

Lecture no. 2

Department: Information and Library Science

Subject: Information Storage & Retrieval

Name of the lecture: Function (steps) of Data Processing Cycles.

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REASONS FOR THE NEED OF DATA PROCESSING

Data processing methods are developed as a result of:

- 1- Growth of the volume of data.
- 2- The changing nature of data.
- 3- The technological progress.
- 4- The urgent need for better ways of handling data.

FUNCTIONS (STEPS) OF DATA PROCESSING CYCLES

1) ORIGINATING OF DATA:

Data origination in various forms called source document which could be hand written or typewritten or electronically typed and stored in the computer. Source documents are important because they are the basis for all actions; and provides verifications for all transactions.

2) DATA RECORDING

Data is recorded in some form to be handled easily. The recording process includes the following functions:

- 1- Editing:** It means selecting the significant data and eliminating data which do not need processing.
- 2- Coding:** Means reducing the amount of data by converting it to symbols such as: Numbers, Alphabets, Alphanumeric symbols.
- 2- Classifying:** Systematically grouping data into classes according to its type, location, age, price, size.....etc.
- 4- Conversion:** Transforming data from one form to another.
- 5- Copying and duplication:** The use of photocopies and Facsimiles of data for distribution to more than one user.
- 6-Verifying:** Ensuring the storage of data into the processing system without errors.

3) MANIPULATION OF DATA:

Converting data into a more useful form through the following procedures:

1. Sorting: Arranging or selecting data according to:

- a. Order or rank.
- b. Sequential order alphabetically or numerically.

2. Comparing and analyzing: To determine factors such as:

- Relationship of data
- Nature of data
- Order of data
- Relative value of data

3. Calculation: Using arithmetical process or (factors) such as:

Division (\div) Addition (+) Subtraction (-) Multiplication (x)

To convert data into a significant form, ex:

Calculating the employees hours (in the Library) for payment.

4. Summarizing and report preparation:

1. Summarizing includes:

- a-condensing data into lists.
- b-condensing lists into total.
- c-arranging data into categories.

2. Report preparation:

The output of cycle is processed information recorded to output media such as reports, books, magnetic tapes, CD-ROM,DVD...etc.

4) Data communication:

Is the process of transferring data from one point to another point either:

- a- internally by hand or machine.
- b- externally by mail or e-mail.

Today communication means electrical transmission of data by telephone, telegraph, microwave, e-mail ... etc.

5) Data storage:

At the end of data processing cycle, data must be stored so that it is readily retrievable. Organizations usually store data to design a storage system.