Chapter 2

Global E-Business: How Businesses Use Information Systems

Lecturer:

Richard Boateng, PhD.

- Lecturer in Information Systems, University of Ghana Business School
- Executive Director, PearlRichards Foundation, Ghana

Email:

richard@pearlrichards.org
LEARNING OBJECTIVES

• Define and describe business processes and their relationship to information systems.

• Evaluate the role played by systems serving the various levels of management in a business and their relationship to each other.

• Explain how enterprise applications, collaboration and communication systems, and intranets improve organizational performance.
WHAT IS AN ORGANIZATION?
What Is an Organization?

Technical Definition

• Stable, formal social structure that takes resources from the environment and processes them to produce outputs

Behavioral Definition

• A collection of rights, privileges, obligations, and responsibilities that are delicately balanced over a period of time through conflict and conflict resolution
A collection of individuals if left unattended will largely pursue individual goals and objectives.
Unique Features of Organizations

All organizations have different:

Organizational type
Environments
Goals
Power
Constituencies

Function
Leadership
Tasks
Technology
Business models
Business processes
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
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)
   - Operational-Level
     - Sorting; lists; Detailed Reports; Pay Slips
       - Operations Personnel; Supervisors

5. Office Systems (OS)

SAP ERP:

Human Resource Systems - Leave Request Example

Executive Support Systems – Sales Planning and Forecasting

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
  – Data driven DSS
    • Intrawest’s marketing analysis systems
This DSS operates on a powerful PC. It is used daily by managers who must develop bids on shipping contracts.

Figure 2-5
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
  - 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
Types of Business Information Systems

• 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
Types of Business Information Systems

- **Relationship of systems to one another**
  - TPS: Major source of data for other systems
  - ESS: Recipient of data from lower-level systems
  - Data may be exchanged between systems
  - In reality, most businesses’ systems only loosely integrated
Systems That Span the Enterprise

• **Enterprise applications**
  • Span functional areas
  • Execute business processes across firm
  • Include all levels of management

• **Four major applications:**
  • Enterprise systems
  • Supply chain management systems
  • Customer relationship management systems
  • Knowledge management 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.

Figure 2-8
• **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
Customer orders, shipping notifications, optimized shipping plans, and other supply chain information flow among Haworth’s Warehouse Management System (WMS), Transportation Management System (TMS), and its back-end corporate systems.

Figure 2-9
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
• Knowledge management systems
  • Support processes for acquiring, creating, storing, distributing, applying, integrating knowledge
  • Collect internal knowledge and link to external knowledge
  • Include enterprise-wide systems for:
    • Managing documents, graphics and other digital knowledge objects
    • Directories of employees with expertise
• **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
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
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), also includes chief security officer (CSO) and chief knowledge officer (CKO)

• **End-users:**
  - Representatives of other departments, for whom applications are developed
There are alternative ways of organizing the information systems function within the business: within each functional area (A), as a separate department under central control (B), or represented in each division of a large multidivisional company but under centralized control (C).
Types of Business Information Systems

Organization of the Information Systems Function

B: A separate department under central control

Figure 2-10 (cont)
Types of Business Information Systems

Organization of the Information Systems Function

C: Represented in each division of a large multidivisional company but under centralized control

Figure 2-10 (cont)
• Blue Nile
(http://www.bluenile.com)

for video: http://tinyurl.com/bluenile222
The websites of these companies enable the sale of products. These companies primarily do not have any shops/showrooms for consumers or may fail to operate efficiently without their websites.

The websites of these companies support the sale of electronic products which are primarily done in the shops.
Business Processes and Information Systems

- Information technology enhances business processes in two main ways:
  - Increasing efficiency of existing processes
    - Automating steps that were manual
  - 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
• **Blue Nile**
  - 60,000 jewelry
  - 3-4 days delivery times
  - Unique products need unique technology

User Experience
- **Understand Gender Preferences**
  - Women do the selection Men do the buying
- **Competitive Price** – no middlemen/commissions
- **Availability:** 24/7
A firm which uses information systems to become networked and decentralized and to digitalize their business processes and foster innovation and creativity.
How Digital is your firm?

Low Digitalization

Highly networked decentralization

High Digitalization

Less network centralization

McDonald's

Best Buy

Walmart

Domino's Pizza

BMW

Delta Airlines

L-800-flowers.com

Blue Nile
Visit Nike ID – [www.nikeid.com](http://www.nikeid.com)
create your own shoe