

Leveraging Information for Building Supply Chain Competitiveness

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Abstract : Operations in automotive industry rely greatly on information shared between Supply Chain (SC) partners. This leads to efficient and effective management of SC activity. Automotive sector in India is growing at 14.2 percent per annum and has huge economic importance. We find that no study has been carried out on the role of information sharing in SC management of Indian automotive manufacturers. Considering this research gap, the present study is planned to establish the significance of information sharing in Indian auto-component supply chain activity. An empirical research was conducted for large scale auto component manufacturers from India. Twenty four Supply Chain Performance Indicators (SCPIs) were collected from existing literature. These elements belong to eight diverse but internally related areas of SC management viz., demand management, cost, technology, delivery, quality, flexibility, buyer-supplier relationship, and operational factors. A pair-wise comparison and an open ended questionnaire were designed using these twenty four SCPIs. The questionnaire was then administered among managerial level employees of twenty-five auto-component manufacturing firms. Analytic Network Process (ANP) technique was used to analyze the response of pair-wise questionnaire. Finally, twenty-five priority indexes are developed, one for each respondent. These were averaged to generate an industry specific priority index. The open-ended questions depicted strategies related to information sharing between buyers and suppliers and their influence on supply chain performance. Results show that the impact of information sharing on certain performance indicators is relatively greater than their corresponding variables. For example, flexibility, delivery, demand and cost related elements have massive impact on information sharing. Technology is relatively less influenced by information sharing but it immensely influence the quality of information shared. Responses obtained from managers reveal that timely and accurate information sharing lowers the cost, increases flexibility and on-time delivery of auto parts, therefore, enhancing the competitiveness of Indian automotive industry. Any flaw in dissemination of information can disturb the cycle time of both the parties and thus increases the opportunity cost. Due to supplier's involvement in decisions related to design of auto parts, quality conformance is found to improve, leading to reduction in rejection rate. Similarly, mutual commitment to share right information at right time between all levels of SC enhances trust level. SC partners share information to perform comprehensive quality planning to ingrain total quality management. This study contributes to operations management literature which faces scarcity of empirical examination on this subject. It views information sharing as a building block which firms can promote and evolve to leverage the operational capability of all SC members. It will provide insights for Indian managers and researchers as every market is unique and suppliers and buyers are driven by local laws, industry status and future vision. While major emphasis in this paper is given to SC operations happening between domestic partners, placing more focus on international SC can bring in distinguished results.

Keywords : Indian auto component industry, information sharing, operations management, supply chain performance indicators

Conference Title : ICIEOM 2015 : International Conference on Industrial Engineering and Operations Management

Conference Location : Vienna, Austria

Conference Dates : June 21-22, 2015