ABSTRACT

Post-globalisation, Indian automotive industry saw the entry of global original equipment manufacturers (OEMs), who made India their sourcing base primarily due to competitive manufacturing cost. Indian auto component manufacturers to become a part of this global supply chain, embraced TQM (Total Quality Management) concepts in the form of various quality accreditations such as ISO 9000, QS 9000, TS 16949 and the Deming prize.

Though the available research on TQM covers a range of topics concerning TQM implementation, there is lack of evidence on critical success factors (CSFs) of TQM in the Indian auto industry. Also the extent of TQM implementation in certified and non-certified auto component manufacturers is not established.

The primary objectives of the study were a) to empirically investigate the relationship between TQM CSFs and outcomes in Indian auto component industry, 2) to analyse the impact of QS 9000 or TS 16949 certification on perceived level of TQM implementation, 3) to understand the differences in perceived level of TQM implementation between certified and non-certified auto component manufacturers and 4) to analyse the Indian auto component industry with specific reference to Tamilnadu.
Based on a thorough review of the prescriptive, conceptual and empirical literature, a research instrument was developed with ten dimensions as critical success factors and the four dimensions as outcomes. The critical success factors that were theoretically identified were empirically validated by confirmatory factor analysis (CFA). A cross sectional field study was conducted using a structured questionnaire and data was collected from 135 certified companies and 97 non-certified companies. Certified companies included companies with more than one year of certification, whereas for the non-certified companies, suppliers with track record of more than 3 years were obtained from two automobile manufacturers located at Chennai.

The instrument has been empirically tested for validity by confirmatory factor analysis, correlation and multiple regression. The reliability was established by establishing Cronbach’s coefficient alpha. The statistical analysis revealed several important findings.

In certified companies, there was a very high degree of interdependence among the critical success factors and outcomes emphasizing the belief that TQM is a holistic philosophy not a piecemeal approach. Quality certification had a significant impact on all the TQM critical success factors and outcomes. It had the highest impact on how supplier quality was managed with supplier relationship having the highest mean difference value.

In certified companies, employee satisfaction was highly influenced by top management commitment and leadership. Customer satisfaction was highly influenced by training, emphasising the fact that training has to be explicitly
linked to TQM to build customer loyalty. Supplier relationship was most influenced by Strategic planning. Policy decisions regarding product design, reliability and support are instrumental in building sustainable supplier partnership. Since, operational performance was influenced by human resource focus, companies have to constantly motivate employees to get better results. Whereas in non-certified companies, most of the outcomes had a poor relationship with the CSFs. This clearly indicates that TQM implementation was not implemented as a structured approach.

A comparison between certified and non-certified companies revealed a significant difference in TQM implementation with respect to all the critical success factors and outcomes. The difference in TQM implementation was influenced by better supplier management and product design in certified companies.

Companies with ISO 14001 certification perceived that among the enablers, benchmarking and product design were the key enablers for TQM.

This study has some limitations which may be considered for future research. As this study was a cross-sectional study in auto component industry, it cannot confirm the direction of causality implied in the research model. Further investigation can be carried out to ascertain whether being non-certified is the reason for giving less importance to supplier relationship in non-certified companies. The possible existence of second-order relationship among some of the constructs, can be empirically tested as a future research study.