Chapter III
Surveys as a Complementary Method for Web Log Analysis

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ABSTRACT

Every research methodology for data collection has both strengths and limitations, and this is certainly true for transaction log analysis. Therefore, researchers often need to use other data collection methods with transaction logs. In this chapter, we discuss surveys as a viable alternate method for transaction log analysis and then present a brief review of survey research literature, with a focus on the use of surveys for Web-related research. The chapter then identifies the steps in implementing survey research and designing a survey instrument. We conclude with a case study of a large electronic survey to illustrate what surveys in conjunction with transaction logs can bring to a research study.

INTRODUCTION

Even the most ardent proponent of transaction log analysis must admit that the method has shortcomings (Jansen, 2006; Kurth, 1993), as do all methodological approaches. These shortcomings include a lack of understanding for the affective, situational, and cognitive aspects of system users. Therefore, the researcher employing transaction logs must look to other methods in order to address some of these shortcomings. Fortunately, the Web and other information technologies provide a convenient means for employing survey and survey research for such a purpose.

Survey research is a method for gathering information by directly asking respondents about some aspect of themselves, others, objects, or their environment. Survey instruments are a data collection procedure that one can use in a variety of research designs. Researchers can use
surveys to describe current characteristics of a sample population. One can also use surveys to try to discover the relationship among variables. Surveys gather data on respondents’ recollections or opinions; therefore, surveys provide an excellent companion method for transaction logs that typically focus exclusively on actual behaviors of participants.

This chapter briefly reviews some previous studies that used surveys for Web research. We then discuss the types of surveys, the steps in survey research, and how to construct an appropriate survey instrument. We then present a case study and survey instrument to illustrate how surveys can supplement and enhance an overall research study that may also employ transaction logs.

**REVIEW OF LITERATURE**

Although surveys have been used for hundreds of years, the Web provides a remarkable channel for the use of surveys to conduct data collection (Jansen, Corley, & Jansen, 2006). Many of these Internet surveys have focused on demographical aspects of Web use over time (Kehoe & Pitkow, 1996) or one particular Website feature (Waite & Harrison, 2002). Treiblmaier (2007) presents an extensive review of the use of surveys for Website analysis.

Survey respondents may include general Web users or samples from specific population. For example, Jeong, Oh, and Gregoire (2003) surveyed travel and hotel shoppers. Huang (2003) surveyed users of continuing education programs, and Kim and Stoel (2004) surveyed female shoppers who had purchased apparel online.

For academic researchers, a convenience sample of students is often used to facilitate survey studies, including the users of Web search engines (Spink, Bateman, & Jansen, 1999). McKinney Yoon and Zahedi (2002) used both undergraduate and graduate students as their sample examining use of a Website. The major advantages of using students that are often cited include a homogeneous sample, access (Huizingh, 2002), their familiarity with the Internet (Jansen & McNeese, 2005), and creation of experimental settings (Rose, Meuter, & Curran, 2005). There are concerns in generalizing these results (Abdinnour-Helm, Chaparro, & Farmer, 2005), most notably for Websites and services where students have limited domain or system knowledge (Kim & Stoel, 2004; Koufaris, 2002). However, as a sample of demographic slice of the Web population, students appear to be a workable convenience sample with results from studies with students (c.f., Jansen & McNeese, 2005; Kellar, Watters, & Shepherd, 2007) similar to those using other sampling methods (c.f., Hargittai, 2002; Kehoe & Pitkow, 1996).

An increasing important type of survey instruments are electronic or Web surveys. Jansen, Corley, and Jansen (2006) define an electronic survey as “one in which a computer plays a major role in both the delivery of a survey to potential respondents and the collection of survey data from actual respondents” (p.1). Several researchers have examined electronic survey approaches, techniques, and instruments with respect to methodological issues associated with their use (Couper, 2000; Dillman, 1978; Fink, 1995; Fowler, 1995; Krosnick, 1999; Sudman, Bradburn, & Schwarz, 1996). There have been mixed research results concerning the benefits of electronic surveys (Kiesler & Sproull, 1986; Mehta & Sivadas, 1995; Sproull, 1986; Tse et al., 1995). However, researchers generally agree that electronic surveys offer faster response times and decreased costs. The electronic and Web-based surveys allow for a nearly instantaneous data collection into a backend database, which reduces potential errors caused by manual transcription.

Regardless of which delivery method used, survey research requires a detailed project planning approach.