Chapter 1

The Use of Structuration Theory and Actor Network Theory for Analysis:
Case Study of a Financial Institution in South Africa

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ABSTRACT

In the current climate of global competitiveness, many organisations are increasingly dependent on their IT strategy – either to increase their competitiveness, or often just to survive. Yet little is known about the non-technical influencing factors (such as people) and their impact on the development and implementation of IT strategy. There would therefore seem to be prima facie evidence that there is a need for a new approach to examining the relationships between social factors, technology and the organisation with respect to the development and implementation of IT strategy. This article seeks to make a contribution in this regard. Structuration Theory and Actor-Network Theory were employed to analyse how non-technical factors influence IT strategy. Structuration Theory holds that human actions are enabled and constrained by structures. Structures are rules and resources that do not exist independently of human action, nor are they material entities. Giddens describes them as 'traces in the mind' and argues that they exist only through the action of human beings. Actor Network Theory (ANT) provides a fresh perspective on the importance of relationships between actors that are both human and non-human. By their very presence, actors work to establish, maintain and revise the construction of organisational networks of aligned interests and gradually form stable actor-networks. ANT emphasises the heterogeneous nature of actor-networks which consist of and link together both technical and non-technical elements.

INTRODUCTION

The primary aim of the study was to address the question: what are the socio-technical factors influencing the development and implementation of information technology (IT) strategy in the organisation?

IT virtually affects every aspect of any organisation that deploys it (Cats-Baril and Thompson, 1997). IT strategy helps to set direction (Straub & Wetherbe, 1989), comprehension and focus on the future in the wake of change in the organisation that it supports. Undoubtedly, IT has been the greatest agent of change in the last century and promises to play this role even more dramatically in the coming decades (Kling, 2000). However, IT strategy often focuses almost exclusively on the technology, the non-human aspect of the strategy (Boar, 1998), and either by oversight or ignorance pays less attention to the people aspect, which more often than not, turns out to be the deciding variable of strategy success. Orlikowski (1993) argued that organisational politics has an important influence on the degree to which IT, through its strategy, can be used.

There is no conflict or contradiction in the combined use of both Structuration Theory (ST) and Actor-Network Theory (ANT) in the research on which this article is based. The aim is not to compare and contrast ST and ANT, but to highlight their importance and complementary usefulness in the research, which is the primary objective and strength of this article.

A combination of Structuration Theory and Actor-Network has been used by Brooks and Atkinson (2003), who interpreted ST and ANT into a 'new' theory which they call StructurAN-Tion Theory. In this study, the theories are used separately and complementary in the analysis of the case study in order to focus on different, if complementing issues. They helped us to gain an understanding of the enabling and constraining influences of the technical and non-technical components in the development and implementation of IT strategy.

The contribution of ST is that it provides a means for understanding how social institutions are produced and re-produced over time (Rose, 1998). Giddens (1984) defines social systems as visibly patterned interdependent networks of actions, where change in one part results in change in another. The Theory of Structuration suggests that human actions simultaneously condition and are conditioned by organisational properties in social contexts.

ANT does not distinguish between human and non-human agents and rejects distinctions between the technical and the non-technical (Latour, 1987, 1996; Callon & Law, 1989). Its focus can be on the micro, meso or macro level of the establishment of heterogeneous networks of aligned interests, and its use in this study was to provide a vehicle for understanding the impact of organisational politics on IT strategy development and implementation, with the latter seen as the institutionalised result of the establishment of a network of aligned interests.

The different theoretical concepts of ST and ANT emphasise different social contexts and facilitate different types of explanations.

ST does not allow for the examination of relationships between people and technology, and, for example, how power and values are embedded in the use of technology. Monteiro and Hanseth (1996) argued that ST simply does not provide a fine grained analysis of the interaction between individuals and technology.

An interrogation of the relationship between individuals and technology, which ST lacks, is complemented by ANT. ANT is concerned with the interactions between technology and individuals (Law, 1992), and contains a wealth of concepts for understanding the relationship between technology and individuals. The combination and complementary use of ST and ANT allowed a more complete analysis of how IT strategy development and implementation are affected by non-technical factors.

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