




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A Comparison of Five Alternative Approaches to Information Systems Development

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Abstract

The field of information systems (IS) has grown dramatically over the past three decades. Recent trends have transformed the IS landscape. These trends include: the evolution of implementation technology from centralized mainframe environments towards distributed client-server architectures, embracing the internet and intranets; changes in user interface technology from character-based to graphical user interfaces, multimedia, and the World Wide Web; changes in applications from transaction processing systems towards systems supporting collaborative work; and the use of information technology as an enabler of business process reengineering and redesign. These technology changes coupled with changes in organizations and their operating environment, such as the growth of the network and virtual organization, internationalization and globalization of many organizations, intensified global competition, changes in values such as customer orientation (service quality) and Quality of Working Life, have imposed new demands on the development of information systems. These changes have led to an increasing discussion about information systems development (ISD), and in particular, the various methods, tools, methodologies, and approaches for ISD. We believe such discussion has opened the door for new, alternative IS development approaches and methodologies.

Our paper takes up this theme by describing five alternative ISD approaches, namely the Interactionist approach, the Speech Act-based approach, Soft Systems Methodology, the Trade Unionist approach, and the Professional Work Practices approach. Despite the fact that most of these approaches have a history of over 15 years, their relevance to IS development is not well recognized in the mainstream of IS practice and research, nor is their institutional status comparable to traditional approaches such as structured analysis and design methods.

Therefore we characterize the five approaches as 'alternative' in the sense of alternative to the orthodoxy.

The selection of the five approaches is essentially based on the finding that research on ISD approaches and methodologies has been dominated by a single set of philosophical assumptions regarding the nature of the phenomena studied and what constitutes valid knowledge about those phenomena (Hirschheim and Klein, 1989; Orlikowski and Baroudi, 1991; and Iivari, 1991). The idea behind the selection of the five ISD approaches has been to include approaches which challenge the dominant assumptions. These alternative approaches typically build upon radically different conceptions of the goals, meaning, function and processes of ISD. Part of the rationale for our paper is to meet the need of a concise yet penetrating way of introducing alternative ways of system development to a wider audience. The way in which the approaches are introduced, highlights their underlying principles and features. This naturally leads to a critical examination of their strengths and weaknesses. From this angle the paper adds more detail to the earlier work on mapping the terrain of the complex literature on IS development (cf. Episkopou and Wood-Harper, 1986; Hirschheim and Klein, 1989; Iivari, 1991; Orlikowski and Baroudi, 1991; Baskerville, et al. 1992; Avison et al. 1992; Avgerou and Cornford, 1993; Fitzgerald, 1994; Hirschheim, Klein and Lyytinen 1995; Avison and Fitzgerald, 1995; Jayartna and Fitzgerald, 1996; Wynekoop and Russo, 1997; Iivari, Hirschheim and Klein 1997).

The paper can be expected to be of interest to the IS community in three respects. Firstly, the five alternative approaches are likely not to be as widely known as they deserve to be. The

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following meets the need of a concise introduction to them. Secondly, the paper continues our earlier work on mapping the terrain of the complex literature on IS development (Hirschheim and Klein, 1989; Iivari, 1991; Hirschheim and Klein, 1992; Hirschheim, Klein and Lyytinen 1995, 1996; Iivari, Hirschheim and Klein, 1997). Thirdly, it is our contention that the five alternative approaches point the direction which some important IS research will likely take in the future to strengthen the interpretive and critical traditions (Orlikowski and Baroudi, 1991; Hirschheim and Klein, 1994) within the field.

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