



How Can We Do Better? Improving Performance in Global Textile and Apparel Supply Chains

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Introduction

In apparel manufacturing facilities in developing countries, experts can often be observed conducting time studies on sewing specialists, with the goal of increasing productivity by decreasing cycle times. Many companies in developing countries are attempting to increase performance by concentrating on productivity improvements (Bheda, 2002; Bheda, 2003; Joint Apparel Association Forum, 2007). This research used a two-phase, mixed-methods research design in order to understand the various efforts of textile and apparel companies in developing countries to improve performance. It assessed likely determinants of performance improvement programs and identified specific strategies for improved competitiveness.

Theoretical Framework

This research used the Triple P-model as a theoretical framework (Tangen, 2002). This model illustrates the inclusion of both productivity and profitability in performance. The model includes attributes of input and output in productivity; price recovery in profitability; and quality, delivery, speed, and flexibility in performance.

Methodology

This research utilized a two-phase, mixed-methods research design. The first phase involved the collection of quantitative data via an online survey. The survey queried respondents about size, location, products, manufacturing locations, products sourced, sourcing locations, and end markets. The respondents were also questioned about the presence of a performance improvement program; the type of improvement program, i.e., *Total Quality Management, Lean Manufacturing, Six Sigma, etc.*; the focus on performance improvement, i.e., *productivity, quality, lead time, etc.*; and strategies for improved competitiveness, i.e., *addition of value added services, increases in flexibility, formation of partnerships, etc.* In the second phase, qualitative data were collected via phone and email interviews. Respondents were queried about products, customers, suppliers, supply chain configurations, and efforts used to improve their companies' performance.

For phase one, a convenience sample of companies in developing countries was chosen from online rosters of trade associations in Bangladesh, Thailand, El Salvador, Guatemala, Costa Rica, Dominican Republic, and Peru. Domestic companies were chosen through the alumni roster of a domestic textile institution. Of 5724 survey invitations emailed, 79 responses (1.39%) were

received. Of these 79 respondents, 19 (24.05%) volunteered to participate in and completed the second phase. Chi-square tests for independence were performed on the survey data to identify statistically significant differences among variables ($\alpha = 0.055$). The statistical analyses were performed using SPSS 16.0 for Windows (SPSS is a registered trademark of SPSS, Inc.).

Results

Survey results indicate no evidence of statistically significant differences for the presence of a performance improvement program. Survey results also indicate no evidence of statistically significant differences for the type or the focus on performance improvement. Survey results indicate evidence of statistically significant differences for improved competitiveness by country type ($p = 0.034$). The top three strategies used by companies in developing countries to improve competitiveness were *decreases in lead time*, *addition of value-added services*, *increases in flexibility*, while the top competitiveness improvement strategies used by companies in developed countries were *addition of value-added services*, *decreases in lead time*, and *increases in flexibility*. Interview results suggested that upstream manufacturers are implementing ISO and Six Sigma, with large companies improving performance by utilizing Lean Manufacturing principles.

Conclusions and Implications

Results are consistent with the Triple P-Model (Tangen, 2002), as companies are increasing performance by improving both productivity, with Six Sigma and Lean Manufacturing, and profitability, with addition of value-added services. The majority of survey respondents were from Asia, so not surprisingly the top strategy for increasing competitiveness by companies in developing countries was *decreases in lead time*. The top strategy by companies in developed countries was *addition of value-added services*; by offering more value to consumers, companies are able to price their products higher, often resulting in increased profitability.

Future research could compare the perceptions of companies in developed and developing countries regarding performance expectations for customers and suppliers. It would be interesting to compare manufacturers' perceptions of importance of various attributes, such as lead time and quality, to brand managers/marketers' actual importance of those attributes.

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