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Chapter XIV

Computers and Social Survey Research for Public Administration

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Abstract

The integration of social survey methods into public-administration research and practice is the focus of this chapter. Coverage applies to other social science disciplines as well. This chapter reviews the use of computers in computer-assisted survey research (CASR), computer-assisted interviewing, computer-assisted telephone interviewing (CATI), computer-assisted personal interviewing (CAPI), and survey research methods. The chapter takes the perspective of total survey error.

Introduction

Survey research has been a pivotal methodology for academic social science research since World War II. Today, survey research is integral to research and practice in public administration (Folz, 1996; Fowler, 2001). Simply stated, surveys are a form of interviewing. Surveys are individual interviews typically targeted at a single respondent or unit of analysis. The enterprise essentially involves the art of asking questions (Payne, 1951). The questions that are asked constitute variables in the language of research. The purpose of asking these questions is to establish relationships between and among independent and dependent variables, and, typically, to test a series of hypotheses derived from some body of theory. The question and answer process, integral to surveys, is also a form of measurement and is subject to errors of measurement. This article takes the total error perspective. Some of the errors in surveys are more or less minimized by information technology, while others are inherent in the nature of the survey process.

According to the American Association for Public Opinion Research (AAPOR), a scientific sample survey is different from a nonscientific one, or a survey not based on probability theory. They define a scientific survey to help the media, and, through them, the public to distinguish between surveys (AAPOR, 2001; Weisberg, 2005). AAPOR lists four principal characteristics of a scientific sample survey or poll as follows:

- **Coverage:** A scientific survey samples members of the defined population in a way such that each member has a known nonzero probability of selection.
- **Sampling:** A scientific survey collects data from a sufficient number of sampled units in the population to allow conclusion to be drawn about the prevalence of the characteristic in the entire study population with desired precision at stated level of confidence (e.g., 90 or 95 %).
- **Nonresponse:** A scientific survey uses reasonable tested methods to reduce and account for unit and item nonresponse error (difference between characteristics of respondents and nonrespondents) by employing appropriate procedures for increasing unit and item response rates and making appropriate statistical adjustments.
- **Measurement:** A scientific survey uses reasonable tested methods to reduce and account for errors of measurement that may rise from question wording, the order of questions and categories, the behavior of interviewers and of respondents, data entry, and the mode of administration of the survey.

All surveys rely on the answer to questions. The types of questions asked in the field of public administration are extensive. They may concern community aesthetics, growth management issues, budget priorities, dimensions of program effectiveness, and feedback from citizens, constituents, or customers. In public administration, the researcher typically asks questions to capture data and use the data in some policy analytic way. The traditional approach to capturing the data from the question and answer interviewing process previously described was carried out with a paper and pencil, and hence was called Paper and Pencil Interviewing (PAPI; Dufour, Kaushal, & Michaud, 1997). The advent of computers, of course, promised advantages over the paper and pencil approach that included decreased