Chapter 17
Mixed Methods Research Design

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ABSTRACT

This chapter introduces the various design choices researchers need to decide on prior to conducting the study. The chapter starts with a detailed description of what research design is, followed by an explanation of descriptive, explanatory, or exploratory research questions. This determines what type of data will be collected. 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 are explained.

INTRODUCTION

After the method for the research is determined--qualitative, quantitative or mixed methods the researcher needs to determine the design. Various designs can be employed and researchers need to determine which design bet fits the purpose of their study. Researchers need to know where the design fits in the whole research process from framing the research purpose and question(s), data collection and analysis, to finally reporting the findings. Each design has 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 the major parts of the research project work together 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 method of collecting data or any 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 the 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 nature to overly complex; however, for the purpose of this chapter, the number of designs is limited to the three major ones in order not to overwhelm beginning researchers. Mixed methods may be the best design-approach when both quantitative and qualitative data together, will provide a richer understanding of the phenomenon being studied. 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.

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). This is like exploratory research as there is no attempt to test hypotheses. Many scientific disciplines, especially social science and psychology use descriptive research to obtain a general overview of the subject or characteristics of an organization or community. Thus, descriptive research is playing an important role in providing data by providing a snapshot of what is going on at a specific point in time surrounding the research topic under study, focusing on the "what" is happening. As a result, descriptive research is also an effective approach to making predictions of certain outcomes, for example, how many will vote for a certain political candidate or how many will purchase

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