



Technology, Customization, and Time-Based Performance in the Apparel and Sewn Products Industry

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ABSTRACT

This study analyzed levels of technology and customization in relationship to time-based performance measures in 46 U.S. apparel and sewn products firms that produce domestically. Although large firms indicated higher overall technology use, small firms were just as likely as large firms to use a number of pre-production, production, information, and communication technologies and more likely to offer a high percentage of custom products or services. Two time-based performance measures, work-in-process and reorder delivery days, were significantly better for firms with high technology use. Future research is recommended to further investigate the promise of technology, customization, and time-based performance measures in advancing the competitiveness of the apparel and sewn products industry.

Key words: apparel industry, technology management, customization

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Introduction

Technology has been traditionally used in apparel manufacturing to increase efficiencies often by producing higher volumes of products in less time. With the diffusion of information technology and Internet applications for operations management including inventory and replenishment, financial transactions, and communication with vendors and customers, technology is available to enhance every aspect of the apparel manufacturing process. Mass customization, a business strategy that focuses on customizing individual orders using enabling technologies, is of special interest to manufacturing industries as a competitive strategy.

The apparel industry in general and small and medium sized apparel firms specifically have not adopted technology as quickly as firms in other industries. The labor-intensive sewing operation is certainly one reason for slower adoption. Cost, need for technical support, and workers' technical literacy have been identified as other factors in this non-adoption (Schroeder, Gopinath & Congden, 1989). Large firms have been identified as the early adopters of design and production technology such as computer assisted marker making, cutting, grading, and production planning systems (Sullivan & Kang, 2000; Kincade, 1995). Retailers have been described as the drivers of information technology adoption by apparel manufacturers, such as