Chapter 4
Managing Risk in Virtual Enterprise Networks: A Supply Chain Innovation Perspective

Samir Dani
Loughborough University, UK

ABSTRACT

A virtual enterprise is a temporary relationship of participating members, which is formed for a specific objective or project and dissolved once the objective or project is fulfilled. The temporary nature of the relationship and the informal structure of the network can be the source of various challenges and risks. This chapter reviews the literature and investigates the risks associated with Virtual Enterprise Networks. It also argues that innovation is very important for managing/mitigating risks and supports this argument by proposing a framework which defines a risk mitigation process under the perspective of supply chain innovation. This chapter also discusses ways to innovate within the virtual enterprise network and facilitating newfound innovation. The chapter ends with a brief discussion of future research areas and items of conclusion.

INTRODUCTION

In today’s dynamic business environment supply chains and value chains are distributed globally, providing products and services to the customers in short lead times, emphasizing on low costs and high quality. The supply chains are designed and structured thoughtfully in order to optimize resource and skill capability. Sometimes, in order to reduce costs and bring innovation to the supply chain, larger organizations may bring onboard a network of organizations virtually collaborating on a temporary basis. This does not imply that only large organizations are leading the creation of these virtual networks. Some of the smaller organizations, who may have the innovative capabilities and skills but find it intimidating to transact on their own may form these networks to confront larger organizations. These networks can then provide the tools to take on tenders and projects which may have been available only to larger organizations. Thus a virtual enterprise is a temporary relationship of participating members,
formed, operated, and dissolved to accomplish specific short-term goals (Reid, et. al., 1996). As supply chains are becoming more globalised and at the same time lean, they are also introduced to a number of uncertainties and risks which if not mitigated can cause severe problems sometimes leading to supply chain termination. Although the literature surrounding supply chain risks is growing, there is still place for more research in this area. Supply chain innovation is a capability that is being considered vital for both mitigating supply chain risks and for creating innovation for the supply chain. The temporary nature of the relationship and the informal structure of Virtual Enterprise Networks can lead to various challenges and risks for the network. It is important to understand these challenges and risks and try to mitigate them in order to create a better and more solid working environment. This chapter presents the challenges and risks involved, and explains how innovation can act as a mitigating and risk relief factor. The chapter also discusses ways of facilitating innovation within the context of a virtual enterprise network (VEN) and ends with a brief discussion regarding the future research areas and conclusion items.

BACKGROUND

Virtual Organizations

Davidow and Malone (1992) when considering the business organization of the future had suggested the development of virtual corporations i.e. a temporary network of companies coming together to quickly exploit market opportunities. This also provides the entities of the virtual corporation with an opportunity to share costs, skill sets and access to global markets. Globalization indeed changes the way business is conducted and supply chains spread across the globe bring organizations, large and small, together with one cause: fulfilling the customer requirements at short lead times, low cost and high quality. Virtual organizations can be found in literature under various terms, e.g. Virtual Enterprises (Networks), Extended Enterprises, Supply Chains (Networks), Virtual Communities, etc. Camarinha-Matos (2002) has suggested that the trend towards creating virtual organizations is facilitated by the advances in information and communication technologies. The spread of the Internet and the development of tools to exploit the ever growing power of its power have brought business entities closer together to create organizations that now operate across national borders, invariably working in a boundary-less world. The working practices in industry are changing with organizations becoming more knowledge based and focusing upon their core competence, willing to share their unique skills with partner organizations. These alliances, often in the form of virtual networks, make much use of globally based team working. The virtual enterprise involves organizations and team members cooperating with globally dispersed partners in projects that often have a temporary nature lasting the duration of the contract. Zwegers, et. al. (2002) define Virtual Enterprise Networks as cooperative alliances of enterprises established to jointly exploit business opportunities. They suggest that the main purpose of the network is to prepare and manage the life-cycle of the virtual enterprise and establish mutual agreements among the network members on issues relating to common standards, procedures, intellectual property and information and communication technologies. Ahuja and Carly (1998) define a virtual enterprise network as a geographically distributed organization whose members, bound by a long-term common interest or goal, communicate and coordinate their work through information and communication technologies. However, Thompson (2008) suggests that the virtual enterprise network should connect Small And Medium Enterprises (SMEs) into peer networks, supported by appropriate collaboration practices and technologies, to give them the capabilities and competitive advantages similar to