Comments on "Information Systems as a Social Science" by R.K. Stamper

Kalle Lyytinen

Department of Computer Science and Information Systems, University of Jyväskylä
P. O. Box 35, 40351 Jyväskylä, Finland
Email: kalle@jytko.jyu.fi

Ronald Stamper's paper presents a well-written and systematic account of the subjectivist and social-constructivist view of information system concepts, which is enjoyable to read. It should be read by anyone interested in theoretical discourse around information system phenomena.

The paper offers a theoretically strong, but not necessarily a unique, or only alternative to the realist position of information system concepts. The paper, though not intentionally, builds often a strawman position against the realist position in the sense that the 'Broad View'//FRISCO 126 does not content or claim to be a complete or *only* alternative to formalise a comprehensive set of information system concepts. The value of the 'Core View'//FRISCO126 is its rigor and in the manner in which it tries to develop the set of concepts and their relationships formally by starting from some basic and fundamental concepts underlying a state-based interpretation of an information system. In this narrower context it may be well equipped to clarify the self-understanding of a technically based (or logically based) view of information systems. I do not think that anyone in IS field would argue that this specific set of formalised concepts is capable of catering for all theoretical needs we may have about information system phenomena.

Though being clearly articulated in a compelling and crisp writing style the "information systems as social science" advocated in Stamper's paper is still far from being adequately and clearly defined at the same level in terms of its basic concepts.

The original version of this chapter was revised: The copyright line was incorrect. This has been corrected. The Erratum to this chapter is available at DOI: 10.1007/978-0-387-35500-9_30

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This could have been overcome by developing the alternative view using the same axiomatic and rigorous specification, or in the minimum- by developing the approach using the same principles suggested in the approach i.e. by defining concepts like information, information system, action, norms and their analytic relationships using the ontological dependency charts suggested by Stamper. This type of approach would have also eased the comparison and analysis of differences.

An additional difficulty in reading Stamper's criticism is that it introduces another complicated vocabulary on top of the currently complicated vocabulary introduced in the FRISCO report. In particular the paper does not explicitly clarify to what extent these concepts are suggested as alternatives that *should replace* those residing in the 'Broad View'//FRISCO123 (or the 'Core View'//FRISCO345) report, or are they meant to be *supplementary* that are useful to analyse information system phenomena in a broader social context. This makes a systematic comparison and analysis of their possibly combined usefulness extremely difficult. For example, the union of all concepts advocated in both FRISCO report and Stamper's alternative is clearly too large for any practising IS professional. Therefore, I would like to see some type of convergence and discussion of a *minimal set of concepts* needed to get the work done.

Another issue which naturally flows from Stamper's behaviourist analysis is the lack of behavioural implications that different sets of IS concepts may have for *the practice of system development.* I am to some extent puzzled by the fact that *if* the "information systems as a social science" concept set is truly radically different in the sense that it implicates different semantics for notations and system models thereby necessitating different "sets of affordances" for system developers, there is very little in the paper about how this would take place and what those differences would be. I would imagine that this set of concepts would have radical implications for ISD practices which people are not necessarily willing to adopt and carry out. Moreover, if the approach is so superior as outlined in section "Is the alternative better than 'Core View'//FRISCO345?" a natural question to ask is why the approach has not been taken into widespread industrial use? One explanation is that people are plainly dumb. Another one is that people do not believe in its value in the short term in comparison to the costs and risks involved in adopting it. For example, due to its conceptual obscurity and lack of clear behavioural implications it is not clear how the approach would scale to industrial strength. How would one apply these concepts to different types of computer applications and for different sized computer applications? Are decision support systems, CSCW applications (workflow, organisational memory), document management applications, ERP systems, so similar in terms of underlying "semiotic principles" that we need only one overarching set of concepts to specify and analyse them from a social perspective (this question applies of course to FRISCO concepts and

approach overall)? In the same manner, is a social science based approach that is indifferent to technologies that are used to implement the system viable? For example, would distributed object oriented platforms (e.g. CORBA) that may introduce concepts like responsibility based computing, service agreements etc. provide a more natural link between the social specification and the technical implementation.

Another reason for slow uptake of the socially based theory relates to the fact that the theory embodies *a radical change in the positioning of IS research and practice* which people are not willing to take. In short, my reading of the social view suggest that the fundamental agency dynamics within system development must be changed- the system as a technical analyst would change into a system analyst as a policy maker and organisational designer. These role changes are not implied in the Core View which still views IS models and resulting high level conceptual models of IS as contracts for a sustained responsibility in a more limited technical domains. There is a natural reluctance to "cross the barrier" in the community because systems people must after this change enter into the change domain as principals and involve themselves as political agents in the development games. They do not form anymore a part of the solution but part of the problem. In consequence, the borders of IS discipline may have to be drawn anew. Yet, it is not clear what criteria and rules should we apply (not clear from Stamper's paper) in making these decisions. For example, how can we draw relationships between explanatory, constructive and economic activities within the field of IT and what is the role of IS and its views of the domain in this game?

Like in all system development theory the proposed metalanguage to specify information system phenomena implies its own metalanguage and forms of life that "dictate" how one should go about in applying it. But how neutral and clear are these rules that determine effective modelling and design practices? To what extent does the suggested "method" depend on a previous precalibration of forms of understanding. For example, in order to understand charts in figure 7 and to really appreciate the differences between a verb "deliver" and the concept of "supply", it is clearly not so that one can make sense of what is going on in this figure just by reading it? The understanding of the figure implies a shared "lifeworld" of being embedded in trading and transportation practices which have emerged during the last few hundred years. But how can one create such a shared lifeworld as a precondition to use the method and to what extent one can build up such a lifeworld through modelling exercises is not totally clear.

To conclude, any attempt to develop concepts for the practical field of information systems must face the following question. Don't look into the name: look into the cognitive capabilities and skills that these concepts and associated practices bring along.