

Chapter VIII

Historical Research in Information System Field: From Data Collection to Theory Creation

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ABSTRACT

This chapter gives important methodological, theoretical, and practical guidelines to the information system (IS) researchers to carry out a historical study. This study shows how a new theory can be discovered inductively from historical studies using a methodological guideline from Mason, McKenney, and Copeland (1997b), using multiple data collection methods, such as semistructured interviews, archival files, and published news, and using novel data analysis methods from learning and intelligent systems, such as the Self-Organizing Maps (SOMs), SOMs combined with U-matrices, and the Bayesian network modeling. It also outlines the benefits, the main problems, the characteristics, and the implications of historical research in the information system field. Finally this chapter gives future some research directions of historical research.

INTRODUCTION AND BACKGROUND

The goal of this chapter is to outline how a new theory can be discovered inductively using histori-

cal research approach. Historical research is difficult to carry out because its nature is interpretive, the research of which has been largely ignored so far (Bannister, 2002). There are studies outlining the importance of historical research in the area of

information systems (IS) (Ein-Dor & Segev, 1993; Locker, Miller, Richardson, Tebeaux, & Yates, 1996; Mustonen-Ollila, 2005; Sandberg, 2005), studies involving single or multiple time periods and being longitudinal in its nature (Barley, 1990; Heiskanen, 1994; Pettigrew, 1989, 1990), and a study of the historical evolution of information system and time generation categories' development (Friedman & Cornford, 1989). Historical research can be characterised as longitudinal research from the past, because both longitudinal research and historical research are characterised by the measurement of differences or change in a variable from one time period to another, and longitudinal data analysis permits insights into the processes of change (Davies, 1994; Menard, 2002). In the historical studies, the research begins far away in the past when the distant causes for the events did not mean anything to each other, but later on effected to the current effects.

The fundamental assumptions of the historical research are as follows. First, in historical research, several simultaneously used data collection methods are needed. If the bulk of the gathered data is qualitative, consisting of interviews and archival material, historical research methods should be adopted (Copeland & McKenney, 1988; Mason, McKenney, & Copeland, 1997a, 1997b; McKenney, Mason, & Copeland, 1997) such that the suggestions of Pettigrew (1985) should be followed mostly when gathering and organising the data.

Pettigrew (1985) studies the management of organisational change, which is the phenomena in its real context. Pettigrew (1985) points out the aspects of continuity and change, and his study illustrates how change as a continuous incremental process can be interspersed with radical periods of change. These major decisions are associated with major changes in business market conditions (Dawson, 2003).

Second, the terminology and concepts between the historical research and the other forms of over time dependent research, such as longitudinal

research and time series research are interchangeable, because they all study the phenomena of change and patterns over time but from different perspectives.

Third, data collection in historical studies is often problematic, because the access to the research objects is difficult since the time has passed. Longitudinal historical data gathering poses special problems, because attrition of cases can be serious for the reasons as follows. The lost individuals, interviewees not remembering or not wanting to remember the past events, the secondary or some other sources are the only available sources, researcher is not able to maintain contact with the research subjects, or some other attrition of data can have happened (Bannister, 2002; Buckland, 1998; Menard, 2002; Rutter, Maughan, Pickles, & Simonoff, 1998; Sandberg, 2005). Historical research takes place over a long time period, typically more than 10 or 20 years, and researchers of history are not present at the time of the historical events being studied (Bannister, 2002). Historical research generally considers events in retrospect including oral histories and life and work histories (Bannister, 2002; Ruspini, 1999). The historical studies generally use many primary and secondary sources of evidence (Mason et al., 1997b) which can be both qualitative and quantitative in nature (Eisenhard, 1989; Venkatesh & Vitalari, 1991). Primary historical and longitudinal sources are the key sources of evidence, such as written material (e.g., notes, diaries, internal documents generally, and stories), and eye witnesses at a single time period for several time periods (Bannister, 2002; Mustonen-Ollila, 2005; Sandberg, 2005; Venkatesh & Vitalari, 1991). Secondary data needs pre handling, and interpretation to generate understandable results. Data collection of the past events is dependent on existing transcriptions and their interpretation to discover the historical patterns is based on researcher's own intuition (Bannister, 2002; Buckland, 1998; Kieser, 1994). Studying historical change needs the use of longitudinal data, which

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