

# Agency Theory: Integration or a Thousand Flowers?

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**Abstract:** One of the challenges in the paper by Rose et al. (2005) is the need to build integrative theories to address the interweaving of machine and human agency. I would like to suggest, alternatively, that we should encourage a thousand theoretical flowers to bloom. I illustrate my argument using research on GIS in India.

*Key words:* Human agency, machine agency, structuration theory, actor network theory, theoretical diversity, GIS, India.

## 1 Introduction

I agree with Rose et al. (2005) that the interaction of human and machine agency is an important issue for the IS field. I also agree with much of the content of their article, and in particular with their discussion of some characteristics of an IS-focused agency theory. Such a theory would acknowledge agency of both machines and humans, but would see them as ontologically different. The two forms of agency are inextricably intertwined in a ‘double dance’ in which outcomes are emergent from the interaction.

So far so good, and both structuration theory and actor network theory (ANT) have something to offer here. I leave it to others to debate the relative or absolute merits of these two theories for the job in hand. My point of departure is Rose et al.’s challenge 6 which suggests the need to build ‘integrative

theories.’ I have serious doubts here, not merely in terms of the feasibility but also the wisdom of so doing. Should we, instead, be letting a thousand theoretical flowers bloom or, in other words, encouraging theoretical diversity? I will explore this issue in a particular empirical context in which I was involved with a co-researcher, Sundeep Sahay, namely the use of geographical information systems (GIS) for district-level administration in India.

## 2 GIS in India

Sundeep Sahay and I had both used structuration theory in our previous research before coming together in 1993 to work on a three-year GIS research project. So, not surprisingly, we used the theory again, initially as a sensitising device for fieldwork. Concepts such as interpretive schemes, norm and power relations were used by us to generate questions which could be answered by respondents concerned with ways of thinking about GIS, normal modes of working, and political processes of GIS introduction and use. However, theories are not just tools for such functional tasks as question generation, and our work on the GIS project drew on our tacit knowledge of the theory from our previous exposure. Indeed, we sometimes used to debate our own interpretations of the theory and its relevance to the matter in hand.

Our most ‘prestigious’ publication from the research project, measured in these days of increasing orthodoxy in the Anglo-Saxon academic world at least, is our *MIS Quarterly* paper (Walsham and Sahay 1999). This uses actor network theory as a basis for the paper. Why? Well, we had come across the theory during our work and it seemed to offer an opportunity to ‘take technology seriously’ (Monteiro and Hanseth 1996). My 1993 book which made some use of structuration theory (Walsham 1993) had been (rightly in my view) criticised for a lack of detailed attention to technology. We would have liked to present the MISQ paper as having drawn on both theories, but the reviewers wouldn’t let us do this. Indeed, an amusing irony was that one of the reviewers of an earlier version, which included more structurational material, said that s/he thought that the authors (us) had put it in to impress the reviewer with a fashionable theory! In the end, we cut out structuration theory altogether, except for a one-line mention, in the interest of having one theory only in a short journal article.

So, with a little more space, we might have been able to discuss the way in which both theories informed our study and our writing, but not in an integrated way, or at least not through an integrated theory. ANT-type accounts, particularly those with a strong focus on machine agency, can tend to be low

on their explanation of human agency. We tried, in our 1999 paper, to leave the ANT there explicitly, but retain some of the structurational focus (better on human agency) implicitly. It is for the reader to decide to what extent we succeeded, but the use of two theories does not have to involve their integration in any explicit sense into a new theory.

### **3 Our ‘Other Work’ on the Topic**

A further point is, however, that we didn’t use only two theories in designing, carrying out and writing up our research on GIS in India. Our ‘other work’ is probably less well-known in the IS community, but we were just as interested in it ourselves. For example, we wanted to try to theorise and thus explain the relationship between managerial agency and the broader social structure of society in India (Sahay and Walsham 1997). We drew on some of Giddens structurational work, but also on Whittington’s (1992) theorisation of links between social systems and managerial agency. We did not have the space in our later MISQ paper to develop this theoretical theme, and no doubt we would have horrified the reviewers who like a single theory if we had tried to do so. But our application to the Indian case of Whittington’s theorisation informed our later work.

If this still seems fairly close to a ‘mere’ extension of the use of structuration theory, then my second example is not. Sahay (1998) drew on a range of theorists on the nature of time and space to develop a deeper understanding of Indian attitudes to time/space and in what ways these differ rather fundamentally from those in Western countries. The same GIS case material is used to illustrate Sahay’s arguments, and there are links with ANT-type notions such as inscription. But this is not an ANT paper, and it certainly addresses issues of agency. I noted at the time of publication that the paper, single-authored by my co-researcher, provided a rather subtler view of implementation problems from a time/space perspective than our previous work.

### **4 More Actual and Potential Theories**

A later piece of GIS research in India was carried out by Puri (2003). He drew on the earlier work discussed above, but put much more emphasis on agency at village level in connection with development projects, rather than on GIS scientists and government administrators. He drew on a range of literature and theories, including the development theory of Sen (1999). He also addressed

the issue of ‘scientific’ versus ‘indigenous’ knowledge (Agrawal 1995), the former including outputs from GIS systems and models, whereas the latter is the more tacit knowledge of a specific village’s socio-economic system from the villagers themselves. Puri argued that both are important, but my main point in using the example here is to point to more theory, namely on the meaning of development and on the nature of knowledge, of relevance to both machine and human agency in connection with GIS.

There are many other theories, which could be used to investigate aspects of agency in connection with GIS, in addition to those outlined above. For example, it would be interesting to use ideas from the social construction of technology (Bijker et al. 1987) to examine the processes in Western countries, which produced the GIS technologies in the first place, many linked to military purposes. Again, one could look at the radical development literature (e.g., Escobar 1995) to theorise how governments, aid agencies and commercial organizations form alliances to ‘transfer’ technology such as GIS to developing countries, despite a long history of the failure of many such endeavours. It would be interesting to try to apply the ideas of Bourdieu (1998) to the diverse castes and groups in Indian society to try to better understand their interaction around projects such as those concerned with GIS.

## 5 Conclusion

I hope my main point is clear. I believe that there are many theories, of which I have mentioned only a few, which are relevant to the study of human and machine agency in the context of research on GIS projects in India. I don’t think they can, or should, be ‘integrated,’ if what is meant by this is bringing them together in one grand theory of agency. I think, however, that we can use different theories, including structuration theory and actor network theory, to illuminate different issues, and to theorise different elements of the overall research topic. So, I am more in the ‘thousand flowers’ camp. However, in case this is taken to mean that I think ‘anything goes’ in the way of theory, I do not. Researchers must show how and why they think their theory is relevant, and they must convince readers and reviewers that their theory adds something new. But an integrated theory of agency is not the way forward.

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