Chapter 7.14

Knowledge Integration Through Inter-Organizational Virtual Organizations

Montserrat Boronat Navarro
Universitat Jaume I, Spain

Ana Villar López
Universitat Jaume I, Spain

ABSTRACT

In this study we adopt an inter-organizational view to examine virtual organizations. Thus, we understand this phenomenon as a strategic agreement between organizations that collaborate and coordinate their work through information technologies. This dimension adds greater flexibility to the strategic alliance, which in turn is beneficial for the integration of knowledge. In high technology industries, inter-organizational virtual organizations add further advantages to this option of knowledge integration through strategic alliances because of the importance of speed and flexibility. We put forward a series of propositions, following an initial approximation to this phenomenon through the combination of the strategic alliances, virtual organizations and the knowledge-based view literatures.

INTRODUCTION

Progress in information and communication technologies has led to the development and increasing importance of virtual organizations. There are various definitions of this term. Greis and Kasarda (1997) recognize a common factor in all definitions: that a virtual organization is a related group of companies formed to enable collaboration toward mutually agreed on goals. One of the main features of virtual organizations is that people are linked not by face-to-face relationships but by sharing information through electronic networks (Weber, 2002); hence virtual organizations are associated with an intense use of computer networks and information technologies to support cooperation. Moreover, adaptability, flexibility and the ability to react quickly to changes in the market are properties that are usually assigned to virtual organizations (Grabowski and Roberts, 1999).

We adopt an inter-organizational view to examine virtual organizations. Thus, we understand this phenomenon as a strategic agreement between organizations that collaborate and coordinate their work through information technologies. This last dimension lends greater flexibility to the strategic alliance, which in turn is beneficial for the integration of knowledge.

According to the knowledge-based view (Nonaka, 1994; Nonaka and Takeuchi, 1995; Grant, 1996; Spender, 1996), knowledge integration is one of the main capabilities that organizations must possess in today's markets. In some industries, such as biotechnology, that need to integrate different bases of specialized expertise, the sources of knowledge are distributed across a great variety of organizations. Strategic alliances are an option that may solve problems of speed or cost in these cases.

Hence, in this chapter we draw on the knowledge-based view and strategic alliances literatures to identify advantages that inter-organizational virtual organizations may have in the creation of knowledge.

The study begins with an overview of virtual organizations and their properties. We then review the idea of strategic alliances and networks as a way of integrating knowledge, explaining their advantages and placing special emphasis on the case of strategic alliances in which the main aim is the joint creation of knowledge between partners and not simply the appropriation of this knowledge by one of the members of the agreement. In the following section, we argue that inter-organizational virtual organizations add more advantages to this type of alliance because of these special features. The latter two sections include some propositions, and the chapter closes with our conclusions.

VIRTUAL ORGANIZATION

Since the concept of virtual organization was introduced by Mowshowitz (1986) and popularized by Davidow and Malone (1992), it has become increasingly used in management theory and, in particular, in the information systems literature. An initial approach to this term suggests that a virtual organization is a geographically distributed organization whose members are bound by a long-term common interest, and who communicate and coordinate their work through information technologies (Ahuja and Carley, 1999). Computers and information technologies favour the linking of corporate processes (Davidow and Malone, 1992) and the shift towards virtual organizations entails fundamental changes in managing daily operations and coordination tasks.

According to some authors (e.g. Kasper-Fuehrer and Ashkanasy, 2003), there are two approaches to studying virtual organizations, depending on the unit of analysis: the intra-organizational view, in which virtual organization is a collaboration of business units within an organization, or the inter-organizational view, in which different organizations collaborate to form a cooperative agreement. We focus on the second approach since our interest lies in the integration of knowledge through various firms.

Virtual organizations use information technologies such as electronic mail to share information and coordinate their work, and this characteristic enables a group to create and sustain its identity without a shared physical setting (Ahuja and Carley, 1999). The structure of a virtual organization allows a high degree of flexibility, competitiveness and cost efficiency (Fitzpatrick and Burke, 2000). In line with the inter-organizational approach, we consider a virtual corporation as a temporary network of independent companies linked by information technology to share skills and costs

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