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Information, Systems, and Information Systems

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For many people the name of Peter Checkland is almost synonymously linked with Soft Systems Methodology (SSM). Not too strange, perhaps, considering that Peter Checkland is seen as the main founder of the methodology and considering the great effect his theories have had within the systems movement as an alternative towards the orthodox paradigm of hard systems thinking. Although his latest book, co-authored with Sue Holwell, is not directly focused on SSM, everyone familiar with Checkland's previous work, either through his two earlier books or through the numerous articles written by him, will feel at home reading this book.

The focus of the book is information systems, their creation and relation to IT, viewed within an organisational context. The authors criticise current IS literature for not being able to give a clear and coherent account of the field. Even the most basic concepts like, data, information and knowledge lack agreed upon definitions. They also reject the old fashioned view on management and organisations generally adopted within the field, based on the goal-seeking model of human action originating from the 1960s. Hence, the starting point of the work is 'a re-thinking of what is entailed in providing informational support to purposeful action in the real world of organizations' (p. 11) and a striving towards conceptual cleansing. It has been carried out in association with the action research program at Lancaster University and its main outcome; Soft Systems Methodology. Based on the lessons from a number of action-research studies the authors strive to establish a coherent account of the IS field which makes sense of its many strands and, hence, ought to help with the planning and carrying out of work within the field.

The core idea behind the work described by Checkland and Holwell is the idea that the conceptual models developed in SSM can be used to initiate and structure discussions about information support for people undertaking purposeful activities in the real world, usually referred to as information requirements analysis. The idea of using the models in SSM to determine information needs are not, as Checkland and Holwell point out, a new idea. In fact, the very first conceptual model built during the development of SSM (Checkland and Griffin 1970) was a

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model concerned with the information needs in a medium-sized textile company. Since then there have been occasional attempts to relate systems thinking in general and SSM in particular to the field of information systems (Checkland 1981, 1988; Winter et a. 1995). It has, for example, been suggested that for each activity in the conceptual model one should ask oneself what information is needed to carry out this activity, what are its content, source and frequency, etc. Hence, the work done in the book by Checkland and Holwell is, if not completing a circle, at least taking on a loose thread from the beginning of SSM's development.

In chapter one the authors start by stating their view on what an information system is. According to this definition 'information systems exist to serve, help or support people taking action in the real world' (p. 10). The organisational perspective becomes relevant due to Checkland's law of conceptualisation which states that a system which serves another cannot be defined and modelled until a definition and a model of the system served are available' (Checkland 1981, p. 37). The reason for this is that the way we conceptualise the system served will dictate the concept of service and, hence, what would be necessary to serve or support it. The rest of the chapter is devoted to a discussion about the context of the work carried out and focuses on the history and content of the action research program at Lancaster University where Soft Systems Methodology also evolved.

Chapter two reviews the field of IS as an intellectual discipline and comes to the conclusion that it is not yet a developed intellectual field with well-defined context and clear boundaries. It is, at best, only an emerging field. There is, for example, little or no agreement as to the historical developments of IS; relevant reference disciplines outside the field itself; topics of interest and their relative importance. With this in mind it is not surprising that the authors also found two different schools of thought (hard and soft), within the IS discipline based on different perceptions of its core concerns and with different approaches to investigating the field.

The hard approach views information as a support and service device related to decision making in organisations and regards hypothesis testing as the appropriate mode of research. The soft approach, on the other hand, relates information to meaning attribution and sense making and adopts semiotics, hermeneutics and interpretative action research as their modes of finding out about the world around them.

In accordance with the authors' view of information systems as existing to serve, help or support people taking action in the real world, in chapter three the authors set out to examine the concept of organisations. They find that the relation between organisations and information systems are mutually dependent upon each other. The organisation affects the design of information systems through the law of conceptualisation, and information systems affect the organisation and its members by its potential to change the members' knowledge, their working and managerial practices and the disposition of power. Despite the important role that organisations play both within the field of management and organisational theory,

and within information theory, the authors conclude that this concept is as evasive as the concept of information systems.

Further, an analysis of these fields shows that although organisation theory is more mature than IS the two fields still map each other to a great extent. Both use the rather mechanistic model of an organisation that derives from Simon, and is based on rational decision-making in pursuit of organisational goals as the orthodox. In both fields this view has been challenged — significantly within organisation theory and, modestly within the field of IS — by similar ideas; those of re-establishing the human agent as an actual creator of social reality. Neither field has, however, been able to provide a model of organisation as sharply defined as the conventional one.

Having identified the limitations within the orthodox model of organisations and the lack of any soft model to challenge it, upon which IS work could usefully be based, the authors set out to develop such a model. A model which combines the rationality of the conventional model with the recalcitrance of human beings as members of organisations. The difference between Checkland and Holwell's model of the organisation and the orthodox model is that Checkland and Holwell talk about accommodation rather than consensus when defining goals, processes, structures, etc.; manage relationships rather than making decisions; seek desired relationships and elude undesired ones instead of pursuing goals; and conscious reification, not unthinking reification.

In chapter four the authors start by defining the concepts of data, information, and knowledge in a rather conventional way. They also introduce a new concept named 'capta' which they place between data and information. The section concerning these concepts ends with the conclusion that what is often referred to as information (information systems, management information systems, information theory) correspond closer to the concepts of data, or signals.

The rest of the chapter focuses on the process which information systems are to support; namely that of purposeful action. This part of the chapter is very much influenced by the work of Vickers and his appreciative system (1983a, 1983b) and illustrates the process by which human beings attribute meaning to what they perceive, make judgements about these perceptions, form intentions to take particular actions and, finally, carry out those actions. This process is then combined with the process of developing IT-based information systems into what the authors call 'the processes for organisational meanings (POM) model' (p. 106).

In chapter five the authors use the development of radar systems, as well as the development of radar information systems surrounding the radar systems to illustrate the difference between IS and IT and to point out IT's role within IS. In this example the historical evidence shows that even though the Germans had a more advanced radar system the British radar information system was much more advanced and this was what helped them to win the Battle of Britain during the Second World War. The British radar information system is then examined in terms of the elements of the POM mode and replays with a brief description of the

development process for IS is given. It includes the following activities: (1) analyse the purposeful activity which the system is to serve; (2) work out the information support required by the people carrying out the activity; (3) make sure that the creation of the information system is a collaborative effort involving both technical experts and users; (4) treat both system development and system use as opportunities for continuous learning.

Chapter six provides a general account of SSM to enable readers who are not yet familiar with the methodology to make sense of the research experiences described in chapter seven.

Chapter eight gives a short summary of the book. It also identifies three different approaches within information systems. The first addresses fundamental concerns such as basic assumptions underlying different work in the field. The second focuses on pragmatic questions about ways of getting things done. Finally, the third is mainly concerned with questions of a technical character.

The chapter ends with a discussion of the model which contains the POM model, i.e., a higher-level model in which the POM model is one possible way to go. This higher-level model is called COAT and contains the elements Agents, Technology and Organisation — these three elements are constantly defined and redefined in relation to each other. The fourth and last element of the model is Conceptualising and involves consciously thinking about O, A, T, and the relationship between them.

I consider the book to be well written and easy to read. The declared starting point of the book, 'a re-thinking of what is entailed in providing informational support to purposeful action in the real world of organizations' (p. 11), is also a very worthwhile starting point in my opinion. Although there are other authors who also oppose the orthodox view within our field, and even though some of the ideas presented are not new there is a need to stress the issues discussed by the authors. Especially when considering the present tendency to focus on IT instead of IS and on IS instead of on organisational needs. The authors also very clearly define the underlying framework for their work as well as the concepts used. This is especially important in a field under development as the authors point out.

However, considering the title of the book, I had expected a deeper discussion on the subject of information and information systems than the one presented. Rather than letting the discussions about social processes and organisations lead the way towards the subject of information systems these former issues become the main focus of the book. The authors never really come to any main findings regarding information systems and their development. What is said about the subject is based on Checkland's law of conceptualisation which can be found in his first book (Checkland 1981, p. 237). Although the argument is developed further in this book it still lacks detail in the discussion concerning how you develop information systems that correspond to the POM-model. The authors also state that the core idea behind the work is the belief that the conceptual models developed in SSM can be used to initiate and structure discussions about

information support. Here it is also hard to find some substantial body of theory that feels new.

Regarding the author's concept of an organisation it lacks any kind of inclusion of issues concerning the employees' emotional and spiritual needs as well as the organisation's responsibility towards society at large. Personally, I see this as a weakness since I would argue that these are both important and current issues that should be considered and included in any organisational model.

As to conceptual cleansing, I cannot see that a field has been conceptually cleansed just because the authors clearly define the concepts they use and also review the field and illustrate how some of the concepts are being used by different authors. The variety of views are not diminished through this, on the contrary, they increase. The confusion might, however, be slightly less.

In summary, I think that the book is worthwhile reading, especially for those not yet familiar with Checkland's work. What is discussed is both important and valid although there is some discrepancy between the title and the content of the book. The main weakness is that whilst most of the things discussed feel familiar we still seem to ignore this body of knowledge when designing information systems. Or as Boland says in a quotation used by the authors: 'We all know that information is the meaning or inward-forming of a person that results from engagement with data. Yet we consistently avoid the problem of meaning in our information systems research.' (p. 96)

A discussion of what we can do to change this, rather than simply stating the fact, would have made the book much more interesting, valuable and useful.

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