CHARITO B. TAGUBA

OBJECTIVES:

At the end of this module, you should be able to:

1. Explain the importance of systems;
2. Enumerate different types of system components;
3. Enumerate different types stakeholders;
4. Define an information system and describe its components

SYSTEM

System is derived from Greek word Systema which means an organized relationship among functioning units or components.

System=Order+Structure

- System a set of detailed methods, procedures and routines established or formulation to carry out specify activity, perform a duty or solve a problem.
- A group of interrelated procedures used for a business function, with an identifiable boundary, working together for some purpose.

SYSTEM COMPONENTS

ALL THE COMPONENTS OF THE SYSTEM INTEGRATED IN SUCH A WAY TO OBTAIN CENTRAL OBJECTIVE RATHER THAN INDIVIDUAL.

- **Organization:**
- Here organization means components of the system in a certain order i.e. orderly grouping of components.
- **Interaction:**
- Components of the system interact with each other to achieve a specific objective.
- **Interdependence:**
- Components of the system interdependent to each other.
- **Integration:**
- Integration among the components of the system.

ELEMENTS OF THE SYSTEM:

- Here are the following elements of the system:
  - Outputs and Inputs.
  - Processor(s)
  - Control.
  - Feedback.
  - Environment.
  - Boundaries & Interface.

COMPONENTS OF A COMPUTER SYSTEM

a. Software – these are computer programs

a.1 Word Processing Software

a.2 Spreadsheet Software

a.3 Database Software

a.4 Web Development Software

a.5 Operating Systems

a.6 Utility Software

a.7 Programming Languages

b. Hardware – the physical component of a computer system

c. Data – are raw facts/materials

d. Database – is a collection of related data.

e. Procedures – these are rules/policies/steps in a computer system

f. People – the stakeholders

TYPES OF STAKEHOLDERS

a. **Applications Programmer –** a programmer who codes applications software.

b. **Computer Operator –** a person who is responsible for the operation of large computers and their support.

c. **Database Administrator –** the person responsible for setting up and managing large databases within an organization

d. **Software Engineer –** are computer science professionals who use knowledge of engineering principles and programming languages to build **software** products, develop computer games, and run network control systems.

e. Network Administrator – responsible for planning and implementing networks within an organization

f. Programmer/Analyst – a person with job responsibilities that include both applications programming and systems analysis and design.

g. Web Developer – they are responsible in designing and developing web pages and web sites

h. Webmaster – responsible for establishing and maintaining an organization's internet presence.

TYPES OF INFORMATION

- **1.STRATEGIC :** Needed for long range planning and directions. This is less structured.
- Yearly and monthly production quotas and alternate schedules
- Policies on machine replacement, augmentation, and modernization.
- Identifying best product mix.

2. TACTICAL : Needed to take short range decisions to improve profitability and performance.

-
- Identifying and controlling areas of high cost.
- Identifying critical bottlenecks in production.
- Identifying alternate production schedules based on tools, machines etc.
- Performance measures of machines to decide replacement.

3. **OPERATIONAL :** Needed for day to day operations of the organization.

-
- Monitoring up to date production information by examining assemblies, detecting likely shortages and giving early warning.
- Scheduling better production dynamically.
- Preventive maintenance schedules.
- Monitoring tool, machine and personnel availability

4. STATUTORY : Needed by law to sent to government authorities.

CHARACTERISTICS OF INFORMATION

1. **Timeliness.** Information must reach the user in a timely manner, just when it is needed; not too early, because by the time it is used it would be out-of-date; not too late because the user will not be able to incorporate it into his/her decision making.
2. **Appropriateness.** Information must be relevant to the person who is using it. It must be within the sphere of his/her activities so that it can be used to reduce uncertainty in his/her decision making.

3. Accuracy. Accuracy costs. We don't always need 100% accurate information so long as we know the degree of accuracy it represents (eg: + or - 5%). (Remember the value of information).

4. Conciseness. Information should always contain the minimum amount of detail that is appropriate for the user. Too much detail causes information overload.

- **5. Understandability.** The format and presentation of information are very important. Some people prefer tabular information, whereas others may need it in a graphical form. Also the use of colors enhances the understandability of what is presented.

NEED FOR INFORMATION SYSTEMS

1. Increasing size of organizations thus data volume increases
2. Distributed organizations
3. Timely processing for fast action
4. Better competitiveness with better information
5. Increasing of complexity of organizations require innovative processing
6. Same data can be processed in different ways