



A study of the purchasing management system with respect to total quality management

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Abstract

One of the key elements of a total quality management (TQM) policy is the assurance of an adequate supply of materials and components. The objective of this paper is twofold. Firstly, it analyses the relationship between different purchasing system variables and supplier quality assurance practices. Secondly, it explores both the connections between supplier quality assurance practices and other quality assurance practices used for internal processes, and examines the relationship of such practices with supply operational results. Different hypotheses are tested using data obtained from a sample of 152 Spanish automotive component suppliers. This data show clear evidence of the importance of product, supplier and company characteristics and highlights the importance of a company-wide commitment to the application of quality assurance principles.

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1. Introduction

During the last two decades, the subject of quality management has received the attention of a considerable number of researchers who have analysed the concept from a number of angles [1,2]. In the literature, it is possible to find diverse constructs, which are aimed at assessing the degree of implementation of total quality management (TQM) recommendations and guidelines [3–5], papers that relate TQM implementation with company results [6–8] and papers that relate company characteristics with TQM implementation [9,10].

The relationship with suppliers has been identified by researchers as one of the factors that define TQM policy and

practice [3–5,11]. This paper reports the main findings of a study, which has analysed the relationship of purchasing system variables with quality management measures and operational results of the purchasing function.

The paper is organised into five main sections. Section 2 provides a critical analysis of literature relating to purchasing and supply management, leading into the specific study objectives and the hypothesis that are proposed. Sections 3 and 4 comment upon the methodology for testing such hypotheses and presentation of results and the discussion of findings, respectively. The main conclusions of the research study are summarised in Section 5.

2. TQM in purchasing and supply

One of the key elements of a TQM policy is the assurance of an adequate supply of materials and components of the right quality, at the right time and which constitute value for money. According to writers such as Leonard and Sasser [12], it is difficult to achieve the required quality standards without the appropriate raw

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materials and components. In a TQM approach to managing a business, suppliers should be chosen according to their quality and reliability and not just price. For example, Garvin [13] found that plants whose suppliers were ranked by quality rather than cost minimisation outperformed those plants where cost minimisation was the primary objective.

Developing long-term partnership relationships with suppliers is another important factor in a TQM purchasing policy [14], the benefits of which have been extensively reported by Womack et al. [15] and Lamming [16]. According to Burnes and Dale [14] and Ishikawa [17], other characteristics of a supply chain management system include:

- Intensive communication with suppliers
- A willingness by both parties to improve the relationships
- Collaboration with suppliers to solve problems to the advantage of both parties
- Reducing the number of suppliers
- The supplier making a contribution to the customer’s design process

Another important feature in the customer–supplier relationship is the fulfilment of the ISO 9000 quality management system series requirements [18]. Corrigan [19] and Hockman et al. [20] point out the importance of ISO 9000 series certification in competing in global markets, although they also criticise the standard as time consuming and expensive to apply.

The application of TQM to the purchasing function have been analysed by Carter and Narasimhan [21] and Lascelles and Dale [22]. They found several advantages of this, including implementation of best practice through benchmarking activities, identification of areas for improvement

through quality management methodologies, application of quality management systems, tools and techniques, and improved team working. But they also identified the following problems:

- Poor levels of communication between purchaser and supplier
- Inadequate supplier quality improvement processes
- Suppliers’ lack of confidence and trust in the purchaser

This paper reports an analysis on the variables related to a TQM approach within the purchasing function. These variables have been divided into three groups: product characteristics, company characteristics and supplier characteristics (see Fig. 1). These factors explain the degree to which TQM principles, in particular quality assurance principles, are adopted in supply management.

In such an examination there are many product, company and supplier characteristics, which should be analysed. The interaction model of the IMP group [23,24] provides a detailed list of factors that should be taken into account when supply relationships are analysed. This model explicitly shows the importance of environmental and organisational factors for the development of an interaction process between supplier and buyer and the existence of a particular atmosphere. It also reveals the importance of product characteristics.

In this research, only seven characteristics have been selected for study. This selection, that was based on the literature review and includes those variables identified from existing research, is very much subjective; other researchers may have different views on this selection process. Thus, this paper should therefore be considered as a first attempt to identify the determinant factors of the implementation of TQM principles to the purchasing function. Many other

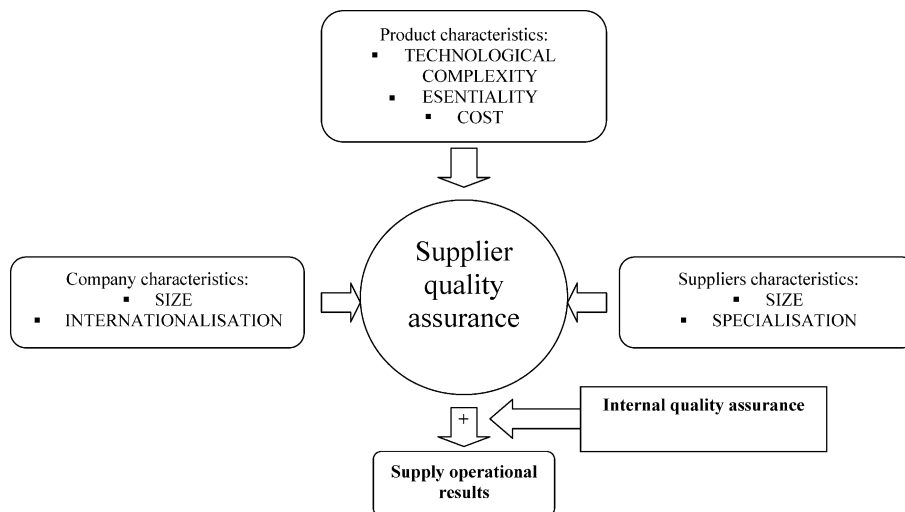


Fig. 1. Research framework.

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