Last Week Lecture Note

Scope of Information System

- Data : raw facts that describe the characteristic of an event
- Information : data converted into a meaningful and useful context
- Business Intelligent. E.g. Customer Relationship Management
- Knowledge . E.g. Knowledge Management System

IT Proposed Virtual Business

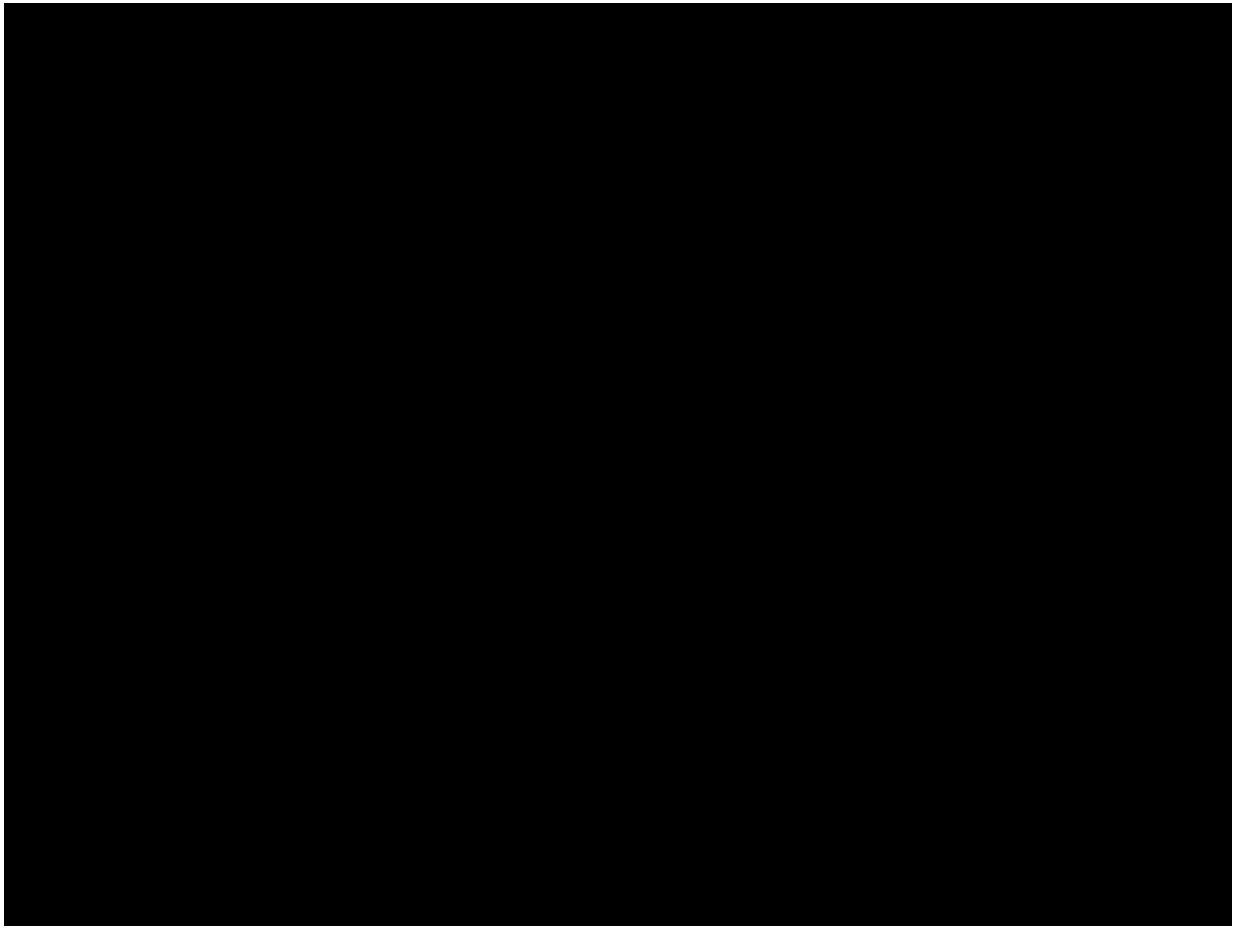
Virtual Shop by TESCO.COM

[redacted]

Gatwick, Airport, UK.
November 2011

TESCO Homeplus,
Virtual Subway Shop
South Korea, 2010

Virtual Shop : Social Behavior



Overview IS and ISM

Dr.Ir. Yeffry Handoko Putra

Ref. [shim] chap 1& 2

UNIVERSITAS KOMPUTER INDONESIA

Information Process Cycle

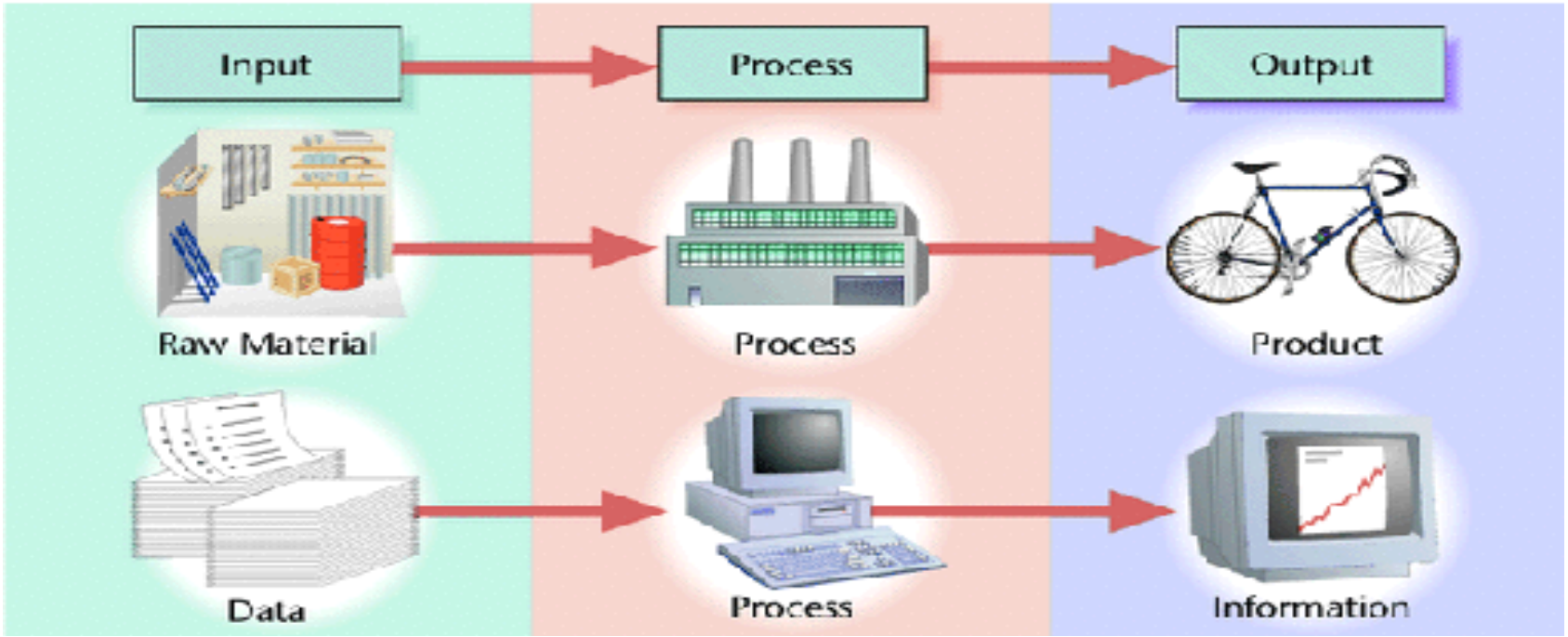
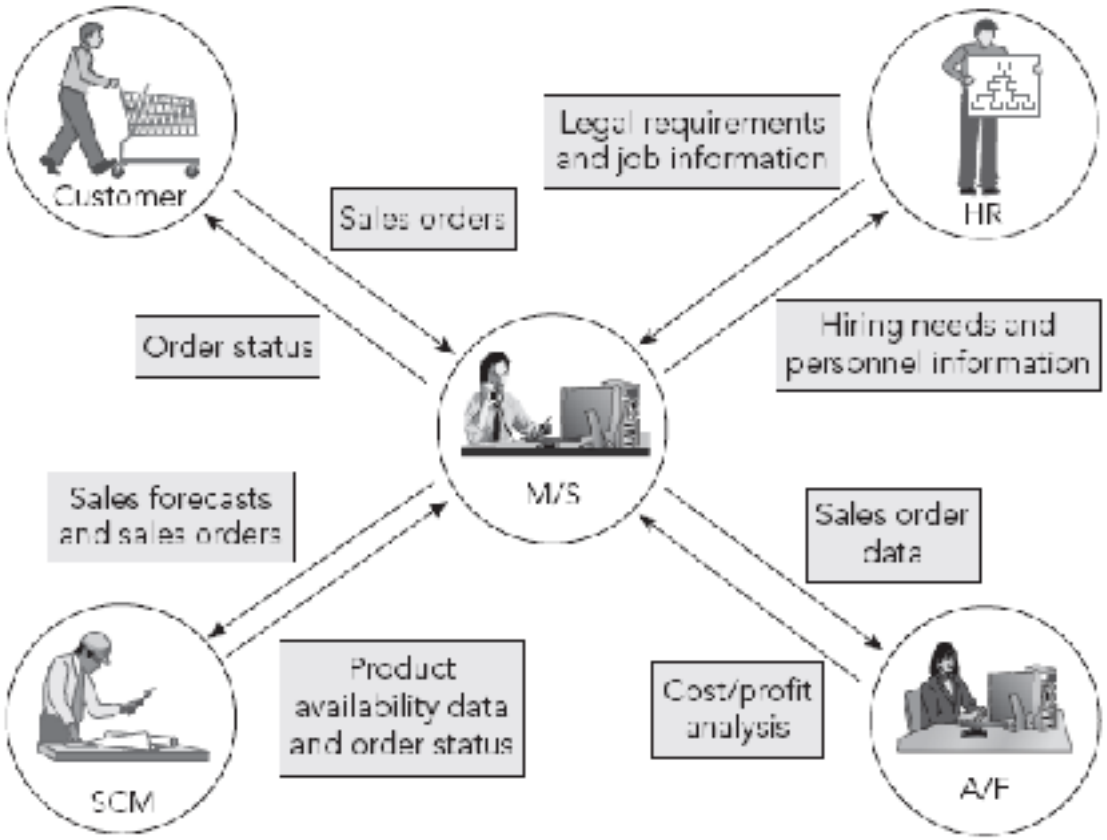


Figure 1.1 Input-process-output

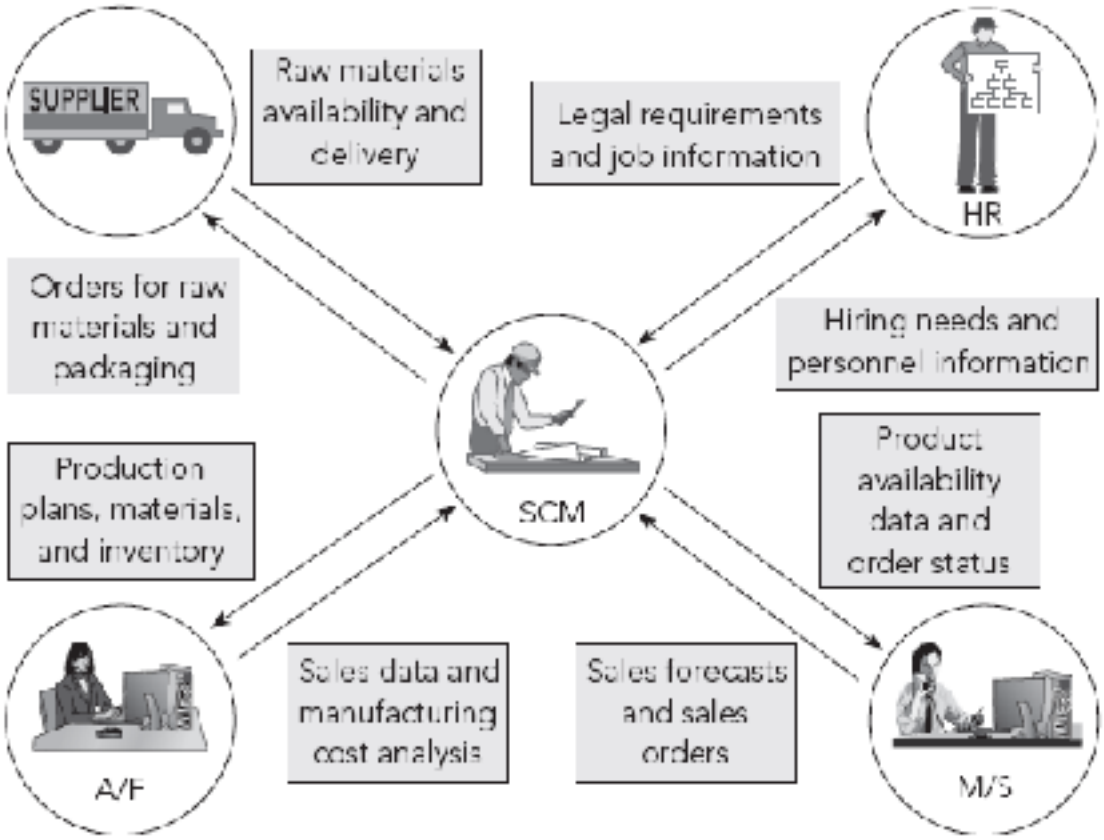
Information System Elements

- **Computer Hardware**
  - PC/Notebook (Client)
  - Server (mainframe)
  - Data Communication
- **Computer Software**
  - Operating System
  - Application
- **Enterprise**
  - Organisation
  - Human capital and IT Demand
  - Decision support system
  - POAC
  - Evaluation
  - Information resource (in house operatio, outsourcing)

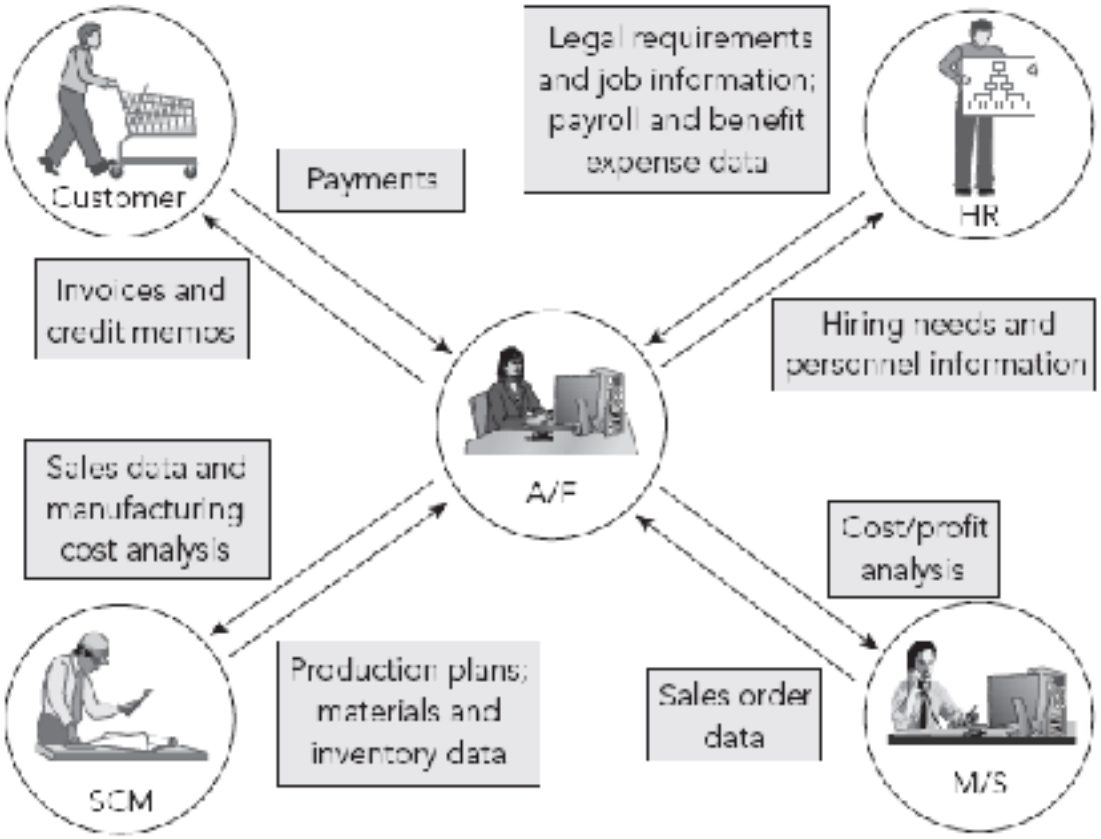
INPUT AND OUTPUT ON Marketing and Sales



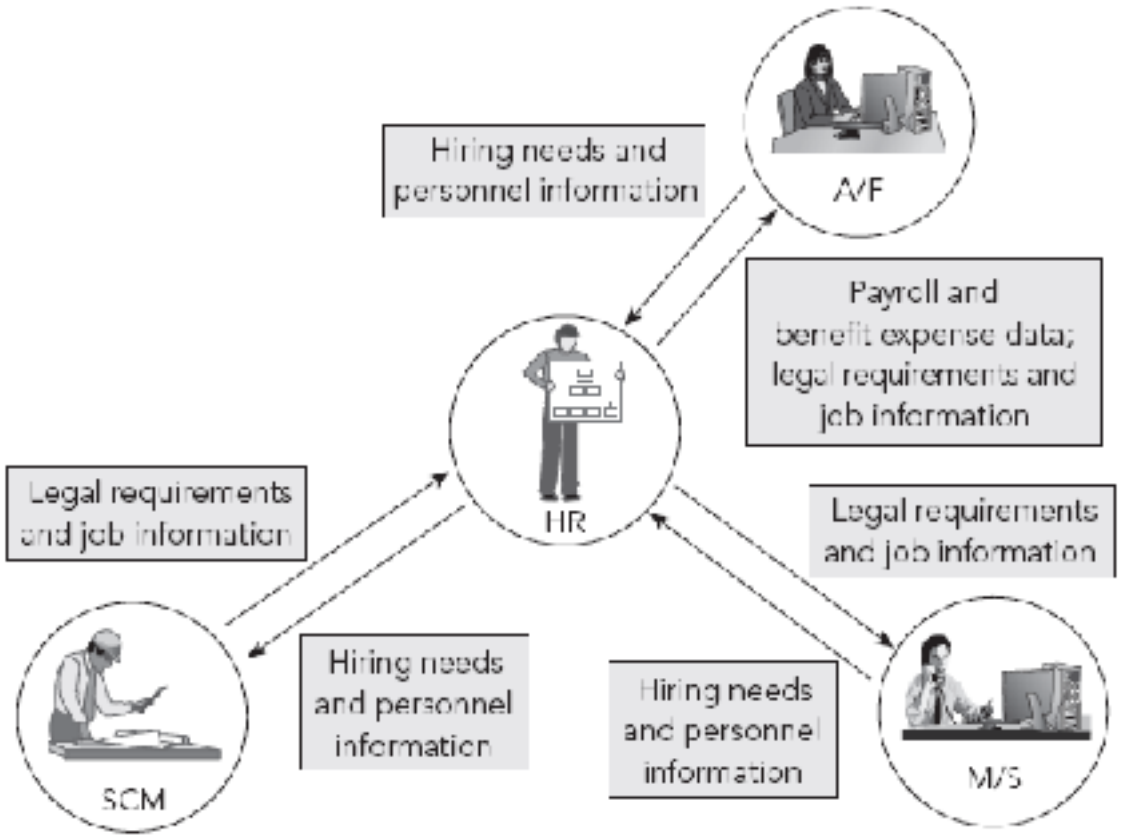
INPUT AND OUTPUT ON Supply Chain Management



INPUT AND OUTPUT ON Accounting and Finance



INPUT AND OUTPUT ON Human Resources



Activity support by Information

IS Management

IS Governance

IS Strategy

IS Audit

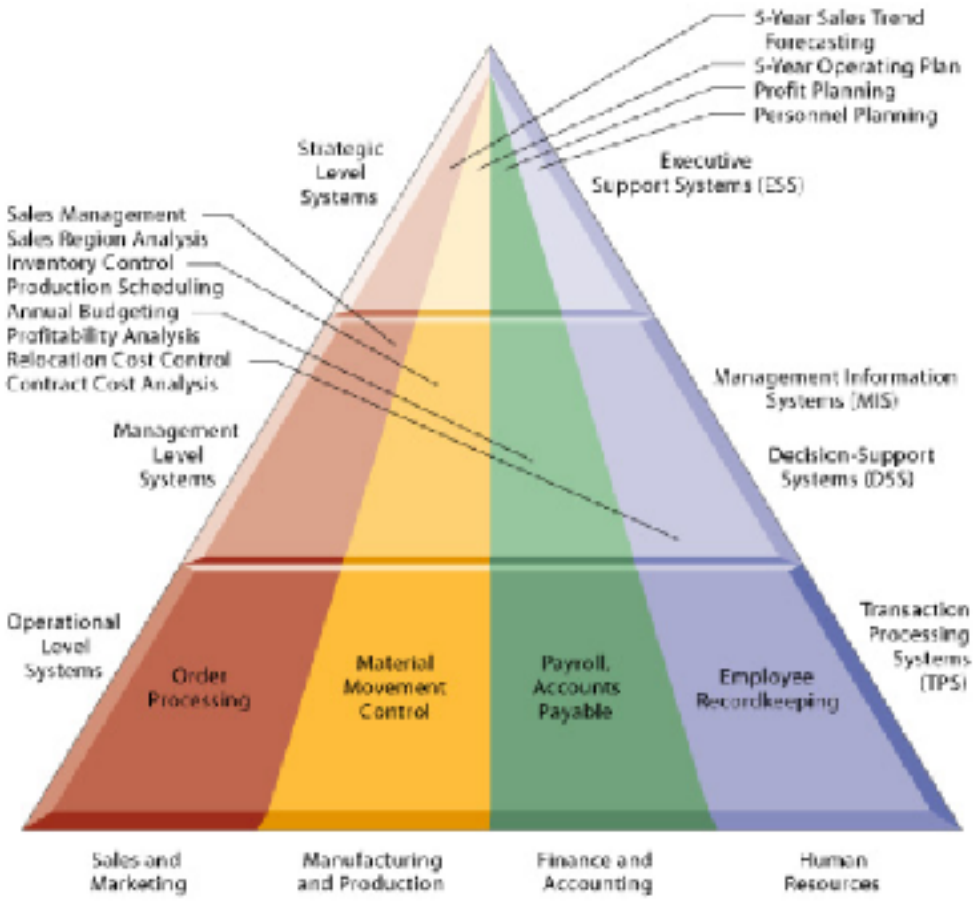
Knowledge Management

FOUR MAJOR TYPE OF INFORMATION SYSTEM IN MANAGERIAL LEVEL

Systems are built to serve these different organizational interests (Anthony, 1965)

Ref: [Laudon] Chap 2

FOUR MAJOR TYPE OF INFORMATION SYSTEM IN MANAGERIAL LEVEL



Ref: [Laudon] Chap 2

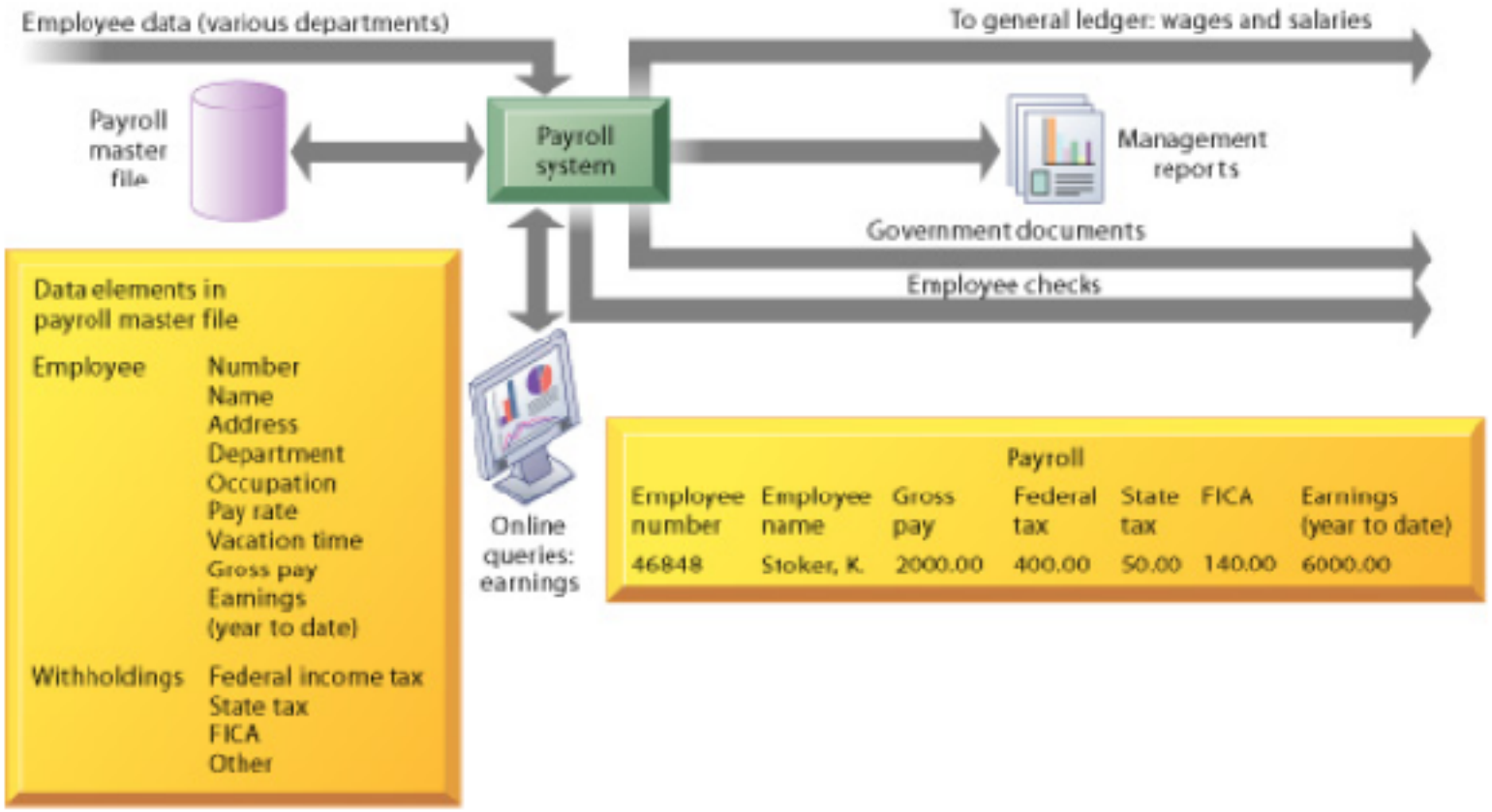
FOUR MAJOR TYPE OF INFORMATION SYSTEM IN MANAGERIAL LEVEL

TABLE 2-1 Characteristics of Information Processing Systems

Type of System	Information Inputs	Processing	Information Outputs	Users
ESS	Aggregate data; external, internal	Graphics; simulations; interactive	Projections; responses to queries	Senior managers
DSS	Low-volume data or massive databases optimized for data analysis; analytic models and data analysis tools	Interactive; simulations; analysis	Special reports; decision analyses; responses to queries	Professionals; staff managers
MIS	Summary transaction data; high-volume data; simple models	Routine reports; simple models; low-level analysis	Summary and exception reports	Middle managers
TPS	Transactions; events	Sorting; listing; merging; updating	Detailed reports; lists; summaries	Operations personnel; supervisors

Ref: [Laudon] Chap 2

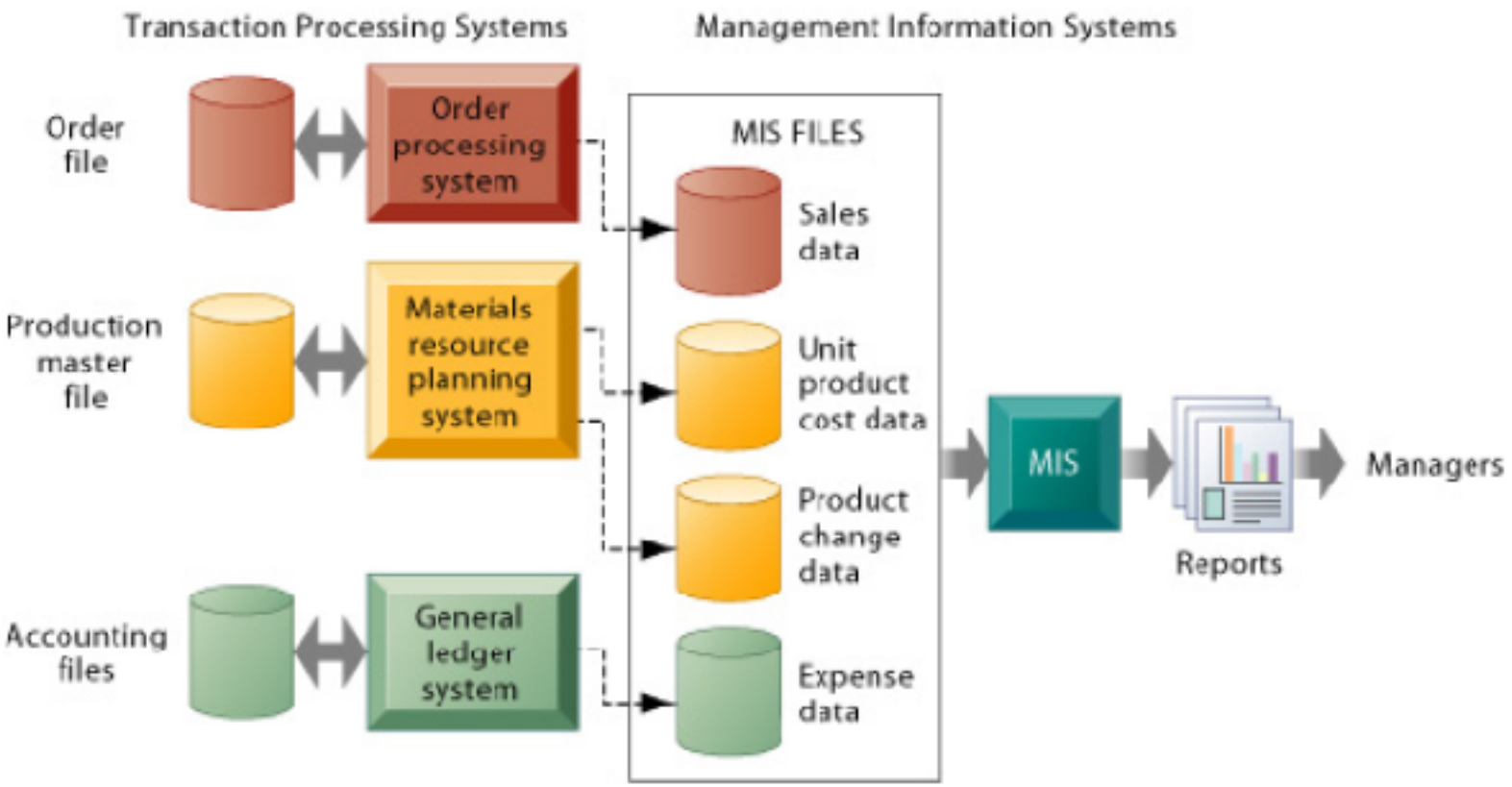
Example: Payroll TPS



OTHER TPS

TYPE OF TPS SYSTEM					
	Sales/ marketing systems	Manufacturing/ production systems	Finance/ accounting systems	Human resources systems	Other types (e.g., university)
Major functions of system	Customer service Sales management Promotion tracking Price changes Dealer communications	Scheduling Purchasing Shipping/receiving Operations	General ledger Billing Cost accounting	Personnel records Benefits Compensation Labor relations Training	Admissions Grade records Course records Alumni records
Major application systems	Sales order information system Sales commission system Sales support system	Machine control systems Purchase order systems Quality control systems	General ledger Payroll Accounts receivable/payable Funds management systems	Employee records Benefit systems Employee skills inventory	Registration system Student transcript system Curriculum class control systems Alumni benefactor system

How Management Information System do Data from TPS?



Decision Support System

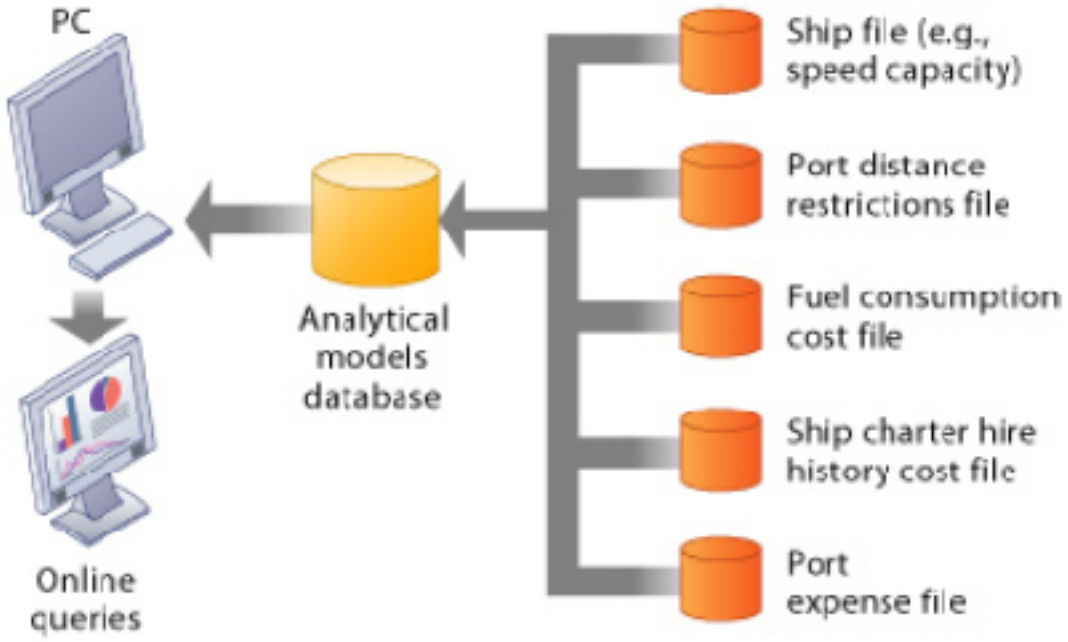


FIGURE 2-7 Voyage-estimating decision-support system
This DSS operates on a powerful PC. It is used daily by managers who must develop bids on shipping contracts.

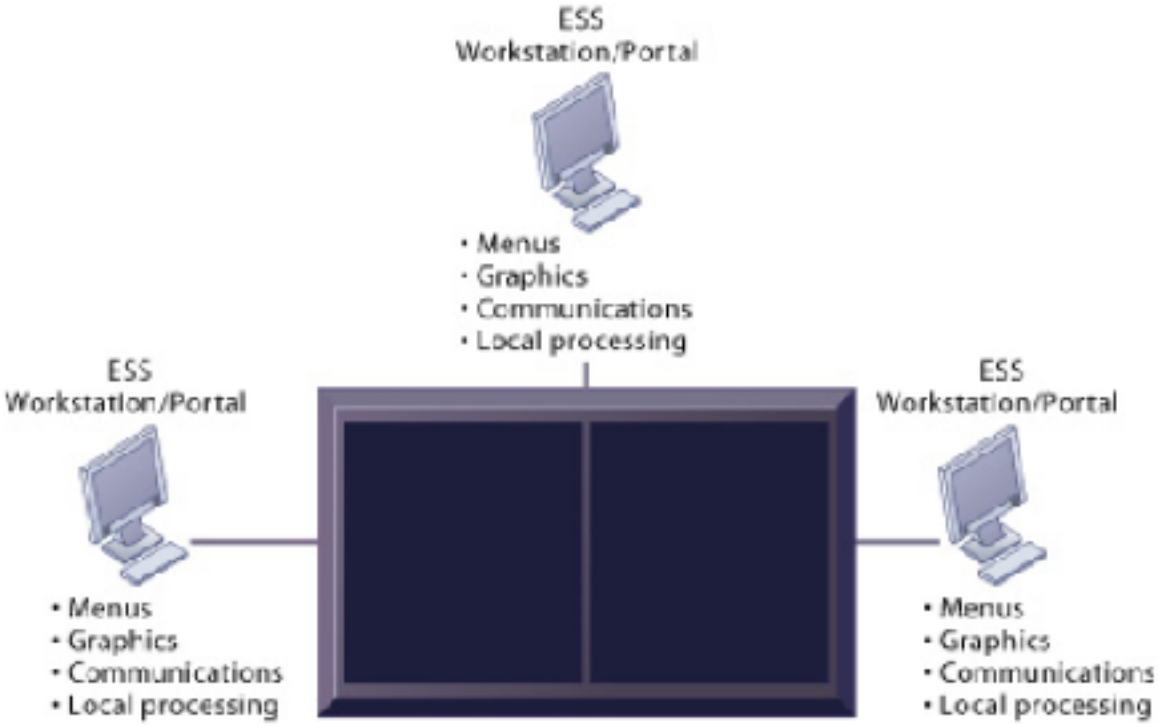


FIGURE 2-8 Model of a typical executive support system
This system pools data from diverse internal and external sources and makes them available to executives in an easy-to-use form.

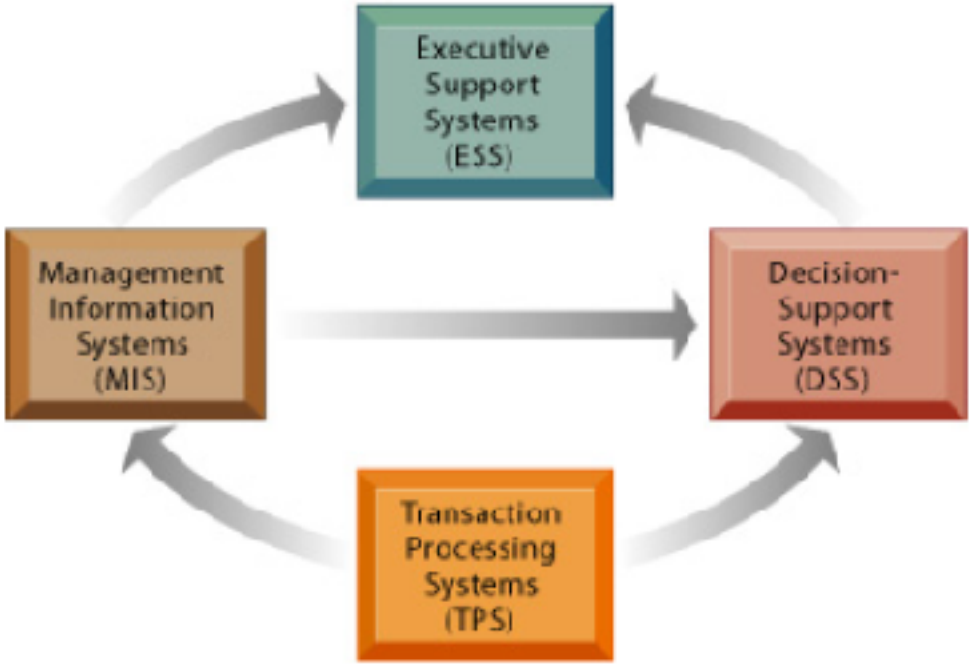


FIGURE 2-9 Interrelationships among systems
The various types of systems in the organization have interdependencies. TPS are major producers of information that is required by the other systems, which, in turn, produce information for other systems. These different types of systems have been loosely coupled in most organizations.

Others System

Manufacturing and Production System

TABLE 2-3 Examples of Manufacturing and Production Information Systems

System	Description	Organizational Level
Machine control	Control the actions of machines and equipment	Operational
Production planning	Decide when and how many products should be produced	Management
Facilities location	Decide where to locate new production facilities	Strategic

Others System

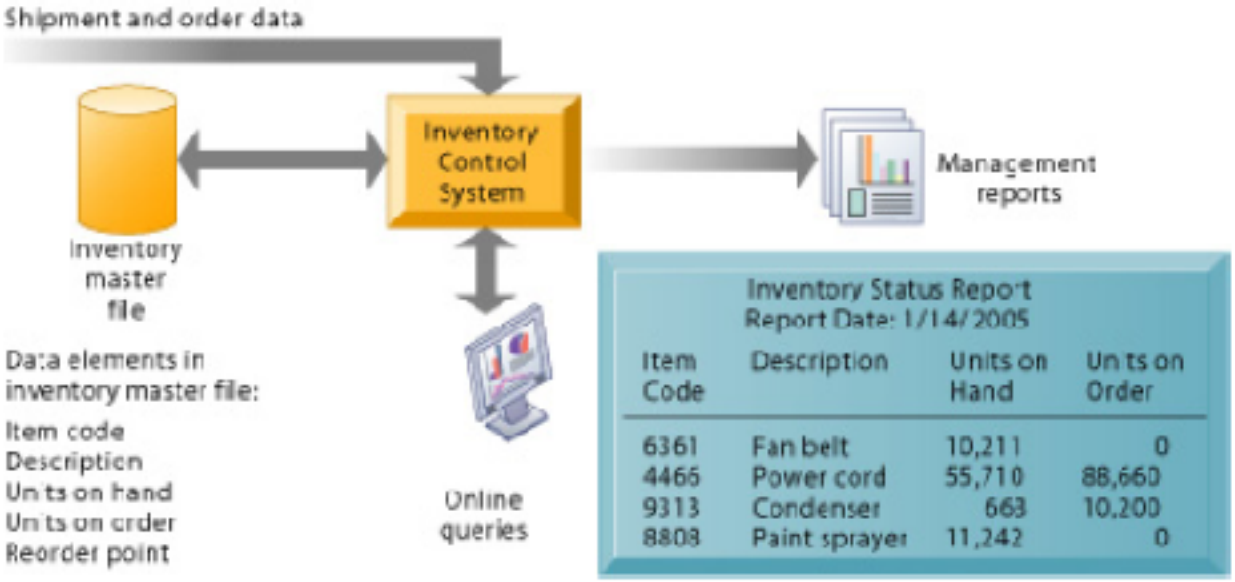


FIGURE 2-10 Overview of an inventory system
This system provides information about the number of items available in inventory to support manufacturing and production activities.

Others System

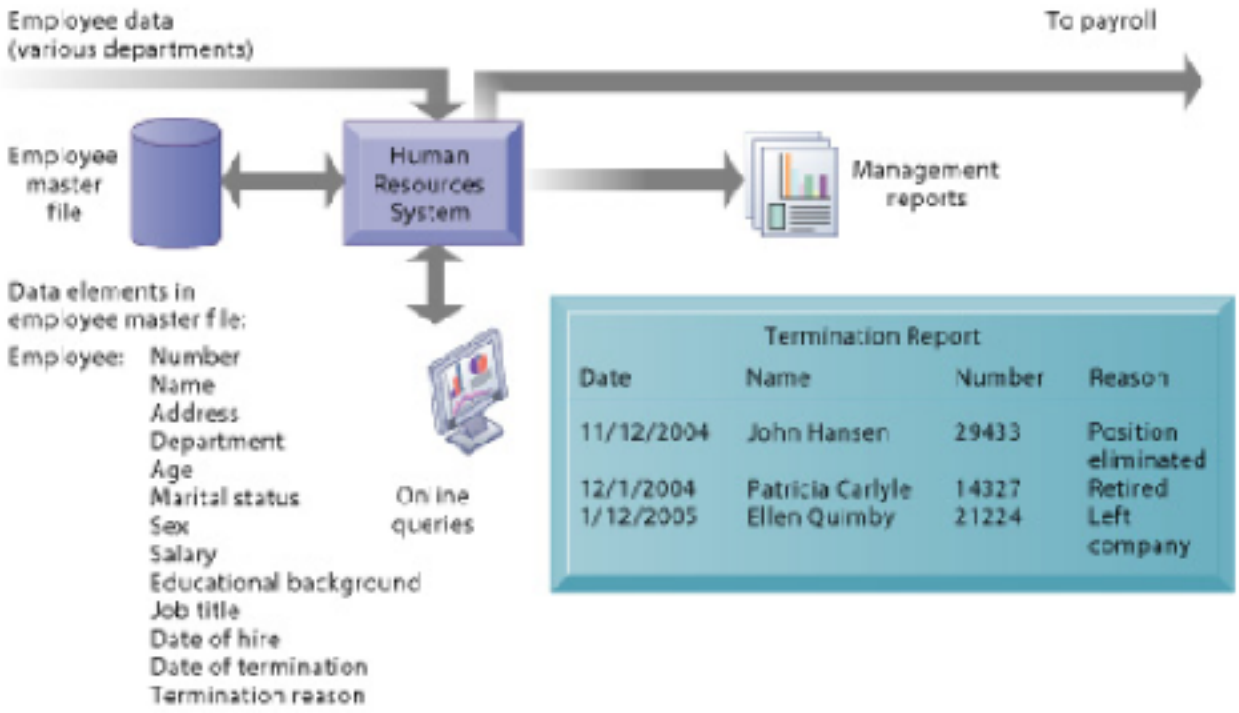


FIGURE 2-11 An employee record keeping system
This system maintains data on the firm's employees to support the human resources function.

Integrating Function and Business Process

TABLE 2-6 Examples of 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
Finance and accounting	Paying creditors Creating financial statements Managing cash accounts
Human resources	Hiring employees Evaluating employees' job performance Enrolling employees in benefits plans

IT Help Cross Functional Business Process

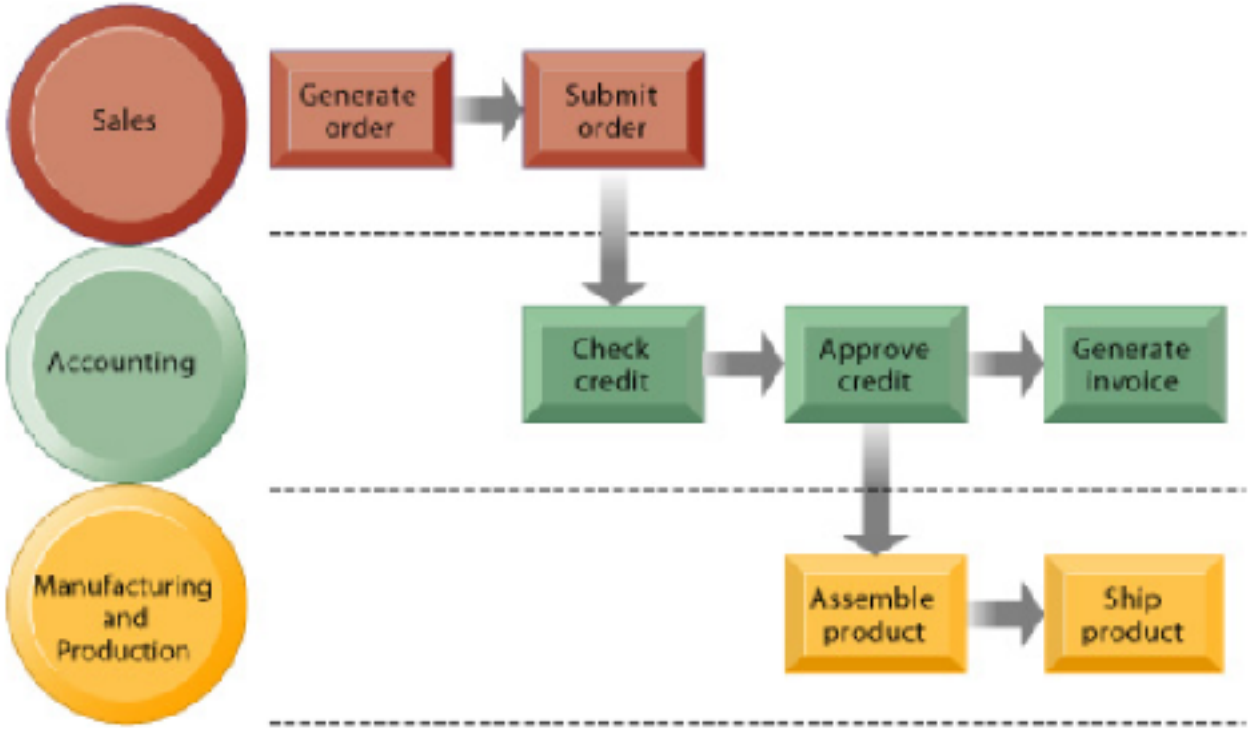


FIGURE 2-12 The order fulfillment process

Generating and fulfilling an order is a multistep process involving activities performed by the sales, manufacturing and production, and accounting functions.

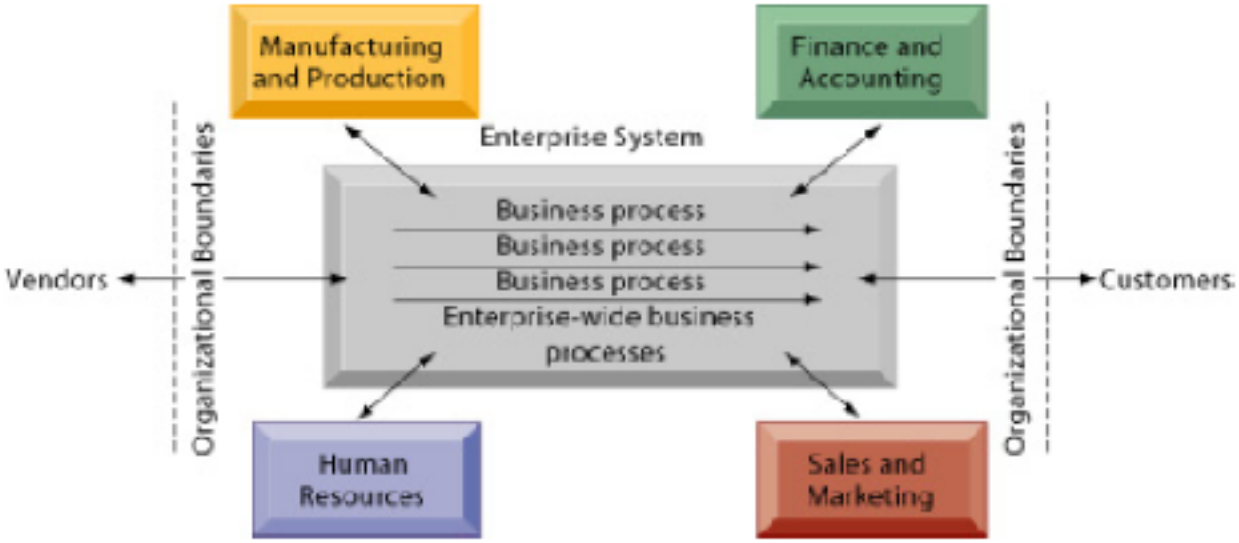
ENTERPRISE-WIDE PROCESS INTEGRATION

FIGURE 2-13 Enterprise application architecture

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

TRADITIONAL VIEW OF SYSTEM

BECOMING ENTERPRISE SYSTEM



OVERVIEW SUPPLAY CHAIN MANAGEMENT SYSTEM (SCM)

TABLE 2-7 How Information Systems Facilitate Supply Chain Management

INFORMATION FROM SUPPLY CHAIN MANAGEMENT SYSTEMS HELPS FIRMS:
Decide when and what to produce, store, and move
Rapidly communicate orders
Track the status of orders
Check inventory availability and monitor inventory levels
Reduce inventory, transportation, and warehousing costs
Track shipments
Plan production based on actual customer demand
Rapidly communicate changes in product design

OVERVIEW SUPPLAY CHAIN MANAGEMENT SYSTEM (SCM)

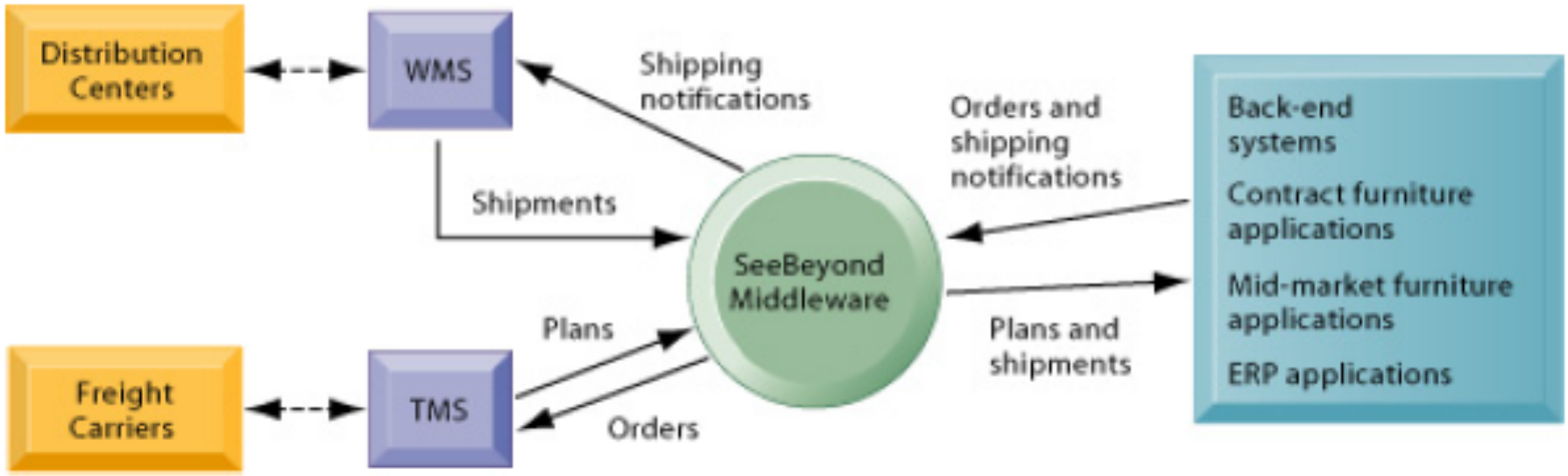


FIGURE 2-16 Haworth's supply chain management systems

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 enterprise systems and other corporate applications.

OVERVIEW CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

FIGURE 2-17 Customer relationship management (CRM)
Customer relationship management systems examine customers from a multifaceted perspective. These systems use a net of integrated applications to address all aspects of the customer relationship, including customer service, sales, and marketing.

OVERVIEW KNOWLEDGE MANAGEMENT SYSTEM

TABLE 2.8 Knowledge Management Systems in the Organization

Organizational Process	Role of Knowledge Management Systems
Acquiring knowledge	Knowledge discovery systems can find patterns or relationships in vast quantities of data, whereas other intelligent techniques can find solutions to problems that are too complex to be solved by humans. Knowledge work systems provide knowledge workers with graphics, analytical, communication, and document management tools, as well as access to internal and external sources of data to help them generate new ideas. Knowledge networks provide online directories of employees with special areas of expertise.
Storing knowledge	Knowledge repositories collect documents and digital media containing knowledge from internal and external sources in a single location. Expert systems elicit and incorporate expertise from human experts and embed it in software systems that can be accessed by other members of the organization.
Distributing knowledge	Office systems and communication tools distribute documents and other forms of information among information and knowledge workers and link offices to other business units inside and outside the firm. Group collaboration systems help employees access and work simultaneously on the same document from many different locations and coordinate their activities.
Applying knowledge	Organizational knowledge can be incorporated into management decision making through decision support systems and incorporated into important business processes by being captured by key application systems, including enterprise applications.