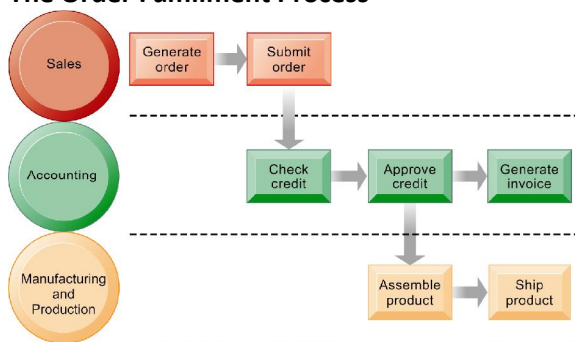


- **Business processes:** the manner in which work is organized, coordinated and focused to produce a valuable product or services.
- **Business processes:** Workflows of material, information, knowledge and sets of activities steps. It may be tied to functional area or be cross-functional.
- **Businesses:** Can be seen as collection of business processes
- **Business processes may be assets or liabilities**
- **Examples of functional business processes:**

Functional area	Business process
Manufacturing and production	- Assembling the product - Checking for quality - Producing bill of materials
Sales and marketing	- Identifying customers - Making customers aware of the product - Selling the product
Finance and accounting	- Paying creditors - Creating financial statements - Managing cash accounts
Human resources	- Hiring employees - Evaluating employees' job performance - Enrolling employees in benefits plans

• **The Order Fulfillment Process**



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

- **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
- **To ways to look to deferent systems in an organization:**
 - by their major business functions.
 - by the major organizational groups that they serve.
- **Systems from a functional perspective**
 - Sales and marketing systems
 - Manufacturing and production systems
 - Finance and accounting systems
 - Human resources systems

1 Sales and marketing systems

Functional concerns include:

- Sales management
- advertising and promotion
- customer identification market research
- pricing, new products

- **Sales and marketing information system:** An information system that supports the activists of the sales and marketing business process, as follows:

- **In marketing:** indentifying the customers for the firm's products and services, determining what customers need or want, planning and developing products and services to meet there needs and advertising and promoting these products and services.
- **In sales:** contacting customers, selling the products and services, taking orders, and following up on sales.

• **Sales and marketing information systems benefits:**

- Senior management:
 - monitor trends effecting new products and sales opportunities
 - support planning for new products and services
 - monitor the performance of competitors
- Middle management:
 - supporting market research
 - analyzing advertising and promotional campaigns
 - analyzing prices decisions
 - analyzing sales performance
- Operational management and employees:
 - locating and contacting prospective customers
 - tracking sales
 - processing orders
 - providing customer service support

• **Examples of sales and marketing information systems**

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

2 Manufacturing and production systems

Functional concerns include the planning, development and maintenance of:

- managing production facilities
- storage availability of production materials
- establishment of production goals
- scheduling [equipments, facilities, materials and labor required]

• **Examples of manufacturing and production information systems**

System	Description	Groups Served
Machine control	Controls the actions of machines and equipment	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

• **Manufacturing and production information systems benefits:**

- Senior management: long-term manufacturing goals, such as:
 - where to locate new plans
 - investing in new manufacturing technology
- Middle management: analyses and monitor manufacturing costs and recourses
- Operational management and employees: deals with the status of production tasks

• **Inventory master file:** contains basic data about each item, including the unique identification code, description of each item, number of units on hand, on order and the reorder point.

• **Economic order quantity (EOQ):** that level of inventory that minimizes the total of inventory holding cost and ordering cost [Wikipedia]. Companies can estimate the number of items to reorder, or they can use a formula for calculating the least expensive quantity or reorder.

3

Finance and accounting systems

- **Finance function:** managing financial assets (cash, stocks, etc.) and capitalization of firm, and managing firm’s financial records.
[finance function must obtain a considerable amount of information from sources external to the firm]
- **Accounting function:** responsible for maintaining and managing the firm's financial records.

• **Examples of Finance and accounting information systems**

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

• **Finance and accounting information systems benefits:**

- Senior management:
 - establish long-term investment goals
 - provide long-range forecasts [تنبؤات] of the firm's financial performance.
- Middle management: oversee and control the firm's financial resources.
- Operational management and employees:
 - Track the flow of funds in the firm through transaction [such as: paychecks, payment to vendors, securities reports and receipts].

4

Human resource systems

Functional concerns include: Identifying potential employees, maintaining employee records, creating programs to develop employee talent and skills

• **Examples of Human resource information 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

• **Human resource information systems benefits:**

- Senior management: identify the human resources requirements (skills, educational level....) for meeting the firm's long-term business plans.
- Middle management: monitor and analyze recruitment allocation and compensation of employees.
- Operational management and employees: track the recruitment and placement of the firm's employees.

• **EEO: Equal Employment Opportunity**
 ooo

• **Systems from a constituency perspective**

- Transaction processing systems (TPS): supporting operational level employees.
- Management information systems (MIS) and decision-support systems (DSS): supporting managers
- Executive support systems (ESS): supporting executives and senior management.

• **Business levels needs of information system:**

- **Senior management:** summary information
- **Middle management:** more specific information
- **Operational management:** transaction-level information
- **Knowledge workers:** access to external or internal scientific database with organizational knowledge
- **Production of service workers:** access to information from production machines, service workers needs access to customer's records in order to tack orders and answer question form customer.

- **Transaction processing systems (TPS):** Perform and record daily routine transactions necessary to conduct business such as sales order entry, payroll, and shipping.

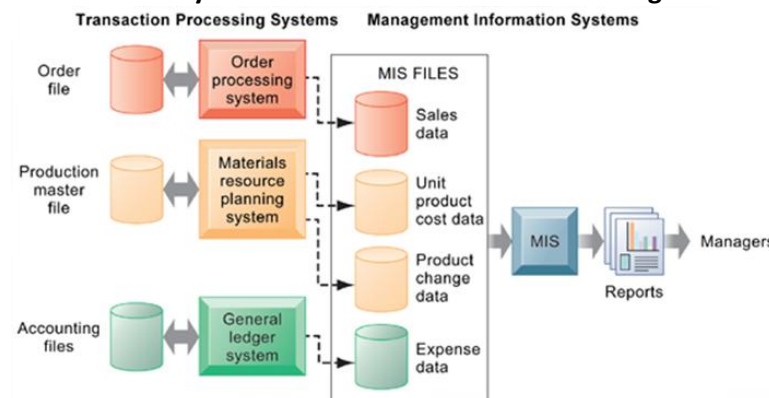
Functions:

- Allow managers to monitor status of operations and relations with external environment
- Serve operational levels
- Serve predefined, structured goals and decision making

- **Management information systems (MIS)**

- 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

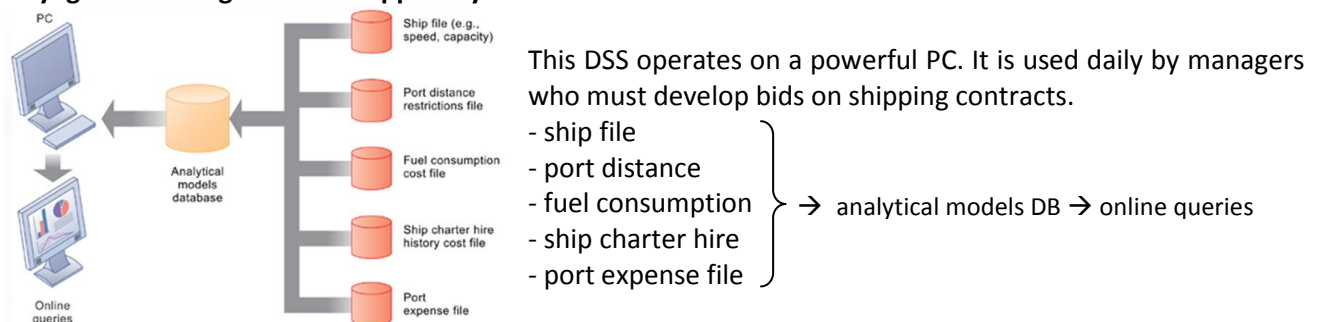
- **How Management Information Systems Obtain their Data from the Organization’s TPS**



- **Decision support systems (DSS):**

- Serve middle management
- Support nonroutine decision making
- Often use external information as well from TPS and MIS
- Model driven DSS: Voyage-estimating systems
- Data driven DSS: Intrawest’s marketing analysis systems

- **Voyage-Estimating Decision-Support System**



- **Executive support systems (ESS):**

- 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
- E.g. 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.

- **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
- **Interrelationships Among Systems**

