Chapter 8

Using Semiotic Framework to Study Social Consequences of IT

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1. INTRODUCTION

The functioning of information systems depends upon physical resources, human resources and societal resources. Physical resources refer to natural resources, technologies and physical infrastructure. Human resources refer to human labour, knowledge and skill in the broad sense of the words. Societal resources refer to resources residing in moral and ethical system, institution, culture, language and community. Examples of works incorporating such ideas are Kling’s (1987) Web model and the notion of information systems as social systems by Hirschheim (1989).

While the functioning of information systems depends on physical, human and social resources, the use of information systems can also impact on those resources. The literature documenting various aspects of this phenomenon includes Dunlop and Kling 1991, Kling 1996. However there is no framework with a strong theoretical underpinning to organize such findings. While teaching information systems and the social consequences of IT, the author felt that the students needed a simple-to-understand framework to provide some degree of coherence and structure for them.

Given its broad social orientation, I looked within semiotics for a tool to help students attending a course on the impact and implications of IT on economy and society to articulate their understanding of the social
consequences of IT. This paper first investigates the possibilities of using the organizational semiotic framework to structure our discourse then it reports on introducing the framework to a group of master-level students.

There are several important precursors to organizational semiotics. One of the earliest in the field was the theory of information systems developed in Sweden by Börje Langefors (1973) which his team incorporated into the ISAC methodology. Another approach that developed shortly after is that of Stamper (1973). Since then, semiotics has figured increasingly in information systems research. Andersen in his Computer Semiotics (1991) united linguistic and computing theories for the analysis, assessment and evaluation. Clarke (2000) has shown how to apply the social semiotic and functional linguistic theories of the Halliday School to information systems problems.

For the study that I am reporting here, I use Stamper’s semiotic framework for two reasons. His semiotic ‘ladder’ belongs within MEASUR, a wide pan-semiotic approach that attempts to provide a coherent picture across all aspects of the analysis, design and realisation of organisations with and without technology. Secondly, his work is quite well known within the Dutch IS community, having served as an IS professor at a Dutch university. There is sufficient reference literature in the Dutch university libraries describing his framework and its application in IS development.

This framework has proved to be very useful in developing and using IT-based information systems as well as studying IS-related activities such as business process redesign and electronic commerce (Liu 2000; Heng and Newman 2001; Stamper 2001; Chong and Liu 2001; Filipe, Liu and Sharp 2001; Barjis, Dietz and Liu 2001). As an exercise to investigate its potential, I have focused on the three semiotics levels of semantics, pragmatics and social world for examining the framework in this new domain of application. We are asking whether a conceptual framework or theory with a proven record in one area can be extended to other areas.