

Managing Complexity via Communities of Practice

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INTRODUCTION

Globalisation, liberalisation of trade, internationalisation of financial markets, and the information technology revolution are but some of the developments that organisations have had to contend with in the last few years. There are, therefore, huge challenges for business leaders in the wake of constantly shifting global competition and ever-increasing change, underpinned by complexity, unpredictability, instability, and ambiguity (Nixon, 2003).

In dynamic and complex environments, it is essential for organisations to continually create, validate, and apply new knowledge in the development of their products, processes, and services to ensure they add value (Bhatt, 2001). In essence, organisations seek to differentiate themselves on the basis of what they know, and managers of successful organisations are consistently searching for better ways to improve performance and results. Indeed, frequent disappointments with past management initiatives have motivated managers to gain new understanding into the underlying, but complex mechanisms, like knowledge, which govern an organisation's effectiveness (Wiig, 1997). Knowledge is, however, not a rigid structure that excludes what does not fit—it can deal with complexity in a complex way (Davenport & Prusak, 2000).

A variety of approaches to knowledge management (KM) exist, many relying heavily on technology. However, the focus of KM has moved from an early emphasis on technologies and databases to a keen appreciation of how deeply corporate knowledge is embedded in people's experience. Organisations have learned that technology is the easy part of supporting knowledge creation; the difficult aspect is working with people to improve

collaboration and knowledge sharing (Allee, 2000). To sustain long-term competitive advantage, an organisation needs to ensure a fit between its technological and social systems. In effect, technologies can be used to increase the efficiency of the people and enhance the information flow within the organisation, while social systems facilitate better communications and understanding of complex issues by bringing multiple viewpoints to a variety of situations (Bhatt, 2001).

This socio-technical view of KM has spawned a number of initiatives in recent years embracing organisational, cultural, and individual issues (Pemberton & Stonehouse, 2000). One in particular, the notion of a community of practice (CoP), has played, and continues to play, a significant role in knowledge exchange and creation. Indeed, CoPs are KM's mechanism of choice and are a valuable means of unlocking this hidden treasure (McDermott, 2000). In this sense, CoPs have an important role in the management of complexity within organisations; this is the focus of this particular article.

BACKGROUND

Complexity refers to the degree to which the structure, behaviour, and application of an organisation is difficult to understand and validate due to its physical size, the intertwined relationships between its components, and the significant number of interactions required by its collaborating components to provide organisational capabilities. Furthermore, the complexity and volume of global trade today is unprecedented, with the number of global players, products, and distribution channels much greater than ever before. Information technology has caused these global elements to change rapidly, and the decline of

centralised economies has created a more frenzied atmosphere within many organisations that feel compelled to bring new products and service to wider markets ever more quickly. This combination of global reach and speed compels organisations to ask themselves what they know, who knows what, and what they do not know (Prusak, 2001).

Strategies adopted by organisations that have previously placed emphasis on higher productivity via lean production methods, or shorter time-to-market through concurrent engineering, no longer provide differentiation, ensuring only survival, not growth (Rajan, Lank & Chapple, 1998). Thus, in the current climate, accelerated innovation by exploiting knowledge within the organisation is becoming the means by which superior performance ensues, with competitive success governed by an organisation's ability to develop new knowledge assets that create core competences to generate superior performance (Pemberton & Stonehouse, 2000). Moreover, the ability of individuals to apply their cognitive skills to extract and generate knowledge from existing sources of information has improved organisations' effectiveness to innovate and disseminate learning (McDermott, 1999).

Traditionally, the old adage 'knowledge = power' has been cherished by individuals for centuries, leading to the hoarding and protection by individuals of their knowledge assets. In an organisational context, however, the use of organisational knowledge relies on the sharing of this knowledge, and as it is shared, it multiplies (Allee, 2000). As a consequence, a radical rethink of basic business and economic models has catapulted the issue of knowledge to the top of the management agenda, and it has, arguably, become one of the most important factors of economic life (Stewart, 1997).

KM focuses on improving the means by which individuals' knowledge—and collectively held knowledge—is produced and integrated in organisations (Lesser & Storck 2001; Brown & Duguid, 2000, 1991; Scarbrough, 2003). Many researchers and practitioners in the knowledge arena argue that there is no knowledge outside of the individual, and they view externalised knowledge merely as information (Allee, 2000). The tacit knowledge that resides in the minds of individuals makes it difficult to share, and in this sense, the CoP has a significant

role to play in creating an environment that stimulates knowledge transfer and creation.

CoPs are physical or virtual groups of people who share a passion for something that they know how to do and who interact on a regular basis to learn how to do it better (Wenger, McDermott & Snyder, 2002). Essentially, they create, expand, and exchange knowledge and develop individual capabilities (Wenger & Snyder, 2000). They are formed through groups of many individuals who collaborate in the production of new knowledge of a mutually held kind. CoPs exist in a variety of forms, but they share a basic structure. A CoP is a unique combination of three fundamental elements: a domain of knowledge, which defines a set of issues; a community of people who care about this domain; and the shared practice that they are developing to be effective in their domain (Wenger et al., 2002).

This structure, outside the formal hierarchy of an organisation, provides the CoP with the potential to examine complex scenarios within organisations and provide a mechanism for dealing with it in an innovative and often unconventional manner.

CoPs and Complexity

In many organisations, CoPs are fostered to address untapped collaborative opportunities to serve as leverage to gain competitive advantage in today's complex business environment (Fontaine, 2001). The development and widespread adoption of global networks and communication protocols have not only made it possible, but also economically feasible to interconnect employees in large and geographically distributed organisations, allowing them to exchange information (Anand, Charles & William, 1998). This is a key process in the creation and management of collective knowledge, without which an organisation may not be able to extract this most valuable asset as a potential source of competitive advantage in complex environments. In this section, a number of pertinent themes of CoPs are introduced, many of which can assist in handling complexity.

Peer-to-Peer Help in Problem Solving

CoPs are informal networks that emerge of their own accord where members informally share knowl-

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