Chapter VII

Industry Software Reviews Survey Design

Abstract

Chapters five and six described the theoretical EIIO model; this chapter mainly focuses on industry survey design. The first section describes the research methodology and survey used to gather, collate, and analyse data for the study. After presenting the rationale for the research design, including the questionnaire design, measurement scales, and models. The chapter explores issues of validation and reliability, such as cross sectional research and construct operationalisation. The chapter concludes with a discussion of the data collection method and the analytical procedures used in the study.

Industry Survey of Software Reviews

This chapter presents the empirical research method for validating the EIIO model. The details of research method, survey design, measurements (constructs) developments, data collection and data analysis procedures are discussed in details in the following sections.

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Research Method

The research method employed is a quantitative survey method. Quantitative surveys attempt to achieve a representative sample and to estimate from the data the characteristics exhibited by the general population (Babbie, 2000; Churchill, 1991; Hancock & Flowers, 2001; Hartog & Herbert, 1986; Judd, Smith, & Kidder, 1991; Pinsonneault & Kraemer, 1993; Salant & Dillman, 1994).

Questionnaire-based surveys for quantitative hypothesis testing are widely used (Babbie, 1973; Babbie, 2000; Creswell, 1994; Newman, 1994). The most common form of survey research method is cross-sectional survey design (Alreck & Settle, 1995; Barker, 1999; De Vaus, 2001). This approach involves observation taken from cross sectional samples of the target population (Australian Bureau of Statistics, 1999; Hyman, 1955; Lazar & Preece, 1999). This survey data can then be used to describe sub-populations of the survey frame and predict patterns for the general population (Fink, 1995a; Hammersley, 1992; Salant & Dillman, 1994).

The survey methodology employed in this study seeks to quantify the data and applies statistical analysis (Bagozzi, 1994a; Barker, 1999; Frankfort-Nachmias & Nachmias, 1996; McNeil, 2001). Quantification of the data in this way will provide a large representative sample, with results that should accurately reflect the characteristics of the population being surveyed (allowing for a margin of error) (Light, 1971; Malhotra, Hall, Shaw, & Crisp, 1996). This analysis should reveal whether apparent differences are statistically significant (McNeil, 2001; Tull & Hawkins, 1990).

The nature of the data observed can be assessed appropriately through measurement with relations between dependent and independent variables made explicit (Kelloway, 1995; Naylor & Enticknap, 1981). Analytical procedures designed to assess the significance of variance in the survey data can be employed to establish tests for reliability and validity (Keesling, 1972; Lyttkens, 1973; Preston, 1983). The study will use principal component factor analysis, convergent, and discriminant analysis for this purpose.

Evidence has shown that the use of self-reporting surveys is predominant in cross-sectional survey research (Coakes & Steed, 2001; Joreskog, 1989; Lyttkens, 1966; Rahim, Antonioni, & Psenicka, 2001). This represents a common approach to correlation research (Areskoug, 1982; Ozer, 1985). Correlation and regression methods to examine the predictive relationships between dependent and independent variables will also be investigated (Fink, 1995a; Judd et al., 1991; Ozer, 1985).
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