Seminar Objectives

- To understand:
  - the purpose of the analysis phase
  - to understand various traditional data gathering methods

Analysis - Purpose

Systems analysis is driven by business concerns, specifically, those of the users of the system. Its purpose is:

- to study and analyse the
  - problems and/or opportunities in the existing systems
  - reasoning behind directives
- to define and prioritise the business requirements so that:
  - problems are addressed, opportunities are exploited and directives are fulfilled

During Analysis an Analyst should ...

- Question everything
- Listen effectively
- Be impartial .. consider all sides
- Assume anything is possible ... then apply constraints
- Pay attention to detail
  - all bits must fit together
- Be creative .. look at things in new ways
- Be aware of body language

Study Phase - Purpose

- The study phase provides the analyst with a more thorough understanding of problems, opportunities, and/or directives...data is gathered and models are created to help this understanding
- It answers the questions:
  - Are the problems really worth solving?
  - Is a new system really worth building?
Definition Phase - Purpose

- Remember that we are here to:
  - work out WHAT the user needs and wants from the new system
  - NOT ... to look at alternative computer solutions
- Systems will only be deemed successful if they fulfill the users’ business requirements … the technology is a definite second

Review and present requirements specifications

- Conduct a QUALITY REVIEW to ensure that
  - the relevant activities were completed correctly
  - the documentation meets standards
- Conduct a FEASIBILITY ASSESSMENT if there are significant changes to the project scope
- Present findings
- Get necessary approval to continue or adjust or cancel the project

What business data do you gather?

The business data gathered should include:
- system description - how things work or should work
- system problems - what is wrong or needs improvement
- opportunities - identifying scope for innovation or new ways of doing things

What other data do you gather?

You need to find out:
- what the Users want?
- what the Owner will pay for?
- what the Business actually needs?
... these three viewpoints could vary
- what is technically possible?
- what constraints exist?

Some ways you get it?

- Interviews
- Questionnaires
- Observation
- Reports
- System Documentation
Interviews
- A fact-finding technique were information is collected from individuals face-to-face
- generally the most important and widely-used method for data gathering
- may be formal/structured or informal/unstructured
- may be done in groups or individually

Questionnaires
- A structured method of data gathering in which written questions/comments are provided for the participants to respond to in written form
- The questionnaire can take many forms - write comments/ select from a list of possible responses/mark on a scale
- May permit either quantitative or qualitative answers (mark out of 10/grade from good to bad)
- Usually involves no direct contact between data gatherer and data provider - often feels impersonal and mass produced

Observation
- information gathering by watching or following the actual processes of a system
- data are gathered, then the observer’s report is written based on what is actually seen
- no interaction with the people in the system is permitted

Reports and System Documentation
- existing written records which are a valuable source of data about the system and the organisation
- may include information about:
  - the organisation, its people and policies;
  - overall business functions and objectives;
  - the system and its forms, manuals, etc;
  - the technical environment for system development
- may include informal material used by people involved with the system

Data Gathering: Assumption
- If data gathering is done properly, data about the system will be:
  - complete
  - accurate
  - objectively verifiable
  - consistent
  - stable

Data Gathering: The Reality
- Completeness
  - It is impossible to discuss all aspects of the system with all those involved ... ensure that the sample size is adequate to represent all points of view adequately
- Accuracy/objectivity/consistency
  - People’s understanding/interpretation of events will depend heavily on their perspective. It may be impossible to reconcile the views of individuals with different perspectives ... try and take account of these biases
- Stability
  - Organisations and business and system environments change so fast that any data gathered quickly becomes out of date ... needs to be a continuous process
**Data Gathering in Practice**

- Gathering data is like doing a jigsaw puzzle (but you don’t know what the final picture will look like!). You must be able to maintain a broad picture of all the pieces and find how they fit together.

- You must use a variety of methods to suit the specific circumstances, the sort of data you want and the sort of people you are getting it from.

- Validation of key data items is essential - between groups and between data collection methods.

**References**


