

New Knowledge and Micro-level Online Organization: 'Communities of Practice' as a Development Framework

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Abstract

The role of communities of practice in knowledge creation is recognised in a number of contexts. The authors take a socio-technical perspective and identify four characteristics of such communities: situated learning, situated action, distributed cognition and social infrastructure. These are combined into a loosely normative framework to define and analyse communities of practice at the level of online micro-organisation. The framework is applied to three development projects: a reference service, a virtual enterprise initiative and a simulation of an electronic shopping mall. The authors discuss its potential in explaining and stimulating new knowledge in micro-level online work environments.

1. Introduction

Malone and Laubacher [1] reflecting on what they call the 'e-lance economy', describe a world where the traditional hierarchical corporation has been replaced as the exemplar of organizational work by a new organisational order of networked small organizations, which must be able to rapidly configure resources and tactics in the interests of both change (when required) and consolidation. Others have corroborated this vision in reviews of 'drivers' of the virtual and knowledge economies. [2; 3; 4] In such an environment, expertise may be best acquired and nurtured in communities of practice that persist across space and time and are independent of the functional and contractual boundaries that shape participation in fixed-term teams or projects. The text that follows explores the proposition that the community of practice, a form of 'bounded' social interaction, is a locus of knowledge creation in this new organisational order. For some years, the authors have explored online communities in a number of different contexts. Much of this work was concerned with 'hybrid' groups, where online sustains or complements traditional community interaction. Online interaction may strengthen traditional community in different ways. It may make interactions more visible, for example, and thus extend

the reach of individual community members [5], or it may sustain interaction when individuals are separated by circumstances or location [6]. In such hybrid communities, learning how to be a member 'in good standing' often depends on direct observation. Recently, with colleagues at Napier University and Indiana University, we have turned our attention to communities that are exclusively online, and to ways in which knowledge is created and represented in such circumstances. In this paper, three different online 'communities of practice' are discussed, with a specific focus on the infrastructure and artefacts that support new knowledge.

2. Communities of practice: critical components

Communities of practice have recently been defined as 'A flexible group of professionals, informally bound by common interests, who interact through interdependent tasks guided by a common purpose thereby embodying a store of common knowledge'. [7, p. 166]. Their contribution to innovation has been recognised for a number of years: Constant [8] discusses their role as an entrepreneurial frame that contributes to the 'creation of novel, holistic macrosystems' (p. 224). A body of work in the last two decades is pertinent to analysis of communities of practice as a factor in knowledge creation. One strand of this is concerned with apprenticeship, or situated learning [9], which schools members of a community in how to comport themselves. A second pertinent set of studies discusses micro-level innovations in practice, or situated action [10], and shows how solutions to local problems are found and appropriated in communities. Further strands are concerned with distributed cognition [11] and the infrastructure [12] that supports situated learning and situated action by means of appropriate artefacts and ethical norms. In the text which follows, all of these are invoked as components of online communities of practice which distinguish them from other sets of online