

1. Introduction

This section aims to understand various stages of information system development.

A Systems analyst is a person who is overall responsible for development of a software. In this unite, we will illustrate the concept of system analysis and design, categories of information systems, system development strategies, and discuss implementation and evaluation.

1.1 Information System Development

The number of phases in the information system development may vary from methodology to another. Each phase gives an output that becomes input of next phase. Primarily the process includes the following:

1. Investigation
2. Feasibility Study
3. Analysis
4. Design
5. Implementation
6. Maintenance

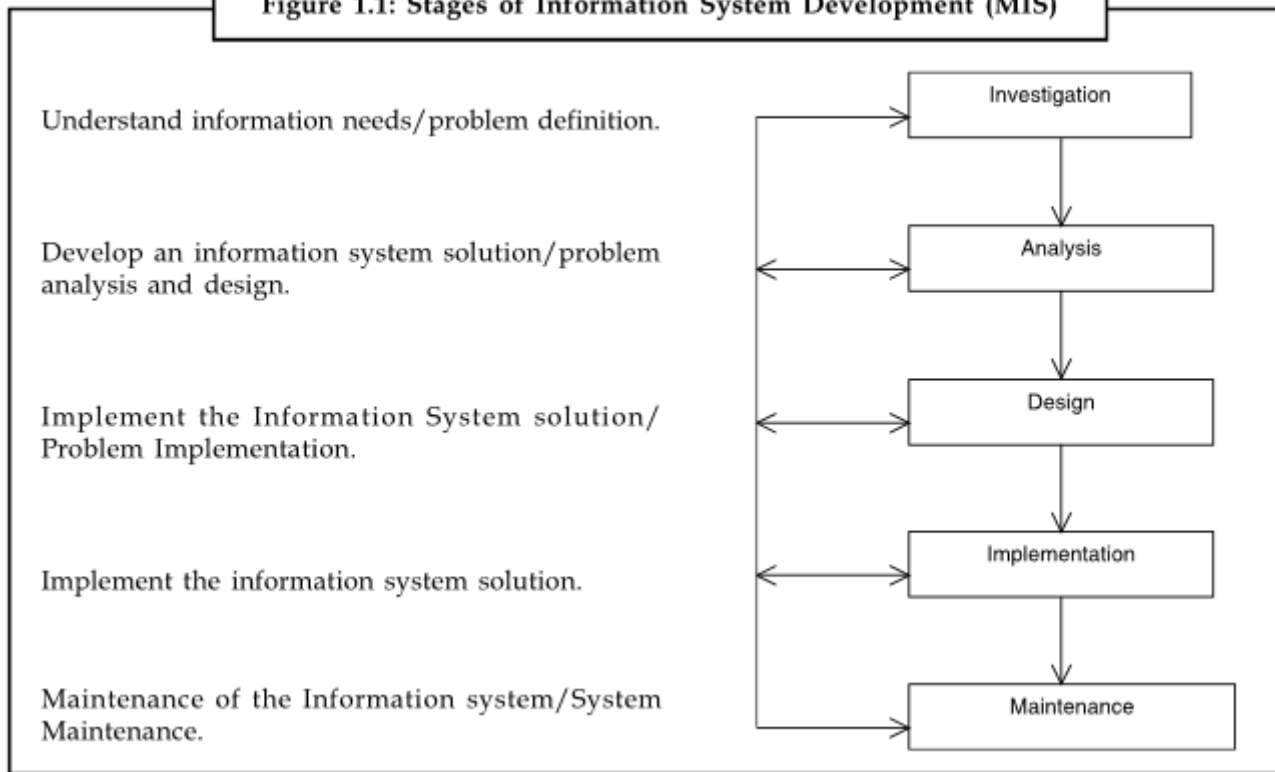
All above stages can be seen by a flowchart shown in Figure 1.1.

Each stage of this development process is highly interrelated and interdependent on each other. The system developer has to perform many activities to achieve each stage.

- Sometimes he has to go back to the previous stage to implement some changes so that:
 - A better system will be there or,
 - In order to produce a better solution to the organization problem or,
 - Provide the best product to the users of Management Information System.

Currently, each stage will be explain individually as well as the activities related to each stage and how these activities are executed.

Figure 1.1: Stages of Information System Development (MIS)



1.1.1 Investigation

This is the first step in preparation of a Management Information System. This stage includes the preliminary study of proposed information system solution to the end users problems.

Because the development of Management Information System is a *time consuming* and *costly effort*, feasibility studies have to be conducted.

This study investigates the information needs of the users and determines the resource requirement, costs, benefits and feasibility of a proposed project.

1.1.2 Feasibility Study

The study aims to evaluate an alternative system and to propose the most feasible and desirable systems for development. The feasibility study is carried out in four different stages:

1. Organizational feasibility:

This stage focus on how well a proposed system supports the values and objectives of

the organization.

2. Economic feasibility:

In this stage, the developer conducts cost/benefit analysis, i.e., whether the cost of developing a system is more than benefit or loss because, if the development cost increases than the proposed benefit then the purpose of making Management Information System is defeated or it is not an efficient Management Information System.

3. Technical feasibility

This stage is concerned with hardware and software requirements, availability of these media within the organization or they have to be arranged.

4. Operational feasibility.

It is dependent on human resources available for the project and involves projecting whether the system will be used if it is developed and implemented.

1.1.3 Analysis

It is appropriate to both, i.e., for creating an entirely new system or improving or replacing the existing one. System analysis includes knowing the information needs of the end user and the organization employees, what are the resources activities and products presently available and the information system capability to meet these information needs.

To achieve effectiveness in Information System one must know something about the organization like:

- Its culture, management their experience, qualification,
- Attitude towards computerized Information System.

If the company has some information system in existence then it is very important to analyze that system. In this, one must analyze each component of system like hardware, software, people resource, networking and data resources.

Functional requirements are end user information requirements that involve the following:

1. **User interface requirements:** It refers to what type of input and output requirements of the user are there. It also includes source, formats, contents, etc., of each input & output media.
2. **Processing requirements:** What are decision rules, calculations are required to convert input into output. How much time it takes for processing the input into output?

3. **Storage requirement:** What is the size of database, whether it is a common database or distributed? What are the queries of the user?
4. **Control requirements:** What are the types of measures of accuracy, safety, security and adaptability requirement for system input processing, output and storage utility adopted.

1.1.4 Design:

System design stage gives answer to the question “**How**” the system will complete the objective. Systems design consists of design activities that produce system specifications, satisfying the functional requirements developed at the analysis stage.

System design consists of two steps:

- Conceptual design
- Detailed design of the information system.

➤ Conceptual Design

Conceptual design represents the structure of Information System. The input to this stage is **information requirement** and **management objective** and the output is the **performance requirement** of those who will develop the detailed design.

The process of conceptual design involves showing the feasibility of meeting the management objective for Information System. This is the phase of system development which gives answer to the question “how” the system will work at gross or high level.

Following figure shows various activities at the time of design.

Figure 1.3: Main Activities at the time of Conceptual Design

