Lecture 3
Fact-Finding Techniques

Course Code: CIS 111

Course Title: Information Systems Engineering

Course Teacher: Md. Minhaj Hosen

Fact-Finding

Given an understand of problems, the systems analyst can start to define requirements.

Fact-finding – the formal process of using research, meetings, interviews, questionnaires, sampling, and other techniques to collect information about system problems, requirements, and preferences. It is also called *information gathering* or *data collection*.

Major Fact-Finding Methods

- Observation of the work environment.
- Questionnaires.
- Interviews.
- Prototyping.

Observation

Observation – a fact-finding technique wherein the systems analyst either participates in or watches a person perform activities to learn about the system.

Observation

Advantages

- Data gathered can be very reliable
- Can see exactly what is being done in complex tasks
- Relatively inexpensive compared with other techniques
- Can do work measurements

Disadvantages

- People may perform differently when being observed
- Work observed may not be representative of normal conditions
- Timing can be inconvenient
- Interruptions
- Some tasks not always performed the same way
- May observe wrong way of doing things

Questionnaires

Questionnaire – a special-purpose document that allows the analyst to collect information and opinions from respondents.

Free-format questionnaire – a questionnaire designed to offer the respondent greater latitude in the answer. A question is asked, and the respondent records the answer in the space provided after the question.

Fixed-format questionnaire – a questionnaire containing questions that require selecting an answer from predefined available responses.

Questionnaires

Advantages

- Often can be answered quickly
- People can complete at their convenience
- Relatively inexpensive way to gather data from a large number
- Allow for anonymity
- Responses can be tabulated quickly

Disadvantages

- Return rate is often low
- No guarantee that an individual will answer all questions
- No opportunity to reword or explain misunderstood questions
- Cannot observe body language
- Difficult to prepare

Interviews

Interview - a fact-finding technique whereby the systems analysts collect information from individuals through face-to-face interaction.

Types of Interviews & Questions

Unstructured interview –conducted with only a general goal or subject in mind and with few, if any, specific questions. The interviewer counts on the interviewee to provide a framework and direct the conversation.

Structured interview –interviewer has a specific set of questions to ask of the interviewee.

Open-ended question – question that allows the interviewee to respond in any way.

Closed-ended question – a question that restricts answers to either specific choices or short, direct responses.

Interviews

Advantages

- Give analyst opportunity to motivate interviewee to respond freely and openly
- Allow analyst to probe for more feedback
- Permit analyst to adapt or reword questions for each individual
- Can observe nonverbal communication

Disadvantages

- Time-consuming
- Success highly dependent on analyst's human relations skills
- May be impractical due to location of interviewees

Interviewing Do's and Don'ts

Do

- Dress appropriately
- Be courteous
- Listen carefully
- Maintain control of the interview
- Probe
- Observe mannerisms and nonverbal communication
- Be patient
- Keep interviewee at ease
- Maintain self-control
- Finish on time

Don't

- Assume an answer is finished or leading nowhere
- Reveal verbal and nonverbal clues
- Use jargon
- Reveal personal biases
- Talk more than listen
- Assume anything about the topic or the interviewee
- Tape record (take notes instead)

Prototyping

Prototyping – the act of building a small scale, representative or working model of the users' requirements in order to discover or verify those requirements.

Prototyping

Advantages

- Can experiment to develop understanding of how system might work
- Aids in determining feasibility and usefulness of system before development
- Serves as training mechanism
- Aids in building test plans and scenarios
- May minimize time spent on fact-finding

Disadvantages

- Developers may need to be trained in prototyping
- Users may develop unrealistic expectations
- Could extend development schedule