

Attaining world-class R&D by benchmarking buyer–supplier relationships

Pia Hurmelinna^a, Satu Peltola^a, Jarno Tuimala^{b,*}, Veli-Matti Virolainen^a

^aDepartment of Business Administration, Lappeenranta University of Technology, Lappeenranta, Finland

^bHäme Polytechnic, Faculty of Technology/Logistics, Forssa, Finland

Abstract

The research and development (R&D) function has become fundamental particularly for companies acting in the high-tech industry sector. It is largely agreed that because of the severe competition, world-class R&D performance can no longer be achieved by a company on its own. Nowadays, meeting customer requirements increasingly needs R&D collaboration in buyer–supplier relationships. The aim of this study is to provide managers a well-defined method by which they will be more capable to improve R&D collaboration with their suppliers.

Benchmarking for best practices was first implemented by Xerox in 1979. Since then benchmarking has been applied in several areas by numerous researchers. However, in developing R&D in buyer–supplier relationships, benchmarking applications have been scarce. A case study in Finnish high-tech industry has been conducted in order to apply the benchmarking process in buyer–supplier relationships with the emphasis on R&D development. A case study research expands understanding on the success factors, barriers and potential that the benchmarking method in developing R&D performance in buyer–supplier relationships may reveal. © 2002 Elsevier Science B.V. All rights reserved.

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1. Introduction

Improving the research and development (R&D) of firms depends on various elements, one of which is using the innovation capacity of supplier relationships. Utilizing the interaction between the buyer and the supplier, a company may not only achieve higher supplier performance but it also creates new business opportunities in the field of R&D. In particular, the buyer–supplier

relationships should be benchmarked to recognize the requirements of world-class performance and the potential new R&D areas. An innovative environment in supplier relations, such as joint projects, collaboration or alliances for specific R&D activities is crucial for new product development. This innovativeness of partners may also accelerate the innovation cycle in the R&D process. Allocation, intellectual property rights (IPRs) and confidentiality are being considered as the most critical matters in cooperation. Suppliers' involvement in R&D requires much joint effort, good processes, smooth communication methods, technological competency and trustful relation-

*Corresponding author. Wahreninkatu 11, 30100 Forssa, Finland. Tel.: +358-3-646-2451; fax: +358-3-646-2210.

E-mail address: jarno.tuimala@hamk.fi (J. Tuimala).

ships. Understanding the high focus of agreements is very important, especially concerning managing different means of juridical knowledge protection in R&D cooperation.

The aim of this study is to clarify the potential of the benchmarking buyer–supplier relationships in enhancing the R&D performance towards a world-class level. By identifying the drivers that make some relationships more capable to produce R&D than others, a company may facilitate its R&D development towards superior performance.

2. Methodology

This paper contains first a literature review on the use of the benchmarking method in developing critical areas of business. Second, R&D collaboration is viewed by concentrating on contracting-related aspects, since contracting has a very vital role in ensuring R&D collaboration success. Third, a benchmarking process in enhancing R&D performance in buyer–supplier relationships is produced. The benchmarking process steps have been applied in the R&D context by generating a case study in Finnish high-tech industry. Also the advantages, restrictions and potential of the use of the benchmarking method in developing R&D in buyer–supplier relationships is analyzed on the basis of the case study findings.

3. Benchmarking in developing world-class business performance, processes, strategy and organization

Benchmarking is based on the premise that the outcomes will assist a company to develop their purchasing practices towards an enhanced performance level (Carr and Smeltzer, 1999). Benchmarking presents a systematic management process that helps managers to improve critical business processes by adopting the peak performance of the best-in-class company (Baghi, 1997; Razmi et al., 2000). Although each benchmarking process and the achieved results are unique, the general advantages achieved from the benchmarking process can be summarized as analyzing the operation, knowing the best of the best (BOB),

incorporating the world-class performers, and gaining superiority (Camp, 1995). The benchmarking process gathers standards for improvement to achieve better performance (Venetucci, 1992), and this process involves many attributes ranging from technical to cultural viewpoints (Zairi, 1994). As a method, benchmarking does not mean copying or stealing someone's superiority, but more likely adapting the best practices into one's own circumstances in the way most valuable for the company and its customers. Benchmarking enables the company to identify business trends, and it serves as an early detection device for bad news (Daugherty et al., 1996). This powerful tool fits for the purpose of competitive analysis as well as continuous improvement (Bemowski, 1991; Biesada, 1991).

A company that is using benchmarking study in developing critical areas of business should not expect any “quick fixes”. Development in the benchmarking should follow the “thinking is out of the box” approach where benchmarking results take the company closer to the world-class performance level (see Fig. 1).

4. R&D collaboration focused on efficient contracting

Partners may use their innovation capacities to achieve higher performance in the current relationship. Innovation capacity refers to a continuous

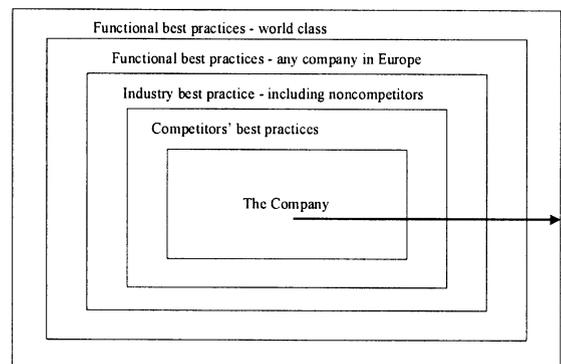


Fig. 1. Thinking is “out of the box” (Spendolini, 1992 in Korpela and Tuominen, 1996).

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