Systems Analysis And Design SCD 2613

Information Systems Fundamentals and Project Planning

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INTRODUCTION

Information vs. Information Systems

❖ Information is known as :

Knowledge derived from data or data that is presented in a meaningful context that is useful for the person to make decision at the right place and time

❖ Information System is known as :

A system which assembles, stores, processes and delivers information that is relevant to an organization

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❖ Information is very crucial in most sectors – Business, Education, Military, Manufacturing, Politics etc. So does information system. It is required to be used in almost every sector of our everyday life.

❖ An example : when a child is born, the child has to be registered, the registrar shall issue a birth certificate to the parent. The whole registration system is essential to use information system in order to capture data, store the birth information, process and deliver the birth certificate to the parent. We may call this system as a citizen registration information system. Other examples ????

Systems Development Life Cycle

❖ To develop a system, you have to go thru certain cycle, we refer it as a systems development life cycle (SDLC). It is a systematic approach to identify:

• problems

• opportunities

• objectives

• analyze the information flows in organizations

• design and develop computerize information system

Systems Development Phase

❖ There are many methods use to develop information systems. Here the course focus only on traditional or structured methodology

❖ The model use in this methodology is the waterfall model which consists of 4 major phases :

1. PLANNING   1
2. ANALYSIS
3. DESIGN   2
4. IMPLEMENTATION

     3

     4
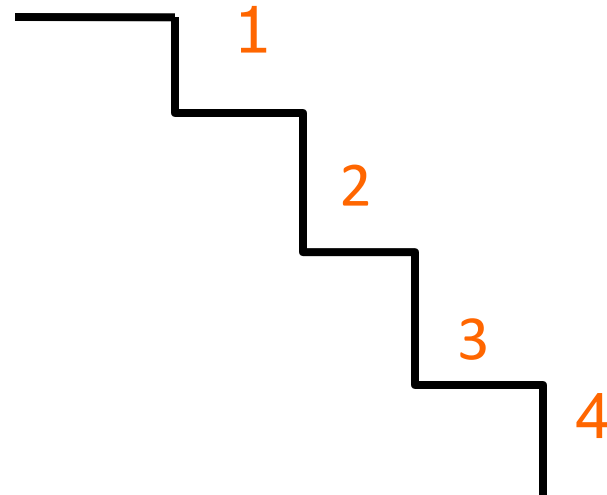
Where Information System is used ?

❖Information System is normally used in organization.

❖ Organization may exist as system and sub-sub systems

❖ UTM is an organization. It has several faculties and departments. So UTM is the main system, the faculties and departments act as the sub-sub systems

❖ Organization involved levels of management and culture

❖ this has impact on the types of information systems to be used

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❖ Different levels in organization may need different types of information systems

❖ There are several types of information systems
 - Transaction Processing systems
 - Management Information systems
 - Decision Support System
- Executive Information Systems
- Expert Systems
- Office Automation Systems

WHO are Involved ?

❖ Basically many people are involved in systems development. The position and title might varies among organization and countries

❖ Common people who may directly involved in system development are systems analyst, programmer, data base expert, network specialist, users

❖ some common roles of systems analyst are problem solvers, thus he requires a good communication skill, he must be ethical, he acts as change agent, consultant and able to facilitate the whole process of information systems development and computer applications in a particular organization.

Project Planning

❖　　　Identify a Project

Before engaging into system development, you must secure a project

This can be done thru a formal systems request or user-consultant 's linkage. Conduct the steps below if the project is already secured.

❖ Basic Steps in project planning :

- Prepare project scope document

- Divide the project into manageable task

- Estimate resources

- Develop project schedule (Gantt Chart / Network Diagram)

- Create a preliminary budget schedule

❖ Conduct a project feasibility studies

Feasibility Studies

4 types of feasibility studies :

- ❖ Organizational

- ❖ Technical

- ❖ Operational

- ❖ Economic

Organizational

❖ Major issues that need to be addressed under organizational feasibility are :

o is the system well accepted by all members in the organization?

o is the system helpful and make work easier for the staff ?

o is the system better than the existing system ?

If the answer is "Yes" to all of the questions above, then the project is organizationally feasible.

TECHNICAL

❖ Technical feasibility assesses whether the current **technical resources** are sufficient for the new system

❖ If the technical resources are not available, can the developer make adjustments such as upgrading or does it have to be purchased ? The feasibility analysis should include assessment of the group's understanding of the possible planned software, hardware and operating system environments to be used.

OPERATIONAL

❖ Basic assessment on the operational feasibility is handling issues such as :

❖ is the human resource available to handle and operate the system once it has been installed ?

❖ is there any technical staff that can support the system once it has been implemented ?

ECONOMIC

❖ Besides feasibilities mentioned earlier, economic is seen as one of the major feasibility that plays a very important role in information system development

❖ Economic feasibility is a process of determining the cost and benefits associated within the project

❖ There are many techniques that can be applied in order to calculate the cost and benefits. Some of the techniques are : present value method, break even analysis, net present value and return on investment.

❖ This course will only focus on the present value method to calculate the cost benefit analysis

CONCLUSION

❖ The cost benefit analysis is best calculated using Microsoft Excel as a software tool to calculate the benefits and cost for each project

❖ Once the project is confirmed, developer may proceed to other phases of the SDLC such as analysis, design and implementation.