

Lecture 5: Systems Tools

Learning Objectives

1. To understand techniques for reviewing, analyzing and developing accounting information systems.
2. To know how to use tools for documenting accounting information systems.
3. To acquire tools for managing accounting information system development projects.
4. To discover techniques for conducting interviews.

Interviews

Interviewing is an important skill for auditors and accountant involved in system development. Members of a development team interview users of the system when evaluating existing systems and when identifying requirements for a new one. A good interviewer must know when to ask questions, when to politely halt a digression by the person being interviewed, and when to encourage the person to talk more.

Flowcharting

Charts concisely summarize ideas that may require many words to express. One of the most useful forms is the flowchart, which describes the relationship among sequential processes.

System flowcharts

A system flowchart is as pictorial representations that shows the relationships between processes. Flowlines represent the sequences of processes and other symbols represent the inputs and outputs to a process. Accountants use these flowcharts to describe computerized processes, manual operations, and inputs and outputs of an application system.

Program flowcharts

A program flow diagram shows in detail each processing step and the logic of computer programs and their modules.

Program flowcharts

A document flowchart emphasizes the flow of documents between organizational units.

Entity-Relationship diagrams

An entity-relationship (E-R) diagram depicts the associations between items of data stored in a computer system. Analysts create them in the process of data modeling during systems development.

Data Flow Diagrams

Data flow diagrams show the flow of data between processes, data stores and external destinations. They differ from flowcharts because they emphasize the flow of data rather than the flow of documents or records containing data.

System Charts

A system chart provides a graphic representation of the equipment configuration computer system.

Structure Charts

A structure chart identifies each of computer program's modules and shows the hierarchy between them.

Decision Tables

Decision tables offer a concise way to summarize outcomes of complex decisions and provide a tabular representation of the logic in a program flowchart. It is a matrix that contains a list of conditions and a list of actions under each condition.

Project Management Tools

A successful system is one that is completed within a reasonable period of time. Evaluation of the manager in charge of a development project is based on whether the project is implemented on time and within budget. Project management tools help to accomplish these goals.

Gantt charts

A Gantt chart represents a project by a graph. On a Gantt chart, the horizontal axis represents elapsed time and the vertical axis contains a list of activities. The duration of an activity is represented by the length of that activity's line on the graph.

Network Diagrams

Network diagrams include PERT (Program Evaluation and Review Technique) and CPM (Critical Path Method). These methods represent the project as a network of nodes and arcs. In **PERT** an arc represents an activity of the project, and nodes signify the beginning or end of an activity. The sequence of the arcs shows the sequence of the activities. Labels identify durations, starting and stopping times for activities. A **CPM** network is similar, except that nodes represent activities.

Lecture 5 - Questions and exercises

E 5-1: Gantt chart

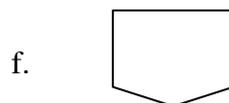
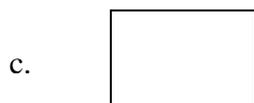
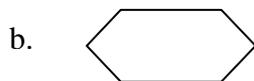
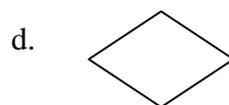
While reviewing an existing system, an accountant discovers the following document, entitled Project Analysis.

Activity	Project Analysis Time in Weeks	Preceding Activity
A	3	–
B	3	A
C	7	A
D	4	A
E	2	B
F	4	B
G	1	C, E
H	5	D

Required: Prepare a Gantt chart for Project Analysis.

E 5-2: System flowchart for card input

What does each of the following symbols represent? Identify each as a basic, a systems or a programming flowchart symbol.



The main source:

BOCKHOLDT, J. L. *Accounting Information Systems: transaction processing and controls*. 5th edition, Boston: McGraw Hill Education 1999, ISBN 0-07-116098-1

The supplementary sources:

GELINAS, U. J., DULL, R. B., *Accounting Information Systems*. 8th edition, Mason: Cengage Learning, 2010, ISBN 978-0-324-66380-8

HALL, J. A. *Accounting Information Systems*. 7th edition, Mason: Cengage Learning, 2010, ISBN 978-1-4390-7857-0