Information Systems as a Social Science? The Individual Perspective

Lucas D. Introna
Department of Information Systems, London School of Economics and Political Science

Edgar A. Whitley
Department of Information Systems, London School of Economics and Political Science

Follow this and additional works at: http://aisel.aisnet.org/amcis1996

Recommended Citation
http://aisel.aisnet.org/amcis1996/171
1 Introduction

The point of departure for most studies of information systems has been the organisation. This is understandable given the historic role that computer systems have had in transforming the operations of businesses and organisations. Research has therefore focussed on understanding how information systems can be successfully introduced into organisations and how organisations can profit from their use. While this perspective is useful, we feel that it misses many important issues that are becoming increasingly prominent now that computers have a far wider role in society.

The point of departure for our research is not the organisation, nor is it at the global level of government, rather it is the individual and, as this paper will demonstrate, the phenomenon of information systems can also be usefully analysed at this level. We are interested in understanding how individuals relate to information technology and the effects of information technology on the individual. In doing so we will raise important issues about our understanding of the world. We believe that important insights can be gained by drawing on partner disciplines in the social sciences because although much of the published research into these areas focuses on the technical aspects of the new technology it often uses concepts that modern social science has shown to be inadequate for understanding the social world. At other times, when the focus is on less technical aspects many authors still use technically based terms. Thus, Thomas Erickson considers the use of personal pages on the world wide web to construct identity in terms of social hypertext' (Erickson 1996). The aim of this paper is to show how it is possible to apply social science concepts to evaluate features of the world without needing to resort to technology based terms and to illustrate the insights that such a perspective provides.

This paper draws on current, predominantly European, philosophical and social science thinking, especially the work of Martin Heidegger, Ludwig Wittgenstein, Harry Collins and Bruno Latour, (see also (Coyne 1995)(Poster 1990)) to show how to understand better what is happening to a world that is being transformed by the introduction of computing and communications technology. This will be done by considering four elementary concepts of the world of the individual which are incorporated into four types of technology commonly associated with the internet. The four concepts are chosen for illustration only and are not intended to act as a basis for a particular view of the world. The paper will then analyse them using ideas not normally found within information systems research and demonstrate a deeper understanding of the phenomena considered. The four concepts are: space, time, the world and Self.

2 Space

In the past four years the internet has seen a huge increase in its usage by people outside of the military and academics that it was originally intended for1. One consequence of this increase has been talk about cyber space' and virtual communities. The notion of space that has been used has been one based on the physical sciences with cyber space' being the place where electronic messages occur or the nodes on the network where members of virtual communities act but no longer need to be located physically close to one another (Stone 1995).

Richard Coyne (1995), however, presents an alternative perspective on this notion of space, drawing heavily on the philosophy of Martin Heidegger. It is necessary to reconsider what is meant by space now that it is no longer necessary for face to face communication to take place. Mobile phones, perhaps more than anything, demonstrate how previous assumptions about where someone was when they were
telephoning no longer hold; it is possible to use a mobile phone to call from the car, the street or even the toilet in addition to the office and the home. When talking on the telephone, apart from the numbers entered to make the connection there is no longer any difference between calling someone in the same street or someone half way across the world.

This lack of perceived distance reveals another understanding of space. Consider two people walking down a street. In terms of physical distance, the closest thing to them is the ground. It is literally beneath their feet, yet the closest thing to them is likely to be the conversation that they are involved in; similarly, the distance they are walking becomes ready to hand, or hidden, if their conversation is intense and involved (Coyne 1995).

Cyber space' is also talked about in terms of being in' a world'. Again, the traditional interpretation of this is to view in' in terms of physical location and the world' as a physical place. But individuals can also be " in' love", or " in' a good mood" with no requirement for a specific physical location. Similarly, there is the " world' of business", the " world' of academia" and the " world' of a child". Again, our understanding of these terms does not involve physical distances and locations and provides a way of reevaluating the notion of communities in cyber space'.

3 Time

Another assumption that is taken for granted relates to the concept of time. All too often time is simply seen to be homogenous, divisible, linear, uniform, absolute and measurable (quantifiable). These beliefs do not help, however, when exploring events such as a move from batch processing to real time' processing in a bank or the move to electronic banking. Does the availability of real time banking simply provide a new form of technology or are there fundamental changes to the way we do things, changes that arise from our changing conceptions of time (McCullough and Calder 1991)?

Obvious differences in the perception of time are found when comparing clerks in a bank with the managers of research and development teams. The clerks will tend to have a fairly short time orientation; their interactions with customers relate to that moment or possibly that day. Research managers, in contrast, tend to focus on the longer term, weeks, months and often years. A change to real time processing is therefore likely to have a more significant impact on the clerks than the managers (Lee and Liebenau 1996).

The work of clerks is likely to be driven by the customers and therefore they may structure their work periods not around traditional clock time but instead around their own created times. They may thus have a special Coke time' and a banana time' when business is slow so that instead of one long time horizon they have several shorter ones.

The managers of the research and development teams will tend to adopt the view of time taken by their scientists: a development' time which is open ended and where things take as long as they take. They are also likely to seek closure in activities and have milestones tied to external realities like market opportunities (Lee and Liebenau 1996).

The social construction of time can also be seen when considering questions like whether someone is bored with something or when something is wrong. These things do not relate to absolute, quantifiable time, rather they relate to the perceptions of the individual in a particular situation. At one time a person may realise that something is wrong after only a few seconds, at other times this realisation may only come after some hours or even days (Polanyi 1966).

4 The world

To be' is to be in a world that is to say to be already immersed into a reality that is in some sense "out there". When I make the statement "I did some shopping at the shopping mall today" then the assumption is
made that there is a world (called the shopping mall) and that I transversed it, with my body, and did some shopping. In the process of shopping I may have "bumped" into somebody or I may have arranged a meeting with somebody for lunch at the mall coffee shop. Thus, the mall' is a world with its own dynamics, connotations, pleasures and pains attached to it depending, of course, on your own set of historical experiences of this world'. However, if I was actually referring to the fact that I was shopping by strolling through' the virtual shopping mall on my home computer then this becomes a different world' altogether. What sort of a world' is this? Can I say I was at the mall' at all? What sort of an I' was it that was at the mall? Clearly, our view of what world is' will have to change in this type of technological realm. Does it make sense to think of me' as socializing, buying, selling, learning, etc. in this virtual world', or is it mere techno myth?

What happens to Merleau Ponty's arguments that our knowledge of the world is "embodied", i.e., flows from our interaction with our world as bodies (Merleau-Ponty 1963). Can we merely extend our notion of a body into a virtual body? And what about Heidegger's arguments about the world being authentic only in the mode as being ready at hand? Does that imply that we can only experience an unauthentic world through virtual reality or must we rethink the meaning of ready at handness in the virtual world? Thus, in what way are we in the world when we are in a virtual world? Likewise, if we are in this world' what sort of a we' will we become, or be? These are issues that have not entered the information systems debate in any serious way. It seems that we will only progress with these issues if we draw on the theories of social psychology, anthropology, philosophy, etc.

5 Self

Erickson's paper on social hypertext (1996) talks about how people are using the internet and personal web pages to construct identity and shows that the ability to view a web page without needing to communicate with its author (and hence enter into a social obligation) changes our notion of self. People could view my web page and learn about my own particular interests (the Marx Brothers, travelling, etc.) without ever having to come into contact with my person.

This then raises the possibility of there being several different Self's in different places (Stone 1995). There could be the person you meet, the person you speak to on the telephone, the person who you write to about their research and then any number of different Self's in different places on the internet.

One view of this reappraisal of Self is found in Mark Poster's "Mode of information" (1990) where he argues that new forms of computer writing (electronic message services and computer conferencing) substitute (computerized) writing for spoken conversations. He suggests that these new forms introduce new possibilities for playing with identities, for example, "they degender communications by removing gender cues"(p. 116). Poster is arguing that because electronic mail removes the opportunity for visible cues the "identity" of the person can be totally hidden and, possibly, replaced.

Developing this argument suggests that by removing the physical characteristic of communication (and the visible cues thus provided) allows individuals to consciously or unconsciously change the view of themselves that they present "frontstage" (Goffman 1959). This is a bold step which flies counter to, for example, most studies of literature which suggest that the text can reveal much about the writer, whilst acknowledging the role of the subject in the hermeneutic process (Introna 1993).

6 Concluding discussion

This paper has presented four subjects which are involved in the relationship between individuals and computer based technology. Each one has been shown to be more complex than a simple, technological focus would suggest. Moreover, each topic has been considered from the perspective of social science disciplines which offer to illuminate them in more detail and increase our understanding of these complex phenomena.
Many of the perspectives outlined above are being explored at the Information Systems department of the London School of Economics where we are able to draw heavily on the expertise of colleagues in related social science disciplines within the institution. Our research projects in these areas form the basis for our research led teaching that focuses on what we mean by information and courses that look at how individuals relate to technology.

7 Notes

1) Historically, this increase can probably be traced back to US Vice President Al Gore's plans for a national information infrastructure and the resulting public discussion of this policy initiative. The stabilization of the concept also, however, relied upon the development of the technology, particularly the client software and commercial providers, and this would be a fascinating case study of the social construction of technology (Bijker 1995).

8 References


Polanyi M (1966) The tacit dimension. Peter Smith, Gloucester, MA.
