



Risk management processes in supplier networks

Jukka Hallikas^{a,*}, Iris Karvonen^b, Urho Pulkkinen^b, Veli-Matti Virolainen^c,
Markku Tuominen^a

^a *Department of Industrial Engineering and Management, Lappeenranta University of Technology, P.O. Box 20,
FIN-53851 Lappeenranta, Finland*

^b *VTT Industrial Systems, P.O. Box 1301, FIN-02044 VTT, Finland*

^c *Department of Business Administration, Lappeenranta University of Technology, P.O. Box 20, FIN-53851 Lappeenranta, Finland*

Received 11 April 2002; accepted 6 February 2004

Abstract

This paper deals with risk management in supplier networks. The primary aim is to illustrate challenges that network co-operation brings to risk management. The paper outlines the general structure of the risk management process and presents methods for risk management in a complex network environment. The results indicate that risk management is an important development target in the studied supplier networks. When the dependency between companies increases, they become more exposed to the risks of other companies. The presented processes facilitate understanding and managing of uncertainties and risks in supplier networks. Empirical evidence is offered on the basis of case studies.

© 2004 Elsevier B.V. All rights reserved.

Keywords: Supplier networks; Supply chain management; Risk management

1. Introduction

1.1. Background

In many business environments, networking is almost an inevitable solution to help companies respond fast to market changes. In network collaboration companies deepen their relationship with partners and thus become more dependent on each other. The key success factors in networking, and the motives for entering into a partnership or alliance form the basis for the development of network arrangements. Opportunities like reduced

transactions costs, ability to concentrate on core skills, access to key technologies, and risk sharing among partners give direction for the development process. Even though a lot of research has been conducted in the field of industrial networking and supply chain management in recent years, only some of it has dealt with the risk management associated to these topics. In the years 1999–2001 a large study has been conducted with several industrial and academic partners. This paper has partially resulted from that research project (see also Hallikas et al., 2001, 2002).

1.2. Objectives

The purpose of this paper is to contribute and provide a more complete understanding of risk

*Corresponding author. Tel.: +358-5-621-2671; fax: +358-5-621-2667.

E-mail address: jukka.hallikas@lut.fi (J. Hallikas).

management in supplier networks. The paper seeks to express the risk management process approach in order to provide a more holistic view on the subject. We have formulated the following two general research questions for the study:

- (1) What kinds of risks arise from network collaboration?
- (2) How do the risk management processes operate in network collaboration?

Additional research objectives include answering the question of how risks can be identified and assessed, and what kind of options there are for controlling and managing risks. Furthermore, we will discuss special features that networking brings to business risk management. We will use these objectives and research questions to develop the outline of the study.

We have used the qualitative case study research methodology (Yin, 1994) in the study because the nature of the subject calls for deeper understanding of the topic. Information has been gathered through in-depth interviews with managers and chief executives from both, suppliers' and buying companies' side. Eleven companies from two industrial fields, electronics and metal industry have been involved in the study.

1.3. Outline of the study

The paper outlines the general structure of the risk management process and presents methods for managing risk in the network environment. After the theoretical background, we present the general characteristics of the studied networks. The nature of the risk management process is explained from the point of view of business networks. The phases and special characteristics of the risk management process are presented. After outlining the risk management process, we deepen our approach and demonstrate some special features of risk management in terms of dynamics and feedback. Finally we discuss the main findings, draw a conclusion of the study, and discuss future research challenges in the topic.

2. Business networks

2.1. What is it all about?

According to the strategic network definition by Jarillo (1988), strategic networks are long-term, purposeful arrangements among organizations that allow the operating organizations to get long-term sustainable competitive advantage. In strategic networks a lot of weight is put on the reciprocity of the relations. The individual companies operating in the network are dependent on the resources of the other network companies, and the possibilities of the individual organization to utilize these resources are determined by their place in the network. Network arrangements result from strategic collaboration between more than two independent companies with the aim of pursuing economic advantages. A network can be defined as a specific type of relation linking a defined set of persons, objects or events (Harland, 1996). For example, Nishiguchi (1994) has reported how Japanese companies have organized their suppliers into hierarchies: first-tier or primary suppliers provide systems rather than components. This trend reduces the number of first-tier suppliers and also makes the buying company more dependent on the suppliers. The primary tool employed by the Japanese to implement closer supplier co-ordination and individual supplier development is cross-exchange of staff between buyers and suppliers. On the basis of a procurement related literature review it can be concluded that the integrated procurement strategy should include such issues as: value chain positioning, environmental analysis, objective setting, organization structuring, strategic make or outsource decisions (which should include the strategic assessment of what is a firm's core competency), choice of different strategies (when to use competitive, partnership or network strategy) and the links between company level strategy and other functional strategies (Virolainen, 1998).

Generally speaking, through networking, companies aim at reducing financial and technological risks and improving their competitive advantage through deeper specialization. Further challenges are caused by e.g. shortening turnaround times,

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات