

# Specific customer knowledge and operational performance in apparel manufacturing

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## Abstract

Customer knowledge is an important organizational asset that can be exploited to yield competitive advantage to a firm. However, empirical research on the application of customer knowledge to improve operational performance has been lacking in operations management. In this study we explore how customer knowledge can be used to improve operational performance under a supply chain environment in the clothing industry. We first conceptualize the relationship between customer knowledge and operational performance and delineate their attributes based on a review of the pertinent literature. We then formulate several hypotheses based on past studies and interviews with experienced industry personnel. We develop a self-reported questionnaire to collect data to test the hypotheses. Finally, we conduct a number of regression analyses to identify the key attributes (constructs) of customer knowledge that have a significant impact on operational performance. This paper contributes to research by demonstrating that there are relationships between specific customer knowledge and different facets of operational performance, and provides practitioners in clothing manufacturing with managerial insights on how to leverage customer knowledge for operational performance improvement.

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## 1. Introduction

A reduction of demand, a change in consumption patterns, the modification in the retailing system, and a global shift of production have triggered the

decline of the domestic production of apparel in some high-cost regions. The future of apparel companies in these regions is not in production but in developing markets, in retailing and in managing a global supply chain. The out-phasing of quota system that governed clothing export by the WTO before 2005 gave new power to the globalization and it will influence the structural change of the clothing industry in the long run (Adler, 2004). Griffiths et al. (2000) studied how the just-in-time strategy ensures that customer-specific needs are satisfied. Customer satisfaction is the key to success in any business. As a result, organizations

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are increasingly committed to quality and operational improvements in order to ensure customer satisfaction and enhance their competitiveness in the global apparel markets.

Nowadays, customers are offered a tremendous array of choices (Buckinx and Van den Poel, 2005). They can easily change their suppliers at relative low switching costs. The growing competition from low-cost regions has become an increasing concern for manufacturers in most industrialized countries. Drawing on the contingency theory, researchers agree that firms should seek a better fit with their customers' need as it will result in better performance of their operations (Das et al., 2000).

Recently, many manufacturers have gradually accumulated a wealth of customer knowledge, both generic and specific, in response to intensifying competitive pressures in the marketplace. Customer knowledge is an intangible, organizational asset that can be turned into an indispensable source of competitive advantage (Claycomb et al., 2005). Superior customer value can be created by integrating market and customer knowledge to provide operational flexibility (Claycomb et al., 2005; Jayachandran et al., 2004; Tuominen et al., 2004). The ability to continuously generate and use customer information is essential for manufacturers to create superior customer value (Tuominen et al., 2004). Manufacturers need to continuously update their knowledge based on information from customers (Claycomb et al., 2005; Da Silva et al., 2002; Tuominen et al., 2004), and then embody knowledge in their strategy development and implementation (Claycomb et al., 2005; Jayachandran et al., 2004). Perry et al. (1999) present a model of effective communication and multidirectional information flow in order to ensure rapid response of organizations to changing needs of the apparel marketplace.

Consequently, research on the application of customer knowledge has been quite substantial and growing in marketing (Claycomb et al., 2005; Da Silva et al., 2002). The purpose of this paper is to explore how to improve operational performance by enhancing various components of customer knowledge. It contributes to the operations management literature by identifying which knowledge components have significant impacts on operation performance improvement. Various regression equations were obtained by using different performance measures as the criteria. The findings of this paper provide insights into the knowledge components that might be used in management decision making

to improve the performance of a particular internal operation. The derived regression equations can be used as a guideline for manufacturers to achieve better performance. This paper is organized as follows. In the next section we establish the conceptual framework that helps ground the study theories. We then outline the proposition of this study. Following this, we present a detailed discussion of the research methodology. After presentation of the results, we summarize and conclude the research findings. We close by discussing the limitations of the study and suggest directions for future research.

## 2. The conceptual framework

Application of customer knowledge is different from adopting a marketing orientation. Marketing orientation is a behaviour that creates superior customer value, including responsiveness to marketing intelligence. However, applying customer knowledge is concerned with creating intangible knowledge-based assets that are indispensable sources of competitive advantages. It is concerned with exploiting the intangible asset of customer knowledge to create and sustain competitive advantage (Claycomb et al., 2005).

Lo et al. (2005) used the Delphi method to develop a framework that helps manufacturers integrate customer expectations into the development of business strategies along various business units in a clothing supply chain in order to enhance customer satisfaction. They express customer expectation in terms of product, order handling, sales force, interaction with internal staff, and social compliance. Accordingly, in this paper we refer to customer knowledge as understanding what customers prefer in terms of (i) product quality (Abdul-Muhmin, 2005; Claycomb et al., 2005; Lo et al., 2005), (ii) customer service (Abdul-Muhmin, 2005; Lo et al., 2005), (iii) effective salesperson (Abdul-Muhmin, 2005; Johnson et al., 2003; Lo et al., 2005), (iv) effective communication (Abdul-Muhmin, 2005; Lo et al., 2005), and (v) social compliance (Lo et al., 2005), which are collectively called attributes of customer knowledge. A research framework is proposed; see Fig. 1.

### 2.1. Product quality

In the B2B context, product quality has been identified as a critically important criterion in

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