



# Knowledge Management Strategies for Virtual Organisations

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*Much has been written about the virtual organisation and the impact this will have on organisational forms, processes and tasks for the 21<sup>st</sup> Century. There has been little written about the practicalities of managing this virtual organisation and managing virtual change. The ability of the organisation to change or to extend itself as a virtual entity will reflect the extent to which an understanding of virtual concepts has been embedded into the knowledge management of the virtual organisation as a Virtual Organisational Change Model (VOCM). Managing these change factors is essential to gain and maintain strategic advantage and to derive virtual value. The authors expand these concepts by using the example of organisations using Information and Communications Technology (ICT) and illustrate the three levels of development mode – virtual work, virtual sourcing, and virtual encounters and their relationship to knowledge management, individually, organisationally and community wide through the exploitation of ICT.*

What is a virtual organisation? One definition would suggest that organisations are virtual when producing work deliverables across different locations, at differing work cycles, and across cultures (Gray and Igbaria, 1996; Palmer and Speier, 1998). Another suggests that the single common theme is temporality. Virtual organisations centre on continual restructuring to capture the value of a short term market opportunity and are then dissolved to make way for restructuring to a new virtual entity. (Byrne, 1993; Katzy, 1998). Yet others suggest that virtual organisations are characterised by the intensity, symmetry, reciprocity and multiplexity of the linkages in their networks (Powell, 1990; Grabowski and Roberts, 1996). Whatever the definition there is a consensus that different degrees of virtuality exist (Hoffman, D.L., Novak, T.P., & Chatterjee, P. 1995; Goldman, Nagel and Preiss, 1995) and within this, different organisational structures can be formed (Davidow and Malone, 1992, Miles and Snow, 1986). Such structures are normally inter-organisational and lie at the heart of any form of electronic commerce yet the organisational and management processes which should be applied to ensure successful implementation have been greatly under researched (Burn and Barnett, 1999; Finnegan, Galliers

and Powell, 1998; Swatman and Swatman, 1992).

It could be argued that there is a degree of virtuality in all organisations, but at what point does this present a conflict between control and adaptability? Is there a continuum along which organisations can position themselves in the electronic marketplace according to their needs for flexibility and fast responsiveness as opposed to stability and sustained momentum? To what extent should the organisation manage knowledge both within and without the organisation to realise a virtual work environment?

A virtual organisation's knowledge base is inevitably distributed more widely than a conventional one, both within the organisation and without – among suppliers, distributors, customers, and even competitors. This wide spread can deliver enormous benefits; a wider range of opportunities and risks can be identified, costs can be cut, products and services can be improved and new markets can be reached by using other people's knowledge rather than recreating it. However, this does make it both more important and more difficult to manage knowledge well. It is harder to share knowledge and hence exploit it in a dispersed organisation, and there is an increased risk both of knowledge hoarders and of duplication leading to possible loss of integrity and wasted effort. While

competencies and their associated knowledge may be more effectively bought from business partners or outsourced if there are economies of scale, expertise or economic value, care must also be taken to avoid losing the knowledge on which core competencies are based or from which new competencies can be developed quickly.

The ability of the organisation to change or to extend itself as a virtual entity will reflect the extent to which an understanding of these concepts has been embedded into the knowledge management of the virtual organisation as a Virtual Organisational Change Model (VOCM). Managing these change factors is essential to gain and maintain strategic advantage and to derive virtual value. The authors expand these concepts by using the example of organisations using Information and Communications Technology (ICT) to implement an Enterprise Resource Planning (ERP) system and illustrate the three levels of development mode – virtual work, virtual sourcing and virtual encounters and their relationship to knowledge management, individually, organisationally and community-wide.

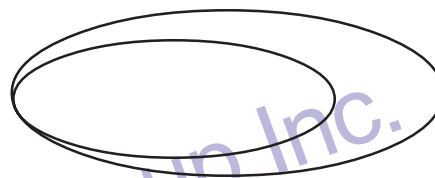
## Models of Virtuality

Despite the growth of online activity many firms are nervous of the risks involved and fear a general deterioration of profit margins coupled with a relinquishment of market control. Nevertheless, as existing organisations are challenged by new entrants using direct channels to undercut prices and increase market share, solutions have to be found that enable organisations to successfully migrate into the electronic market (Burn, Marshall and Wild, 1999). The authors suggest that there are six different models of virtuality which may be appropriate:

- Virtual faces
- Co-alliance models
- Star-alliance models – core or satellite
- Value-alliance models – stars or constellations
- Market-alliance models
- Virtual brokers

Put simply, virtual faces are the cyberspace incarnations of an existing non-virtual organisation (often described as a “place” as opposed to “space” organisation, [Rayport and Sviokola, 1995]) and create additional value such as enabling users to carry out the same transactions over the Internet as they could otherwise do by using telephone or fax (e.g. Fleurop selling flowers or air tickets by Travelocity). The services may, however, reach far beyond this enabling the virtual face to mirror the whole activities of the parent organisation and even extend these Web-based versions of television channels and newspapers with constant news updates and archival searches. Alternatively they may just extend the scope of activities by use of facilities such as electronic procurement, contract tendering, or even electronic auctions or extend market scope by participating in an electronic mall with or without added enrichment such as a

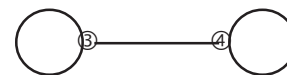
Figure 1. The Virtual face



common payment mechanism.

Co-alliance models are shared partnerships with each partner bringing approximately equal amounts of commitment to the virtual organisation thus forming a consortia. The composition of the consortia may change to reflect market opportunities or to reflect the core competencies of each member (Preiss, Goldman and Nagel, 1996). Focus can be on specific functions such as collaborative design or engineering or in providing virtual support with a virtual team of consultants. Links within the co-alliance are normally contractual for more permanent alliances or by mutual convenience on a

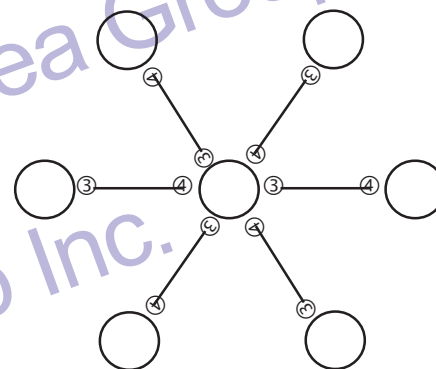
Figure 2. Co-alliance Model



project by project basis. There is not normally a high degree of substitutability within the life of that virtual creation.

Star-alliance models are coordinated networks of interconnected members reflecting a core surrounded by satellite organisations. The core comprises leaders who are the dominant players in the market and supply competency or expertise to members. These alliances are commonly based around similar industries or company types. While this form is a true network, typically the star or leader is identified with the virtual face and so the core organisation is very difficult to replace whereas the satellites may have a far greater level of

Figure 3. Star-alliance Model



substitutability.

Value-alliance models bring together a range of products, services and facilities in one package and are based on the value or supply chain model. Participants may come together on a project-by-project basis, but generally coordi-

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