Chapter 4
A Fluid Metaphor to Theorize IT Artifacts: A Post-ANT Analysis

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ABSTRACT

This chapter extends existing metaphors used to conceptualise the unique features of contemporary IT artifacts. Some of these artifacts are innately complex, and current conceptualisations dominated by a “black box” metaphor seem to be too limited to further advance theory and offer practical design prescriptions. Using empirical material drawn from a longitudinal case study of an Internet-based self-service technology implementation, this chapter analyses various aspects of an artifact’s fluidity. Post-actor network theory concepts are used to analyse the artifact’s varying identities, its vague boundaries, its unexpected usage patterns, and its resourceful designers. The successes and failures of the artifact, its complex and elusive relations, and the unintended ways user practices emerged, are also analysed. This chapter contributes by extending orthodox metaphors that overemphasise a stable and enduring IT artifact—metaphors that conceal the increasingly unpredictable and transitory nature of IT artifacts—with the distinctive characteristics of fluidity. Several prescriptions for the design and management of fluid IT artifacts are offered.

INTRODUCTION

Despite the increasing breadth and scale of IT artifacts and the pervasive role they play in our day to day lives, IT research continues to be dominated by studies that focus on the psychological and socio-psychological context of IT acceptance and use, the social and managerial contexts of IT, and systems analysis and design techniques that form an essential part of the construction of IT. The conceptual significance of the IT artifact itself has often been overlooked, either by treating it as a simple measurable variable, by decou-
pling it from the social context, and by even excluding it in IT studies (Akhlaghpour, Wu, Lapointe & Pinsonneault, 2009). The shift in many firms from adopting custom built applications to adopting packaged applications may partly explain why the IT artifact remains an under researched area. Many tertiary institutions have likewise shifted their curriculum to focus on managerial aspects such as enterprise architecture, IT governance, project management, service and operations management, systems analysis and design, and the teaching of packaged applications with lesser attention being paid to arguably the core subject matter, the IT artifact (Topi, Valacich, Wright, Kaiser, Nunamaker, Sipior & Vreede, 2012).

Orlikowski and Iacono (2001) analysed 188 articles published in the Information Systems Research (ISR) journal in the decade beginning in 1990 and ending in 1999 to understand the prevalent conceptualizations of the IT artifact. According to these authors, 13 different views of IT artifact could be distinguished but the black box metaphor remains the favoured and dominant conceptualisation as a foundation for inquiry. Although they identified 13 clusters of IT in these articles, they classified these into 5 general clusters. The clusters suggest that researchers focused on: “the building of IT artifacts with particular capabilities (the computational view of technology), their intended uses (the tool view of technology), technology as a variable (the proxy view of technology), and the interaction between people and technology (the ensemble view of technology) (Gregor & Juhani, 2007:5)”. Despite a recent similar analysis by Akhlaghpour et al. (2009) that reviewed published research over the years 2006-2008, and carried out on two more journals including the Management Information Systems Quarterly (MISQ), and the Journal of the Association of Information Systems (JAIS), little evidence was found to suggest that researchers have been deeply engaging with the conceptualization of the IT artifact. One of the potential problems with the current orthodox conceptualization of the IT artifact is that it may be misleading and also impeding the theoretical development of the IT discipline and consequently a body of knowledge useful to IT practitioners.

Metaphors can be described as useful “symbolic fictions” to describe and construct knowledge about the world in which we live (Morgan, 1980). Morgan (1980) has suggested an important link between metaphors and the way scientific theory is constructed and argues that they can exert an important influence on a discipline’s body of knowledge as well as practices. Contemporary IT artifacts are innately complex and the current metaphorical orthodoxy seems to be too limited to productively theorise and research them. Our principal aim therefore in attempting to understand the IT artifact is to depart from a predictable ‘black box’ conceptualization of the technological artifact to a more complex and ‘fluid’ conceptualization. Our major contention is that the contemporary IT artifact cannot be viewed only as predictable and seamless. We therefore glean from an alternative theoretical framework that is concerned with fluid nature of the IT artifact. As such we turn to post-ANT, and the more recent feminist work to highlight the fluid nature of an IT artifact (Moser & Law, 2006; de Laet & Mol, 2000).

In this chapter, we analyse the ‘fluid’ nature of an IT artifact observed in a case study of a self-service technology (SST) implementation at a large multinational private healthcare insurance firm, based in South Africa. The argument of this chapter is presented as follows. In the next section, the literature on the technological artifact is critically reviewed.