

Management Information System

Chapter 2

Operations Support System and TPS

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Information Technology

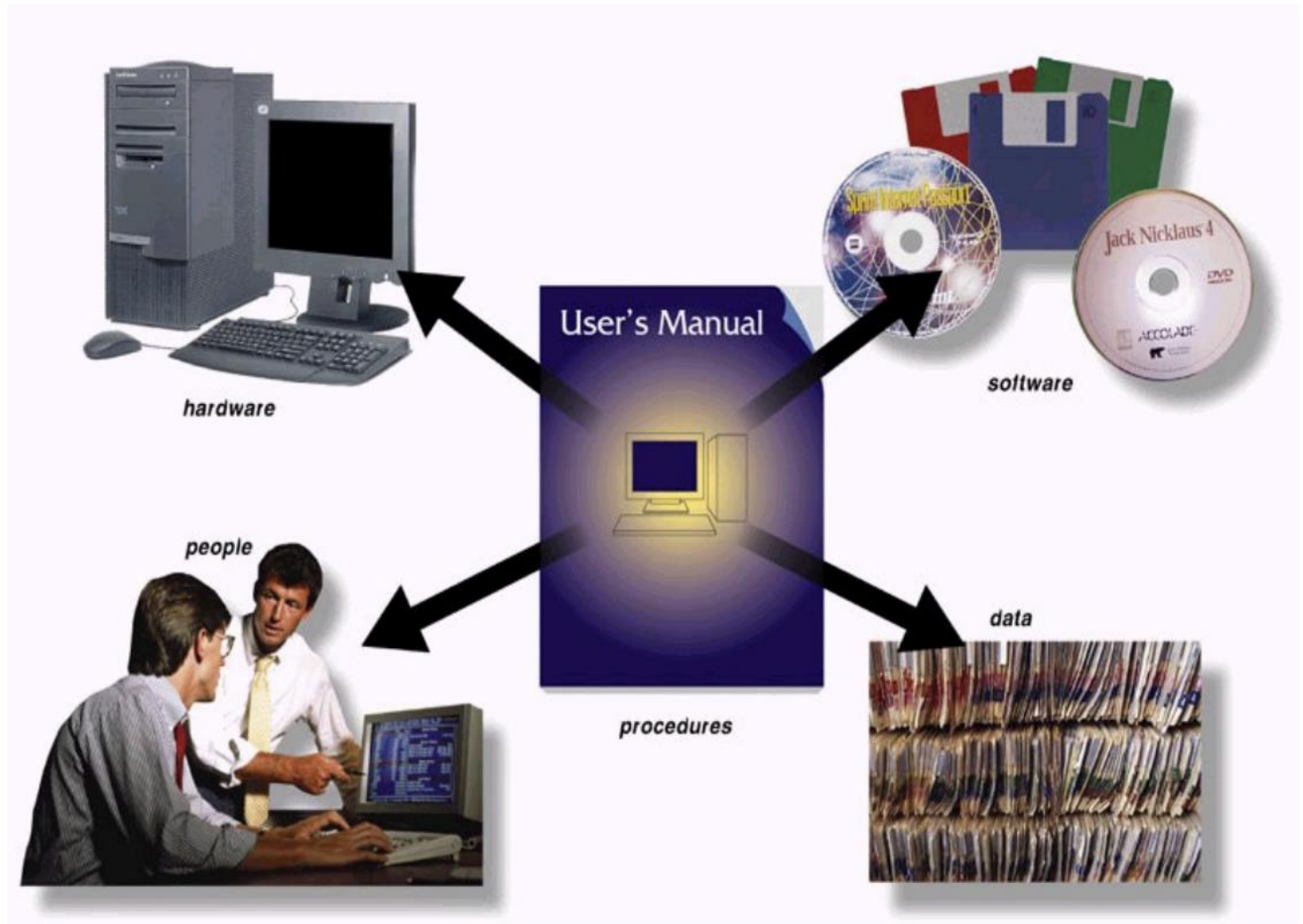
- The branch of engineering that deals with the use of Computers and Telecommunications to retrieve, store and transmit information is IT.
- Any computer based tool that people use to work with information and support the information and information processing needs of an organization is called IT.

Information Systems

A collection of hardware, software, data, people and procedures that are designed to generate information that support day to day activities of users in an organisation is called IS.

Components of Information Systems

- Data
- Software
- Hardware
- People
- Procedures



Information System Activities

- Input of data resources
 - Data entry activities
- Processing of data into information
 - Calculations, comparisons, sorting etc.
- Output of information products
 - Messages, reports, forms, graphic images
- Storage of data resources
 - Data elements and databases
- Control of system performance
 - Monitoring and evaluating feedback

Types of Information Systems

- **Operations Support Systems:**

- TPS (Sales, Inventory and Accounting Systems)
- PCS (Monitor and Control industrial processes)
- Enterprise Collaboration Systems (email, chat and video conferencing system)

- **Management Support Systems:**

- MIS (Provide information as reports and displays)
- DSS (Products pricing, profitability forecasting and risk analysis)
- EIS (Provides critical information from MIS, DSS – Decision Support System for easy access to analysis of business performance, action of competitors and strategic planning.

Operations Support Systems

- **Transaction Processing Systems**

- Record and process business transactions (ex: Sales processing, inventory systems, accounting systems etc.)

- **Process Control Systems**

- Monitor and Control physical processes (ex: using sensors to monitor chemical processes in a petroleum refinery)

- **Enterprise Collaboration Systems**

- Enhance team and workgroup communication (ex: email, video conferencing)

Transaction Processing Systems

- TPS is an important example of Operations Support Systems that record and process data resulting from business transactions.
- Computerized systems that perform and record that daily routine transactions necessary to conduct the business
- Serve the organization's operational level
- Example: Accounting Information Systems
 - FedEx, DHL or any other company who has automated computerised system use TPS.

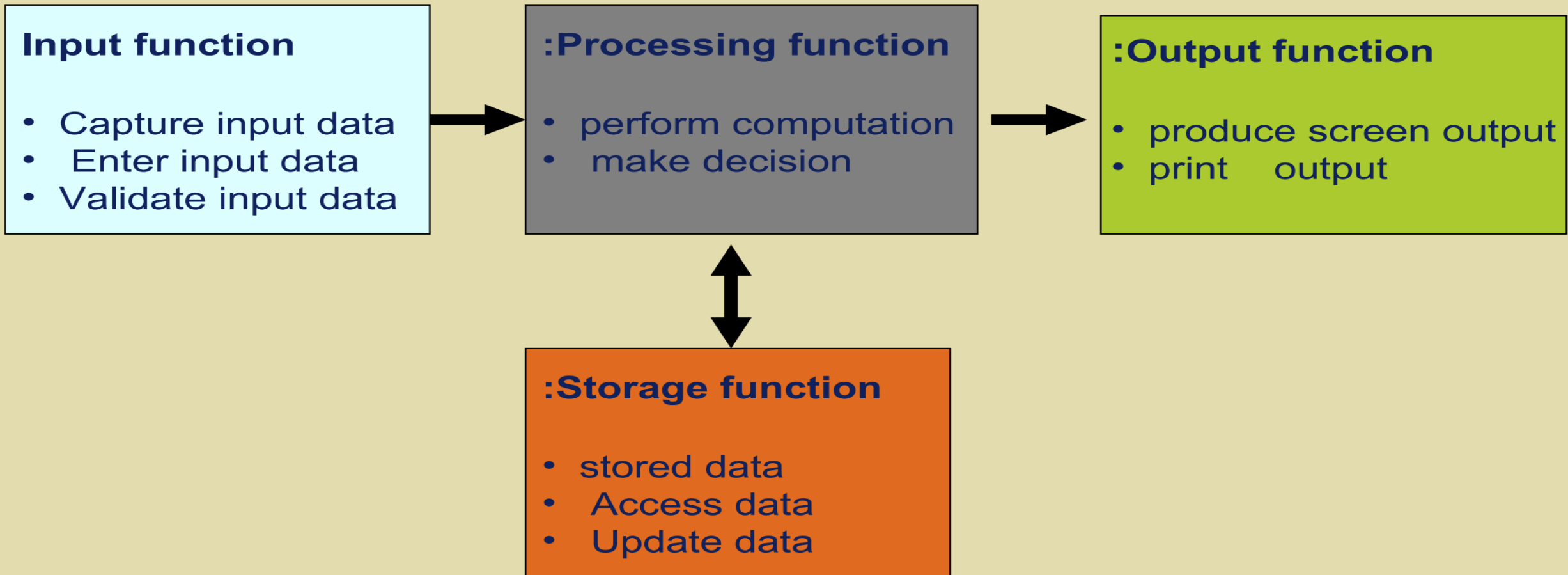
Functions of TPS

- An inventory control system keeps a file of records about the stock of good that a business has on hand (the inventory) which is one aspect of the state of the business.
- When items are shipped or received, the state of the business is affected and the inventory control system makes changes about the inventory in the stored records.
- It also prints a report giving the quantity on hand for each item in inventory, which is a characteristic of the state of the business.
- Finally, when inventory is low, the system produces output that causes more inventory to be ordered and it is considered as a business transaction.

TYPES OF TPS SYSTEMS

	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	Sales management	Scheduling	Budgeting	Personnel records	Admissions
	Market research	Purchasing	General ledger	Benefits	Grade records
	Promotion	Shipping/receiving	Billing	Compensation	Course records
	Pricing	Engineering	Cost accounting	Labor relations	Alumni
	New products	Operations		Training	
Major application systems	Sales order information system	Machine control systems	General ledger	Payroll	Registration system
	Market research system	Purchase order systems	Accounts receivable/payable	Employee records	Student transcript system
	Sales commission system	Quality control systems	Funds management systems	Benefit systems	Curriculum class control systems
				Career path systems	Alumni benefactor system

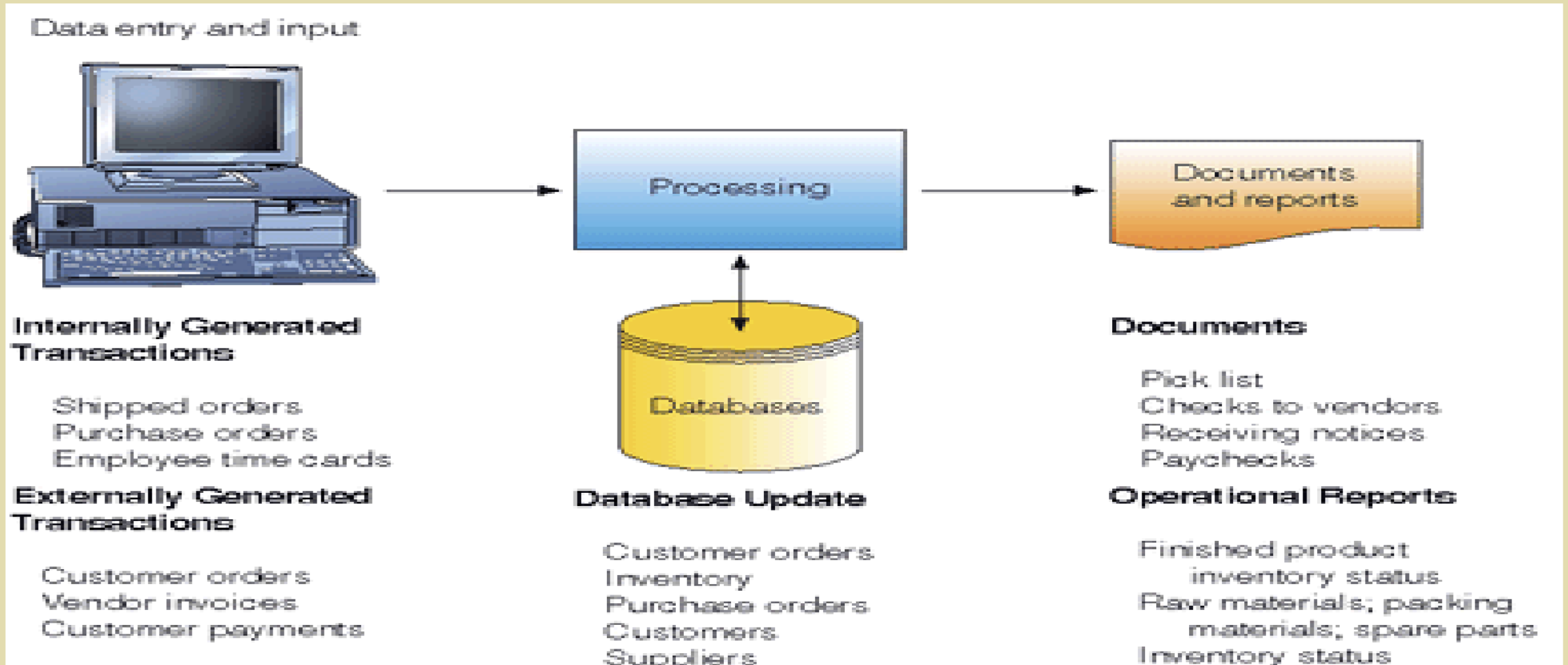
TRANSACTION PROCESSING SYSTEM FUNCTIONS



- Transaction processing systems perform input, output, storage and processing functions
- Input functions include capturing data on a source document, entering the input data into the system and checking input data for errors (a process called data validation).
- Output functions include producing screen or paper reports, such as detail reports, summary reports and exception reports.

- **Storage functions** include storing data in files and databases, accessing stored data, sorting stored data and updating stored data.
- **Processing functions** involve the manipulation of data, including computation and decision making.

TRANSACTION PROCESSING SYSTEMS



Processing Transactions

- There are two ways any transaction is processed:
 - Batch Processing:
 - Accumulate transactions over time and process periodically
 - Example: a bank processes all cheques received in a batch at night
 - Online Processing:
 - Process transactions immediately
 - Example: a bank processes an ATM withdrawal immediately