

## Feasibility Study & System Design

### WHAT IS A FEASIBILITY STUDY?

A feasibility study is the first stage in the systems life cycle. It helps businesses decide if converting from a manual to an information technology method is going to be successful and worthwhile.

A feasibility study gives a company the opportunity to either

- halt the systems design process and stay with the manual method

or

- continue developing a new information technology system and say what things they would like to be automated using IT.

### WHAT IS SYSTEM DESIGN?

System design is the name given to the entire process of designing a new information technology system. It ranges from the initial feasibility study and idea-planning to installing the final system and providing technical support and assistance for it.

### THE SYSTEM LIFE CYCLE

The system life cycle is the name given to a group of tasks which are always carried out when a new information technology system is being designed and implemented. You will be most familiar with this cycle as you will have performed many of its stages for your GCSE coursework.

#### Feasibility Study

- this is the first stage

- see the above notes

#### Analysis

- this stage marks the completion of the feasibility study

= the system design process only continues if the

proposed system is found to be feasible

- the existing system is studied to find out

- what features the current system has

- what additional features should be incorporated

- this is done by systems analysts who

- ask users of the current system for their opinion of it

= ask them for improvements

- observe the manual system and look at how it works

- use the system for themselves to see where there are

errors, weaknesses or problems that could be improved

in the new system

- systems analyst then

- estimates what will be needed for the new system

- specifies what the new system is to do and how it is to

operate

- analysis will usually be completed with the help of the company

who want the new system installed, so that it can adequately

meet their user requirements

## Design

- at this stage every part of the new IT system is carefully thought out and designed

- any new hardware and software that may be required is identified

- the type of program to use for the new system is decided upon

- a general purpose package that is already available, such as MS Access = cheaper method

- a customised program created by a high-level programming language = more expensive method

- the user interface is decided upon

- the structure of the new system is also thoroughly planned

- what data and files will be used

- what methods of checking will be used - validation

- a comprehensive test plan is also designed at this stage

- test data is also devised at the design stage

## Implementation

- new and specialised programs are written at this stage

- all plans generated in the design section are implemented and created as part of the new IT system

## Testing

- test data from the design section is used to thoroughly test the new system

- results of testing are first estimated before the test

- then the test is performed

- the actual result is compared to the predicted result

- a decision is made on whether or not the system needs modification or correction

- tests are repeated until the entire system functions correctly

## Evaluation

- the system is reviewed to check on how successful the system design team have been

- users of the new system can be asked for their opinions

- the system can be reviewed in relation to difficulties encountered and errors that occurred

## User Guide

- documentation is prepared and created to help the users of the system do four main things:-

- install the program (if necessary)

- use the program and run it efficiently

- troubleshoot problems that may arise if something is not done correctly

- modify the system and update it (in certain systems)

