

Highlights

- Installing Hardware
- Training and Education
- Creation of master files

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- Approaches to implementing systems
- Methods of Changeover
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SA LEC 09

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Systems
Analysis Course
Notes
Issue 9*

The Systems Analysis LECTURE

SA

Systems Implementation

Background about the steps involved in a Systems Project

System Implementation

This is the stage in the systems life cycle when people actually begin to use a new system. There are several tasks to be faced before the changeover is complete.

Installing the hardware

Before a new system can be put into operation, any new hardware will have to be installed. Even if it is only a matter of bringing in a couple of new PCs, this may mean changing office layouts, rewiring, acquiring new office furniture and moving personnel. In the case of a new mainframe, it will probably involve putting in a false floor in a specially designed computer room, laying cables and installing air-conditioning.

Training and education

Everyone involved with a new system will need to be given training in their new role, or in the use of new hardware and software. They will need to have hands-on practice with realistic data before the system goes live.

Creation of master files

Data for all master files will have to be entered before the new system can be used. This usually takes place in two phases: the 'standing data' can be typed in over a few days or weeks, and the rest of the data immediately before the changeover takes place.

Practical Class Activity -

Q1: In a new stock control system, what data could be entered in advance on the stock master file?

Q2: what data will need to be entered immediately before the system goes live?

Approaches to implementing Information systems

Building a system of your own

Buying an off the shelf package

Buying an off the shelf package and tailor it

Practical Class Activity -

Methods of implementing Information systems

Q1 There are three basic approaches to implementing your own system,

1. Build a system of your own
2. Buy an off the shelf package
3. Buy an off the shelf package and tailor it

Suggest as many advantages and disadvantages of each of these approaches as you can think of based on your experiences to date.

Methods of conversion

There are basically three choices when converting from an old system to a new one:

Direct changeover. The user stops using the old system one day and starts using the new system the next - usually over a weekend or during a slack period. The advantage of this system is that it is fast and efficient, with minimum duplication of work involved. The disadvantage is that normal operations could be seriously disrupted if the new system has errors in it or does not work quite as expected.

Parallel conversion. The old system continues alongside the new system for a few weeks or months. The advantage is that results from the new system can be checked against known results, and if any difficulties occur, operations can continue under the old system while the errors or omissions are sorted out. The disadvantage of parallel running is the duplication of effort required to keep both systems running, which may put a strain on personnel.

Phased conversion. This is used with larger systems that can be broken down into individual modules that can be implemented separately at different times. It could also be used where for example only a few customer accounts are processed using the new system, while the rest remain for a time on the old system. Phased conversion could be direct or parallel.

Practical Class Activity -

Q3: For each of the following examples, state with reasons what type of conversion method would be suitable.

- a) A bakery is introducing a system to input orders from each salesman and use this data to calculate how much of each product to bake each day, and also to calculate the salesmen's' commission.
- b) A chain store is introducing EPOS terminals connected to a mainframe computer which holds details of stock levels and prices.
- c) A public library is introducing a computerised system for the lending and return of books.

- d) A large hospital is introducing a computerised system for keeping patient records and appointments.
- e) A College is introducing a computerised timetabling and room allocation system.
- f) A company manufacturing electronic components is introducing an integrated system for production control, stock control and order processing.
- g) A local Authority is introducing a computerised system for the collection of a new type of tax.

Post implementation review

An important part of the implementation is a review of how the new system is performing, once it has been up and running for a period of time. Minor programming errors may have to be corrected, clerical procedures amended, or modifications made to the design of reports or screen layouts. Often it is only when people start to use a new system that they realise its shortcomings! In some cases they may realise that it would be possible to get even more useful information from the system than they realised, and more programs may be requested. The process of system maintenance, in fact, has already begun, and the life cycle is complete.

Practical Class Activity -

1. Distinguish between the terms 'software maintenance' and 'file maintenance', and for each give one example of an event that would necessitate the maintenance having to be carried out. **(6 marks)**

Practical Class Activity -

2. In the software life cycle, 'maintenance' falls into three categories, which have been described as

- Perfective maintenance
- Adaptive maintenance
- Corrective maintenance.

Suggest a meaning for each of these categories. **(6 marks)**

Practical Class Activity -

3. A retailing company dealing mainly with specialised DIY products has a small number of shops, and a warehouse, situated within a large town. A recent dramatic growth in trade has led the management to review its current practices for maintaining stock and re-ordering goods, with the intention of computerising the system.

A Systems analyst is called in to examine the problems and to recommend a solution. The scope of the project is to be limited to stock handling and to the introduction of methods to streamline customer payments.

- a) Describe the ways in which the analyst will set about gathering and recording the necessary information. (3 marks)

b) After the initial stages some of the problems have been identified as

- products frequently out of stock
- very little inter-store communication about stock items
- store managers have no information about stock on a day-to-day basis
- ordering is done haphazardly.

what other information will the analyst need to know before proceeding to the design phase? (4 marks)

- c) Describe, with reasons, what you feel might be a realistic solution in terms of hardware, software, security, implementation and maintenance. How could the new system be evaluated? (8 marks)