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Computers, Survey Research, and Focus Groups in Public Administration Research and Practice

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The integration of computing into survey research and focus groups in research and practice in public administration and related fields is the focus of this chapter. Coverage applies to other social science disciplines as well. This chapter reviews uses of computers in computer-assisted survey research (CASR), computer-assisted interviewing, computer-assisted telephone interviewing (CATI), computer-assisted personal interviewing (CAPI), and transferring survey research methods onto the Internet. A second portion of the chapter gives special attention to continuous audience response technology (CART). An example of a citizen survey focused on growth issues combined with a focus group dealing with the same topic in Cary, North Carolina, is also provided.

Survey research has been a pivotal methodology for academic social science research since World War II. Today, both survey research and focus groups are integral to research and practice in public administration and education (Floz, 1996; Miller & Miller, 1991; Morgan, 1998). Simply stated, both surveys and focus groups are forms of interviewing. Focus groups have been characterized as essentially group interviews (Morgan, 1998). Surveys are individual interviews typically targeted at a single respondent or unit of analysis. In the case of both focus groups and traditional survey research, 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 and focus groups, is also a form of measurement and, as such, is subject to errors of measurement.

The types of questions asked in the fields of public administration and education are extensive. They may concern community aesthetics, growth management issues, budget priorities, dimensions of program effectiveness, and feedback from citizens, constituents, or customers. The questions may involve the attempt to measure some theoretical construct, for example, job satisfaction (Folz, 1996; Rea & Parker, 1991). The traditional approach to capturing the data via the question and answer interviewing process previously described, typically involved paper and a pencil, and hence was called Paper and Pencil Interviewing (PAPI) (Dufour, Kaushal, & Michaud, 1997). The advent of computers promised advantages over the paper and pencil approach that included decreased cost, and increased convenience and quality. It also promised ways to reduce some of the errors of measurement inherent in the survey research process. Many of these promises have been realized.

This chapter focuses on ways in which computers can enhance the survey research and focus groups processes, and looks at this topic through the lens of research and practice in public administration and related fields. It contains a broad discussion of software applications, rather than specific reviews of selected software applications as they relate to survey research. For more extensive software reviews that are typically discussed down to the keystroke level, the reader is advised to consult, for example, *Social Science Computer Review* (<http://www.sagepub.com>). This chapter specifically reviews uses of computers in computer-assisted survey research (CASR), computer-assisted telephone interviewing (CATI), computer-assisted personal interviewing (CAPI), and survey research on the Internet. A second portion of the chapter gives special attention to continuous audience response technology (CART). Finally, an example of a citizen survey focused on growth issues combined with a focus group dealing with the same topic in Cary, North Carolina, is also provided. We begin by discussing the survey research process.

The Survey Research Process

Survey research has been central to social science research since World War II. Currently, technological changes are giving new strength to an old workhorse. In order to understand both the real and potential impact of computers on the survey process, it is necessary to understand that process. Subsequently, we start by outlining the stages of the survey process and identify potential sources of measurement error inherent in survey research.

All methodological techniques seek to minimize the total error of measurement in an attempt to gain some understanding about the relationship between and among variables. All fail in some important respects. Even in experimental research, relationships between variables need to be replicated many times prior to being accepted. In *ex post facto* research, where both the independent and dependent variables have already occurred in time, (survey research is one type of *ex post facto*

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