

Lecture No: 2 Types of systems

Types of systems

The frame of reference within which one views a system is related to the use of the systems approach for analysis. Systems have been classified in different ways. Common classifications are: (1) physical or abstract, (2) open or closed, and (3) “man –made” information systems.

1- Physical or abstract systems

Physical systems are tangible entities that may be static or dynamic in operation. For example, the physical parts of the computer center are the officers, desks, and chairs that facilitate operation of the computer. They can be seen and counted; they are static. In contrast, a programmed computer is a dynamic system. Data, programs, output, and applications change as the user’s demands or the priority of the information requested changes.

Abstract systems are conceptual or non-physical entities. They may be as straightforward as formulas of relationships among sets of variables or models – the abstract conceptualization of physical situations. A model is a representation of a real or a planned system. The use of models makes it easier for the analyst to visualize relationships in the system under study. The objective is to point out the significant elements and the key interrelationships of a complex system.

2- Open or Closed Systems

Another classification of systems is based on their degree of independence. An open system has many interfaces with its environment. It permits interaction across its boundary; it receives inputs from and delivers outputs to the outside. An information system falls into this category, since it must adapt to the changing demands of the user. In contrast, a closed system is isolated from environmental influences. In reality, a completely closed system is rare. In systems analysis, organizations, applications and computers are invariably open, dynamic systems influenced by their environment

3- Man – Made Information Systems

An information system is the basis for interaction between the user and the analyst. It provides instruction, commands and feedback. It determines the nature of the relationships among decision-makers. **Formal Information system** a formal information system is based on the organization represented by the organization chart. The chart is a map of positions and their authority relationships, indicated by boxes and connected by straight lines. It is concerned with the pattern of authority, communication and workflow.