

FAQ 37: How do I bring qualitative and quantitative data together?

What's the issue?

Qualitative and quantitative methods have different strengths and different weaknesses. The qualitative (exploratory) part can be seen as the phase to generate the hypotheses and theory, which could be verified later on in a quantitative (confirmatory) section of the study. The quantitative part could be used for generalization of qualitative findings (Lobe, 2008). For example, the strength of quantitative data lies in answering questions such as, how many children use the internet and are children who use the internet a lot more or less likely to read a lot of books? The strength of qualitative methods lies in answering questions such as, what does the internet mean for children? As Patton (1990: 132) has suggested, "qualitative data can put flesh on the bones of quantitative results, bringing results to life through in-depth case elaboration."

Common practice

Researchers often use qualitative and quantitative material to complement each other. A qualitative study is sometimes conducted to follow up on findings from quantitative data and to help in understanding what the figures actually mean. A quantitative study is sometimes conducted to follow up on findings from qualitative data. A third way is to design a study where qualitative and quantitative data is collected and analysed at the same time. Results from one method can be extended or triangulated by using another method. The prevalent use of quantitative data is to focus inquiry on a discrete set of variables to test a specific hypothesis or research question. Alternately, the prevalent use of qualitative data is to open the study through presenting the large, interconnected complexities of a situation. Thus, each type of data has advantages and can extend, in certain ways, understanding a researchable problem. This occurs when the researcher sequences the two types of methods, either qualitative first as exploratory, followed by quantitative as explanatory, or vice versa. Further, many researchers begin the qualitative part first if the problem has not been explored much in the literature. In this case, the researcher develops quantitative measures from a qualitative data because measures are not currently available, extant measures do not represent populations being studied, or the topic has not been explored much by others (Creswell, 1999: 460). However, if the mere goal of combined use of qualitative and quantitative data is the mutual validation and convergence of the result arising from different methods, that imposes the independent and concurrent employment of measurement operations throughout the study, aiming at testing the same hypothesis or answering the same part of a research question (Lobe, 2008).

Questions to consider

- Is your research question of that nature that requires it to be answered by both types of data?
- What is the rationale for combining both types of data?
- Do you want to enhance and elaborate results from one method with results from the other? Or is it your aim to increase the validity of our study by using more than one set of data in order to get convergent findings?
- What kind of mixed methods design will you use? Will you start first by a qualitative or a quantitative part?
- Which part will be a dominant one in the study? Are both given equal emphasis?
- How do you want to present your findings?

Pitfalls to avoid

Using both types of data is not ultimately preferred to any other form of research, such as solely quantitative or solely qualitative research. Including more methods does not necessarily lead to better or more valid data. It usually involves more than twice as much work, particularly if the goal is not just to use each separate method effectively but also to combine them effectively. Each researcher should consider the purposes of the study (Lobe, 2008).

A common pitfall is when researchers base their choice of research method not on the research subject and the nature of the questions they wish to answer, but just use whatever method they are most used to or whatever

method their research tradition dictates them to use (e.g. positivism – surveys, constructivism – in-depth interviews).

The concept of triangulations is often misguidedly used as a synonym for the concept of mixed methods research. It is useful to bear in mind that triangulation is only one of the possible designs and reasons for combining qualitative and quantitative methods and data. Although complementarity appears to be quite a frequent driving force for the combined use, it is much less related to mixed methods research for those who are only starting to learn about it.

Data should never be regarded as “true” and “false” since differences between various sets of data might be as significant and revealing as similarities.

References and further resources

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA and London: Sage Publications.

Fielding, N. G. & Fielding, J. L. (1986). *Linking data*. Beverly Hills, CA: Sage Publications.

Lobe, B. (2008). *Integration of online research methods*. Information Technology/Social Informatics collection. Ljubljana, Slovenia: Faculty of Social Sciences Press.

Patton, M. Q. (1990). *Qualitative evaluation and research method*. Newbury Park, CA: Sage Publications.