Chapter 5

Knowledge Assets in Virtual Enterprises: Sources of Risk and Management Issues

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ABSTRACT

Virtual Enterprises (VEs) are business models characterised by the aggregation of co-operating firms that share a common goal such as a business opportunity or a project. In these structures, knowledge can be seen as a primary asset. There is a subdivision of cognitive tasks among specialised companies, which exchange knowledge much before they even exchange goods or money. Assuming a knowledge-based view of VEs, implies the necessity to define appropriate methods to manage knowledge exchanges and the associated risks. The aim of this chapter is to explore the nature of knowledge flows in a VE and study the connected managerial issues to point out the different knowledge-related risk factors and to discuss the challenges posed by their successful management. To provide a practical example, the chapter also illustrates the findings of a real-life case-study.

INTRODUCTION

Due to the characteristics of the modern economy (such as the diffusion of Information And Communication Technologies - ICT, the increasing global competition, and the complexity of innovation processes), even the largest firms can’t operate in isolation, but are embedded into international networks of relationships. For this reason, there have been significant efforts in the economic and managerial disciplines to identify the rising models of inter-organisational relationships, to describe their economic functioning, and to propose managerial guidelines. One of the models that have received significant attention is that of companies organised in the form of a Virtual Enterprise (VE). This model (whose definition will be discussed later in the paper) refers to large networks of companies that join in temporary but often repetitive relationships around a common business project. This model of inter-company collaboration may appear particularly appropriate in the current economy, which demands
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from companies to satisfy conflicting needs such as: efficiency and flexibility, subdivision and integration of tasks, innovation and stability, local and international presence, etc.

In the studies of the managerial challenges posed by the VE model, the literature on organisation science and strategic management is now intertwined with the more recent fields of knowledge management (KM) and knowledge economy, where knowledge is perceived as a core business resource. This has provided the opportunity for new perspectives on VEs, which can be seen as structures where companies share and exchange knowledge (Preiss, 1999; Malhotra, 2000), and consequently depend on one another in cognitive terms. In that context and in direct analogy with the subdivision of work in a manufacturing supply chain, a knowledge-based view of a VE identifies the subdivision of cognitive tasks among participating companies: each of them possesses specific elements of knowledge that have value only when they are exchanged and combined with the other companies’ knowledge for the success of the entire project, for example the development of a new car model. This approach does not imply that physical activities disappear or are neglected; it just focuses on the knowledge developed, possessed and exchanged by the companies – and the mechanisms employed for this – to understand the functioning of a VE.

Assuming that no firm can possess all the knowledge that is necessary for conducting business, a VE can be seen as a structure to manage knowledge flows among the participating companies, in a way that enables co-operation (which represents the core characteristic of a VE) and also preserves independence (since each firm develops and possesses its own knowledge pool). The mechanisms and processes that govern the flows of knowledge become essential for the effective management of a VE (Kinder, 2003; Malhotra, 2000). This view requires a shift in VE management. For instance, rather than a problem of resource allocation among networked units (Martinez et al., 2001) or of enabling ICT infrastructures (Kovacs and Paganelli, 2003), the focus should turn to the types and value of knowledge that is produced and exchanged by VE members and the mechanisms they employ for managing that knowledge.

This chapter considers a knowledge-based view of VEs and aims to study a rather under-explored issue of VE operation, which is the management of risks associated to the exchange and sharing of knowledge. Although there have already been some pertinent and supportive studies (see e.g. Loebbecke and van Fenema, 2000), this issue has been considered mainly from a general viewpoint. There is still the need for detailed analysis of the nature and typology of risks arising when knowledge is treated as an economic resource; in addition, the literature lacks empirical examples about the application of these concepts in practical situations.

The chapter is structured as follows:

- First, the proposed knowledge-based view of VEs is presented with the purpose to highlight the main issues deriving from a focus on knowledge and knowledge flows. The main references in that section are drawn from recent organisational and strategic studies on the VE model and the field of Knowledge Management. Then, a discussion is held in an attempt to integrate these contributions and highlight essential aspects of VE management under a knowledge perspective.

- Second, the management of risks associated with knowledge management in VEs is investigated and the combination of traditional elements of the risk management literature with those highlighted in the previous section is proposed.

- Finally, a practical application of the perspective illustrated to the analysis of a real-life case of VE (the SAP ecosystem) is presented.