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Creating Value with Regional Communities of SMEs

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INTRODUCTION

This article provides a conceptual argument that the knowledge management (KM) approach of communities of practice (CoPs), and their virtual equivalents (VCoPs), can create value for clusters of regional small and medium enterprises (SMEs). The article firstly shows that value creation in regional clusters occurs by encouraging collective learning and reciprocal knowledge exchange. The article then shows that CoPs, and VCoPs in particular, have been the most successful value creation mechanism in large organisations. We argue that VCoPs hold considerable potential for value creation in regional clusters—of SMEs by promoting innovation, more effective knowledge sharing, and recognising the value of VCoPs as capital. The strategic integration of SMEs in regional clusters is analogous to large organisations' global operations. In this environment VCoPs combine industry-specific knowledge with firm specific knowledge and emerge as a new source of social capital.

BACKGROUND

Towards the end of the 20th century, a new global knowledge-based economy emerged as global knowledge became increasingly sophisticated and diversely located. Concurrently, developments in information and communication technologies (ICT) have significantly increased the ability to create, transfer, and maximise knowledge worldwide (Kulkki, 2002). Today, knowledge is the primary source of competitive advantage and the key to success for organisations in the knowledge economy (Grant, 2002; MacKinnon, Cumbers & Chapman, 2002; Patriotta, 2003). To capitalise on the value of knowledge, organisations “need to know precisely what gives them competitive advantage, keep this knowledge on the cutting edge, deploy it, leverage it in operations and spread it across the organisation” (Wenger, McDermott & Snyder, 2002, p. 6). People, as the creators of innovation and renewal, are the sources of value in knowledge. This human capital has the potential to create value at all times by generating something that did not previously exist. In fact Chattel (1998) asserts that human capital is core for the design of the future. It is also the basis on which communities of practice are built (Stewart, 1997). With the development of ICTs, these communities of practice now have the ability to operate over large areas, their communication facilitated by the Internet. These virtual communities of practice have the potential to create value to an even greater extent if they are properly understood and nurtured.

Creating value through knowledge and the use of VCoPs is an issue for organisations and for other economic formations, including clusters or networks of individual businesses. This article presents a conceptual approach to the creation of value through VCoPs based on existing knowledge management (KM) and cluster research. We conclude that VCoPs should be an important value-creating mechanism for regional clusters of small and medium enterprises (SMEs). Considerable attention has been paid to how VCoPs can be established and promoted (e.g., Ardichvilli, Page & Wentling, 2003). What is
needed is an understanding of how KM systems create value, and what features of these initiatives enable SMEs in regional clusters to be self-sustaining. It is our assertion that the personalisation technique inherent in CoPs, and used successfully in large organisations, has great potential to enable regional clusters of SMEs to create value. These concepts provide a foundation for future empirical research to identify the key elements for value creation through personalisation, specifically CoPs, and their associated VCoPs. This article will therefore establish the conceptual groundwork for future theoretical and empirical research which will investigate the practical mechanisms required to develop CoPs into regional clusters of SMEs.

Value Creation through Knowledge

Value creation through knowledge occurs when the organisation obtains value from its intellectual capital in the form of intangible assets. These intangible assets include hard intangibles, including such things as patents, royalties, copyrights, and databases, as well as soft intangibles, which are individual skills, expertise and capabilities, organisational culture, loyalty, and trust (Stewart, 1997). The sources of value in intellectual capital are:

- **Human capital**: people as the creators of innovation and renewal;
- **Structural capital**: organisational infrastructures including information systems (IS), procedures, and processes; and
- **Customer or relationship capital**: relationships with external people (Stewart, 1997).

The underlying characteristic of value creation is that it is a mutually advantageous process of co-creation between the various organisational stakeholders (Prablad, 2004; Prahalad & Ramaswamy, 2004; Rowley, 2004; Skoog, 2003). The participants clearly understand that this co-creation provides access to intellectual capital (human capital, structural capital, and customer/relationship capital) that would not otherwise be available.

### REGIONAL CLUSTERS AS VALUE CREATORS

The importance of value creation in the context of regional clusters was first recognised by Marshall (1947). In this resource-based view, value was obtained by access to resources, labour, and technological improvements resulting from knowledge spillovers. In the 1980s a new form of technologically dynamic industrial district emerged where competing firms cooperated by adhering to norms of reciprocity (Lawson & Lopez, 1999). This enabled them to access collective goods and services such as education and research and development, and to reduce the risks involved in developing new products and processes. The most frequently cited successful examples of this type of regional cluster are the Emilia-Romagna region in Italy and the Baden-Württemberg region of Germany (e.g., Lawon & Lorenz, 1999; Hopsers & Beugelsdjik, 2002; Humphrey & Schmitz, 2002). In both cases, geographically co-located SMEs provide specialised activities for a single stage of production in vertical value-added chains. This form of social embeddedness has the potential to lower transaction costs and in the process create value for all involved (Tallman, Jenkins, Henry & Pinch, 2004).

In the 1990s a new form of regional cluster emerged: the innovative milieu or learning region. The shift towards the knowledge economy changes the comparative advantage clusters obtained from physical resources to competitive advantage based on learning and knowledge (Mitra, 2000). In this innovative milieu, knowledge is the most important resource and learning is the most important process (MacKinnon et al., 2002). Innovative clusters typically have collective learning processes sustained by continuing exchange of knowledge and ideas; mobility; a high degree of openness based on geographically embedded social networks; and porous intra-firm, inter-firm, and intra-region boundaries (Saxenian, 1994; De Bernardy, 1999; Sternberg & Tamasy, 1999; MacKinnon et al., 2002). A paradoxical situation results in which firms have to cooperate in order to remain competitive. Success
Creating Value with Regional Communities of SMEs

stories, such as the much publicised Silicon Valley and the Cambridgeshire Phenomenon, entail technological regional clusters where cooperation and competition co-exist with an innovating economy, and illustrate that firms are able to resolve this paradox (Saxenian, 1994; Lawson & Lorenz, 1999; Hospers & Beugelsdijk, 2002). Universities have played a key role in product development based on histories of transfer of tacit knowledge and know-how between employees, students, and staff in trusting relationships. The Grenoble region in France is indicative of the types of SMEs that typically emerge in high-technology clusters. Small start-ups or spin-offs arise from research centres which in turn mature into medium-sized, research-intensive, innovation-oriented enterprises. There are also customer-oriented subcontractors and high performance family SMEs (De Bernhardy, 1999).

There has been a resurgence of government interest in regional clusters worldwide (e.g., DIIRD, 2003; Hwa, 2003; DTT, 2004). Many are promoting regional development in the belief that it will increase organisational productivity, the innovation will generate growth, and new businesses will expand the cluster and make it stronger (Porter, 1998). A study of 350 manufacturing firms in the Valencia region in Spain found a significant positive relationship between the firm’s membership of the industry cluster and its ability to create value, measured in terms of the number of innovations produced (Molina-Morales & Martinez-Fernandez, 2003).

Merely clustering firms together in a geographic location will not necessarily create the innovative milieu conducive to value creation. Staber’s research on a declining cluster warns regional planners to be aware of this and ensure that any efforts to establish regional clusters create an “institutionally conducive environment for collective learning and business success” (Staber, 2001, p. 339). However, as indicated above, collective learning is a cumulative process that takes place over time. It is based on trusting relationships that emerge out of reciprocal exchanges of knowledge and information, and are bound by strong social ties (MacKinnon et al., 2002). For this reason, it makes sense to examine how this collective learning takes place in other contexts to see if there is potential for using similar approaches to support value creation in regional clusters of SMEs.

CoPs AS VALUE CREATORS IN LARGE ORGANISATIONS

The popularisation of Senge’s (1990) concept of the learning organisation—with its promise that the five disciplines of systems thinking, personal mastery, mental models, shared vision, and team learning would enable organisations to innovate continuously—led to the organisations seeking a KM technique that would facilitate these. Wenger enunciated the communities of practice technique specifically for this purpose, proposing it as a means of addressing the five disciplines and in the process enabling firms to become learning organisations (refer to Wenger et al., 2002).

Early attempts by large organisations to tap into human capital (the source of intellectual capital) using KM techniques focussed on codification of knowledge by locating, capturing, and storing it in databases for later reuse by decision makers (Boisot, 2002). These initial KM efforts failed to deliver the expected benefits as they did not access the valuable tacit knowledge and know-how held by individuals. Attention was then directed to making the best use of knowledge by systematically supporting knowledge sharing (Yoo & Torrey, 2002). These personalisation approaches linked KM with business strategy. A knowledge sharing culture was developed, work processes were redesigned to incorporate knowledge flow, and an emphasis was placed on behavioural change (Davenport & Prusak, 2000).

CoPs have become the quintessential knowledge sharing and collaborative mechanism available to large organisations. The focus on CoPs as a coordination technique, rather than on organisational functional units, enables the transfer and integration of knowledge to occur across traditional organisational boundaries (Grant, 2002). Thus CoPs create value by addressing the two roles of economic exchange: (1) improving efficiency by continual reallocation of resources to more productive use, and (2) stimulating new productivity by combining resources in new ways (Huizing & Bouman, 2002).

Since 1997, large organisations have been actively adopting CoPs as a major element of their KM initiatives (Lee, Parslow & Julien, 2002;
Creating Value with Regional Communities of SMEs

Zboraiski, Gmuendel & Lettl, 2004). However, CoPs cannot be managed in the same way as other organisational initiatives. This is because they are not standardised, are hard to locate and define, lack a formal structure, and rely on voluntary participation and acceptance by other members of the community (Hackett, 2002). Consequently, organisations have created environments in which CoPs are identified and nurtured, enabling them to flourish and in the process provide organisational access to their knowledge potential. For example IBM has set in place a formal group to support its CoPs (Vorbeck, Heisig, Martin & Schutt, 2003).

Many leading multinational companies acknowledge the contribution of CoPs to their success in the knowledge economy (Wenger et al., 2002). Perhaps the most frequently cited of these is the World Bank, which has successfully used CoPs as a means of tapping into the vast knowledge that already exists within its organisation, rather than trying to discover new knowledge (Stewart, 2001). It now has more than 100 CoPs/VCoPs throughout the world (King, 2002). Similarly Shell Oil uses its CoPs/VCoPs as a means of retaining technical excellence throughout its worldwide operations (Wenger et al., 2002; Burress & Wallace, 2003).

We can see that large organisations are successfully using CoPs and their associated VCoPs as a major technique for creating value by tapping the organisation’s knowledge assets. By contrast, SMEs do not have access to the knowledge resources and capabilities of large organisations. This raises the question of how participation in CoPs and VCoPs by SMEs might enable them to tap into these resources and capabilities, and generate value for the regional cluster.

COPS CREATE VALUE FOR SMEs IN REGIONAL CLUSTERS

CoPs/VCoPs are the KM technique with the greatest potential for value creation by regionally based SMEs which are members of, or seek to establish, a regional cluster. SMEs are critical constituents of clusters as they “create a hub of learning through cooperation and competition among themselves” (Mitra, 2000, p. 232). We now consider what kinds of value CoPs can create for the region or cluster and how this value creation can be fostered. We argue that value in this context is created by promoting innovation, using knowledge more effectively, and recognising the value of VCoPs as capital.

Promoting Innovation

Innovation is dependent on knowledge and is increasingly important for the success of regions. The collaboration and communication capacity of networks, or intraregional ties, provides the means of accessing the intangible assets of innovation (Fuchs, 2002).

The collective learning environment of the innovative milieu displays striking similarities to Senge’s learning organisation, perhaps unsurprising as it is also known as the learning region. CoPs developed specifically for the learning organisation appear to be eminently suitable as the KM mechanism with greatest potential for SMEs in innovative clusters. Spence’s (2004) research in Canadian high-technology SMEs illustrates how a process that maximises personalisation creates sustainable value. Close geographical proximity and close personal relationships are essential features in the early stages of partner development. In fact, long-term value cannot be created by efficiency elements of speed, reliability, and innovation alone. Instead it must be accompanied by an ongoing dialogue in transparent and customised relationships, based on the intangible elements of tacit knowledge, reputation, integrity, and technical competence, from which trust emerges. This example illustrates the value-creating potential CoPs, as a personalisation mechanism, have for high-technology SMEs in regional clusters.

CoPs are able to support innovation regardless of the industry base. Innovativeness is an attitude that can apply to low-tech activities and is particularly relevant for many regional areas. Albonies and Moso (2002) attest that there is more to innovation than the technology-based innovative milieu. Few regions have the capability and resources required to develop high-technology clusters. Instead there needs to be an emphasis on innovativeness, an evolutionary process of innovative behaviour based on daily operations. They describe this innovative process in the Basque Country region of Spain as a highly industrialised, as opposed to high-technology, cluster. Working groups are established around special interests and needs of firms. Group members are
Creating Value with Regional Communities of SMEs

involved in cooperative ongoing knowledge exchange, where business management knowledge is collected and disseminated, and international business management learning and exchange occurs. This collaboration provides SMEs in the cluster the opportunity to learn new ways of operating. “Never has innovation been more related to discovery” (Albonies & Moso, 2002, p. 352). These working groups bear the hallmarks of CoPs and indicate their applicability as value creators for SMEs in regional clusters.

CoPs can create value through non-high-technical innovation. The traditional artisan jewellery industry from St. Petersburg in Russia is an example of this type of medium-to-low technology innovation cluster. Value is dependent creativity and technique based on design know-how that is transferred via tacit knowledge and achieved through practice (Forsman & Solitander, 2004).

More Effective Use of Knowledge

SMEs have deep professional, social, and business networks where personalisation is the preferred mechanism for knowledge transfer, and tacit and mutual trust is developed over long histories of interaction.

Sharing knowledge about the region and its resources can add value to individual SMEs and to the region. SMEs are good at knowledge creation, but are poor at retaining that knowledge (Levy, Loebbecke & Powell, 2003). This means that many SMEs fail to fully utilise the knowledge that enables them to grow and develop, namely in supporting customers and in managing the business. CoPs provide a mechanism where synergistic relationships can be developed by SMEs through local collaborations in their region. This mechanism, based on the social capability and prior experience, provides access to the absorption of knowledge (Almeida & Kogut, 1999). Thus SMEs are more easily able to recognise the value of knowledge and the value-adding potential of their regional knowledge exchanges. Capello (1999) describes this knowledge sharing where collective learning is developed as the club good.

Sharing knowledge resources among SMEs can help them overcome limitations of size. Large organisations have access to many resources such as expertise, infrastructure, and physical and intellectual resources within the confines of the firm. SMEs do not often have access to such resources and facilities internally. SMEs that are involved in flexible and cooperative regional networking, or intraregional ties, have the potential to overcome these limitations (Fuchs, 2002). CoPs are an effective mechanism for SMEs to conduct these intraregional networking interactions. These intraregional ties enable SMEs to obtain competitive production value. Fuchs (2002) is concerned that these ties are extended to include global links which provide value through added know-how and access to international markets. Perhaps the greatest value of extending these ties is that it prevents the CoPs from becoming too inflexible. The discussion that follows indicates how some SMEs are accessing these global resources through the use of VCoPs.

FUTURE TRENDS

Virtual Communities of Practice (VCoPs) as Capital

VCoPs are able to create value by driving strategy, starting new lines of business, quickly solving business problems, transferring best practice, developing professional skills, and supporting the recruitment and retention of talented employees. VCoPs emerged in large organisations to address the needs of their globally dispersed operations. This is analogous to the composition of the regional cluster’s agglomeration of SMEs. VCoPs appear to be a natural evolution of CoPs for value creation in regional cluster-based SMEs.

Ho, Au, and Newton (2003) describe how the successful use of VCoPs is contributing to value creation in the apparel industry cluster of Hong Kong. VCoPs have arisen out of virtual trading communities. These provide members with access to portals where vast amounts of relevant information are distributed daily to supply chain members. Trade and professional associations, and academic institutions are also providing non-profit portals with free access to information. These professional associations and educational institutions are playing an important role in establishing VCoPs. For example apparelkey.com, established by the Hong Kong Polytechnic University and Chinese University of Hong Kong, provides different channels for knowl-
edge sharing including threaded discussion forums and a page where members can discuss problems with experts. VCoPs have changed the way intellectual capital is acquired and leveraged for product/process improvement and innovation. They are instrumental in finding the best sources of supply and demand. In fact VCoPs are a new source of capital that is obtained when industry-specific information from them is combined with internal firm-specific knowledge.

VCoPs necessitate new ways of managing knowledge. No longer is the firm able to confine the knowledge within its boundaries, as they have become permeable to external knowledge flows. SME managers therefore need a clear understanding of the internal and external knowledge that provides value to the organisation and ensures that appropriate channels are established to maximise this value.

Large organisations have found that it is not easy to manage CoPs, as they are fundamentally informal and self-organising, and are not amenable to organisational structures; thus, efforts to institutionalise them may well limit their potential. However, the very nature of the SME would indicate that these issues are unlikely to create problems for SMEs. Instead CoPs provide SMEs value-creating potential as it is known that SMEs firms investing in their external relationships are more likely to succeed.

CONCLUSION

With the move to the knowledge economy, large organisations are successfully creating and sustaining VCoPs to access the valuable knowledge that exists within their organisation. SMEs, without the organisational resources available to large organisations, can utilise the principles of such KM initiatives by linking with other SMEs. Regional clusters can create value from knowledge, and communities of practice are essential to this process. VCoPs are the most suitable mechanism because of their facility for rapid, inclusive communication, coupled with their ability to draw in knowledge resources from a variety of sources and to manage the clusters’ knowledge most effectively. To achieve this, VCoPs must develop appropriate practices to foster trust, an ethos of innovation, and commitment to the regional area. These developments present not just an opportunity, but a mandate for action given the global nature of competitiveness. Further research on VCoPs in regional clusters will help us understand how to enhance the value of the collective knowledge of SMEs, and how regional areas can establish and sustain SME-based clusters and derive value from them.

REFERENCES


**KEY TERMS**

**Cluster:** A group of organisations that are linked together around a particular industry.

**Coopetition:** A situation where organisations, usually SMEs, are cooperating with each other and at the same time they are also competing against each other.

**E-Clusters:** Digitally enabled communities of organisations that come together on a needs basis, in
varying formations of virtual organisations, to meet a temporary business opportunity.

Knowledge Economy: An economy where the resource of most value is knowledge.

Regional Clusters: Geographic concentrations of organisations, predominately SMEs, in the same or related industries that share resources and have access to other institutions important to competition, for example educational and training facilities. This close proximity creates a network of alliances that enables more productive operation, facilitates innovation, and lowers barriers to new entrants.

Small to Medium Enterprises (SMEs): Businesses defined by their small scale in contrast to large corporations. Criteria for defining small business vary from one context to another. Europe defines SMEs as organisations that employ fewer than 250 employees and have a maximum of 40 million Euro annual turnover, a maximum of 27 million Euro annual balance sheet total, a minimum of 75% owned by company management, where owners-managers/their families manage the company personally (Loecher, 2000). In countries with smaller total populations, the SME definition reflects this. An example is Australia, where SMEs are separated into two sectors: Manufacturing, where small enterprises employ fewer than 100 employees and medium enterprises 100 to 199 employees, and services sectors, where small enterprises have fewer than 20 employees and medium enterprises 20-199 employees (ACTETSME, 1998).

Value: In an organisational context, refers to anything that assists in achieving that organisation's objectives (e.g., Chattel, 1998).

Value Creation: In an information systems context, refers to the process of utilising intellectual capital (IC) to realise organisational value (e.g., Stewart, 1997).

Virtual Communities of Practice (VCoPs): CoPs enabled by online interactive technologies made possible by rapid ICT developments, often necessitated by the globalisation of operations. They are the most recent strategy for a personalised KM approach, and multinational corporations have made VCoPs the preferred KM technique (Ardichvili et al., 2003). Traditionally, CoP members interact on a face-to-face basis, but online VCoPs enable disparate members' ongoing participation. An example of a VCoP is the Silicon Valley Webgrrls, established by female professionals to counter the masculine dominance of the IT profession in that region (Benner, 2003).