

# Questionnaire Design and Testing



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## QUESTIONNAIRE DESIGN PROCESSES

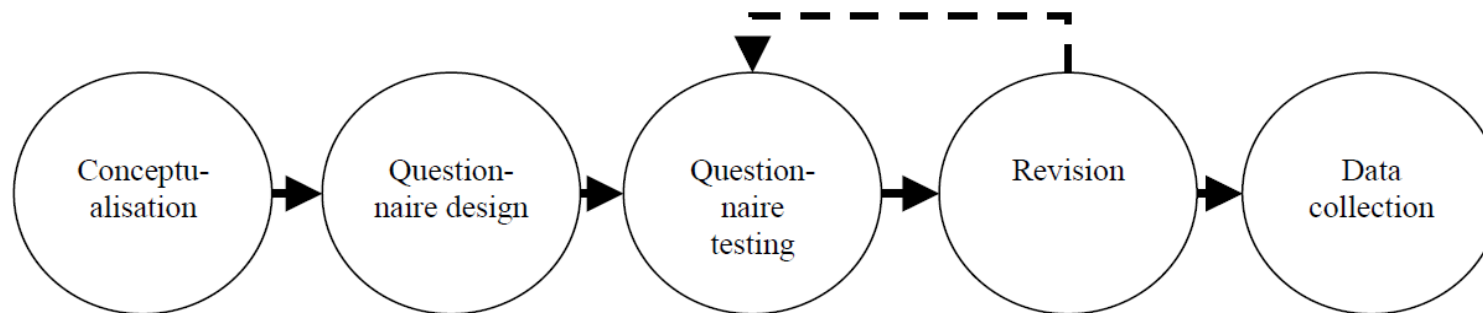
A *questionnaire (or form)* is a group or sequence of questions designed to obtain information on a subject from a respondent.

The questionnaire in the first instance is a measurement instrument. Its main purpose is to operationalise the user's information demand into a format which allows a statistical measurement.

A well-designed questionnaire should:

- ✓ collect data efficiently with a minimum number of errors and inconsistencies;
- ✓ be respondent friendly and interviewer friendly (if interviewer-assisted);
- ✓ lead to an overall reduction in the cost and time associated with data collection.

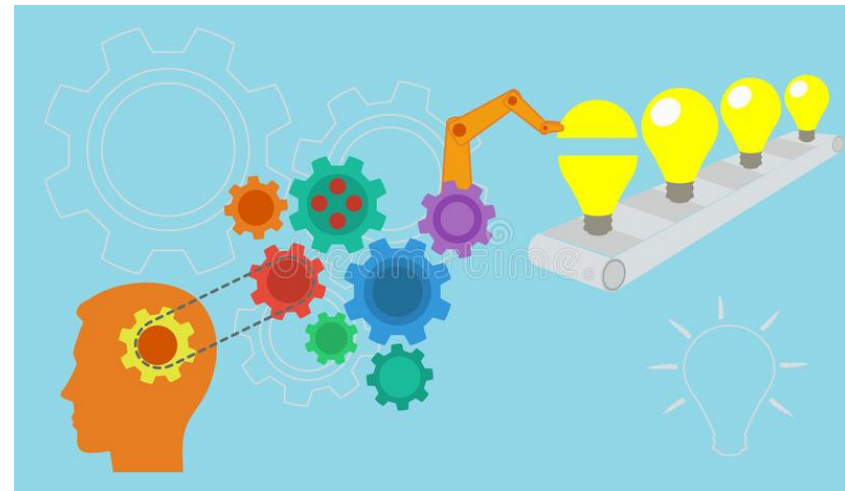
**The five stages of questionnaire design and testing**



## 1. Conceptualisation

Before one can even start to think about the wording of the questions, the conceptual basis of the questionnaire has to be specified and operationalised. Steps of conceptualisation;

1. Literature search
2. Survey objectives
3. Research strategies and methods for conceptualisation and operationalisation
4. Exploring concepts: focus groups and in-depth-interviews
5. Define variables and draft a tabulation plan
6. Data collection mode



## 2. Questionnaire Design

### Principles of writing questions

- The respondent should:
  - ✓ clearly understand what he or she is being asked,
  - ✓ in principle be able to answer to the question, and
  - ✓ understand how the answer has to be given
- It is important to make sure that the actual respondents have the knowledge and necessary technical skill to answer the questions.
- They must understand what information they are expected to give and they must be able to find this information in their experience, memory, accounts, diaries, different activities, etc.

## 2. Questionnaire Design

### Types of questions

- With regard to the information or data that can be obtained, there are four main types of survey questions:
  - ✓ Factual (Classification or Demographic Questions, Knowledge Questions )
  - ✓ Behavioural
  - ✓ Opinion (a person's attitude, sensitivity, validity of response )
  - ✓ Hypothetical questions.



## 2. Questionnaire Design

### Questions formats

- Questions are classified as one of two types - **open or closed** - depending on the amount of freedom allowed in answering the question.
  - ✓ Open Questions (allow the respondents to answer the question in their own words )
    - Numeric Open- End
    - Text Open End
  - ✓ Closed Questions
    - Limited choice questions
    - Multiple choice questions
    - Partially closed questions provid



## 2. Questionnaire Design

### Questions formats

- In choosing between these two alternatives (open or closed questions), consideration should be
  - ✓ given to factors such as the data requirement,
  - ✓ the kind of information required,
  - ✓ the level of accuracy needed,
  - ✓ processing facilities,
  - ✓ e.g. resources for doing the coding,
  - ✓ the position of the questions on the form
  - ✓ and the sensitivity of the question

## 2. Questionnaire Design

### Response categories

- The most generally accepted principle about response categories states that it is very important to ensure that they are adequate, exhaustive and disjoint.
  - ✓ Number of responses options (no overlapping, long list should be avoided)
  - ✓ Order of response options
    - Can introduce bias.
    - Primacy and recency effects
    - “Don’t know” option should be included but put it to last
    - If some options are more socially desirable than others these should go last



## 2. Questionnaire Design

### Question phrasing

- *Language* (appropriate language for what is asked, and provide the appropriate information)

### Respondents

- ✓ have a limited vocabulary.
  - ✓ can understand positive instructions more easily than negative ones.
  - ✓ know nothing about National Statistics Institutes procedures or structure.
  - ✓ might not understand why the information asked for is needed.
- *Words* ( simple and unambiguous terms, correct terminology, technical and negative words avoided)
  - .
  - *Sentences length*
    - ✓ Lengthy or complex questions can exceed the respondent's capacity
    - ✓ Short sentences are easier to understand than long ones.

## 2. Questionnaire Design

### Question phrasing

- *Tone* (A change in wording can result in a change in responses)
  - ✓ “Do you think that gun ownership should be forbidden?” , or
  - ✓ “Do you think that gun ownership should not be allowed?”

### Respondents

- ✓ Distort their responses to such statements, intentionally or unintentionally;
- ✓ Provide neutral responses (if available) or not respond to the statement question;
- ✓ Refuse to complete the entire questionnaire.
- *Order of clauses* (Sentences should have clauses in chronological order to aid comprehension)
- *Instructions*

## 2. Questionnaire Design

### Defining the questionnaire flow

- For the overall readability of a questionnaire, a smooth progression through the questions is particularly important to minimise the nonresponse and measurement errors.
- The questions on a questionnaire should follow a sequence
- Two specific aspects related to sequencing
  - ✓ Order and grouping of questions
    - A preceding question can influence the attitude toward a following one.
    - It is recommended to keep similar topics together
    - The order of the sections is another important issue to consider.
    - The location of sensitive questions is also to be considered.
  - ✓ Filter Questions
    - A filter question is used to exclude respondents from subsequent questions if they do not apply
    - Filter questions are also used in interviewer based surveys
    - Electronic questionnaires can make complex sequencing much easier.

## 2. Questionnaire Design

### Length

- The questionnaire length should be balanced considering the response burden, the mode of data collection and the fulfilment of survey goals.
- Towards the end of a long questionnaire, respondents may give less thought to their answers and concentrate less on the instructions and questions, thereby decreasing the accuracy of the information they provide (fatigue point effect).
- Whereas **a face-to-face interview should not exceed one hour**, the duration of **telephone interviews** and the completion of electronic questionnaires should only last **about 30 minutes**, and **45 minutes for mail surveys**. Of course, these limits can be exceeded when respondents are easy to motivate.

### 3. Questionnaire Testing

- Questionnaire testing is critical for identifying problems for both respondents and interviewers
- Questionnaire testing is a broad term that incorporates many different methods or combinations of methods.
- Two major categories of questionnaire testing methods – prefield and field methods.

#### ✓ Pre-field methods

- **Expert groups** are composed of survey methodologists or questionnaire design experts, but also subject-matter experts
- **Observational interviews** are frequently used in order to identify problems in the wording, question order, visual design etc. of self-administered questionnaires. They also provide reliable estimates of the time needed to complete the questionnaire.
- **Cognitive interviews** are typically used after a questionnaire was constructed based on focus groups and has been improved in expert groups. The objective of cognitive interviews is to obtain qualitative information on how the questions are understood and answered by actual respondents.

### 3. Questionnaire Testing

- **Field methods** are those used to evaluate questionnaires tested under field conditions.
- Field testing often includes bigger sample sizes and allows quantitative analyses.
- The focus is more on the complete questionnaire instead of individual questions.
- Field methods include
  - **Behaviour coding** consists of systematic coding of the interaction between the interviewer and the respondent from live or taped interviews in order to evaluate the quality of the questionnaire.
  - **Interviewer debriefings** consist of an organised discussion of the questionnaire between interviewers who conducted the fieldwork, and the designers/researchers.
  - **Respondent debriefings** involve incorporating structured follow-up questions at the end of a field test interview or focus group style discussions with other interviewers to elicit quantitative and qualitative information about the respondents' interpretations of survey questions.

## References

*Handbook of Recommended Practices for Questionnaire Development and Testing in the European Statistical System*, EUROSTAT, 2006

*Questionnaire Development*, Statistics Netherlands, 2012