

Chapter 7

Information System and System Development Life Cycle

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ABSTRACT

In the last decade, the role of monitoring information has become apparent. The availability of steady-fast information, offered in a suitable format is the basis for good decision making in an organisation. Organisations can use these information skills to solve practical problems as well. This chapter provides us knowledge of the features and purposes of information. It also discusses the role of information system for developing a new system using System Development Life Cycle (SDLC).

INTRODUCTION

The main objective of this chapter is to gain knowledge about the working of the information system and the role of System Development Life Cycle (SDLC). It will integrate various aspects of the input & output of the Information System into SDLC.

An information system is a combination of five elements like: human, data, software, hardware and network. All five elements are organized together to convert the given input into output by processing

data into information. The system resources used for processing the information is hardware and software. Hardware refers to equipments used for transforming information as equipment resources and software refers to collection of programs, as material resources.

According to Silver et al. (1995) Information Systems can be defined as: “Information systems are implemented within an organization for the purpose of improving the effectiveness and efficiency of that organization. Capabilities of the information system and characteristics of the

organization, its work systems, its people, and its development and implementation methodologies together determine the extent to which that purpose is achieved.”

To become skilled user of information and to know how organisations are achieving their aims and objectives, one should be very clear about the following factors of the information.

- **Information Source:** Information can be collected from various sources like: internal sources, external sources, primary sources, secondary sources etc.
- **Information Levels:** The information can also be classified based on its usage in any organization at different levels like strategic information, tactical information, operational information etc.
- **Information Quality:** Quality of information refers to reliability and its fitness for use. Attributes which affects the qualities are timelines, accuracy, adequacy, relevance, completeness, explicitness, exception base etc.
- **Information Perspective:** Information system plays very significant role in various perspectives of real world like end user perspective, organization perspective and global society perspective.

As in the above section various factors of information has been elaborated and next is the elements of information systems are as follows:

- **Human:** Consist of information specialist and end users.
- **Data:** Deals with transforming the data into information.
- **Software:** Includes procedures and programs for information management.
- **Hardware:** Are equipments and machines used for data processing.
- **Network:** Include communication media and support.

Components of Information System

In a broad sense two major categories of information system are CIS (Computer Information System) and BIS (Business Information System) these both collectively form a new idea that is CBIS (Computer Based Information System) for business.

According to O’Brien (2003): “Some make a clear distinction between information systems, computer systems, and business processes. Information systems typically include an ICT component but are not purely concerned with ICT, focusing in instead on the end use of information technology. Information systems are also different from business processes. Information systems help to control the performance of business processes”

CBIS (Computer Based Information System) incorporates following types of information and support systems at various levels of management. An information system is a form of information and communication technology (ICT) in which data is processed using human efforts.

Management Support Systems:

- Expert System (ES) /Executive Support System (ESS)
- Decision Support System (DSS)
- Management Information System (MIS)

Operation Support Systems:

- Transaction Processing System (TPS)
- Office Automation System (OAS)

Organisational levels and types of information system are shown in Table 1.

Expert Systems (ES)/Executive Support System (ESS)

An ES/ESS is designed to make strategic decisions by senior management. ES/ESS involve modeling

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