Seminar 10: Analysis Overview
Focus on Data Gathering

Seminar Objectives

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

IMS1501: Unit framework
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

DATA GATHERING
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