



Risk-based classification of supplier relationships

Jukka Hallikas^{a,*}, Kaisu Puumalainen^b, Toni Vesterinen^b, Veli-Matti Virolainen^b

^a*Lappeenranta University of Technology, Technology Business Research Center, P.O. Box 20, FIN-53851 Lappeenranta, Finland*

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

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Abstract

The management and exploitation of external resources has increased and become a new source of business success. This has given rise to various new risks and therefore increased the need for collaborative risk management and learning. The objective of this paper is to explore the differences in risk management and learning across supplier relationships classified through network risks. The paper provides a theoretical review of supplier relationships and risk management, as well as a survey-based empirical study conducted in one case company's supply network. A set of network risks and risk-management measures is developed by means of factor analysis, and a supplier classification by means of cluster analysis. According to the results, the exploitation of collaborative risk management and learning is highest among the most strategic supplier relationships. A classification typology based on suppliers' opinions helps both parties in the relationship and enables the efficient exploitation of mutual risk management with collaborative learning as one of its keystones.

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1. Introduction

In recent years the management of external resources has become a new source of business success. To create competitive advantage, organizations have to combine their internal core competencies and capabilities with those of suppliers, customers, and other external resources (see e.g., Doz and Hamel, 1998). Collaboration could be seen as a means of managing and reducing risks, but it also introduces some new risk factors.

The focus of this study is on describing the connection between risks in supply relationships and organizational learning as a component of risk management. As suggested by Spekman et al. (2002), a learning supply chain could be seen as a response to uncertainty, which drives partners to collaborate and increases the value of information. However,

they also state that the same uncertainty that motivates firms to collaborate also offers the partners a chance to behave opportunistically. It follows that risks and benefits in supply relationships can be connected to each other.

There are few theoretical frameworks of risks in collaboration and learning as a means of risk management. Moreover, earlier models of risk-based supplier-relationship classification have been restricted to buyers' views of supply risk and sellers' views of customer risk. In the following the suppliers' own view, which has so far been neglected, is taken into consideration in the classification. Thus, this paper begins to address the practical and theoretical need to explore both network-related risks and collaborative risk management and learning simultaneously. The aim is to study collaborative risk management and learning in different supplier relationships, which are classified through network risks and added-value potential. The first objective is to create a portfolio typology that classifies supplier relationships into clusters. Forms of risk management and collaborative learning are then considered and compared across the clusters.

*Corresponding author. Tel.: +358 5 621 6646; fax: +358 5 621 6699.

E-mail addresses: jukka.hallikas@lut.fi (J. Hallikas),
kaisu.puumalainen@lut.fi (K. Puumalainen), toni.vesterinen@lut.fi
(T. Vesterinen), veli-matti.virolainen@lut.fi (V.-M. Virolainen).

The empirical study was based on a survey conducted in the case company's supply network. The company is a large Finnish original equipment manufacturer (OEM) operating in the metal industry and striving for collaborative relationships with its first-tier suppliers. We developed a survey instrument that includes questions on relationship characteristics, collaborative learning, network risks and risk management. The study comprises 42 suppliers. Measures of risks, added value, risk management and collaborative learning were formulated through factor analysis, and supplier relationships were classified through cluster analysis.

The theoretical part of the paper presents a review of the essential literature. Relevant frameworks and models of supplier classification and supplier-relationship management are highlighted, typical risks related to supply networks are then introduced, and lastly forms of collaborative learning and risk management are presented. The empirical part begins with an introduction of the methodology, followed by some background information and a description of the research data. The analysis and results are explained and illustrated, and finally, the implications and suggestions for future research are discussed.

2. Classifications of supplier relationships

The management and development of supplier relationships have assumed increasing importance since the rapid proliferation of outsourcing and the use of external resources. Reactive and uniform relationship management can no longer be applied to all suppliers. Instead, effective supplier management requires distinct practices for different suppliers. Before these management practices can be planned and implemented, an appropriate supplier classification needs to be drawn up.

Several models of supplier classification are to be found in the literature on supply chain and marketing management. These models fall into two broad categories. Firstly, supplier relationships can be classified according to the continuum approach (see e.g., Burt et al., 2003; Cox, 1996; Dwyer et al., 1987; Dyer et al., 1998; Ellram, 1991; Hughes et al., 1998; Lambert et al., 1996; Webster, 1992), which bases the supplier classification on transaction-cost economics, core competencies and governance structures. Along a typical continuum model, suppliers are classified into arm's-length or market-based (adversarial) relations, different partnership relations and joint-venture or hierarchy-based relations (Cox, 1996; Hughes et al., 1998), or more simply, into competitive and transactional (discrete) and collaborative (relational) relations (Burt et al., 2003; Dwyer et al., 1987).

The second approach is the portfolio approach (see e.g., Bensaou, 1999; Olsen and Ellram, 1997; Kraljic, 1983; Masella and Rangone, 2000; Steele and Court, 1996). Apart from the actual classification, portfolio frameworks typically include an analysis of purchased items/services

and relationship-management strategies for classified suppliers (Olsen and Ellram, 1997; Kraljic, 1983). They differ from each other mainly in relation to the classification dimensions. Bensaou (1999) categorizes supplier relationships in accordance with the levels of the buyer's and the supplier's specific investments. Olsen and Ellram (1997) classify suppliers according to the strength of the relationship and the relative supplier attractiveness, while Kraljic (1983) uses purchasing power and supply risk as their criteria.

Although portfolio models are illustrative and widely used in strategic relationship management, there are limitations that need to be noted. Firstly, the selection and description of the dimensions and the number of supplier categories are somewhat vulnerable. If the number of categories is large and the dimensions are very complex, the available resources of different supplier relationships will become too scarce, and vice versa, if the number of categories is small and the dimensions are too simple, the resources of the supply chain cannot be allocated properly (Olsen and Ellram, 1997). Secondly, there is also criticism about appropriateness of using portfolios in classifications of supplier relationships. Dubois and Pedersen (2002) claim that portfolios do not fit into supplier classifications because relationships are continuous and interactive, and take place within a network environment. However, by setting the dimensions carefully such drawbacks can be reduced or eliminated.

Finally, most portfolio frameworks neglect the supplier's perspective. Steele and Court (1996) highlighted supplier preferences in their portfolio analysis of supply positioning, however. They began by using the dimensions of relative cost and supply, and then analyzed customer segmentation by supplier through the dimensions of the relative value of business and customer attractiveness. Finally, they matched supply positioning with customer segmentation in order to deduce the supplier appropriateness and potential synergies in the relationship.

An important element in supply relationships and portfolios is the value-analysis and value-creating potential of different relationships. According to Lamming (1993), the purpose of value analysis is to explore the value creation of different phases and links in the supply network. This requires understanding of how the links between different phases are planned and managed. Furthermore, Lamming suggests that companies should consider separately which sourcing strategies are best suited to the given situation. The main driver in terms of entering long-term relationships with customers is often the added value of the supplier rather than reduced purchasing costs. Olsen and Ellram (1997) described the factors influencing the strategic importance of purchasing in assisting the assessment of supplier relationships. Their framework embodies *competence-related factors*, such as the extent to which purchasing is part of the firm's core competencies, how it improves the knowledge of the buying organization, and how it improves the

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