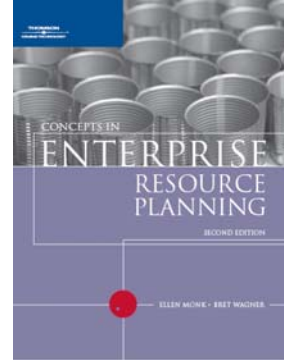# Concepts in Enterprise Resource Planning
2nd Edition

Chapter 1
Business Functions, Processes, and Data Requirements

Chapter Objectives

- Name a business's main areas of operation.
- Differentiate a business process from a business function.
- Identify the kinds of data that each main functional area produces.
- Identify the kinds of data that each main functional area needs.
- Define integrated information systems and state why they are important

ERP Overview

- Enterprise Resource Planning (ERP) programs are software used by companies to manage information in every area of the business.
- ERP programs help manage company-wide business processes using a common database and shared management reporting tools.
- ERP software supports the efficient operation of business processes by integrating activities throughout a business.

Functional Areas of Operation

- Most companies have four main functional areas:
  - Marketing and Sales (M/S)
  - Supply Chain Management (SCM)
  - Accounting and Finance (A/F)
  - Human Resources (HR)
- Each main functional area consists of a number of narrower business functions specific to the functional area.
- Historically, businesses have organized themselves according to business functions.
- Business Schools continue to be similarly organized.

Functional Areas of Operation

Functional area	Marketing and Sales	Supply Chain Management	Accounting and Finance	Human Resources
Business functions	Marketing of a product	Purchasing goods and raw materials	Financial accounting	Recruiting and hiring
	Taking sales orders	Receiving goods and raw materials	Cost allocation and control	Training
	Customer support	Transportation and logistics	Planning and budgeting	Payroll
	Customer relationship management	Scheduling production runs	Cash-flow management	Benefits
	Sales forecasting	Manufacturing goods		Government compliance
	Advertising	Plant maintenance		

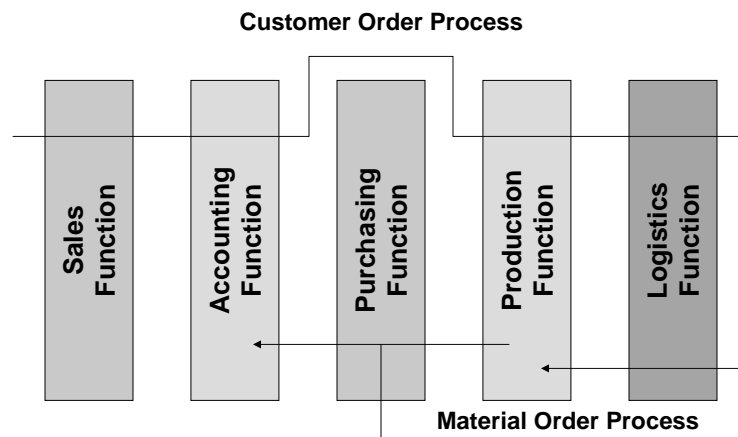**FIGURE 1-1** Examples of functional areas of operation and their business functions

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Information System

- An information system includes the:
  - Computers
  - People
  - Procedures
  - Software
- Required to store, organize and deliver information
- Information systems are a critical tool for integrating business functions

Business Processes

- A business process is a collection of activities that takes one or more inputs and creates an output that is of value to the customer
- The customer may be the traditional external customer who buys the product or service, or an internal customer (a colleague in another department)
- The business process view is the customer's perspective.
- The customer does not care that different functions are involved in processing their order, and will not tolerate mistakes and delays caused by poor coordination of business functions

Process View of Business

Customer Order Process

Sales Function — Accounting Function — Purchasing Function — Production Function — Logistics Function

Material Order Process

Figure 1-3 **A process view of business**

Integration of Business Functions

- Sharing data efficiently and effectively within and between functional areas leads to more efficient business processes
- Information systems that share data between functional areas are called **Integrated Information Systems**

Another Look—Nova Chemicals

- According to John Wheeler, CIO of Nova Chemicals, changing from a function-oriented view to a process-oriented is a complicated process
- Business processes include:
  - People with particular skill sets
  - Information
  - Tools
  - Correct organizational culture

Another Look—Nova Chemicals

- Nova has identified 3 core processes:
  - Demand Chain Management
  - Supply Chain Management
  - Manufacturing Management
- And three enabling business processes
  - Human Resources (includes corporate communications)
  - Treasury
  - Information Technology
- Process Boards consisting of managers from various functional areas define "best practices" and process metrics—clear measurements to manage business processes

Lemonade Stand Functional Areas

- Marketing and Sales
  - Develop products
  - Determine pricing
  - Promote products
  - Take customer orders
  - Make sales forecast
  - Track repeat customers to send flyers or thank-yous
  - Manage credit

Lemonade Stand Functional Areas

- Supply Chain Management
  - Buying raw materials (purchasing)
  - Making lemonade
  - Manage recipe
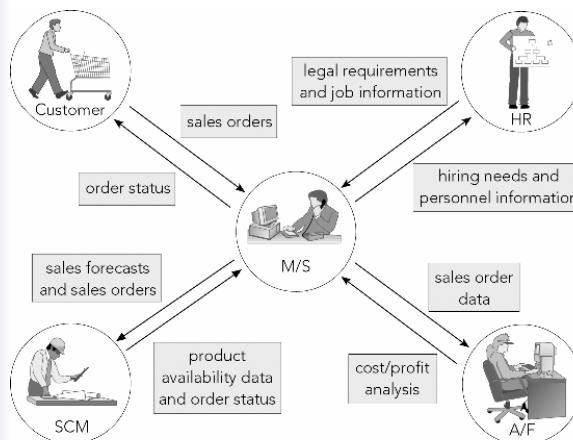 - Maintain manufacturing (cost) records

Lemonade Stand Functional Areas

- Accounting and Finance
  - Recording raw transaction data
    - Sales, raw material purchases, payroll, cash receipts
  - Provide data for sales forecasting, credit management, cash management

Lemonade Stand Functional Areas

- Human Resources
  - Recruit, train, evaluate and compensate employees
  - Develop personnel plans (staffing) based on sales
  - Determine compensation—depends on labor market
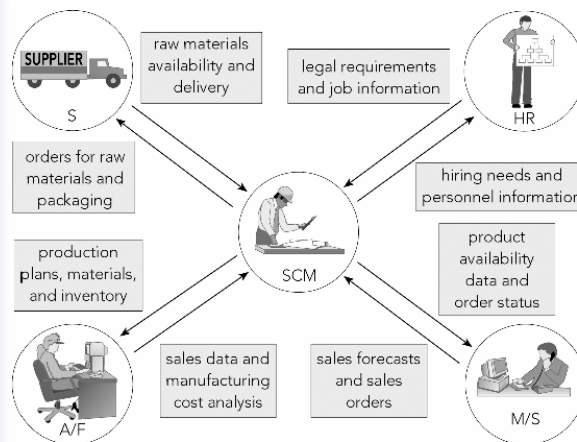
Functional Area Information Systems

FIGURE 1-4   The Marketing and Sales functional area exchanges data with customers and with the Human Resources, Accounting and Finance, and Supply Chain Management functional areas

Marketing and Sales

- Inputs
  - Customer data
  - Order data
  - Sales trend data
  - Per-unit cost
- Outputs
  - Sales strategies
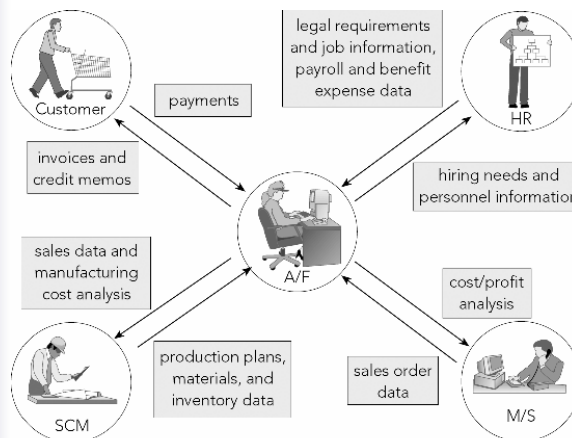 - Product pricing

Functional Area Information Systems

FIGURE 1-5 The Supply Chain Management functional area exchanges data with suppliers and with the Human Resources, Marketing and Sales, and Accounting and Finance functional areas

Supply Chain Management

- Inputs
  - Product sales data
  - Production plans
  - Inventory levels
- Outputs
  - Raw material orders
  - Packaging orders
  - Resource expenditure data
  - Production and inventory reports

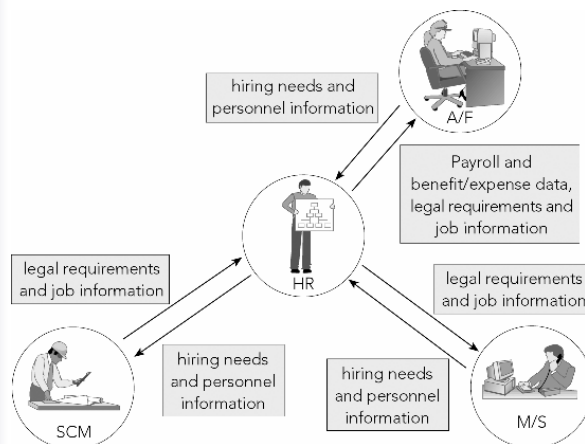# Functional Area Information Systems

FIGURE 1-6   The Accounting and Finance functional area exchanges data with customers and with the Human Resources, Marketing and Sales, and Supply Chain Management functional areas

Accounting and Finance

- Inputs
  - Payments from customers
  - Accounts receivables data
  - Accounts payables data
  - Sales data
  - Production and inventory data
  - Payroll and expense data
- Outputs
  - Payments to suppliers
  - Financial reports
  - Customer credit data

Functional Area Information Systems

FIGURE 1-7 The Human Resources functional area exchanges data with the Accounting and Finance, Marketing and Sales, and Supply Chain Management functional areas

Human Resources

- Inputs
  - Personnel forecasts
  - Skills data
- Outputs
  - Regulation compliance
  - Employee training and certification
  - Skills database

Summary

- All manufacturing companies have basic functional areas of:
  - Marketing and Sales: Sets product prices, promotes products, takes customer orders, and creates sales forecasts.
  - Supply Chain Management: Develops production plans, orders raw materials from suppliers, receives the raw material into the facility, manufactures products, and ships products to customers.

Summary

- All manufacturing companies have basic functional areas of:
  - Accounting and Finance: Records sales transactions, records customers' payments, records suppliers' invoices and payments to suppliers, and summarizes operational data in managerial reports.
  - Human Resources: Recruits, trains, compensates, and oversees the evaluation of employees.

Summary

- Functional areas are served by information systems, which capture, process, and store data to provide information needed for decision making.

Summary

- Employees working in one functional area need data from other functional areas. Functional area information systems should be integrated, so shared data are accurate and readily available.

Summary

- Business managers are increasingly thinking in terms of business processes that integrate functional areas.
  - The business process view promotes efficiency and competitiveness.
  - Business processes require information sharing between functional areas.
  - ERP software provides this capability by using a single common database.