

Management Information Systems

Information Systems, Global Business and E-business

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Class Website

- **www.vivaafrika.info**



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- Group Term Paper and Presentations - **20%**
- Assignments & Participation - **10%**
- Exam - **70%**



Chapters 1 and 2 of Laudon and Laudon (2011/2012/2013) Selected readings on class website

Laudon, K. C. and Laudon, J. P. (2011/2012/2013) Management Information Systems: Managing the Digital Firm. 12th Edition, Pearson Education Inc., Upper Saddle River, NJ 07458.

LEARNING OBJECTIVES

This session seeks to introduce the course and also explain the basic concepts of information systems, the digital firm and e-business. Learning objectives include:

- 1. Understand information systems and how they are used in organizations.**
- 2. Describe how Internet technology has changed businesses.**
- 3. Identify the various types of information systems in organizations.**

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Osei Kwame Prempeh: One Year Rememberanc...

Journeying over many seas and through many countries we came dear Nana Kwame to this pitiful leave-taking the last gestures by your graveside the futility of words over your quiet remains.

|| > 1 2 3 4 5 6 7 8 9 10

Welcome

Funeral planning is something most of us will have to do at one point in our lives, but how do you do it? Are you getting good value for your money? What do you really need? What do you have to do? Send us your funeral information for publication. It's FREE!!!

Funerals In Ghana

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The Editor of The Spectator, Mr. Merari Alomele, is dead.

WHAT A SHOCK

Alor, as he was affectionately called, was the author of the popular 'Sikaman Palava' column – which won him

search...

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One Year In Memorial



One year in memorial

Fondly remembered by
your son Afotey Odarteifio,
your siblings Esther,
Emmanuel and Solomon,
your grandchildren
and the entire family.

Memorial service will be
held at Alive Chapel Tesano
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**Madam Rose
Dede Tetteh**

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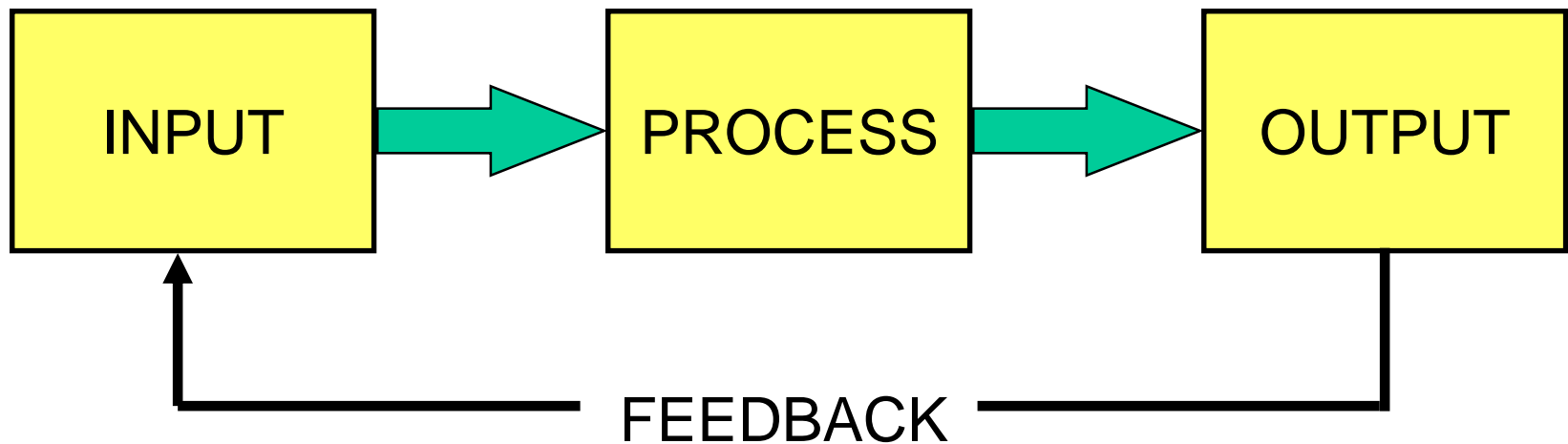
What is an information system?



- **Information system:**
 - Set of interrelated components
 - Collect, process, store, and distribute information
 - Support decision making, coordination, and control

- **Information System**
 - IT + People + Processes and Policy

Activities in an Information System



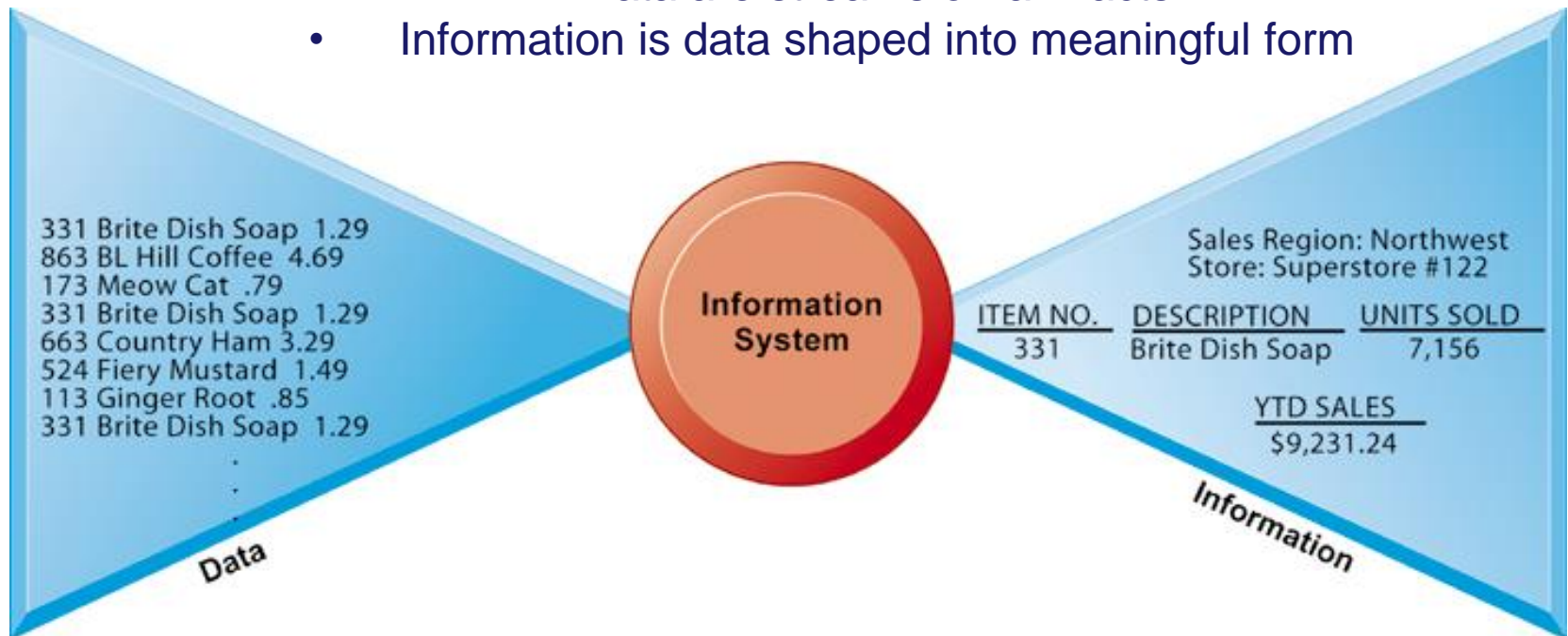
Perspectives on Information Systems

- **Information system:** Three activities produce information organizations need
 - **Input:** Captures raw data from organization or external environment
 - **Processing:** Converts raw data into meaningful form
 - **Output:** Transfers processed information to people or activities that use it
 - **Feedback:** Output returned to appropriate members of organization to help evaluate or correct input stage

Data and Information

Information vs. data

- Data are streams of raw facts
- Information is data shaped into meaningful form



Raw data from a supermarket checkout counter can be processed and organized to produce meaningful information, such as the total unit sales of dish detergent or the total sales revenue from dish detergent for a specific store or sales territory.

Business Processes and Information Systems

- **Business processes:**
 - Workflows of material, information, knowledge
 - Sets of activities, steps
 - May be tied to functional area or be cross-functional
- **Businesses:** Can be seen as collection of business processes
- Business processes may be assets or liabilities

Business Processes and Information Systems

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

- Information technology enhances business processes in two main ways:

- 1. Increasing efficiency of existing processes**

- Automating steps that were manual

- 2. Enabling entirely new processes that are capable of transforming the businesses**

- Change flow of information
- Replace sequential steps with parallel steps
- Eliminate delays in decision making

Incremental
Impact

Transformational
Impact

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)

Operational-Level

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

4. Transaction Process Systems (TPS)

Systems that Span the Business

SAP ERP:

Human Resource Systems - Leave Request
Example

Executive Support Systems – Sales Planning and
Forecasting

<http://vivaafrika.info/videos-on-technology-and-business/>

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

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

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

- **Executive support systems**

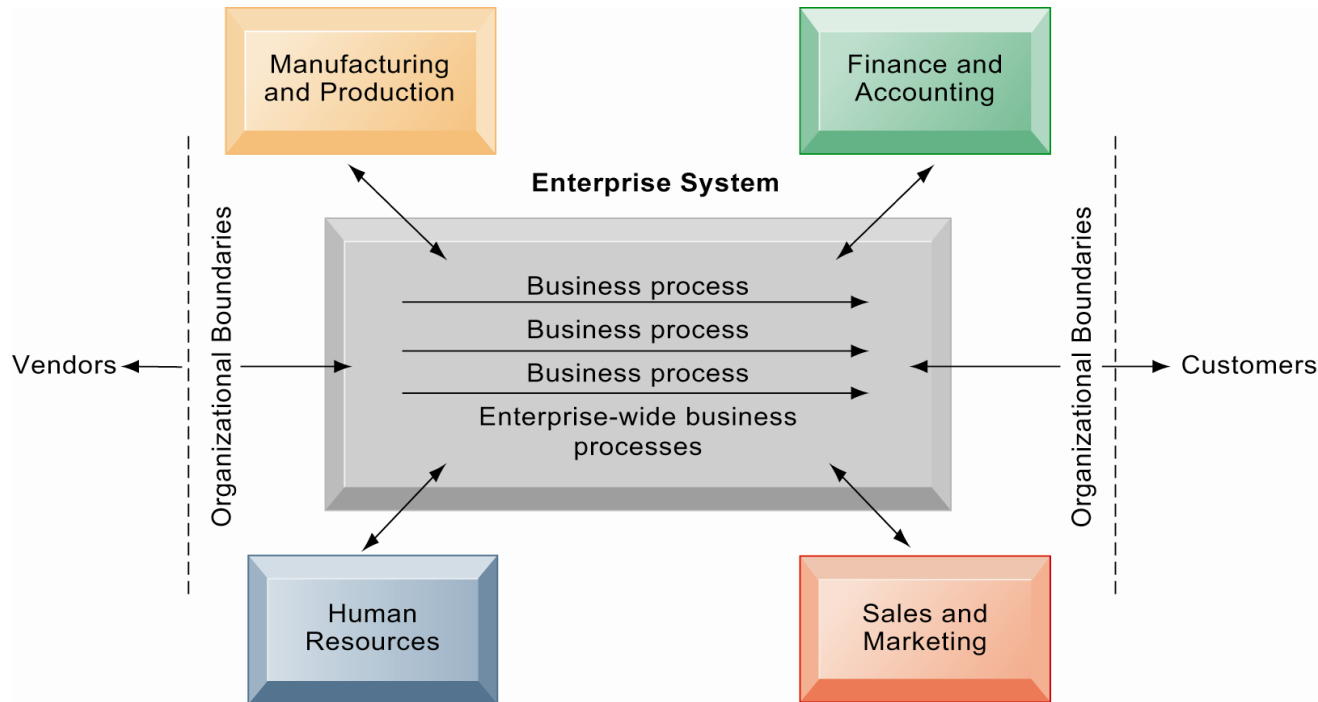
- Support senior management
- Address nonroutine decisions requiring judgment, evaluation, and insight
- Incorporate data about external events (e.g. new tax laws or competitors) as well as summarized information from internal MIS and DSS
- Example: ESS that provides minute-to-minute view of firm's financial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

- **Systems from a constituency perspective**
 - **Transaction processing systems: supporting operational level employees**
 - **Management information systems and decision-support systems: supporting managers**
 - **Executive support systems: supporting executives**

Systems That Span the Enterprise

- **Enterprise applications**
 - Span functional areas
 - Execute business processes across firm
 - Include all levels of management
 - Four major applications:
 - a) Enterprise systems
 - b) Supply chain management systems
 - c) Customer relationship management systems
 - d) Knowledge management systems

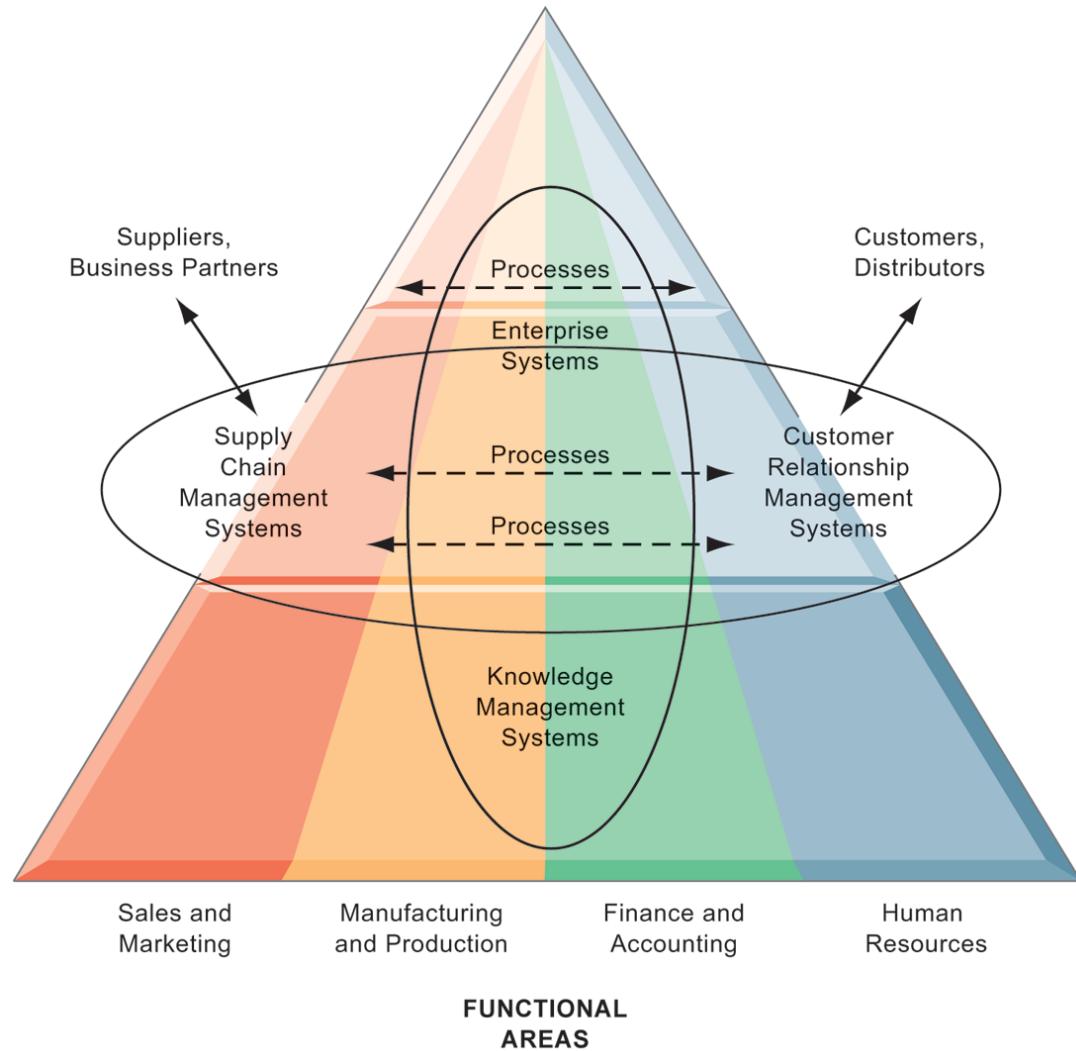
Enterprise Systems



Enterprise systems integrate the key business processes of an entire firm into a single software system that enables information to flow seamlessly throughout the organization. These systems focus primarily on internal processes but may include transactions with customers and vendors.

Enterprise Application Architecture

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



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 firm's relationships with suppliers**
 - **Share information about**
 - **Orders, production, inventory levels, delivery of products and services**
 - **Goal: Right amount of products to destination with least amount of time and lowest cost**

Systems That Span the Enterprise

- **Customer relationship management systems:**
 - Provide information to coordinate all of the business processes that deal with customers in sales, marketing, and service to optimize revenue, customer satisfaction, and customer retention
 - Integrate firm's customer-related processes and consolidate customer information from multiple communication channels

Types of Information Systems

- **Knowledge management systems (KMS)**
 - **Support processes for acquiring, creating, storing, distributing, applying, integrating knowledge**
 - How to create, produce, distribute products and services
 - **Collect internal knowledge and experience within firm and make it available to employees**
 - **Link to external sources of knowledge**

- **Business intelligence**

- Class of software applications
- Analyze current and historical data to find patterns and trends and aid decision-making
- Used in systems that support middle and senior management
 - Data-driven DSS
 - Executive support systems (ESS)



INTERNET AND 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



COLLABORATION:

Two or more people working together towards shared goals



SYSTEMS WHICH ENHANCE

COLLABORATION

Systems for Collaboration and Teamwork

- **Collaboration:**
 - Short-lived or long-term
 - Informal or formal (teams)
- **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



Systems for Collaboration and Teamwork

- **Business benefits of collaboration and teamwork**
 - Investments in collaboration technology can produce organizational improvements returning high ROI
 - **Benefits:**
 - Productivity
 - Quality
 - Innovation
 - Customer service
 - Financial performance
 - Profitability, sales, sales growth



Requirements for Collaboration

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



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

Systems for Collaboration and Teamwork

- **Technology for collaboration and teamwork**
 - **15 categories of collaborative software tools**
 - Email and instant messaging | White boarding
 - Collaborative writing | Web presenting
 - Collaborative reviewing | Work scheduling
 - Event scheduling | Document sharing /wikis
 - File sharing | Mind mapping
 - Screen sharingLarge audience | Webinars
 - Audio conferencing | Co-browsing
 - Video conferencing

Systems for Collaboration and Teamwork

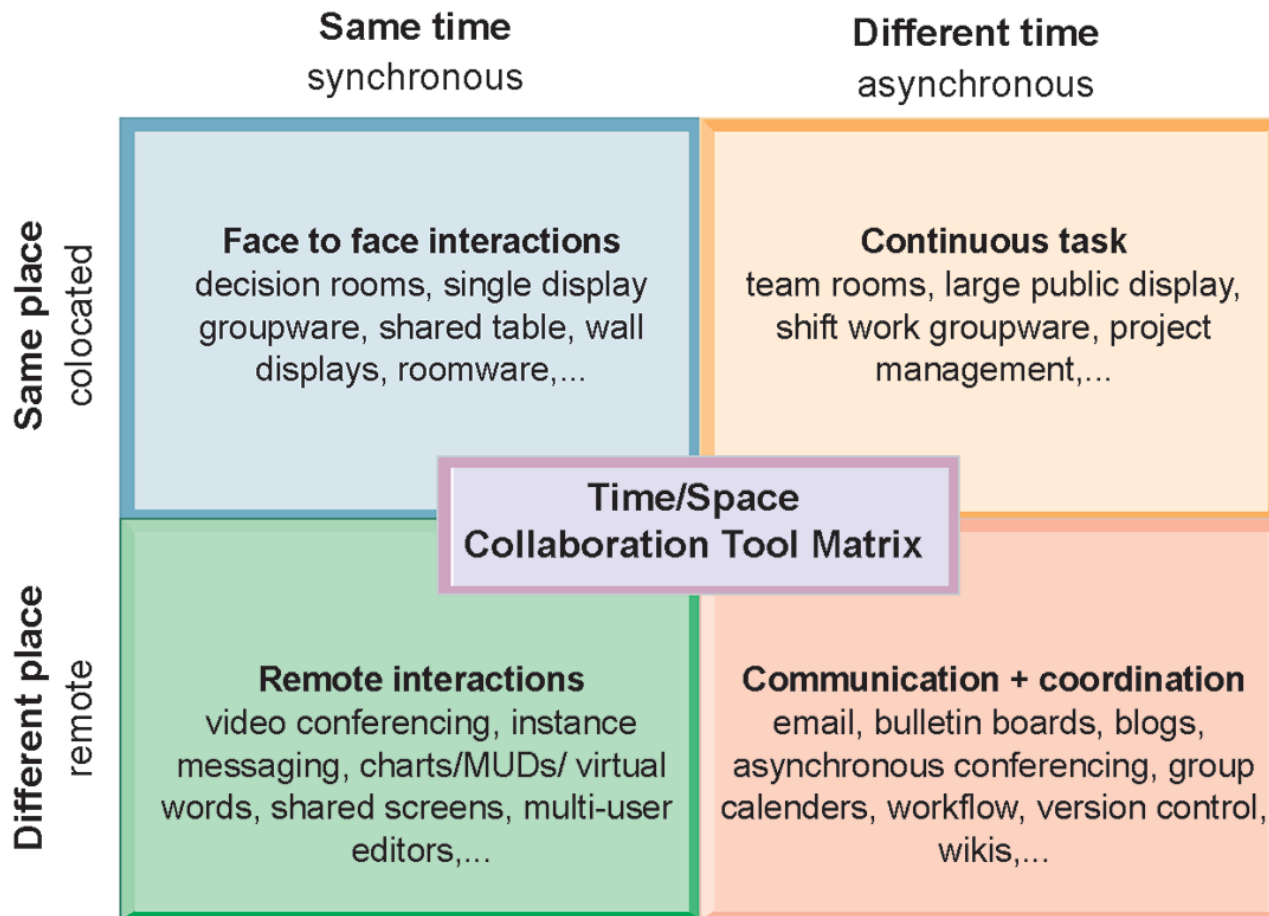
- **Technology for collaboration and teamwork (cont.)**
 - **Social Networking**
 - **Wikis**
 - **Virtual Worlds**
 - **Internet-Based Collaboration Environments**
 - Virtual meeting systems (telepresence)
 - Google Apps/Google sites
 - Microsoft SharePoint
 - Lotus Notes

Systems for Collaboration and Teamwork

VIRTUAL MEETINGS: SMART MANAGEMENT

- **What are the advantages of using videoconferencing technologies? What are the disadvantages?**
- **What is telepresence and what sorts of companies are best suited to use it as a communications tool?**
- **What kinds of companies could benefit from using videoconferencing? Are there any companies that might not derive any benefits from this technology?**

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 whether these interactions are remote or co-located.

Systems for Collaboration and Teamwork

- **Two dimensions of collaboration technologies**
 - Space (or location) – remote or colocated
 - Time – synchronous or asynchronous
- **Six steps in evaluating 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. Evaluate product vendors

The Role of Information Systems in Business Today

- **Growing interdependence between ability to use information technology and ability to implement corporate strategies and achieve corporate goals**
- **Business firms invest heavily in information systems to achieve six strategic business objectives:**
 - Operational excellence
 - New products, services, and business models
 - Customer and supplier intimacy
 - Improved decision making
 - Competitive advantage
 - Survival

The Role of Information Systems in Business Today

- **Operational excellence:**
 - Improvement of efficiency to attain higher profitability
 - Information systems, technology an important tool in achieving greater efficiency and productivity
 - Nike ID, BMW USA – linking the website with suppliers
- **New products, services, and business models:**
 - Business model: describes how company produces, delivers, and sells product or service to create wealth

The Role of Information Systems in Business Today

- **Improved decision making**
 - Without accurate information:
 - Managers must use forecasts, best guesses, luck
 - Leads to:
 - Overproduction, underproduction of goods and services
 - Misallocation of resources
 - Poor response times
 - Poor outcomes raise costs, lose customers
 - Example: **www.ibrokerghana.com** – check and manage your shares online.

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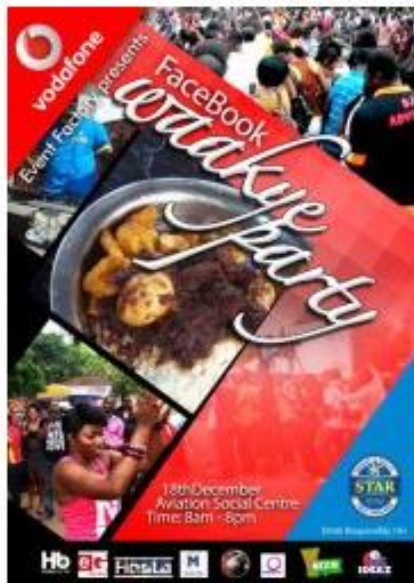
Quick Links

Ghana Stock Exchange

The Role of Information Systems in Business Today

Customer and Supplier Intimacy:

- **Customers who are served well become repeat customers who purchase more.**
- **Close relationships with suppliers result in lower costs.**
 - **Cliq from Espresso and Fidelity Bank use facebook to extend customer service**



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Cobby Richboy Maestro don't venture

The Information Systems Function in Business

- **Information systems department:**
 - Formal organizational unit responsible for information technology services
 - Includes programmers, systems analysts, project leaders, information systems managers
 - Often headed by chief information officer (CIO)
- **End-users:**
 - Representatives of other departments, for whom applications are developed

Information Technology Investment

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?**



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