Chapter V
Balancing Local Knowledge Within Global Organisations Through Computer-Based Systems: An Activity Theory Approach

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ABSTRACT

This article investigates how, and with what success, global organisations design computer-based systems for knowledge sharing which aim to balance centralised and standardised approaches against more diverse local needs. The empirical basis for the article is provided by an analysis of two different global organisations, each with its own knowledge-sharing infrastructure in place. We use third-generation activity theory as the theoretical basis for our analysis. The contributions from this article are twofold. The first is our theoretical lens, where activity theory is applied to the domain of global information systems and their organisational context. This analysis provides a new approach in addressing both the mediation of and motivations behind knowledge-sharing activity. The second contribution concerns the theoretical and practical insights this gives on the problems and challenges of achieving a balance between global and local priorities within highly distributed work contexts, and the role of computer-based systems in this arena.

INTRODUCTION

Global organisations today face an inherent dilemma between maintaining closeness to their customers and stakeholders whilst the geographic reach of their operations and markets expands. There is a justified desire to retain the traditional economy of scale based on extensive routinisation and standardisation, in order to present a reasonably coherent and uniform face or identity (Ger, 1999; Leidner, 1993), but there is also pressure from local partners to pay closer attention to contextual details and to support different and often conflicting needs. The challenge that emerges from this is one of balancing the diversity presented by the increasing number of local stakeholders and partners, and at the same time working towards a degree of consistency and coherence in operations. Global information systems and infrastructures are aimed to address this complexity, but they remain limited in terms of the extent of contextual diversity they end up capturing (Pan & Leidner, 2003).

There is a significant body of literature concerned with the need for adaptation of information systems to local contextual demands. Typically this is discussed with reference to the heterogeneity of information systems and the subsequent need to adapt to local needs (Ciborra, 1994; Davenport, 1998; Kyng & Mathiassen, 1997); the inscription of interests into artefacts (Bloomfield, Coombs, Knights, & Littler, 1997; Sahay, 1998); and local resistance to top-down initiatives (Ciborra, 1994, 2000). Our intention in this article is to go beyond this acknowledgement of the situated nature of information systems and the dichotomy of global-local narratives by asking how firms attempt to achieve a 'pragmatic balance' (Rolland & Monteiro, 2002) between the uniqueness of local context and the implied uniformity of globally applicable 'solutions'. More specifically the research question that we address in this article is: *How, and with what success, do global organisations design computer-based tools for knowledge sharing aimed to balance standardised approaches against local needs?*

In order to carry out this research enquiry, we draw upon empirical material from two case studies of global organisations, each with its own distinct computer-based knowledge sharing system in place. The first case is that of a leading pharmaceutical company working within the private sector, which we refer to as GP. We focus in this case on the integrated information system that provided GP's communicators worldwide with the opportunity to share knowledge through a standardised interface. The second case study we examine is that of a not-for-profit organisation working within the context of open source software certification, in particular that based on Linux, which we will refer to in this article as LC. We focus here on the electronic mailing lists used by LC for both internal communications and product development.

The analytical lens of activity theory is used to analyse findings from the above case studies. This theory is described in the next section of the article. Following this, we provide a detailed description of our methodology and research design, before moving on to the analysis of the case studies. We then use results from our case analyses to draw some implications and conclusions for theory and practice.

ACTIVITY THEORY

Cultural-Historical Activity Theory

The cultural-historical theory of activity has its roots in Russian psychology of the 1920s and 1930s. The fundamental concept of this approach was formulated by Lev Vygotsky (1978), who spoke of artefact-mediated and object (motivation)-oriented action. In the early work of the cultural-historical school, however, mediation by other individuals and social relations were not theoretically integrated into the model. Such