Chapter 3
It is All in the Design:
Creating the Foundations of a Mixed Methods Research Study

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ABSTRACT

This chapter introduces the various design choices researchers need to decide on prior to conducting the study. In the first section of this chapter a detailed description of research design is followed by an explanation that the type of information that is collected is based on whether the research question is descriptive, explanatory, or exploratory. The major strategic implementation methods for quantitative, qualitative, and mixed methods are then discussed. The three strategies for mixed methods research Parallel Convergent, Sequential, and Embedded Design are presented in detail along with the rationale for their use. Finally, in the last section, the strands or sequencing of the data collection phase of the study is explained.

INTRODUCTION

After the method for the research is chosen: qualitative, quantitative or mixed methods, the researcher needs to determine the design. Various designs are used in research and researchers need to determine which design bet fits the purpose of the study. Researchers need to know where the design fits into the whole research process from framing the research purpose and question(s), data collection and analysis, to finally reporting the findings. There are various designs which are used in research, all with specific advantages and disadvantages. Which one the researcher selects, depends on the objective of the study and the nature of the phenomenon (Hartley & Muhit, 2003). Researchers can decide to use a quantitative, qualitative, or a mixed methods design. This chapter introduces the various approaches aligned with each design.

What Is Research Design?

The research design is a framework or blueprint which gives structure and direction to show how all of the major parts of the research project work together to try to address the research question (Malhotra, 2004). It is the logical structure of an inquiry grounded in the research purpose and research question(s) (Mertens, 2005). Furthermore, Creswell (2007) refers to designs as "procedures for collecting, analyzing, interpreting, and reporting data" (p. 58). It details the procedures necessary for obtaining the information needed to structure or solve the research question(s) (Malhotra, 2004). This implies that the researcher needs to decide on the design before the study can begin.

The research design does not imply or dictate any particular method of collecting data or any particular type of data. How the data are collected is irrelevant to the logic of the design. Any research design can, in principle, use any type of data collection method and utilize either quantitative or qualitative data as research design is different from the method by which data are collected. The main purpose of research design is to reduce the ambiguity of research evidence providing a step by step approach to the entire research plan reducing the possibility for errors to be made.

There are numerous research designs ranging from simple in mature to overly complex; however, for the purpose of this chapter, the number of methodologies are limited to the three major typologies in order not to overwhelm beginning researchers. Mixed methods may be the best approach when both quantitative and qualitative data, together will provide a richer understanding of the phenomenon being studied because one approach is not enough. So a mixed methods research design is a procedure for mixing both methodologies in a single study to obtain evidence needed to provide a deep understanding of the research problem. This plan includes decisions around sampling and method of data collection.

We know that the research question drives everything, including the methodology and research design. When conducting research, researchers need to follow a plan for how the study will unfold and the various steps taken from data collection tools through data analysis. The function of the design is to ensure that a blueprint is in place and that the researcher has collected enough data and analyzed the findings so that the initial research question(s) can be addressed. In other words, when designing research one needs to ask: given this research question (or theory), what type of data will I need to collect in order to address the research objective? Researchers need to think through carefully what type of information is required to answer the research question(s). One can argue that the validity and reliability of the research findings are directly tied to the amount of upfront logical planning the researcher invested in the design process at the beginning.

The way in which researchers develop research designs is fundamentally affected by whether the research question is descriptive, explanatory, or exploratory as this affects what information is collected. Social researchers ask the following types of research questions:

1. What is going on (Descriptive Research)?
2. Why is it going on (Explanatory Research)?
3. How is it that it is going on (Exploratory Research)?

Descriptive Research

The purpose of this research design is to observe, describe, and document aspects of events as they naturally unfold (Polit & Hungler, 1999). Many scientific disciplines, especially social science and

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