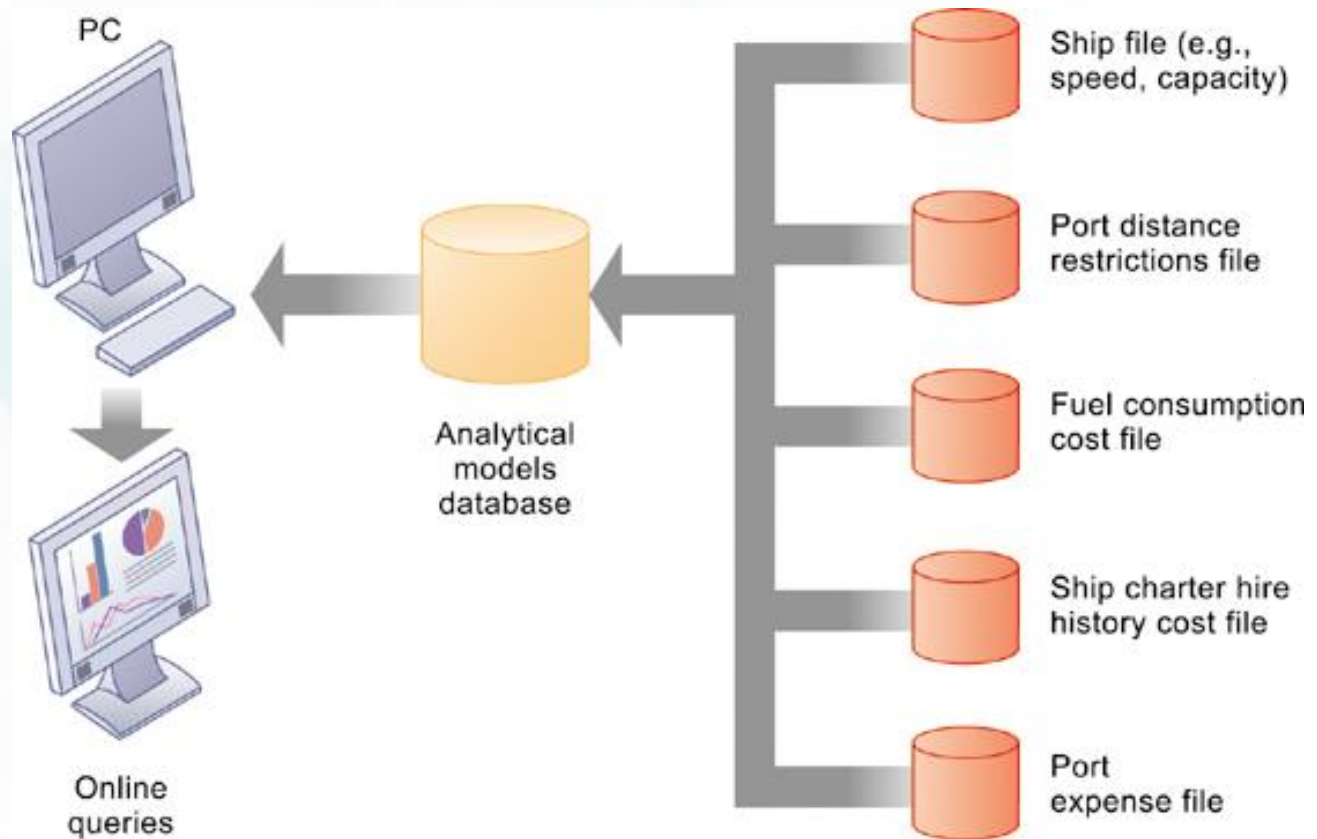


Figure 2-8

Types of Business Information Systems

- **Executive support systems**
 - Support senior management
 - Address nonroutine decisions requiring judgment, evaluation, and insight
 - Incorporate data about external events (e.g. new tax laws or competitors) as well as summarized information from internal MIS and DSS
 - Typically use portal with Web interface to present content
 - Example: ESS that provides minute-to-minute view of firm's financial performance as measured by working capital, accounts receivable, accounts payable, cash flow, and inventory

Model of an Executive Support System

This system pools data from diverse internal and external sources and makes them available to executives in an easy-to-use form.

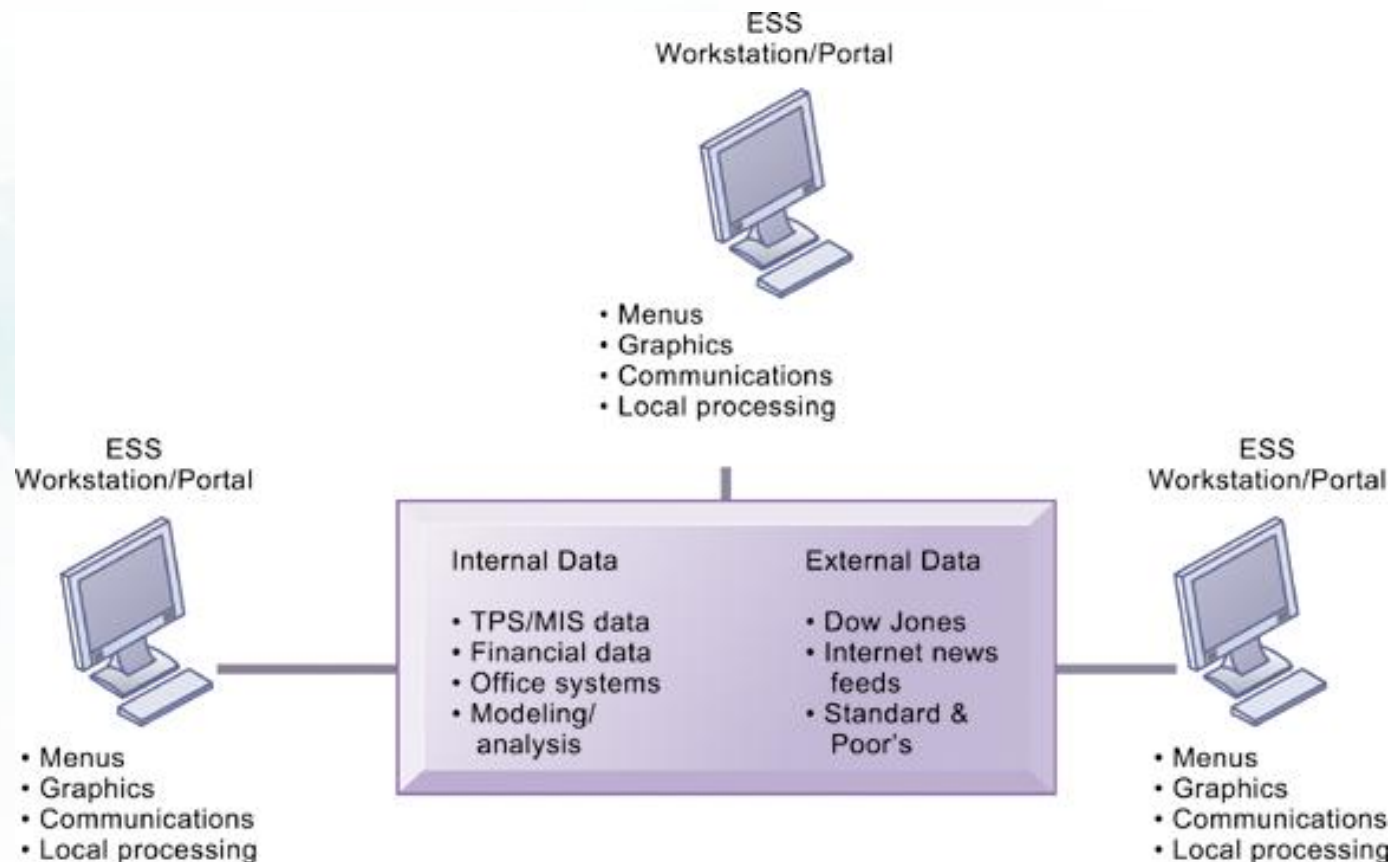


Figure 2-9

Systems That Span the Enterprise

- **Enterprise systems**
 - Collects data from different firm functions and stores data in single central data repository
 - Resolves problem of fragmented, redundant data sets and systems
 - Enable:
 - Coordination of daily activities
 - Efficient response to customer orders (production, inventory)
 - Provide valuable information for improving management decision making

Systems That Span the Enterprise

Supply Chain Management 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**

Systems That Span the Enterprise

Customer Relationship Management Systems

- **Help manage relationship with customers.**
- **Coordinate business processes that deal with customers to optimize revenue and customer satisfaction, and increase sales.**
- **Combine sales, marketing, and service record data from multiple communication channels to provide unified view of customer, eliminate duplicate efforts.**

Systems That Span the Enterprise

Knowledge Management Systems

- **Intangible knowledge assets**
 - Knowledge about producing and delivering products
 - Source of value and advantage for firms
- **Knowledge management systems:**
 - Help capture, storage, distribute, and apply knowledge so that it can be leveraged for strategic benefit.
 - Include systems for:
 - Managing and distributing documents, graphics, other digital knowledge objects
 - Creating knowledge directories of employees with specialized expertise
 - Distributing knowledge

E-commerce vs E-business

- **Electronic Commerce:** Sharing business information, managing business relationships and facilitating transactions with Internet technology. (linking buyers and sellers).



- **Electronic Business:** Executing all the firm's business processes with Internet technology. (sales, finance, human resources, manufacturing)

- **Intranet:** Business builds private, secure network based on Internet technology
- **Extranet:** Extension of intranet to authorized external users

Systems That Span the Enterprise

- **Intranets:**

- Internal networks built with same tools and standards as Internet
- Used for internal distribution of information to employees
- Typically utilize private portal providing single point of access to several systems
- May connect to company's transaction systems

Systems That Span the Enterprise

- **Extranets:**

- Intranets extended to authorized users outside the company
- Expedite flow of information between firm and its suppliers and customers
- Can be used to allow different firms to collaborate on product design, marketing, and production

Systems That Span the Enterprise

- **E-business (Electronic business):**
 - Use of digital technology and Internet to execute major business processes in the enterprise
 - Includes **e-commerce** (electronic commerce):
 - Buying and selling of goods over Internet
- **E-government:**
 - The application of Internet and networking technologies to digitally enable government and public sector agencies' relationships with citizens, businesses, and other arms of government

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The Information System's Function in 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, CSO, CKO**
- **End users**
- **External specialists**

Question

Considering the context of a developing country like Ghana, is the internet a strategic choice for every firm or otherwise, **should every firm do business online?**

