

In Search of Margin for Business Networks: The European Patent Office

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Often-mentioned features of a business network are a strong inter-organizational design and an interactive and dynamic set of relationships acting in concert with one another for a common goal, bringing together core capabilities of different organizations to accomplish business improvements. One of the benefits of a business network is the increased flexibility of linking actors together. This provides a more agile arrangement for the network to produce from actual customer requirements as a starting point, and not on the basis of assumed or forecasted customer needs. However, organizations are facing difficulties in assessing the value of investments in their business network. There is no valid method to execute an assessment of margin. In this article an assessment method and tool are developed to assess margin in business networks. A method is required that can give a more detailed assessment on a variety of criteria, or key performance indicators: (1) cost reduction, (2) revenue generation, and (3) increased flexibility. Therefore, a 14-step research method was developed, together with a related decision support system (DSS), named the Business Network Navigator. The research method was tested in a real-life situation i.e. redesigning the business network of the European Patent Office (EPO). The results of the analysis and lessons learned are presented. Conclusions with regard to the usability and validity of the assessment method and tool are formulated.

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Introduction

The main theme of this article deals with the development of a formal method and tool to assess the reengineering of a business network. Reengineering is a topic that has been widely addressed in the literature. It helps define strategies for bringing manufacturers, suppliers, and customers closer together (Liker *et al.*, 1995). *Reengineering* means taking steps to redesign and simplify business systems and processes, to search out best practices (Prasad, 1999), to develop a more competitive and core-competent workforce (Pralhad and Hamel, 1994), to explore new business methods (Kearney, 1997), or to radically transform business (Venkatraman, 1994). It fosters thinking outside the comfort zone (Luther, 1997), relies on value-added benefits to both the customer and the business (Vervest and Dunn, 2000), relies on strategic technology insertions (Shillito, 1994) during the product life cycle, and focuses heavily on the seven T's (talents, tasks, teams, techniques, technology, time, tools) (Prasad, 1999).

However, is there a structured method for assessing the reengineering of a business network — in particular, prior to performing the actual change in the business network? Such a method would be increasingly more important as so many industries face the demands for customization. This customization challenges them to tailor products and services to the spe-

cific requirements of every individual customer, while at the same time maintaining their current levels of economies of scale (Pine, 1993). It forces organizations to be more flexible (defined in terms of their ability to produce different and customized products) towards the market without losing profitability, i.e. margin.

One questions the suitability of the current organizational design, which originated from the traditional supply chain (Porter, 1985), to respond quickly to a changing environment. The common view on organizational design is that of a streamlined pipe that processes raw material into finished goods and delivers them to customers. But this is rather simplistic; the reality is much more complex: a network of vendors supplies an organization, which in turn, supports a network of customers, with third-party service providers (e.g. transportation companies) helping to link the entire network of actors together. Organizations are increasingly more aware of the benefits of a different approach to organizational design: *ICT-enabled business networks*. Examples of these new adaptive organizational designs include Sun Microsystems' virtual corporation, Dell Computers' dynamic network, Olivetti's platform organization (Ciborra, 1996) and Ikea's value constellation network (Normann and Ramirez, 1993). Organizations struggle with how they should accomplish this, and to what extent it will influence their current level of flexibility and profitability. They need methods and managerial techniques. Modular Network Design (Hoogeweegen, 1997; Delporte-Vermeiren, 2003) is one of the methods that supports the design and assessment of costs and throughput time of ICT-enabled business networks.

This article puts emphasis on the questions: Is it possible to develop a method for assessing the reengineering of an ICT-enabled business network with respect to margin? And what impact will such a method have in real-life situations?

We will present a method to assess margin in business networks and demonstrate the value of the method by presenting a detailed case study of the European Patent Office.

Aspects of Business Networks

Often-mentioned features of a business network are a strong inter-organizational design and an interactive and dynamic set of relationships acting in concert with one another for a common goal, bringing together core capabilities of different organizations to accomplish business improvements. One of the benefits of a business network is the increased flexibility of linking actors together. This provides a more agile (Preiss, 1994) arrangement for the network to produce from actual customer requirements as a starting

point, and not on the basis of assumed or forecasted customer needs.

The critical difference between this and Porter's (1985) traditional view of value chains — which is the division of the company into a series of value-adding activities connecting a companies' supply side with its demand side — is that here, business networks start with the end customer requirements and work backwards in the value chain. This breaks with traditional approaches that focus solely on reducing costs such as transportation or production costs. It supports a customization viewpoint in which products and services are offered in ways that support individual customer requirements and create added value for the customer of the value chain. Pine (1993) calls this 'customization' being the creation of product or service for the market of one. The new way of thinking about organizational design includes the assumption that organizations in the business network can *and* want to accelerate the process to serve the customer. One of the consequences is that organizations in the business network should base their production on actual customer demand instead of on stock (Hoogeweegen, 1997, p. 223).

According to Thorelli (1986, p. 37) a network can be viewed as consisting of (1) actors' positions occupied by firms, households, strategic business units inside a diversified concern, trade associations, or other types of organizations and (2) links manifested by interactions between positions.

In Figure 1, a business network is viewed from the perspective of actors, customers, positions, and links as the constituting elements. The starting point for the formation of the business network is actual customer demand, denoted as the order placed by the 'begin-customer' (as opposed to the term of 'end-customer' in the supply-driven value chain). The actors (e.g. A1, B1, C1) working together to fill the same order form a temporary alignment. In addition,

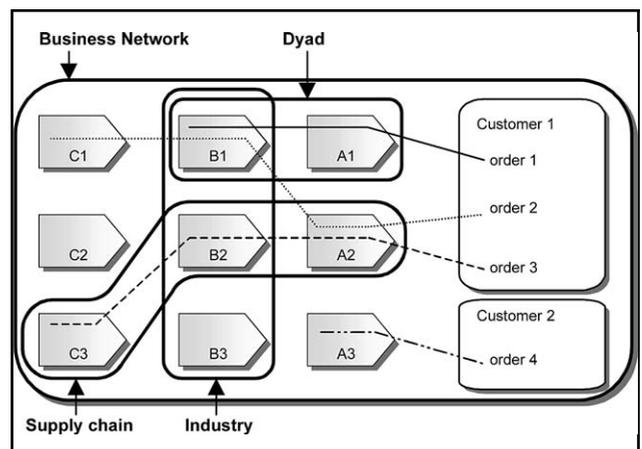


Figure 1 A Business Network, Involving a Large Number of Actors Contributing to the Filling of Several Customer Orders (based on Thorelli, 1986; Anderson et al., 1994; Hoogeweegen, 1997)

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