



EDITORIAL

Reflecting on action in language, organisations and information systems

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Introduction

The development of information technology (IT) has had a tremendous impact on organisations in recent decades. New information systems (IS) have been introduced into organisations and their effects have been both positive and negative. The management of IT in organisations is a very challenging task. Too often implementation of new IS fails. The relationships between an IS and its organisational context are complex and the understanding of these complex phenomena and relationships are still incomplete. One reason for this complexity is arguably that IS development and use is an intrinsically social endeavour (Hirschheim *et al.*, 1996). IT in general, and computerised IS in particular, are used in organisations to support and facilitate collaborative human activity. People act and work through IS in order to have other people perform actions. Developing IS to enable and facilitate such organisational action is also a social activity (Hirschheim *et al.*, 1996). This also means that theories about IT design and use need to encompass social activity dimensions. Responding to this need, several action-oriented approaches have been used in IS research.

Action-oriented theorising in the IS field

Many different action-oriented frameworks and approaches have been used in IS research. These range from philosophical theories of speech acts and communicative action (Goldkuhl & Lyytinen, 1982; Winograd & Flores, 1986), through cultural–historical Activity Theory (Kuutti, 1996), Actor Network Theory (ANT) (Walsham, 1997) and ethnomethodologically inspired theories of situated action (Suchman, 1987; Dourish, 2001). We will give a brief account of some of these theories and their application in IS research below. Let us begin, however, with an examination of the concepts of ‘social action’ and ‘pragmatism’ since these form an important ontological and epistemological underpinning of much of the research in this stream of IS research.

Social action

Humans act through their use of IS. Such actions are mostly to be seen as social, although a user may be sitting in solitude in front of a computer. When interacting with a computer, the user interprets messages that originate from other humans. Messages entered into the system by the user will eventually, either in their original form or transformed by the computer, reach other humans. A user interacting with a computer-based system is in a nexus of social actions and social relationships. Users base their work (IT use) on the actions of other humans, and the outcome of users’ work results in messages that affect other humans.

The sociologist Max Weber defined social action as follows: ‘That action will be called ‘social’, which in its meaning as intended by the actor or actors, takes account of the behaviour of others and is thereby oriented in its course’ (Weber, 1978, p 4). Following this definition, a social action

(performed by an actor) has social grounds ('takes account of the behaviour of others') and social purposes ('thereby oriented in its course'). This has implications for how to study the development and use of IS. As researchers, we should search for social grounds and social purposes of user actions. Likewise, for studying IS development. The obvious goal of such an endeavour, an IT artefact to be used in a social setting, must be considered. The social grounds for an IS development endeavour, that is, the problems and needs in an organisational situation, cannot be neglected in a serious research undertaking (Gasson, 1998).

Pragmatism

One of the founders of symbolic interactionism, Herbert Blumer, stresses the importance of taking an action orientation as a starting point for studying social relationships: 'The essence of society lies in an ongoing process of action – not in a posited structure of relations. Without action, any structure of relations between people is meaningless. To be understood, a society must be seen and grasped in terms of the action that comprises it' (Blumer, 1969, p 71). Taking this position seriously means that actions should be viewed as a building block for theories and methods in social science, including the field of IS.

Blumer's position is well founded in the pragmatic philosophy of Dewey (1938) and Mead (1938). Ordinary knowledge is permeated by its action context, and Dewey (1938) claims that scientific knowledge should also be, although that is not always the case. Knowledge, commonsense or scientific, is to be seen as a response to practical needs. Such needs are resolved through inquiry processes. The developed knowledge will be formulated in relation to the practicality of situations. Knowledge about actions is an indispensable part of such knowledge (Dewey, 1938; Cronen, 2001).

Practical relevance and potential usefulness are important criteria for scientific knowledge. Baskerville & Myers (2004) argue that action research is an approach that leans towards such goals. They find a firm grounding for action research in pragmatic philosophy (Peirce, James, Dewey, Mead). We agree that action research may be one important way of obtaining relevant and useful knowledge. It is, however, not the only road and there can also be barriers on this road. One important feature of knowledge is that it is formulated in action terms. Action-theoretic frameworks are important cognitive instruments for the creation of scientific knowledge with practical value. Without an action-theoretic awareness, action research, and other approaches as well, may not lead to adequately formulated knowledge for action. This seems to be one reason for Argyris *et al.* (1985) to make a distinction between action science and action research. Stating scientific knowledge in action terms is one pre-requisite for knowledge of practical relevance and usefulness. The use of action-theoretic frameworks is a means for such an action formulation of knowledge.

As mentioned above, Baskerville & Myers (2004) have made an important assertion that action research in IS should be founded on a pragmatic position. This follows also the growing insight that pragmatism should be seen as a third independent paradigmatic position in relation to the two main combatants – positivism and interpretivism – in the 'paradigm war' (Wicks & Freeman, 1998; Fishman, 1999; Goles & Hirschheim, 2000).

It should also be noted that pragmatism should not only be associated with what has been called American pragmatism. There are many affinities between American pragmatism and different European pragmatic frameworks as noted by, for example, Thayer (1981) and Arens (1994).

Action-oriented theorising

There are many researchers who have acknowledged the need for creating action formulations in theorising IS knowledge. Different action-theoretic frameworks have been used in IS research; some of which are used in the papers comprising this special issue, and will be described briefly below. One common way to proceed is to 'import' one action theory into the IS field from an adjacent discipline (Goldkuhl, 2005). Such an action-theoretic framework is then used as a lens for interpreting and explaining different empirical phenomena in the IS field and for creating specific IS theories. An imported action theory can be adapted and evolved according to specific IS characteristics. For example, speech act theory has given rise to the IS-adapted language/action perspective (e.g. Goldkuhl & Lyytinen, 1982; Winograd & Flores, 1986).

Some different imported frameworks have also given rise to sub-communities in the IS field with specialised workshops and conferences. For example, there have been a series of workshops/conferences on the language/action perspective since 1996 and a series of workshops/conferences on organisational semiotics since 1995. Such forums have been fruitful for the evolution of each such sub-community. There is, however, a need also for cross-community dialogues. The series of ALOIS (Action in Language, Organisations and IS) conferences¹ can be seen as such a cross-community dialogue initiative. This special issue is also one such initiative to bring together different action-oriented approaches for IS studies.

Obviously, no theoretical approach or school of thought is without its critics, and action-oriented IS theorising is certainly no exception. For example, language/action theory has been used in many areas of IS research: as a basis for business modelling (Dietz, 2001; Goldkuhl, 2001), to understand groupware (Lyytinen &

¹For information about ALOIS'2003 (including on-line proceedings), see <http://www.vits.se/alois2003/>. For ALOIS'2004, see <http://www.vits.se/alois2004/>. For ALOIS'2005, see <http://www.alois2005.ul.ie/>. For ALOIS'2006, see <http://imv.au.dk/~pba/ALOIS/ALOIS2006home.htm>.

Ngwenyama, 1999), to investigate information retrieval interaction (Kwong, 2002), to establish user-interface evaluation criteria (Ågerfalk, 2004), for conceptual modelling (Johannesson, 1995; Ågerfalk & Eriksson, 2004), as well as in general conceptualisations of IS development (Hirschheim et al., 1996). Nonetheless, this particular theoretical approach has been both criticised and questioned (e.g. Ljungberg & Holm, 1996; Sharrock & Button, 1997; Brooke, 2002). For example, Sharrock & Button (1997) set out to criticise the project of Habermas, in general, and in particular Ngwenyama & Lyytinen's (1997) use of Habermasian reasoning to understand groupware. In their reply to the critique, Lyytinen & Ngwenyama (1999) write: 'We see our work rather as one possible voice in CSCW research [...] that desires to obtain a deeper understanding of how the social becomes embedded in the technical systems. From another perspective we can say that we are interested in how social ideas and theories are necessary and constitutive in building any groupware platform'.

Our understanding is that there are obviously strengths and weaknesses with any theoretical framework used in research. If we are not interested in 'how the social becomes embedded in the technical' then maybe another framework would have been more appropriate. Indeed, there may even be a better framework for studying this than that used by Ngwenyama & Lyytinen. However, following the pragmatic perspective introduced above, the question we must ask is whether or not a particular framework or theory is useful given the particular research aims. As we all know, there are no 'silver bullets', but some 'bullets' are perhaps more useful than others for some particular purposes, captured by George Box's apt observation: 'All models are wrong, but some are useful'. Below we will discuss how a selection of action-oriented approaches can be useful in understanding better the use and development of IS. These are the ones used by the authors in this special issue.

Conceptual approaches in this special issue

In the first paper of this special issue, *Activity-Based Design*, Peter Bøgh Andersen presents an approach to IS design rooted mainly in Activity Theory and semiotics. The challenges addressed by his concept of 'habitat' is threefold. First, many action-oriented frameworks make a strong distinction between, or have difficulties in handling the interplay between communicative and material actions. Second, the spatial context of activity – addressing how action possibilities are contingent upon the actor's spatial location – is poorly understood in systems design, but is becoming increasingly important in a world of mobile and location-based services and pervasive computing. Third, the dichotomy between human and non-human is not always as straightforward as one may think in a world of 'intelligent' agents and autonomous systems.

Activity Theory allows for analysis at different levels of granularity, depending on what object transformation

one chooses to focus. The approach is systemic in that it assumes activities can be demarcated and treated as systems with a certain boundary. Another approach is represented by ANT, used by Susan Gasson in performing *A Genealogical Study of Boundary-Spanning IS Design*. While still allowing for analysis at different levels of granularity, ANT does not presuppose any system boundaries. Instead, it promotes an open-ended analysis where human and non-human actors (or 'actants') interact in order to create a stable network of social relationships. Viewing systems development practice from this perspective provides valuable insight into how such practices evolve over time.

Implementation of IS is the focus of Tanya Bondarouk in her paper *Action-Oriented Group Learning in the Implementation of Information Systems: Results from Three Case Studies*. She has taken a group and interaction perspective emphasising how the implementation success is dependent on social processes during the introduction of a new IS. The users develop common interpretive schemes about the newly introduced system during the implementation process. Bondarouk mainly uses Kolb's (1984) experiential learning theory and adjusts it to collective learning. The adjusted framework comprises five processes: collective acting, group reflecting, knowledge disseminating, sharing understanding and mutual adjustment. In the framework, individual acting/learning is connected with the collective acting/learning.

Since IS involve communication, developing and evaluating IS can be seen as meta-communication. In the paper *Acting with Genres: Discursive-Ethical Concepts for Reflecting on and Legitimizing Genres*, Fahri Yetim works with a meta-communication model. He adopts genre theory and integrates theoretical findings from the language/action perspective and organisational semiotics (e.g. Stamper, 1997). A meta-communication model has been developed as a staircase model, partially inspired by semiotic theory and by Habermas's (1984) theory of communicative action. The meta-communication model can be used for collective reflection on genres in IS. The concept of genre represents a meaningful socially constructed pattern of communication, and it consists of a sequence of speech acts. The meta-communication model is conceptually broad in order to also cover inter-cultural communication issues.

Peter Rittgen takes an even firmer stance in the language/action perspective when presenting *A Language-Mapping Approach to Action-oriented Development of Information Systems*. This work aims to create a bridge from language/action-based business process modelling to object-oriented system design. He makes the point that systems design – dealing with artificial software objects – requires another type of modelling formalism than does business modelling, which must capture the social dynamics between people interacting to achieve business outcomes. By providing a bridge between the two perspectives, a better foundation for systems that are of

high internal (technical) quality as well as external (business) quality is laid.

As an engineering discipline, Method Engineering – ‘applying the discipline of engineering to design, construct and adapt methods, techniques and tools for the development of information systems’ (Brinkkemper, 1996, p 276) – often assumes an instrumental rationality applicable within a predictable environment. In their paper, *Combining Method Engineering with Activity Theory: Theoretical Grounding of the Method Component Concept*, Fredrik Karlsson and Kai Wistrand challenge this perspective and show how the rigour of Method Engineering can be achieved in a more socially sensitive way. By using Activity Theory to understand the practice of Method Engineering, they present a flexible approach to method tailoring (or method configuration) based on ‘method rationale’ and ‘method components’. The latter is an abstraction of method parts that aim to facilitate modular composition of situation-specific methods based on desired action outcomes (e.g. system models, software artefacts).

In most IS practices, be it systems analysis and design or method construction and adaptation, modelling is a central activity. In the final paper of this special issue, John Krogstie, Guttorm Sindre and Håvard Jørgensen use ideas from organisational semiotics (e.g. Stamper, 1997) to present a framework for assessing the quality of models. Their paper, *Process Models Representing Knowledge for Action: A Revised Quality Framework* extends previous work in the area of information model quality to more accurately capture also quality aspects of dynamic process models. As pointed out by Rittgen, process models are essential tools to understand the dynamics of business activities in relation to IS. Assessing the quality of such models would thus seem to be a vital activity in most IS work.

Conclusion

This special issue provides a snapshot of an evolving field of research highlighting the relevance and utility of

taking an action-oriented approach to issues of IS design, development and use. Neither the authors nor the editors of this special issue claim that this approach is the only one to be used, but at least the papers provide a broad spectrum of action-oriented approaches to IS issues, and readers can assess their relevance and utility for their own research programmes and activities. We hope that the issue makes interesting reading!

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