4. Electronic Business Systems

IT1106

Level I - Semester 1

4. Electronic Business Systems

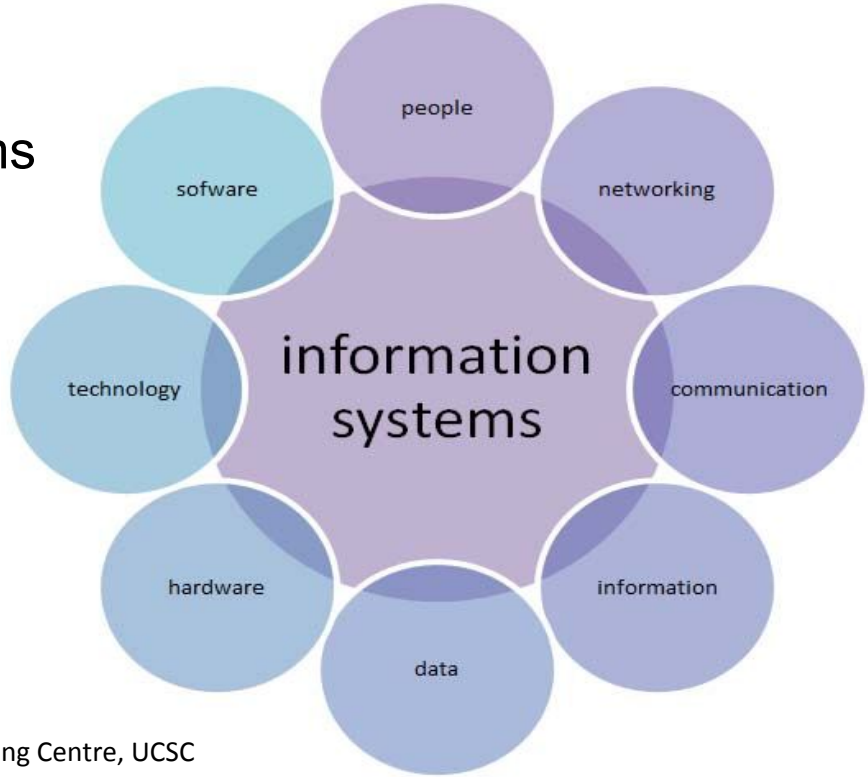
4.1. Organizational Structure and Information Systems
- 4.1.1. Transaction Processing Systems
- 4.1.2. Management Information Systems
- 4.1.3. Decision Support Systems
- 4.1.4. Executive Support Systems

4.2. Functional Information Systems
- 4.2.1. Marketing and Manufacturing Systems
- 4.2.2. Human Resource Management Systems
- 4.2.3. Finance and Accounting Systems

4.3. Cross-Functional Systems
- 4.3.1. Introduction to Cross-Functional Systems
- 4.3.2. Enterprise Resource Planning Systems
- 4.3.3. Supply Chain Management Systems
- 4.3.4. Customer Relationship Management Systems
- 4.3.5. Knowledge Management Systems

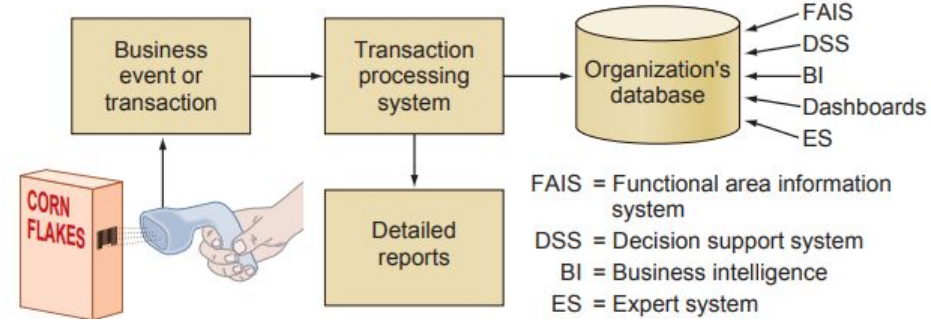
4.1. Organizational Structure and Information Systems

- Transaction Processing Systems
- Management Information Systems
- Decision Support Systems
- Executive Support Systems

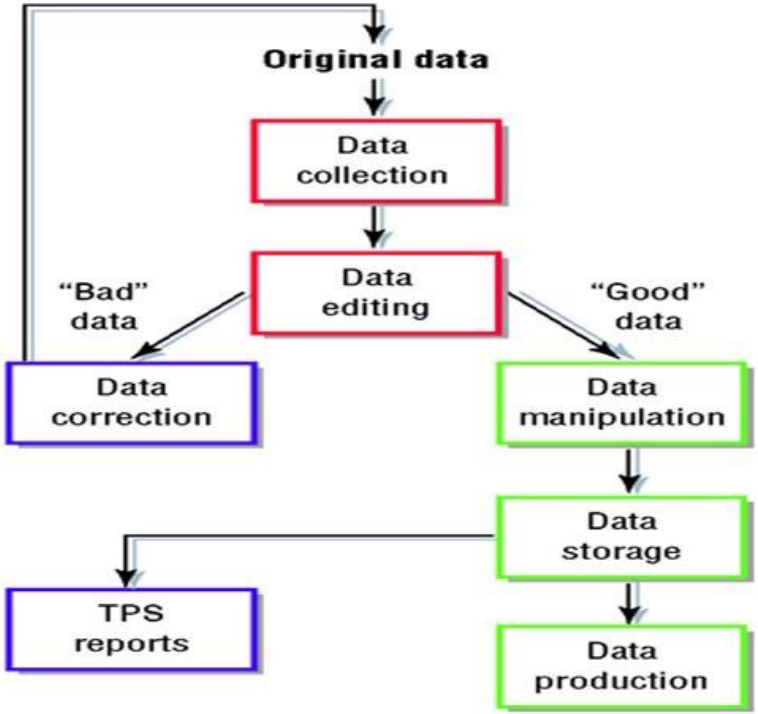


4.1.1. Transaction Processing Systems

- captures and processes the detailed data necessary to update records about the fundamental business operations.
- a cross-functional information system that support routine operations associated with business processes.
- provides input to higher level information Systems



4.1.1. Transaction Processing Cycle

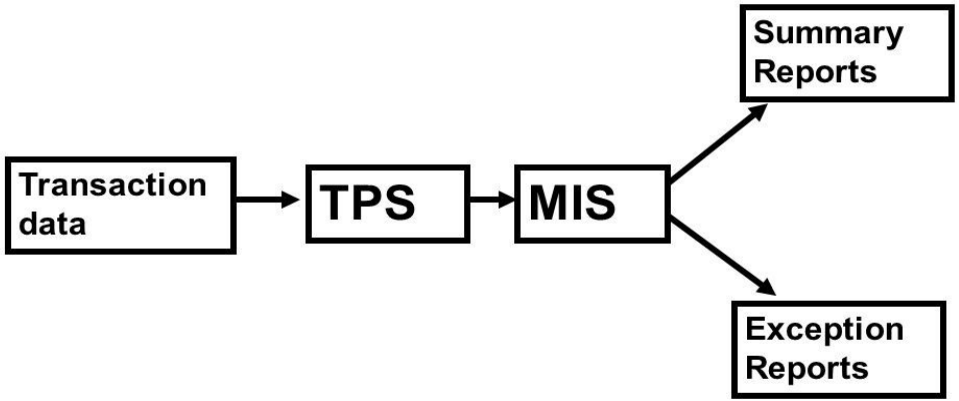


4.1.1. Transaction Processing Systems cont..

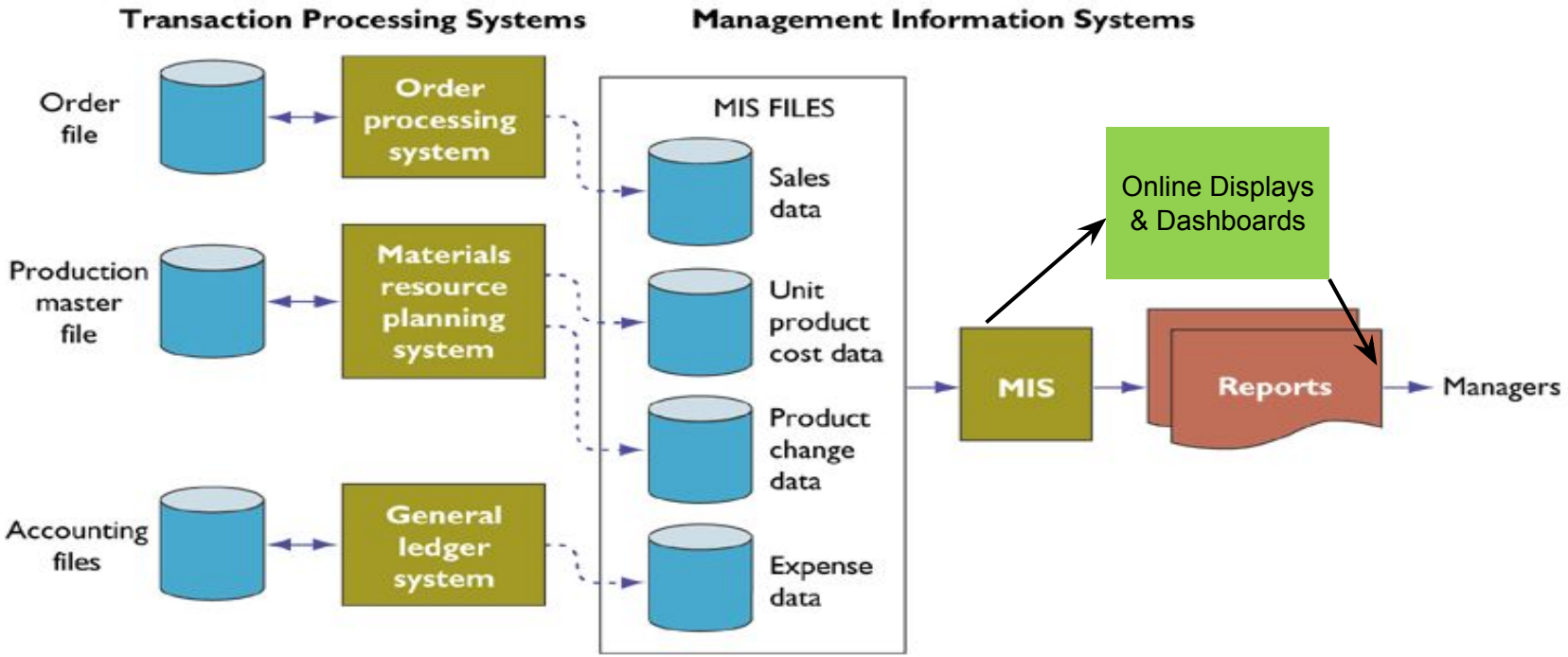
- Input - customer orders, purchase orders, receipts, time cards, invoices, and customer payments.
- Process - data collection, data editing, data correction, data processing, data storage, and document production.
- Output (Result) - organization's records are updated to reflect the status of the operation at the time of the last processed transaction.

4.1.2. Management Information Systems

- An organized collection of people, procedures, software, databases, and devices that provides routine information to managers and decision makers.
- An MIS typically provides standard reports generated using data from a TPS.



TPS & MIS Relationship



4.1.2. Reports generated by MIS

- Periodic Scheduled Reports - Provided on a regular basis
- Exception Reports - Produced under exceptional conditions
- Demand Reports and Responses - Produced when demanded
- Push Reporting - Information is pushed to manager's dashboard

Sample MIS Report: Annual Sales

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

Digital Dashboard

ACTIVITY

1. Consider the following statements.

   i. MIS can support only unstructured decision making.

   ii. Inputs to an MIS could be an output of a TPS.

   iii. Reports generated by an MIS cannot be printed.

Which of the above statement(s) is/are TRUE of Management Information Systems (MISs)?

(a) Only i

(b) Only ii

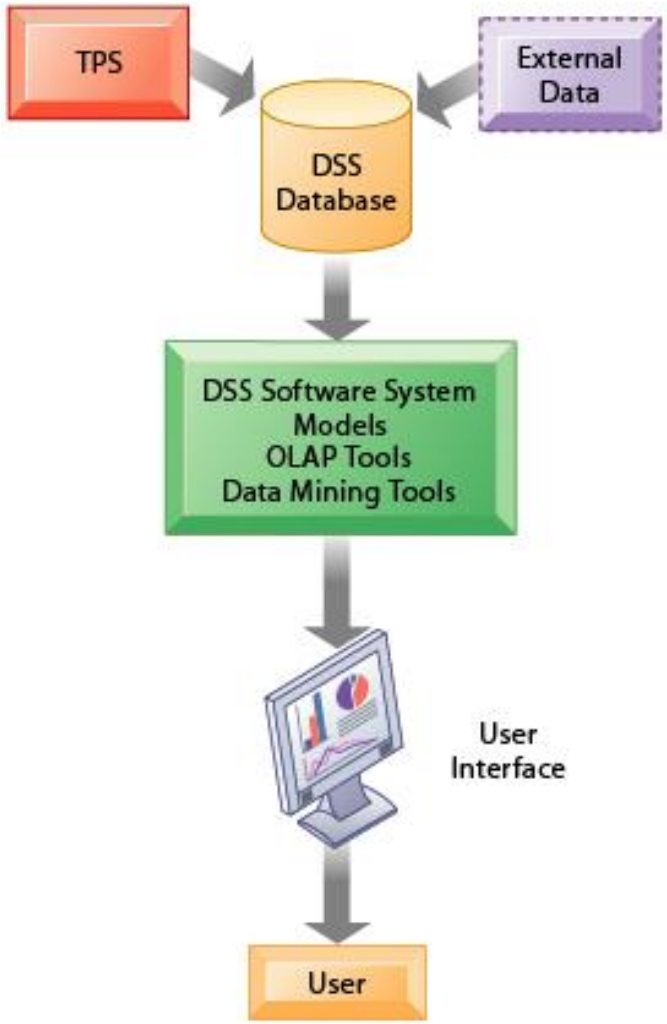
(c) Only i and iii

(d) Only iii

(e) Only ii and iii

Types of function specific MIS

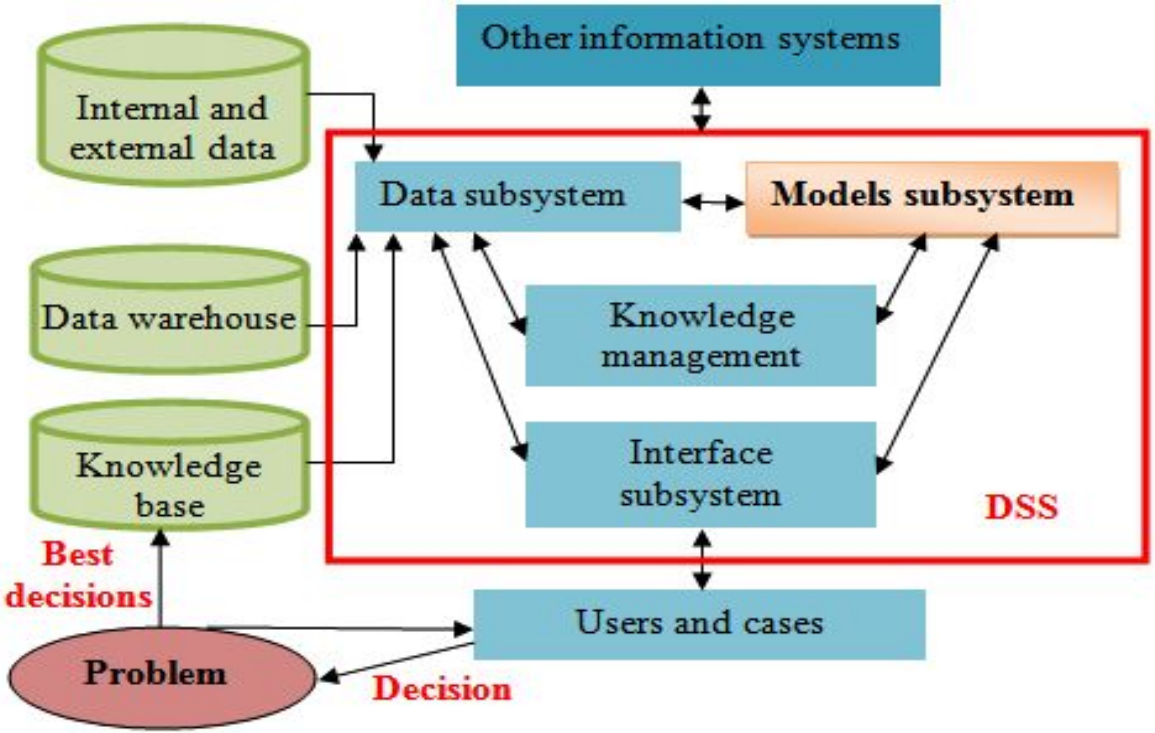
- Marketing Information System
- Human Resource Information System
- Financial Management Information System
- Production Management Information System



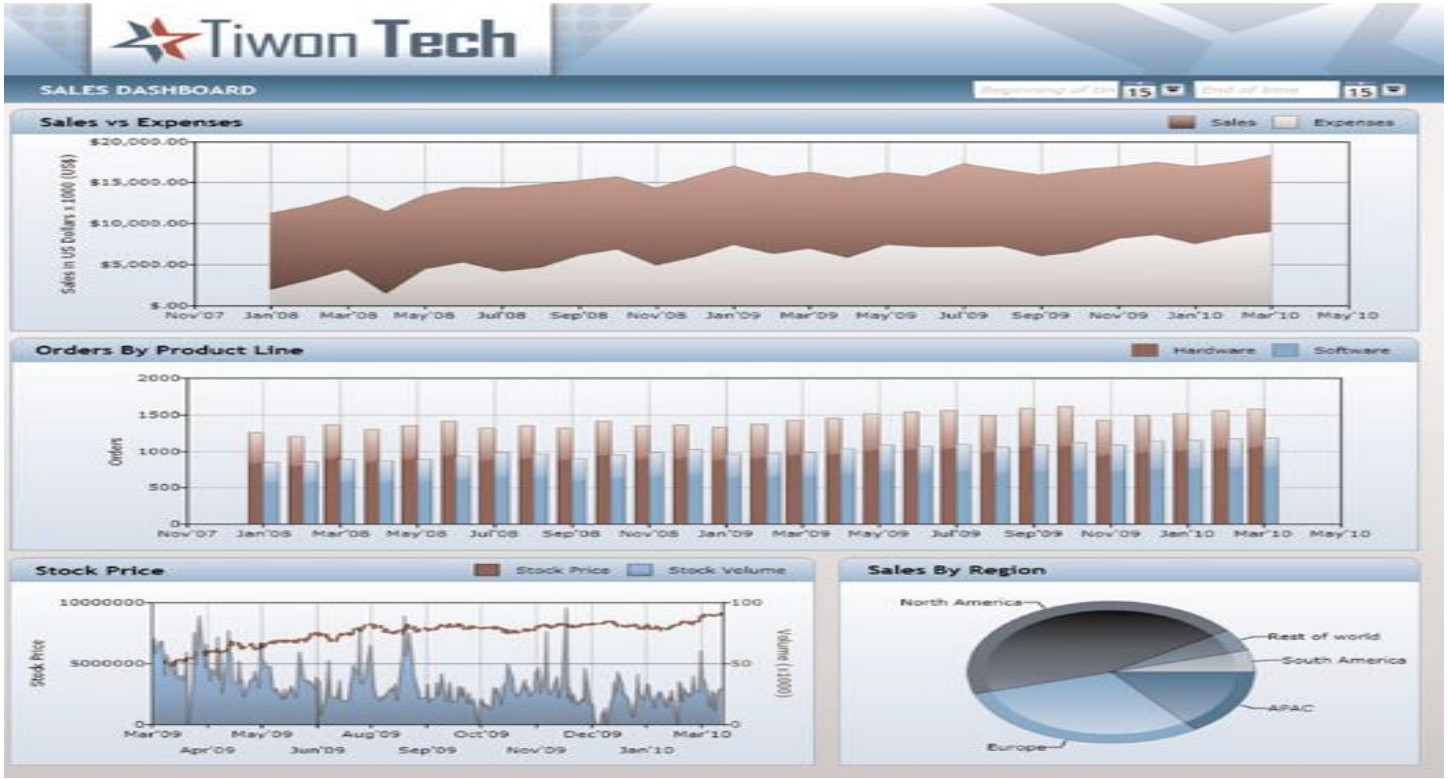
.1.3. Decision Support Systems (DSS)

- Provides interactive information support to managers and business professionals during the decision-making process.
- Designed to be ad hoc, quick-response systems that are initiated and controlled by business decision makers.

4.1.3. Architecture of a DSS



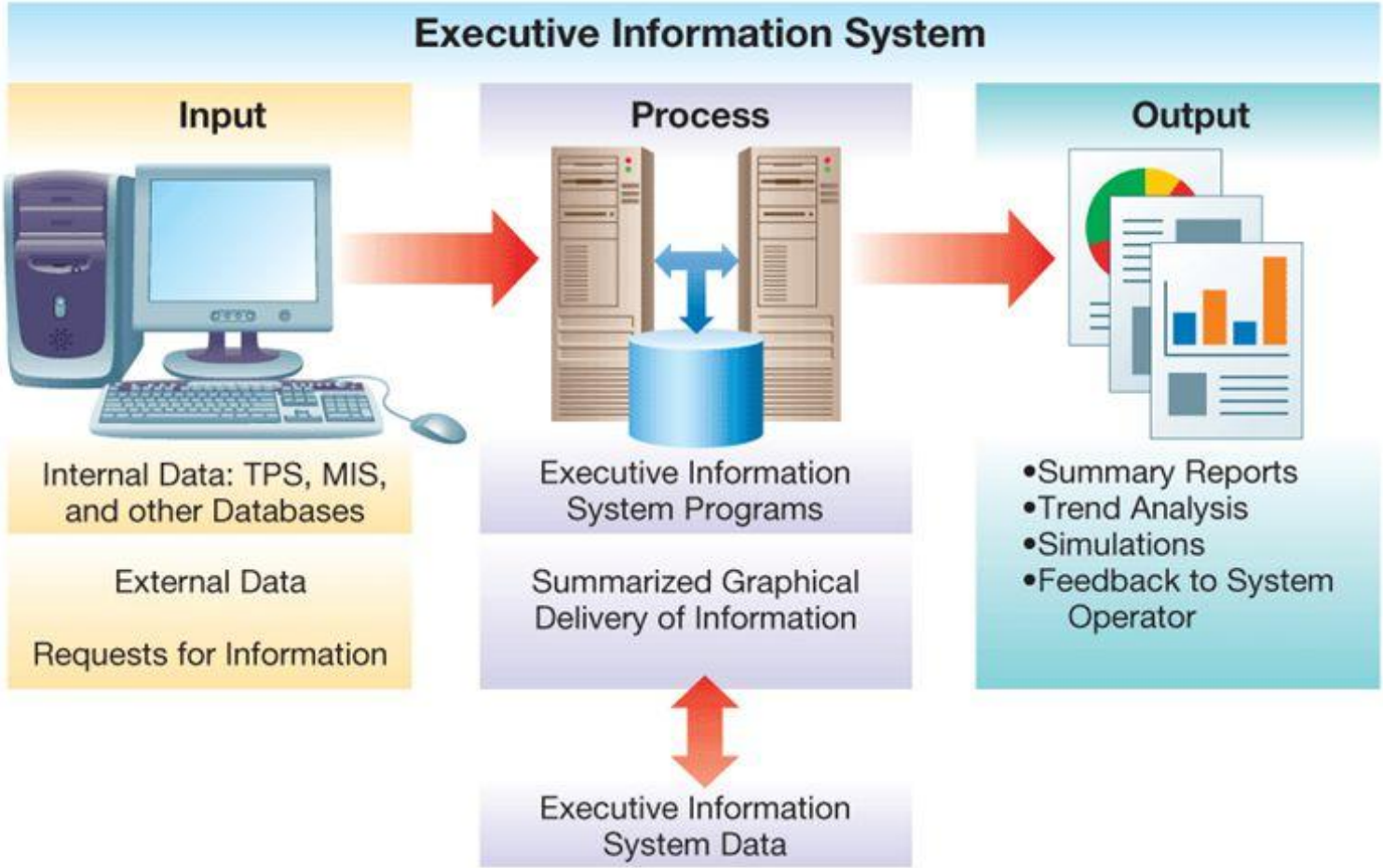
DSS – E.g.



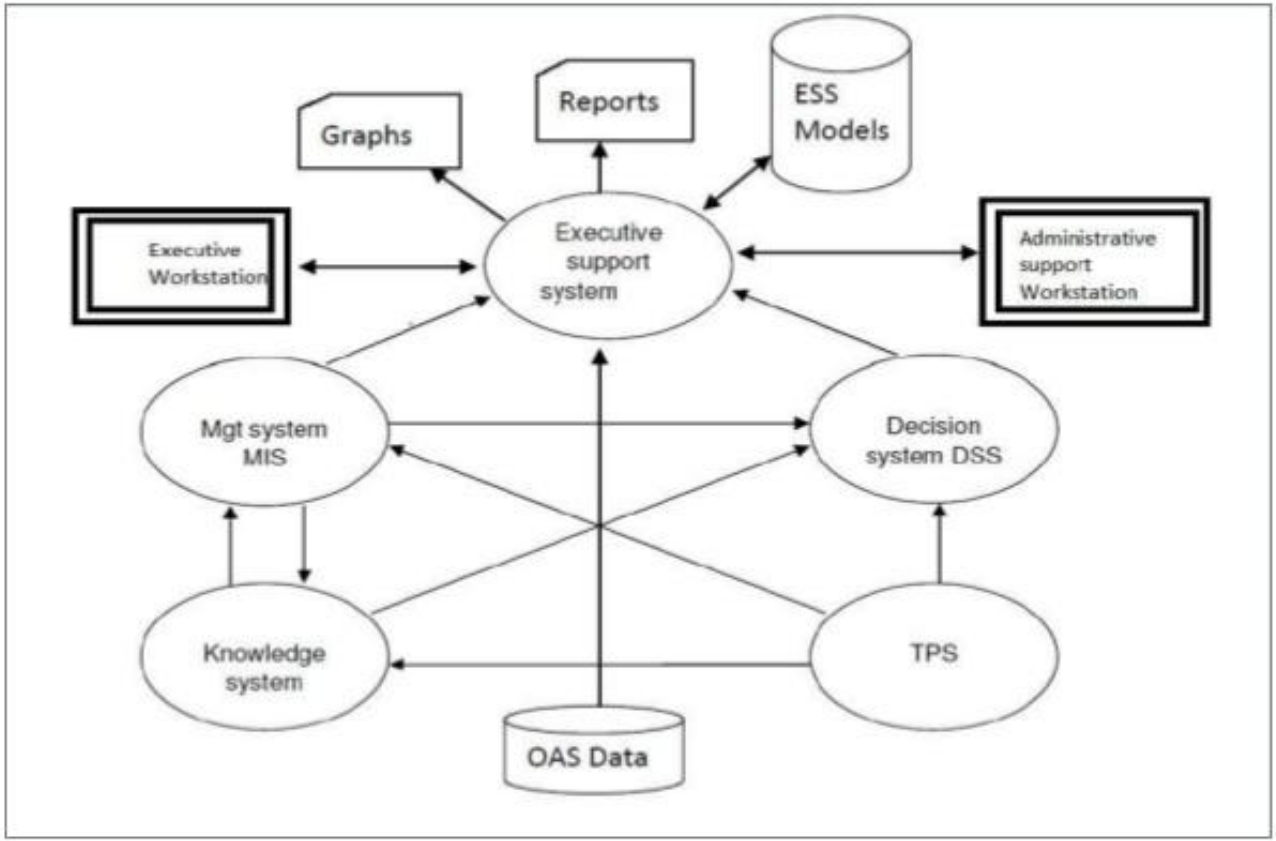
Dundas Data Visualization's digital dashboard delivers comprehensive and accurate information for decision making. The graphical overview of key performance indicators helps managers quickly spot areas that need attention.

4.1.4. Executive Support Systems (ESS)

- A specialized DSS consisting of people, procedures, software, databases, and devices to assist senior-level executives in an organization.
- Often information is delivered through a portal
- Addresses non routine decisions requiring judgment, evaluation, and insight
- There is no agreed-on procedure for arriving at decisions
- Designed to incorporate data about external events such as new tax laws or competitors and draw summarized information from internal MIS and DSS


Executive Information System
Input
Process
Output
Internal Data: TPS, MIS, and other Databases
External Data
Requests for Information
Executive Information System Programs
Summarized Graphical Delivery of Information
Executive Information System Data
•Summary Reports
•Trend Analysis
•Simulations
•Feedback to System Operator

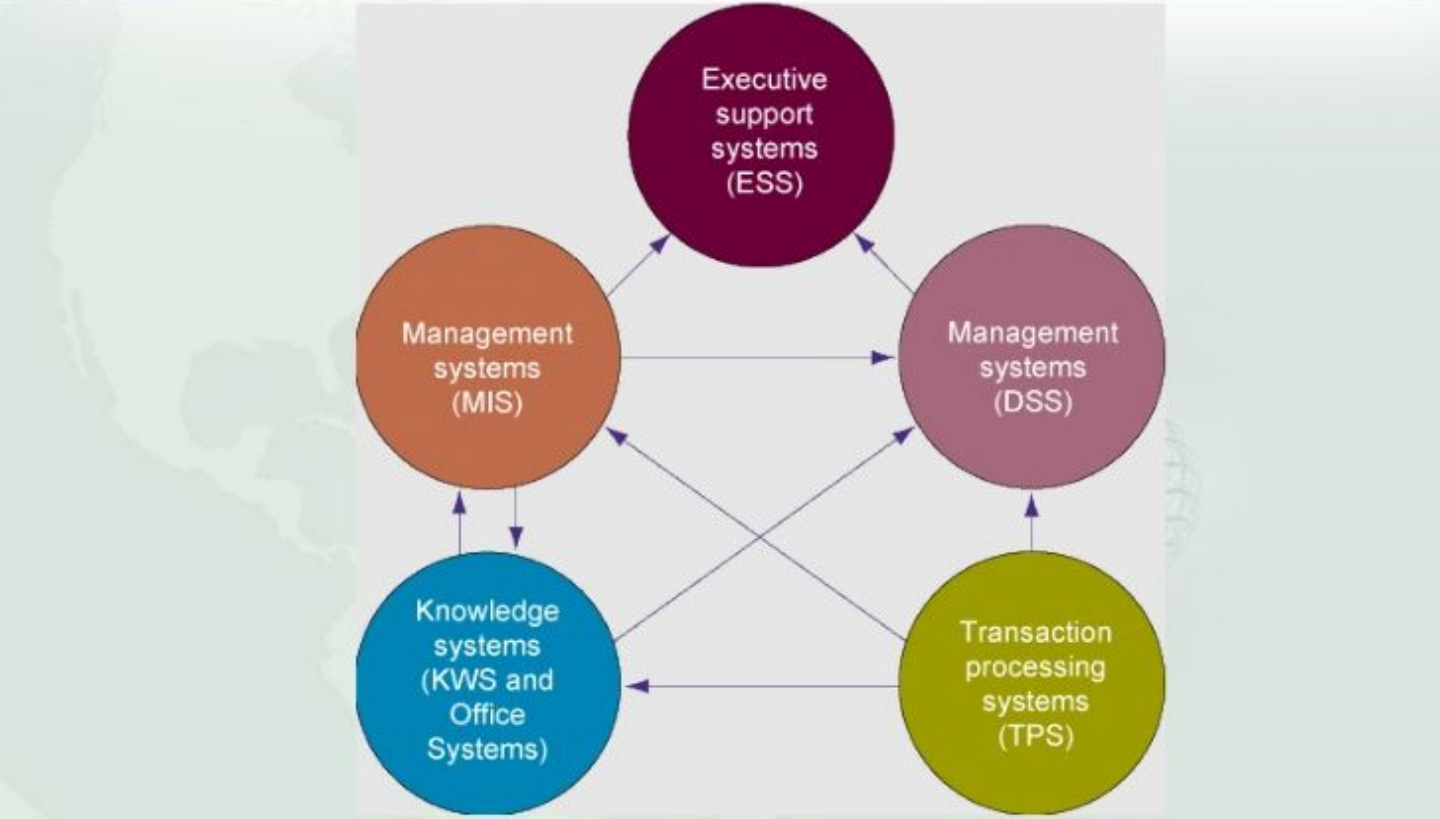
Architecture of ESS



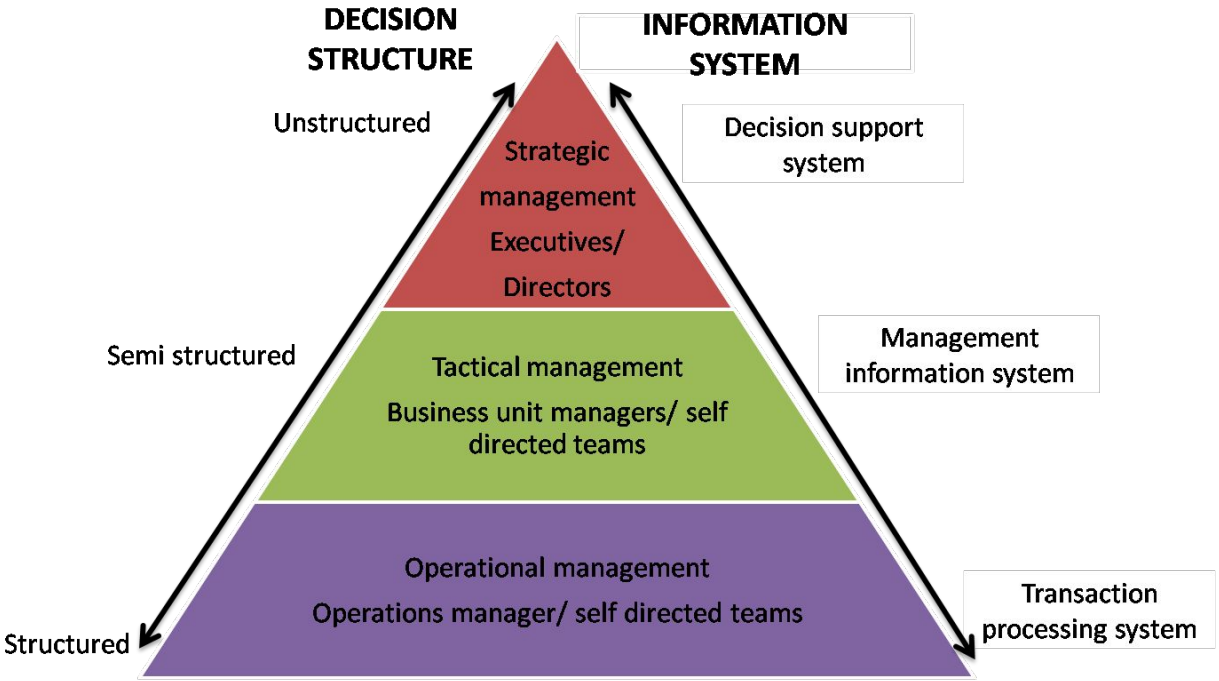
About ESS

- Top level management
- Designed to the individual
- Ties CEO to all levels
- Sophisticated data analysis and modeling tools
- Flexibility
- Quick response time

Interrelationship among Systems

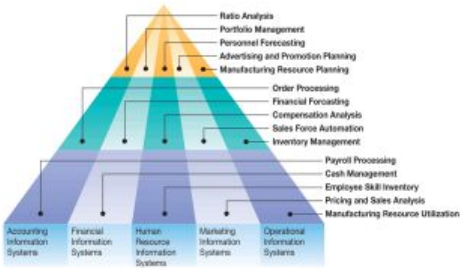


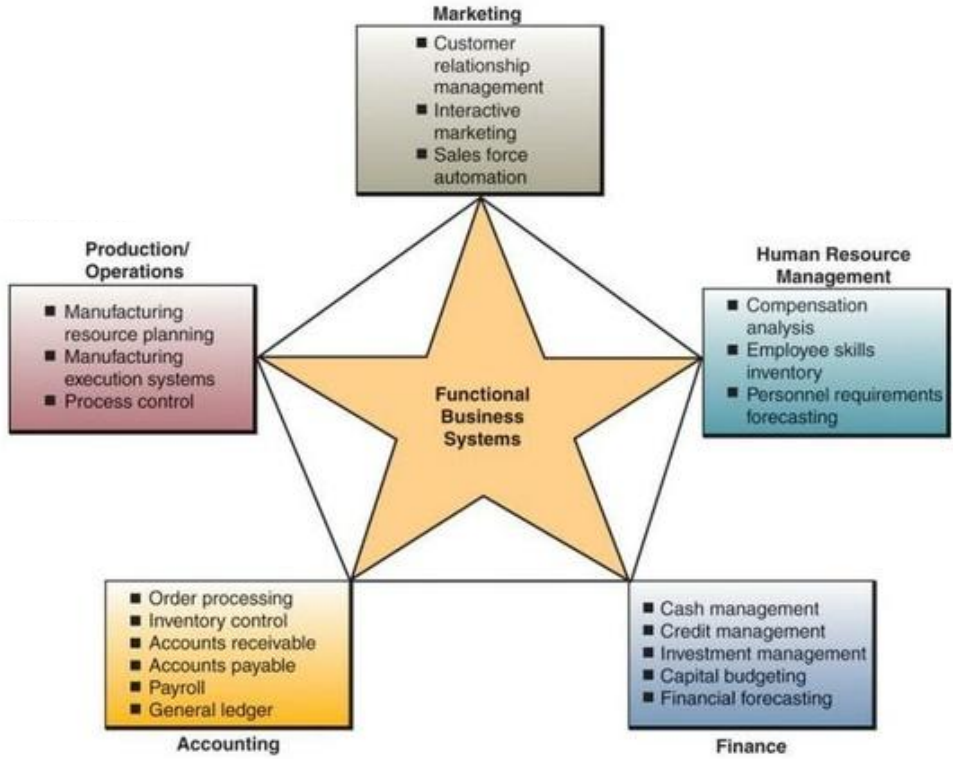
Summary of Types of Information Systems

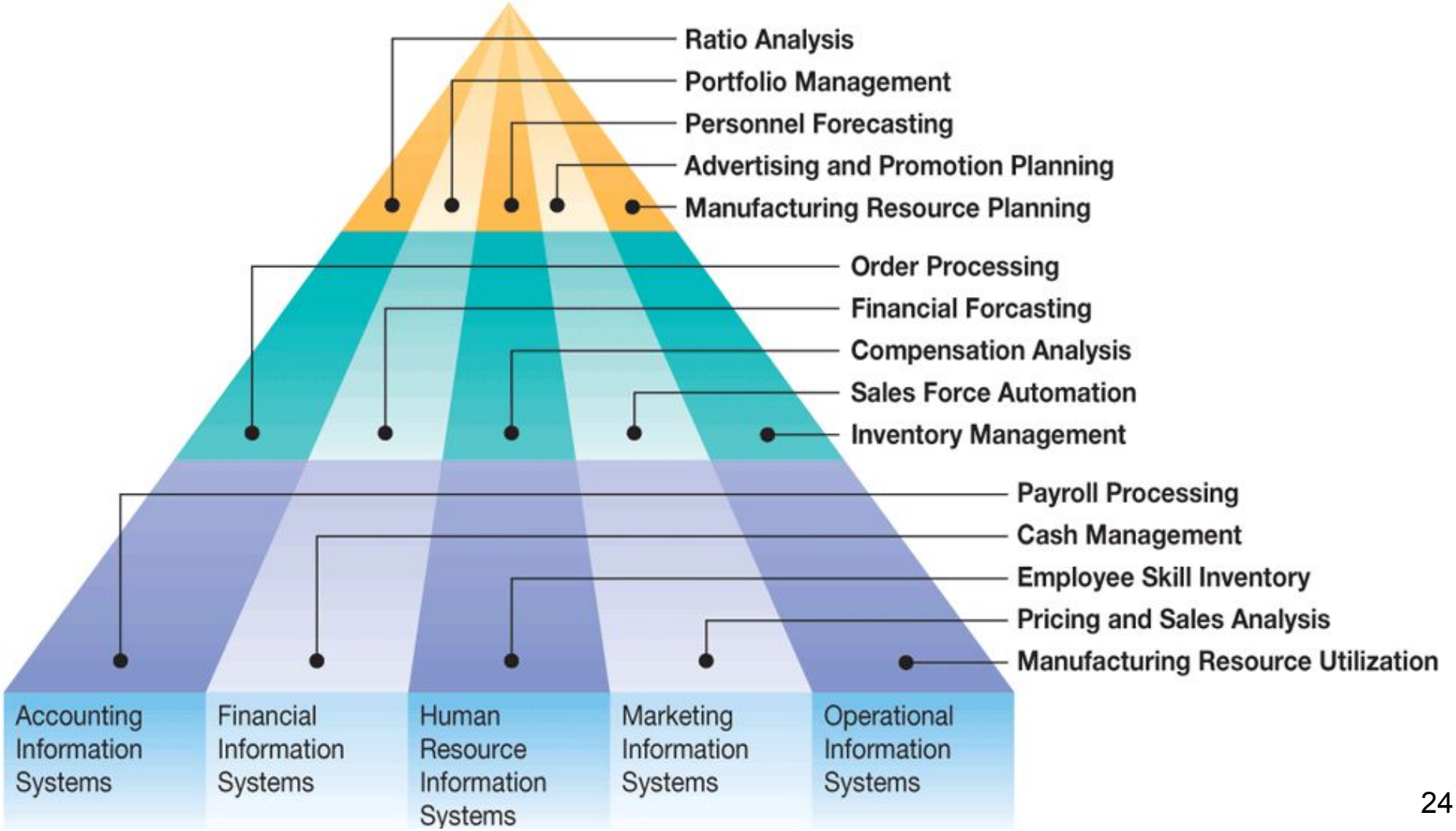


4.2 Functional Information Systems

- Marketing and Manufacturing Systems
- Human Resource Management Systems
- Finance and Accounting Systems



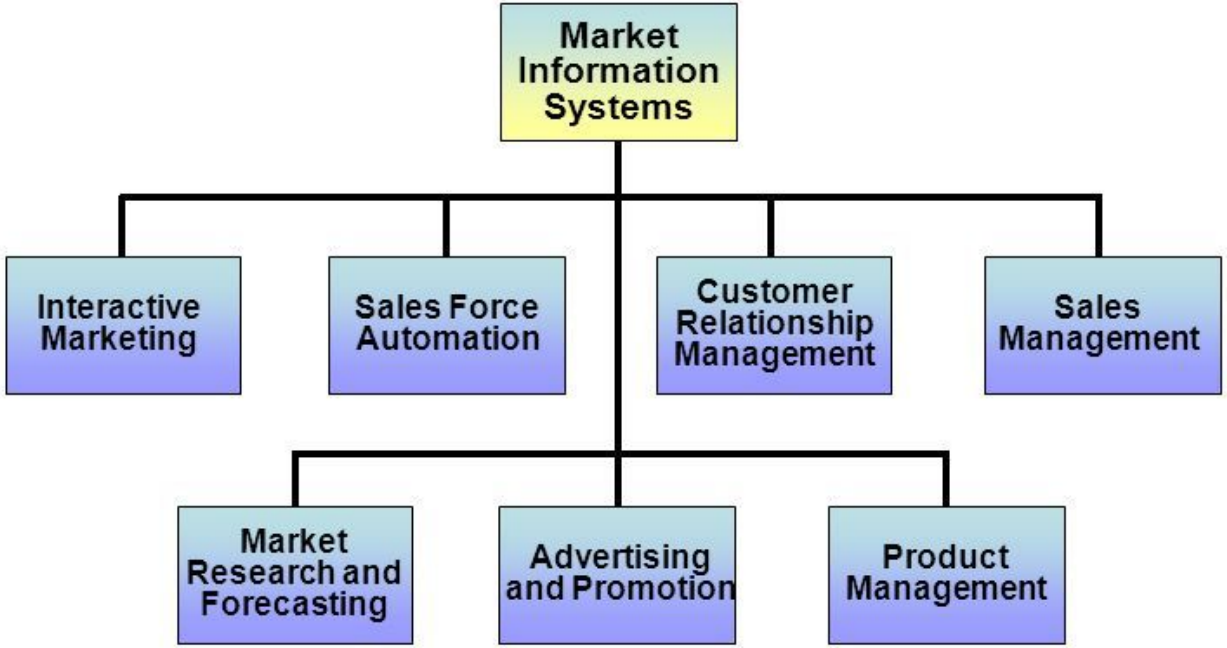



Ratio Analysis
Portfolio Management
Personnel Forecasting
Advertising and Promotion Planning
Manufacturing Resource Planning
Order Processing
Financial Forcasting
Compensation Analysis
Sales Force Automation
Inventory Management
Payroll Processing
Cash Management
Employee Skill Inventory
Pricing and Sales Analysis
Manufacturing Resource Utilization
Accounting Information Systems
Financial Information Systems
Human Resource Information Systems
Marketing Information Systems
Operational Information Systems

4.2.1. Marketing Systems

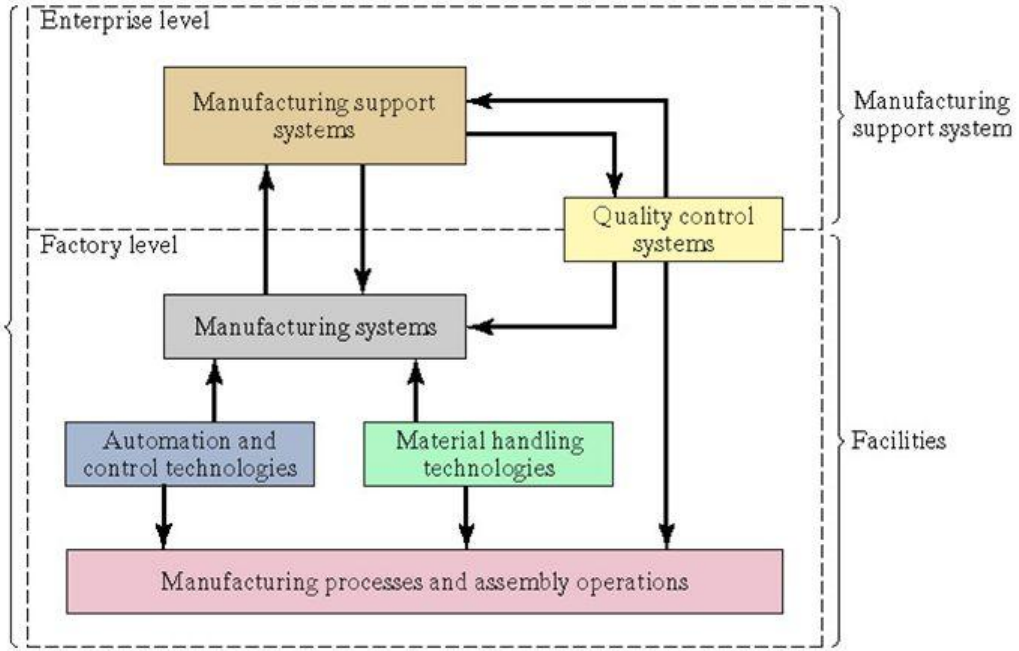
- A formal system that provides information technologies that support major components of the marketing function.
- Provide an organised, regular flow of relevant information for use and analysis by marketing decision-makers.
- Uses information collected from both internal and external sources.

4.2.1. Components of Marketing Systems



4.2.1. Manufacturing Systems

- Support the production/operations function production.
- Manufacturing information systems help to;
  - simplify, automate, and integrate many of the activities needed for production.



4.2.2. Human Resource Management Systems

- HRM systems support the effective and efficient use of the human resources of a company.
- It assists functions such as the recruitment, placement, evaluation, compensation, and development of the employees
- Intranet technologies allow companies to process most common HRM applications over their corporate intranets.

4.2.2. Functions of HRM Systems

Example:

HR Software for SMB

Human Resource Software combines the systems and processes to ensure the easy management of a business employees and data.

Incorporating HR technology into the business processes can aid in digital transformation journey and grow the business sustainably, avoid staffing crises and improve profitability in the long run.

Combine HR functions

The use of Human Resources Software is to combine many necessary HR functions, such as storing employee data, managing payrolls, recruitment processes, benefits administration and keeping track of attendance records.

HR Activities

Human Resource Software merges human resources and its basic HR activities and processes with the information technology field.

Centralized

Small and medium businesses use human resource software to improve the management of employee data by streamlining and automating human resource and administrative processes through a centralized location.

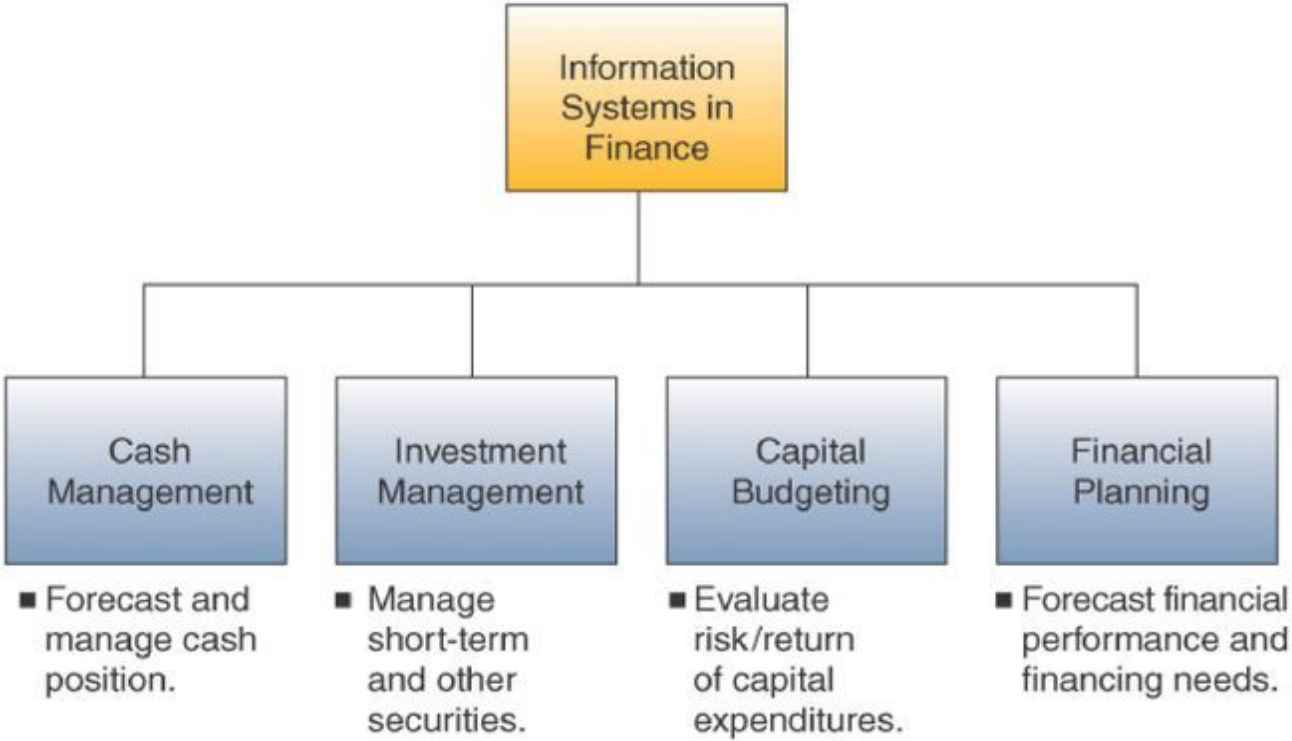
Automate functions

Automate functions such as administrative tasks, record-keeping, compliance, give HR coordinators solutions to find and retain the best talent as well as optimize an organization's HR processes from a single database.

4.2.3. Financial Management Systems

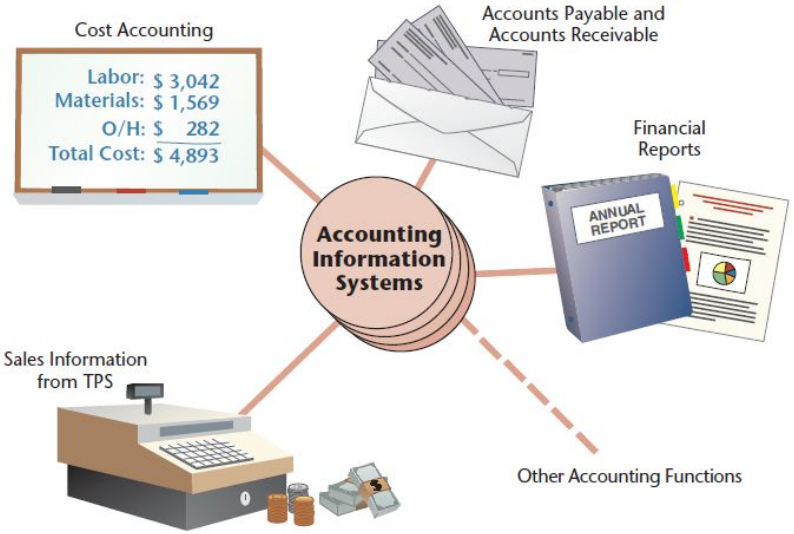
- Financial management systems support managers in decisions concerning the financing of a business and the allocation and control of financial resources within a business.
  - e.g. cash and investment management, capital budgeting, financial forecasting, and financial p

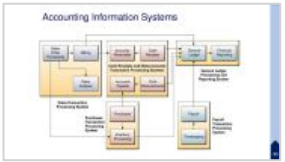
4.2.3. Financial Management Systems(2)



4.2.3. Accounting Systems

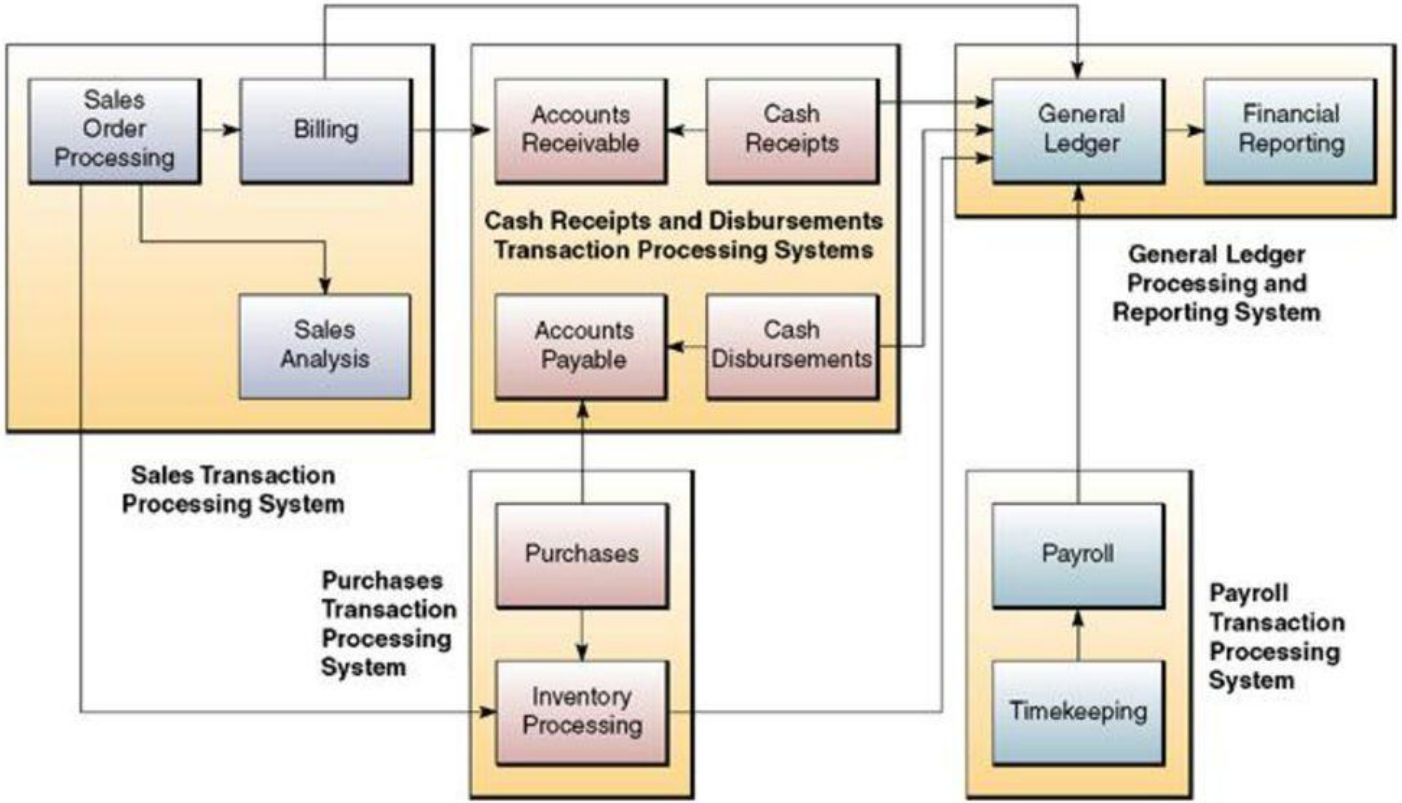
- Accounting systems record and report the flow of funds through an organization on a historical basis and produce important financial statements and forecasts of future conditions.
  - **Operational accounting systems** include transaction processing systems.
  - **Management accounting systems** focus on the planning, controlling, reporting and costing of business operations, decision making and performance evaluation.






Bills & Expenses
• Pay Bills
• Track Receipts
• Vendors Mgt.
Sales & Accounts Recievable
• e-Commerce
• Sales Taxes
• Time & Job Tracking
• A/R Management
• Point of Sale
• CRM
• Scheduling/Field Svcs.
• Project Mgt./Collaboration
• Credit Card Processing
Payroll
• Time Tracking
• Payroll Taxes & Filing
• Direct Deposit
Accounting System
• Document Management
• Data Security & Hosting
Financial Reporting
• Advanced Reporting Tools
• Dashboards & Benchmarking
Cash
• Bank Reconciliation
• Cash Flow Management
Inventory
• Inventory Management
• Purchasing
• Assembly
• Physical Inventory

Accounting Information Systems



Activity

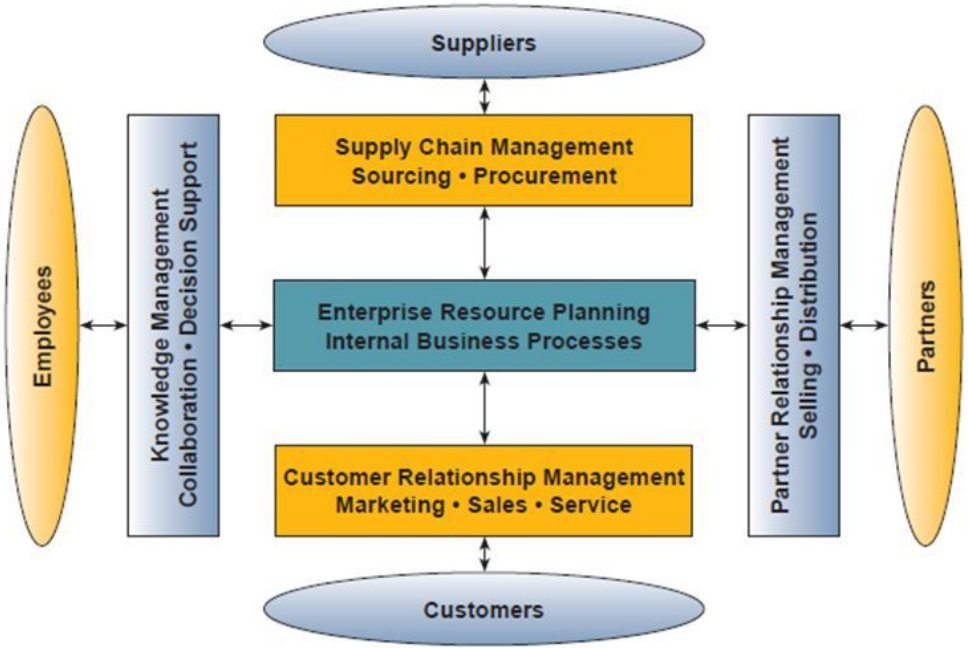
Are the following statements True or False?

1. Online HRM systems can be used to recruit employees.
2. Management Accounting Information Systems record and report business transactions and other economic events.
3. Cash and investment management, capital budgeting, financial forecasting, and financial planning are financial management system categories.

4.3.1. Cross-Functional Systems

- Cross-functional systems were designed to integrate the activities of the entire business process.
- It involves multiple divisions and is a strategic way to use information technology to share information resources and improve the efficiency and effectiveness of business processes.

4.3.1. Cross-Functional Systems Architecture



4.3.2. Enterprise Resource Planning Systems

- A cross-functional enterprise system driven by an integrated suite of software modules that supports the basic internal business processes.
- ERP gives a company an integrated real-time view of its core business processes.
- It is important to evaluate the benefits against the costs and challenges of implementing an ERPS, and identify reasons for failure.

4.3.2. Components of ERPS

4.3.3. Supply Chain Management Systems

- A is a cross-functional inter-enterprise system that supports the activities in a supply chain.
- The system support and manage the links between the company's suppliers, customers, and business partners.

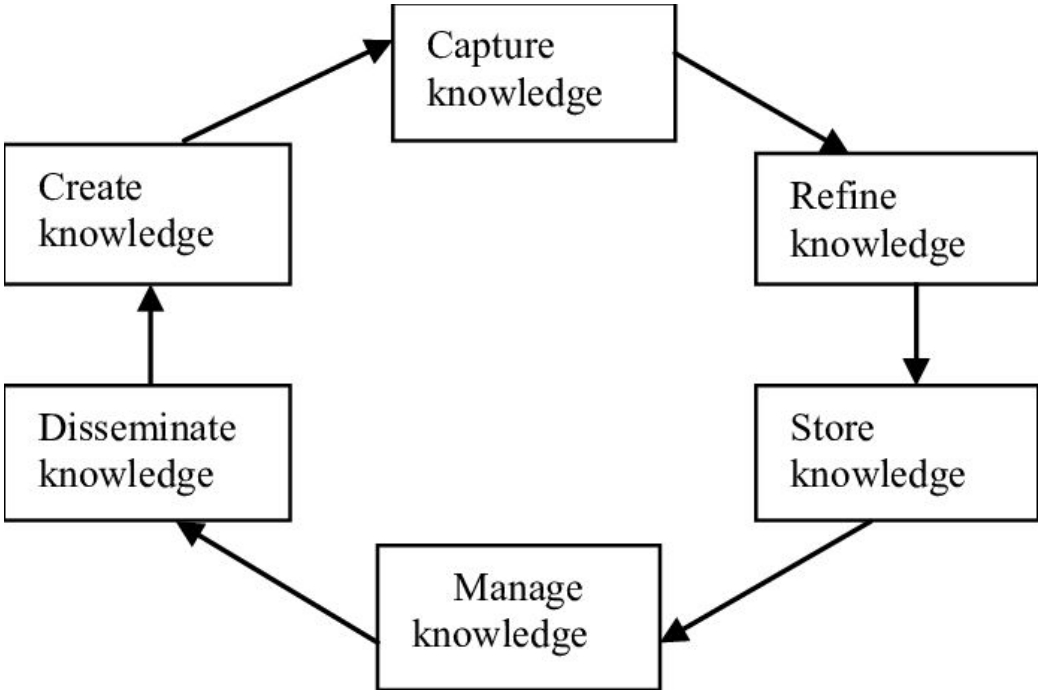
4.3.4. Customer Relationship Management Systems

- An enterprisewide system that integrates and automates many aspects of the customer-serving processes in customer-related services.
- CRM software automates and integrates the functions of sales, marketing, and service in an organization.

4.3.4. Key Features of CRM Systems

- Contact management
- Sales management
- Customer support
- Marketing automation
- Analysis
- Social networking
- Access by mobile devices
- Import contact data

4.3.5. Knowledge Management Process



4.3.5. Knowledge Management Systems

- Knowledge management systems (KMS) help gather, organize, and share business knowledge within an organization.
- The goal is to improve the creation, retention, sharing, and reuse of knowledge.
- Knowledge management systems also facilitate organizational learning and knowledge creation.

Activity

Join the suitable system to statement

Loyalty programs, marketing and sales are application components of	ERP Systems
Access to quality data and enterprise agility are benefits of	Supply Chain Management Systems
Raw material sourcing and procurement and warehousing are activities of	CRM Systems