MANAGEMENT INFORMATION SYSTEM

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COURSE OUTLINES

- Course Title
  - Management Information Systems
- Grading Policy
  - Exam → 80%
  - Tutorial / Assignment → 20%
- Textbook and Reference Materials
  - Course Manual for Management Information Systems CIS302, University of Ibadan Distance Learning Centre
  - Management Information Systems (Managing The Digital Firm) by Kenneth C. Laudon(New York University), Jane P. Laudon(Azimuth Information Systems), Twelfth Edition
  - Management Information Systems, Sixth Edition, by Effy Oz
- Course Duration
  - 12 Weeks

Transaction Processing System

LEARNING OUTCOMES

When you have studied this session, you should be able to:

- *define* transaction processing systems
- *highlight* the processes of transaction processing system

CONTENTS

- Meaning of Transaction Processing Systems
- Process of Transaction Processing System

MEANING OF TRANSACTION PROCESSING SYSTEMS

- To record, process, validate, and store transactions
- An information system that records company transactions
- Cross-functional information systems
- Transactions are events (sales, purchases, deposits, withdrawals, refunds, and payments)

TYPES OF TRANSACTIONS

Internal Transactions

- Internal to the company
- related with the internal working
- example Recruitment Policy, Promotion Policy, Production policy etc

External Transactions

- External to the organization
- related with the external sources
- examples sales, purchase etc

CHARACTERISTICS OF TRANSACTION PROCESSING SYSTEMS

1. A TPS records internal and external transactions for a company. It is a repository of data that is frequently accessed by other system
2. A TPS performs routine, repetitive tasks. It is mostly used by lower-level managers to make operational decisions
3. Transactions can be recorded in batch mode or online. In batch mode, the files are updated periodically; in online mode, each transaction is recorded as it occurs.
4. There are six steps in processing a transaction. They are data entry, data validation, data processing and revalidation, storage, output generation, and query support.

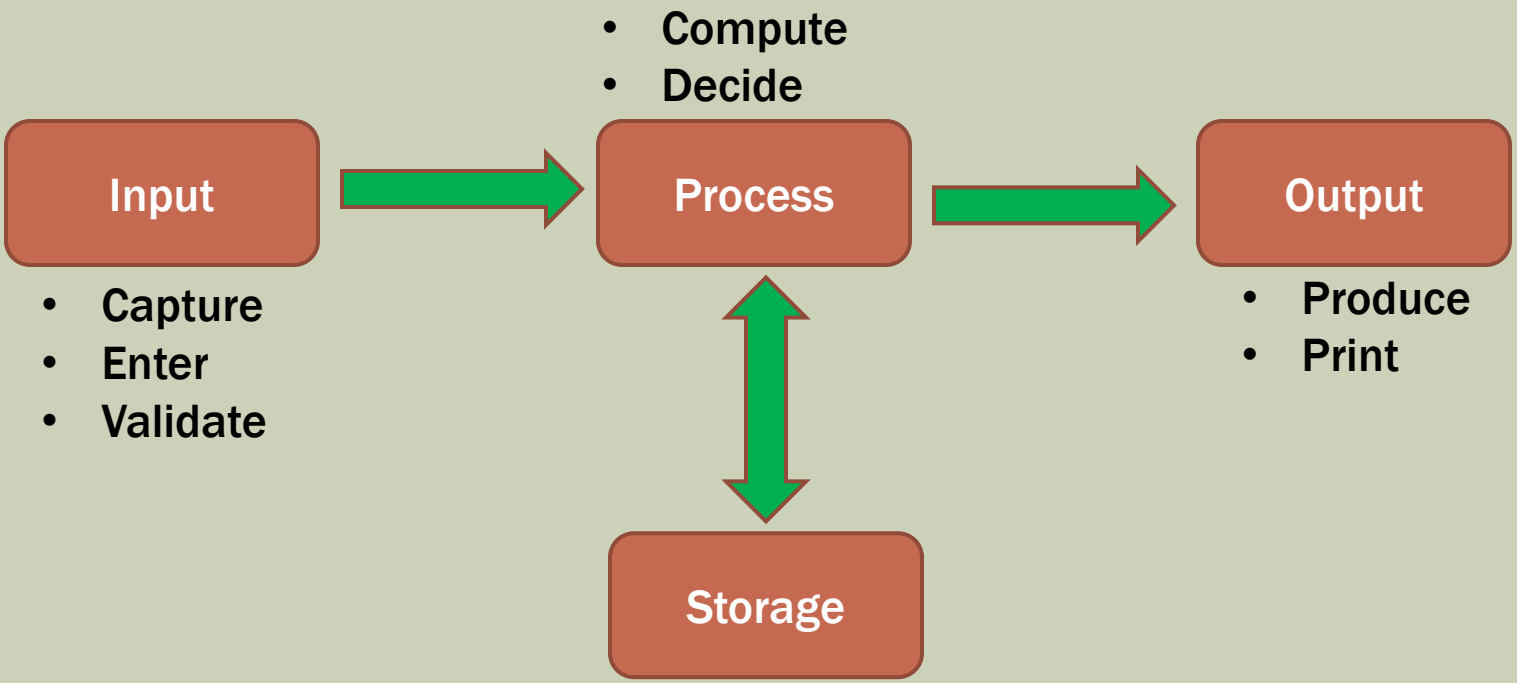
FEATURES OF A TRANSACTION PROCESSING SYSTEM

1. A set of rules and guidelines that specify how to record, process, and store a given transaction.
2. The data life-line for a company because it is the source of data for other information systems
3. The main link between the organization and external entities
4. The various functional areas in an organization

FEATURES OF A TRANSACTION PROCESSING SYSTEM (CONT.)

- Rapid response
- Security
- Controlled processing
- Reliability
- Ease of use

FUNCTIONS OF TPS



COMPONENTS OF TPS

- User:
  - Owners of the transaction system in an organization
- People:
  - Participants of the system from the environments
- Participants:
  - People who conduct the information

PROCESS OF TRANSACTION PROCESSING SYSTEM

- Hierarchical Database
- Network Database
- Relational Database

PROCESS OF TRANSACTION PROCESSING SYSTEM

The seven steps in processing a transaction are:

1. Data entry
2. Data Capture
3. Data validation
4. Processing and revalidation
5. Storage
6. Output generation
7. Query support

DATA ENTRY

- Transaction data must first be entered into the system
- A number of input devices *for* entering data
- Source documents : Documents generated at the point where a transaction occurs
- Source data automation : The use of automated methods of data entry
- To reduce *or* eliminate many *of* the activities

METHODS FOR DATA ENTRY

1. Keyboard/video display terminals

2. Optical character recognition (OCR) devices, such as optical scanning wands and grocery check--*out* scanners.

3. Magnetic ink character recognition (MICR) devices, such as MICR reader/sorters used in banking *for* check

4. Other technologies, including electronic mice, light pens, magnetic stripe cards, voice input, and tactile

DATA CAPTURE

- Capture transaction data as close as possible to the source

Tips for Data Capturing

1. Capture data by using machine-readable media initially (barcoded and magnetic stripe credit cards), instead of preparing written source documents

2. Captures data directly without the use of data media by optical scanning of bar codes printed on product packaging. It ensures the accuracy and reliability of data by comparing

DATA VALIDATION

- There are two steps in validation: **error detection and error correction**
- Error detection: performed by one set of control mechanisms,
  - checking the data for appropriate font (text, numbers, etc.),
  - checking for aberrations (values that are too low or too high), and
  - checking for missing data, invalid data, and inconsistent data
- Error correction: performed by another
- **Invalid data** is data that is outside the range
- **Inconsistent data** means that the same data item assumes different values in different places with-out a valid reason

PROCESSING AND REVALIDATION

- Once the accuracy and reliability of the data are validated, the data are ready for processing.
- There are two ways to process the transactions:
  - online and
  - bath mode

ONLINE TRANSACTION PROCESSING (OLTP)

- Instantaneous processing of data
- The input device is directly linked to the TPS
- Data are processed as soon as it is entered into the system
- Example: ATM transactions, student registration for classes, flight reservations

BATCH PROCESSING

- Accumulated over time and processed identically
- Daily, weekly, or monthly basis
- The most sensible and practical approach
- More efficient use of computer resources
- Example: travel expenses of employees, payroll operations

DATA STORAGE

- Processed data must be stored for future use
- A critical consideration-for many organizations
- The kind of processing and the type of storage medium
- To output the results of the transaction to the decision maker

OUTPUT GENERATION

- The output can be communicated to decision makers in two ways:

1. Documents and reports

- a popular output method
- to generate additional information or
- to present the same information in a different format

2. Forms: screens or panels

- Computer output appeared on computer screens and panels
- soft-copy presentations

QUERY SUPPORT

- Allow users to process data and information that may otherwise not be readily available
- Allow you to use the Internet, intranets, extranets, and web browsers or database management query languages
- Make inquiries and receive responses concerning the results of transaction processing activity
- Variety of pre-specified formats or screens
  1. Checking on the status of a sales order
  2. Checking on the balance in an account
  3. Checking on the amount of stock in inventory

ASSESSMENT

1. Define the term transaction processing system.

2. List the types of transaction.

3.List the characteristics of transaction processing system.

Next Week Lecture: **Decision Support System**

THANK YOU.