

Lesson 2 – Global E-business and Collaboration

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Source:
Laudon, K. and Laudon, J., 2016,
Management Information Systems: Managing the Digital Firm,
Thirteenth Edition, Prentice Hall

Business Processes

- Business processes:
 - Manner in which work is organized, coordinated, and focused to produce a valuable product or service
 - Sets of activities, steps
 - Supported by flows of material, information, knowledge among participants in business processes
 - May be tied to a functional area or be cross-functional

Business Processes

- Businesses: Can be seen as a collection of business processes
- Business processes may be assets or liabilities
- How?
 - A source of competitive strength if business processes enable the company to innovate or to execute better than its rivals.
 - Liabilities if they are based on outdated ways of working that impede organizational responsiveness and efficiency.

Functional Business Processes

Functional Area	Business Process
Manufacturing and production	Assembling the product
	Checking for quality
	Producing bills of materials
Sales and marketing	Identifying customers
	Making customers aware of the product
	Selling the product

Functional Business Processes

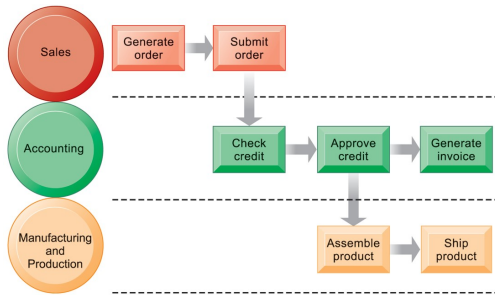
Functional Area	Business Process
Finance and accounting	Creating financial statements
	Paying creditors
	Managing cash accounts
Human resources	Hiring employees
	Evaluating employees' job performance
	Enrolling employees in benefits plans

Discussion

- Your aunt has asked you for your suggestions to make her business, a small restaurant, more efficient.
- Name at least three types of business processes that this restaurant will have.
- Can any of these processes be better coordinated through the use of information systems?

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Cross-functional Business Processes



Fulfilling a customer order involves a complex set of steps that requires the close coordination of the sales, accounting, and manufacturing functions.

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Business Processes and Information Systems

Information technology enhances business processes by:

- Increasing efficiency of existing processes
 - Automating steps that were manual
- Enabling entirely new processes
 - Change flow of information
 - Replace sequential steps with parallel steps
 - Eliminate delays in decision making
 - Support new business models

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Systems From a Functional Perspective

- A typical business organization has systems supporting processes for each of the major business functions.
- Functional systems were the first kinds of systems developed by business firms.
- Many of these systems have been replaced with large-scale cross-functional systems that integrate the activities of related business processes and organizational units.

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Systems From a Functional Perspective

▪ Sales and Marketing Systems

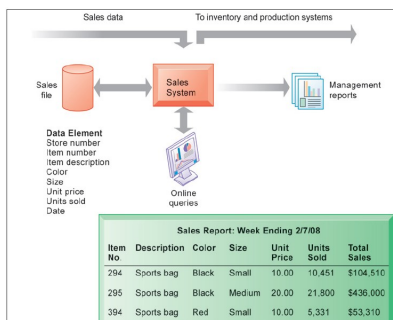
- Major functions of systems:
 - Sales management, market research, promotion, pricing, new products
- Example applications:

System	Description	Groups Served
Order processing	Enter, process, and track orders	Operational management Employees
Pricing analysis	Determine prices for products and services	Middle management
Sales trend forecasting	Prepare five-year sales forecasts	Senior management

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Systems From a Functional Perspective

▪ Example Sales Information System



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Systems From a Functional Perspective

▪ Manufacturing and Production Systems

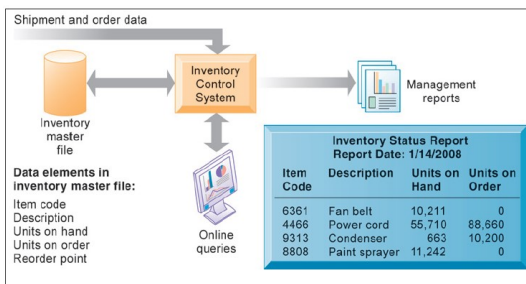
- Major functions of systems:
 - Scheduling, purchasing, shipping, receiving, engineering, operations
- Example applications:

System	Description	Groups Served
Machine control	Controls the actions of machines	Operational management
Production planning	Decides when and how many products should be produced	Middle management
Facilities location	Decides where to locate new production facilities	Senior management

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Systems From a Functional Perspective

Overview of an Inventory System



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Systems From a Functional Perspective

Finance and Accounting Systems

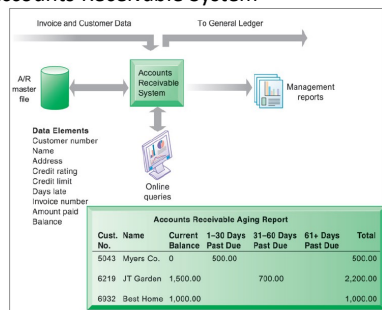
- Major functions of systems:
 - Budgeting, general ledger, billing, cost accounting
- Example applications:

System	Description	Groups Served
Accounts receivable	Tracks money owed the firm	Operational management
Budgeting	Prepares short-term budgets	Middle management
Profit planning	Plans long-term profits	Senior management

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Systems From a Functional Perspective

An Accounts Receivable System



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Systems From a Functional Perspective

Human Resources Systems

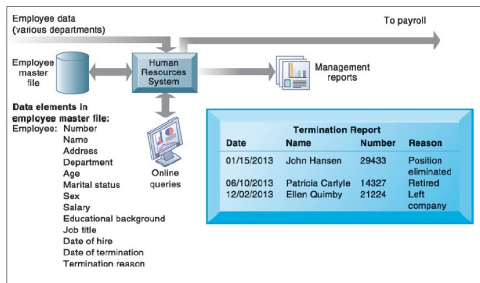
- Major functions of systems:
 - Personnel records, benefits, compensation, labour relations, training
- Major application systems:

System	Description	Groups Served
Training and development	Tracks employee training, skills, and performance appraisals	Operational management
Compensation analysis	Monitors the range and distribution of employee wages, salaries, and benefits	Middle management
Human resources planning	Plans the long-term labor force needs of the organization	Senior management

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Systems From a Functional Perspective

An Employee Record Keeping System



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Systems For Different Management Groups

- Three main categories of information systems serve different organizational levels:
- Operational-level systems:** support operational managers, keeping track of the elementary activities and transactions
- Management-level systems:** serve the monitoring, controlling, decision-making, and administrative activities
- Strategic-level systems:** help senior management tackle and address strategic issues

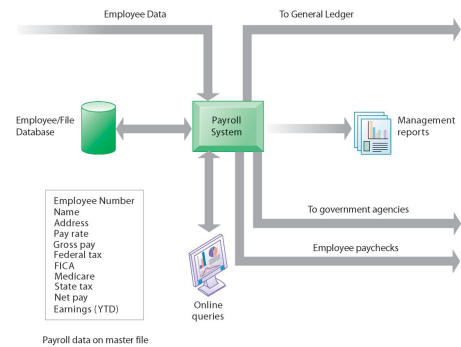
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Transaction Processing Systems

- Serve operational managers and staff
- Perform and record daily routine transactions necessary to conduct business
 - *Examples:* sales order entry, payroll, shipping
- These systems answer routine questions and track the flow of transactions through the organization
- Allow managers to monitor status of operations and relations with external environment
- Serve predefined, structured goals and decision making

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A Payroll TPS



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In-Class Activity (Time: 15 minutes)

- List two transaction processing systems that can be used in the following organizations:
 - School
 - Hotel
 - Taxi Service
 - Supermarket
 - Mobile Phone Manufacturer
- List 3-5 items of data that can be used as inputs in these TPS.
- List at least two possible information outputs of the TPS.
- What would happen if the TPS in these organizations fail?

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Systems for Business Intelligence

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

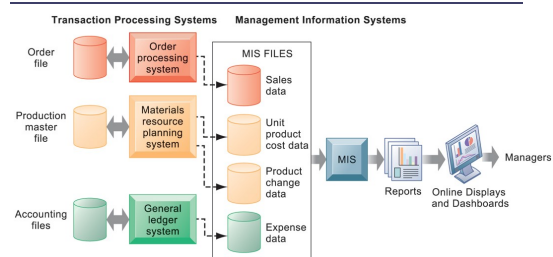
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Management Information Systems

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

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How MIS Obtain Their Data from the Organization's TPS



In the system illustrated by this diagram, three TPS supply summarized transaction data to the MIS reporting system at the end of the time period. Managers gain access to the organizational data through the MIS, which provides them with the appropriate reports.

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Sample MIS Report

Consolidated Consumer Products Corporation Sales by Product and Sales Region: 2017

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

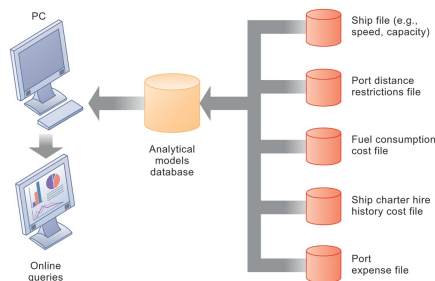
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Decision Support Systems

- Serve middle management
- Support non-routine decision making
 - *Example:* What is the impact on the production schedule if December sales doubled?
- May use external information as well TPS / MIS data
- Data driven DSS
 - Extract useful information from large quantities of data
 - *Example:* Marketing analysis systems
- Model driven DSS
 - Use analytical models to provide information
 - *Example:* Voyage-estimating systems

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Voyage-Estimating Decision Support System



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Executive Support Systems

- Support senior management
- Address non-routine decisions
 - Requiring judgement, 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:* Digital dashboard with real-time view of firm's financial performance: working capital, accounts receivable, accounts payable, cash flow, and inventory

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Enterprise Applications

- Systems for linking the enterprise
- Span functional areas
- Execute business processes across the firm
- Include all levels of management
- Four major applications:
 - Enterprise systems
 - Supply chain management systems
 - Customer relationship management systems
 - Knowledge management systems

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Enterprise Application Architecture

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

