



CCA220-Analisis dan Perancangan system Informasi

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Prodi Teknik Informatika dan Sistem Informasi - Fakultas
Ilmu Komputer

Chapter 4

Information Gathering: Interactive Methods



Systems Analysis and Design
Kendall & Kendall
Sixth Edition

Major Topics

- Question format
- Interviewing techniques
- Joint Application Design (JAD)
- Questionnaires

Interviewing

- Interviewing is an important method for collecting data on information system requirements.
- Interviews reveal information about:
 - Interviewee opinions.
 - Interviewee feelings.
 - About the current state of the system.
 - Organizational and personal goals.
 - Informal procedures.

Planning the Interview

Five steps in planning the interview are:

- Reading background material.
- Establishing interview objectives.
- Deciding whom to interview.
- Preparing the interviewee.
- Deciding on question types and structure.

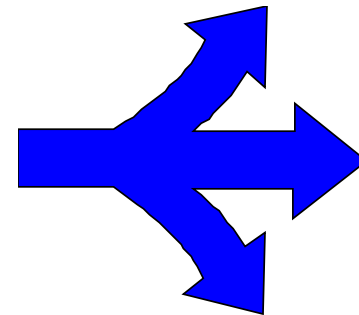
Question Types

There are two basic types of interview questions:

- Open-ended.
- Closed.

Open-Ended Questions

- Open-ended interview questions allow interviewees to respond how they wish, and to what length they wish.
- Open-ended questions are appropriate when the analyst is interested in breadth and depth of reply.



Advantages of Open-Ended Questions

Eight benefits of open-ended questions are:

- Puts the interviewee at ease.
- Allows the interviewer to pick up on the interviewee's vocabulary.
 - Reflect education, values, attitudes, and beliefs.
- Provides richness of detail.
- Reveals avenues of further questioning that may have gone untapped.

Advantages of Open-Ended Questions

Eight Benefits of open-ended questions are: (continued)

- Provides more interest for the interviewee.
- Allows more spontaneity.
- Makes phrasing easier for the interviewer.
- Useful if the interviewer is unprepared.

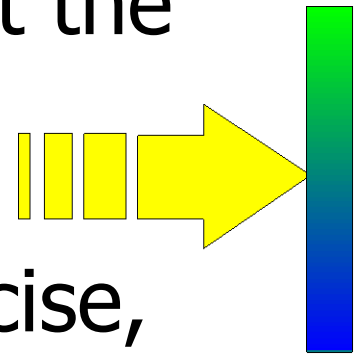
Disadvantages of Open-Ended Questions

The five drawbacks include:

- May result in too much irrelevant detail.
- Possibly losing control of the interview.
- May take too much time for the amount of useful information gained.
- Potentially seeming that the interviewer is unprepared.
- Possibly giving the impression that the interviewer is on a "fishing expedition"

Closed Interview Questions

- Closed interview questions limit the number of possible responses.
- Closed interview questions are appropriate for generating precise, reliable data that is easy to analyze.
- The methodology is efficient, and it requires little skill for interviewers to administer.



Benefits of Closed Interview Questions

Six benefits are:

- Saving interview time.
- Easily comparing interviews.
- Getting to the point.
- Keeping control of the interview.
- Covering a large area quickly.
- Getting to relevant data.

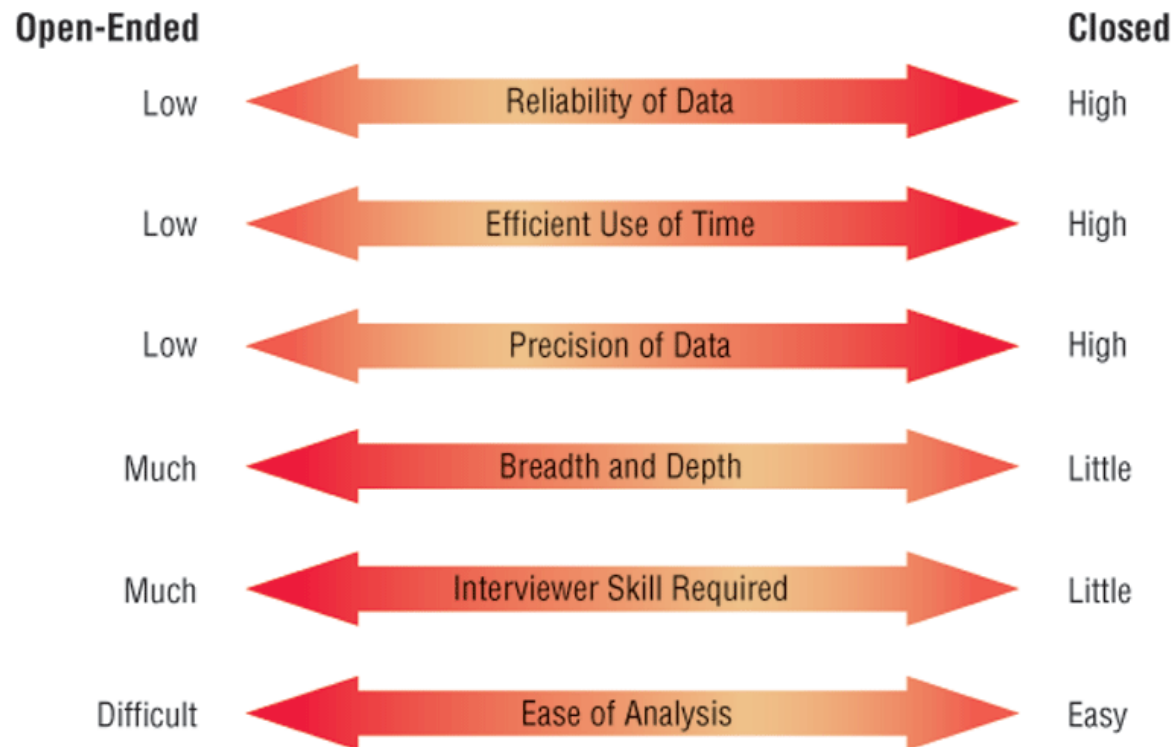
Disadvantages of Closed Interview Questions

Four drawbacks of closed interview questions include:

- Boring for the interviewee.
- Failure to obtain rich detailing.
- Missing main ideas.
- Failing to build rapport between interviewer and interviewee.

Attributes of Open-ended and Closed Questions

Figure 4.5 Attributes of open-ended and closed questions.



Bipolar Questions and Probes

- Bipolar questions are those that may be answered with a 'yes' or 'no' or 'agree' or 'disagree'.
- Bipolar questions should be used sparingly.

Probing Questions

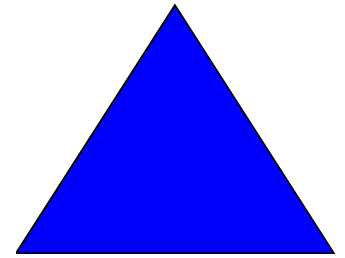
- Probing questions elicit more detail about previous questions.
- The purpose of probing questions is:
 - To get more meaning.
 - To clarify.
 - To draw out and expand on the interviewee's point.

Question Sequencing

The three basic ways of structuring interviews are :

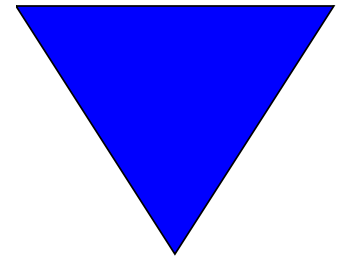
- Pyramid, starting with closed questions and working toward open-ended questions.
- Funnel, starting with open-ended questions and working toward closed questions.
- Diamond, starting with closed, moving toward open-ended, and ending with closed questions.

Pyramid Structure



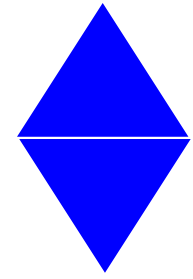
- Begins with very detailed, often closed questions
- Expands by allowing open-ended questions and more generalized responses
- Is useful if interviewees need to be warmed up to the topic or seem reluctant to address the topic

Funnel Structure



- Begins with generalized, open-ended questions
- Concludes by narrowing the possible responses using closed questions
- Provides an easy, nonthreatening way to begin an interview
- Is useful when the interviewee feels emotionally about the topic

Diamond Structure



- A diamond-shaped structure begins in a very specific way
- Then more general issues are examined
- Concludes with specific questions
- Combines the strength of both the pyramid and funnel structures
- Takes longer than the other structures

Closing the Interview

- Always ask “Is there anything else that you would like to add?”
- Summarize and provide feedback on your impressions.
- Ask whom you should talk with next.
- Set up any future appointments.
- Thank them for their time and shake hands.

Interview Report

- Write as soon as possible after the interview.
- Provide an initial summary, then more detail.
- Review the report with the respondent.

Joint Application Design (JAD)

- Joint Application Design (JAD) can replace a series of interviews with the user community.
- JAD is a technique that allows the analyst to accomplish requirements analysis and design the user interface with the users in a group setting.

When to Use JAD

JAD may be used when:

- Users are restless and want something new.
- The organizational culture supports joint problem-solving behaviors.
- Analysts forecast an increase in the number of ideas using JAD.
- Personnel may be absent from their jobs for the length of time required.

JAD Personnel

JAD involves:

- Analysts
- Users
- Executives
- Observers
- Scribe
- Session leader

Benefits of JAD

The potential benefits of using JAD are:

- Time is saved, compared with traditional interviewing.
- Rapid development of systems.
- Improved user ownership of the system.
- Creative idea production is improved.

Drawbacks of Using JAD

Potential drawbacks of using JAD are:

- JAD requires a large block of time to be available for all session participants.
- If preparation is incomplete, the session may not go very well.
- If the follow-up report is incomplete, the session may not be successful.
- The organizational skills and culture may not be conducive to a JAD session.

Questionnaires

Questionnaires are useful in gathering information from key organization members about:

- Attitudes.
- Beliefs.
- Behaviors.
- Characteristics.

When to Use Questionnaires

Questionnaires are valuable if:

- Organization members are widely dispersed.
- Many members are involved with the project.
- Exploratory work is needed.
- Problem solving prior to interviews is necessary.

Question Types

Questions are designed as either:

- Open-ended
 - Try to anticipate the response you will get.
 - Well suited for getting opinions.
- Closed
 - Use when all the options may be listed.
 - When the options are mutually exclusive.

Open-Ended and Closed Questions

Figure 4.12 Trade-offs between the use of open-ended and closed questions on questionnaires.



Questionnaire Language

Questionnaire language should be:

- Simple.
- Specific.
- Free of bias.
- Not patronizing.
- Technically accurate.
- Addressed to those who are knowledgeable.
- Appropriate for the reading level of the respondent.

Measurement Scales

- The two different forms of measurement scales are :
 - Nominal.
 - Interval.

Nominal Scales

- Nominal scales are used to classify things into categories.
- It is the weakest form of measurement.
- Data may be totaled.

What type of software do you use the most?

1 = Word Processor

2 = Spreadsheet

3 = Database

4 = An Email Program

Interval Scales

- An interval scale is used when the intervals are equal.
- There is no absolute zero.
- Examples of interval scales include the Fahrenheit or centigrade scale.

How useful is the support given by the Technical Support Group?

NOT USEFUL

EXTREMELY

AT ALL

USEFUL

1

2

3

4

5

Validity and Reliability

Questionnaires must be valid and reliable.

- Reliability of scales refers to consistency in response--getting the same results if the same questionnaire was administered again under the same conditions.
- Validity is the degree to which the question measures what the analyst intends to measure.

Problems with Scales

There are three problems associated with poorly constructed scales:

- Leniency.
- Central tendency.
- Halo effect.

Leniency

- Caused by easy raters.
- Solution is to move the “average” category to the left or right of center.

Central Tendency

Central tendency occurs when respondents rate everything as average.

- Improve by making the differences smaller at the two ends.
- Adjust the strength of the descriptors.
- Create a scale with more points.

Halo Effect

- When the impression formed in one question carries into the next question
- Solution is to place one trait and several items on each page.

Designing the Questionnaire

Good response rates can be achieved with consistent control of questionnaire.

- Allow ample white space.
- Allow ample space to write or type in responses.
- Make it easy for respondents to clearly mark their answers.
- Be consistent in style.

Order of Questions

- Place most important questions first.
- Cluster items of similar content together.
- Introduce less controversial questions first.

Web Form Questionnaires

Controls (fields) used on Web forms:

- Single line text box.
- Scrolling text box, used for one or more paragraphs of text.
- Check box for yes-no or true-false answers.
- Radio button for mutually exclusive yes-no or true-false answers.
- Drop-down menu for selection from a list.
- Submit or Clear buttons.

Methods of Administering the Questionnaire

Methods of administering the questionnaire include:

- Convening all concerned respondents together at one time.
- Personally administering the questionnaire.
- Allowing respondents to self-administer the questionnaire.
- Mailing questionnaires.
- Administering over the Web or via email.

Electronically Submitting Questionnaires

Administering a questionnaire electronically has the following benefits:

- Reduced costs.
- Collecting and storing the results electronically.