Chapter 10
A Multicriteria Tool for Evaluating Performance of Service Suppliers:
The Case of Met-Mex Peñoles Supply Chain

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ABSTRACT

The purpose of this document is to expose an applied methodology for improving performance of service supply chains mainly focusing on performance of service suppliers running operations in emerging market context. In fact, this solution (methodology and informatics tool) was conceived as a standardized instrument for suppliers of the metallurgical sector. Whereas some researches analyze the service supplier selection, the originality of this work is its continuous improvement approach, based on a standard instrument to measure and improve the quality of service in a metallurgical supply chain. From a logistics standpoint, this applied approach was helpful to the practitioners who were faced with complex evaluating supplier tasks. Comparing with other approaches, the main advantages of the solution proposed is its hybrid methodology founded on a strong systemic point of view and, continuous improvement purpose, as well as its easiness of utilization by service suppliers themselves.

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INTRODUCTION

Although most of the studies aimed at analyzing the performance of the supply chains only involve the management of suppliers of tangible items (Beamon, 1998, 1999, Mabert, V. 1998), and the measurement of their performance within a value network becomes crucial for the competitiveness of the company. Since the primary objective of a supply chain is the satisfaction of its customer profitability, effectiveness, and efficiency. The cooperation of all the companies that are involved in a supply chain determines the competitiveness of the companies (Terzi and Cavalieri, 2004, Flores A., 2004). In fact, Beesley (1996), Duclos et al. (2003), and Cedillo et al. (2006) agree that competitiveness systematically involves all the supply chain, not only isolated entities.

As for the service suppliers, since the relationship between suppliers and buyers of the service includes many points of contact (Albrecht 1998), it is imperative to establish reasonable ways to measure the performance and the process monitoring (Franceschini, 1998, Hossein, 2002, Bellido, 2004, Vandaele 2007, Khurrum S., 2002).However, due to the intervention of human factors as the characteristics of intangibility, heterogeneity, and simultaneity of the production process and service consumption (Fernández, 1996; Zeithaml, Berry and Parasuraman, 2004), measuring the performance of service suppliers is a complex task.

Three major groups of organizations can be seen in any supply chain: 1) users (organization); 2) suppliers; and 3) customers (distributors, dealers). Each of these actors requires suppliers to provide them with everything they need for their activities. Because of this close dependence and the intense current competition, all members are obliged to accomplish the requirements and improve the ones perceived as added value by the customer. One of these specifications is the quality of service which requires organizations to have performance measures that provide information on the operation of processes.

Although most studies have been directed towards the measurement of tangible goods, service suppliers are a special case where the measurement of performance is a complex task. Nowadays, due to globalization, we can obtain required supplies for any kind of process from anywhere in the world. Consequently, the service is a dominant factor to be a difference backing up the competitive advantage of an organization.

Consequently, the increased integration of service suppliers to the operations of companies, force organizations to establish better control of supplier performance, especially in services that impact on time and therefore on costs of production processes.

This is particularly true of Met Mex Peñoles, which is oriented to the metallurgical sector, where our research was conducted. It requires provision of services such as: a) maintenance of equipment, machinery and facilities throughout the organization, b) fixed asset projects such as the expansion of areas, installation of machinery and equipment, c) major repairs to equipment, machinery and plant facilities. It should be noted that these services are essential to the proper functioning of the process, and therefore, are as important as the flow of supply of tangible products (Martinez et al., 2006).

Based on this interesting research area representing the service operations, the objectives of this document are to highlight the importance of quality service in the metallurgical sector, and show a tool for evaluating performance of service suppliers simple to implement and use in an emerging market context. In fact, this solution (methodology and informatics tool) was conceived as a standard instrument for suppliers in the Mexican metallurgical sector. Whereas an important quantity of researches analyzes the service supplier selection, the originality of this work is its continuous improvement approach based on a standard instrument to measure quality of service in a metallurgical supply chain. Actually, it was conceived as a support for improvement