

Exercise III: Developing a research instrument

Congratulations once again! You are about to take the most important step of your research journey. Everything that follows after this depends upon how well you take this step, so you need to be extra careful about it. You need to be very wary in developing your research instrument to ensure its relevance and quality as the quality of your research outcome is entirely dependent on it.

The construction of a research instrument is the first practical step in operationalising your study. It is an important aspect of your research as it constitutes the input; the quality of your output (the findings and conclusions) is entirely dependent upon the quality and appropriateness of this input. Items in a research instrument are questions asked of respondents. Responses to these questions become the raw data that is processed to find answers to your research questions. The famous saying about computers, 'garbage in, garbage out', also equally applies to the research instrument. To a large extent, the validity of the findings depends upon the quality of the raw data which, in turn, depends upon the research instrument you have used or developed. If the latter is valid and reliable, the findings should also be valid and reliable.

The quality of a research instrument largely depends upon your experience in research. It is important for a beginner to follow the suggested steps outlined in Chapter 9.

For quantitative studies

Quantitative research is structured and predetermined in terms of what you want to find out about and how. As a part of this operational step, you need to decide what questions to ask of your respondents, the wording you are going to use and the order in which the questions will be asked. This exercise is designed to help to develop skills in constructing an instrument.

One of the ways to formulate the questions that are going to constitute your research instrument is by examining each subobjective, research question and hypothesis you have developed for your study, specifying for each the information you require, identifying the variables that are needed, and then formulating questions to be asked of your respondents to get information about those variables.

The wording of your questions should be simple and unambiguous. Do not ask leading questions or questions based upon presumptions. Avoid double-barrelled questions.

The pre-test of a research instrument is an integral part of instrument construction. As a rule, the pre-test should not be carried out on your sample but on a similar population.

Step I On a separate piece of paper, draw a table as shown below, then list all your subobjectives, research questions and hypotheses in the first column and work through the other columns listing the required information.



Specific objectives/ research questions/ hypotheses	Specifically, what information do you require?	Identify the required variables	Formulate questions (on a separate piece of paper)

Step II Formulate the questions, preferably on a separate piece of paper, giving particular attention to their wording and order. In your own mind you must examine the relevance and justification of each question in relation to the objectives of your study. If you cannot relate the relevance and justification of a question to the objectives of your study, it should be discarded.

Step III If you are developing a questionnaire, incorporate interactive statements at appropriate places (see Chapter 9).

Step IV After developing the first draft of your research instrument, answer the questions yourself; that is, interview yourself or complete the questionnaire. You need to imagine that you are a member of the study population who will be asked these questions or requested to complete the questionnaire. If you find it difficult to answer a question, re-examine it.

Step V Once you are satisfied with the research instrument, pre-test it with a few respondents from a population similar to the one you are going to study. The purpose of the pre-test/field test is not to obtain information but to uncover problems with the instrument. If the instrument is an interview schedule, interview the pre-test respondents to find out if they understood the questions. If a question is not understood, find out what the respondent did not understand. If the same problem is identified by a number of respondents, change the wording. If your instrument is a questionnaire, ask the pre-test respondents to go through the questions with the aim of identifying any questions that are difficult to understand. Discuss the problems that they had in understanding or interpreting a question. In light of these discussions, if necessary, change the wording of questions with which pre-test respondents have difficulties.

Step VI Having pre-tested and, if necessary, amended the instrument, take a piece of paper and draw a table with two columns. In the first column write each subobjective, research question and hypothesis separately, and in the other, write the question number(s) that provide information for these objectives, research questions or hypotheses. In other words, make each question match the objective for which it provides information. If a question cannot be linked to a specific objective, research question or hypothesis, examine why it was included.

Step VII Prepare the final draft of your research instrument. If you plan to use a computer for data analysis, you may provide space on the research instrument for coding the data.

For qualitative studies

If you are doing a qualitative study, you do not need to develop a list of specific questions that you want to discuss with your potential respondents. However, it is important that you construct a framework of the issues that you think you should cover to achieve the objectives of your study. This interview guide or conceptual framework of questions will help you to continue with your interviews if nothing much is forthcoming from your respondents. Your aim is to let a respondent bring out the issues, but this framework is ready in case that does not happen. See Chapter 9 on developing a conceptual framework.

As part of Exercise I you wrote a list of points to discuss with your respondents. Go back to that exercise and check that list, revising it necessary.
