INFORMATION SYSTEMS DEVELOPMENT (ISD) IN COMPLEX SETTINGS AS INTERLOCKING SPIRALS OF SENSE-MAKING

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1. ABSTRACT

This paper assesses a research framework against the findings of a field research study. The framework employs the metaphor of a triple spiral as a means by which Weick’s sense-making concepts can be applied to ISD activities. The study examines the experiences of members of a large manufacturing organisation in a multinational company. Study participants included project teams members, consultants and senior management. This research is ongoing and other organisations are being engaged in the study. Results suggest that the framework is applicable to the ISD activity and could be used to encourage broad-based research in ISD i.e. research that brings together and understands the relationship between the IS as a social artefact and its complex organisational context. The results support the notion that the framework aids the understanding and management of change at micro- and macro-levels within organisations.

2. INTRODUCTION

This section provides a brief outline of the philosophical underpinnings of the study. Any philosophical basis implies a set of accepted assumptions. This study shifts the philo-

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sophical basis of ISD away from functional rationalism. Functional rationalism, Natural­ism and Interpretivism in ISD and related literature are discussed and a Sense-making per­spective is presented. The emphasis shift from functional rationalism to sense-making implies shifts in the assumptions underlying ISD and therefore imply emphasis shifts along each of the four dimensions of ISD. These emphasis shifts are presented in the 4P Framework in section 3.

This section outlines three philosophical positions found in literature regarding ISD: Functional Rationalism (Positivism), Naturalism and Interpretivism. Sensemaking is then proposed in the second section in the context of these philosophical positions, indicating how sense-making includes an interpretivist perspective but also emphasises action and response.

2.1. Functional Rationalism, Naturalism, and Interpretivism in ISD Research and Practise

Functional Rationalism is a term coined in the literature to describe positivist influ­ences in much ISD theory and practise (Bickerton & Siddiqi, 1993). Most ISD methodolo­gies are based upon functionally rationalist premises. These premises have dominated ISD research and practise, a fact which is well documented elsewhere (Myers, 1995; Klein & Hirschheim, 1991; Galliers, 1993). Alternative philosophical positions have been proposed including Naturalism in ethnographic techniques (Suchman, 1987; Bentley et aI., 1992) and Interpretivism (Boland, 1985; Myers, 1995).

Naturalism usually involves ‘detached’ observers. The observers build descriptions of the activities of the target group and, through various de-briefing methods, outline sug­gestions for technological (or other) support that might make the group more effective. Naturalism was originally a reaction against positivism within the social sciences. How­ever, results from naturalist approaches have been mixed. Leading social researchers sug­gest that the notion of ‘detached observers’ is fundamentally flawed. An observer will, by definition, affect the behaviour of a target group. This and other objections have lead to a major re-evaluation of naturalist assumptions (Hammersley & Atkinson, 1983; Ham­mersley, 1990). Within the IS community one reaction has been to jettison the assumption of a detached observer and, instead, directly engage organisations and subsequently examine the affects of this engagement. This is inspired by action research approaches (Avison & Wood-Harper, 1990; Checkland, 1981).

Interpretivism focuses on the idea that reality is socially constructed inter-subjectively i.e. on the basis of the sharing of subjective realities amongst participants in a so­cial group. This has lead to research based on phenomenology and hermeneutics, which focus on dialog and the inter-subjective construction of ‘narratives’ (Boland, 1985). This perspective is inspired by the work of Wittgenstein, Husserl and Schutz amongst others and has spawned a focus on attempting to define ways in which people use language to help them interpret reality (‘language games’). This implies that the IS developer must gain practical experience of the ‘language games’ of the user in order to understand the interpretations that users have of the world, and therefore the subjective meanings and interpretations that they have of ISD, software specifications and the CBIS itself (Bickerton & Siddiqi, 1993). Recently philosophers and social theorists have criticised assump­tions underlying interpretivism arguing that by overly focussing on the creation and interpretation of narratives interpretivists de- emphasise action ( Ihde, 1993; Weick, 1995).