E-BUSINESS: A STUDY ON THE USE AND IMPACT OF INFORMATION TECHNOLOGY IN THE SUPPLY CHAIN OF INDIAN MANUFACTURING SECTOR

ABSTRACT

Today’s business environment is more competitive than it has been in the past due to globalization. Manufacturers are faced with uncertain demand and have to deal with well informed and increasingly demanding customers. This has forced them to invest in Information Technology (IT) in their supply chains to respond better to the needs of customers.

Practitioners and researchers are finding it difficult to justify the role of IT to improve firm performance unequivocally. This study explores how IT in downstream supply chain affects the competitive marketing performance of the firm. Adopting the resource-based view of the firm as the theoretical framework, the current study hypothesizes that firm IT resources (e.g. IT Advancement and IT Alignment) facilitate supply chain capabilities which lead to first order operational benefits and strategic marketing benefits. These benefits will in turn affect the firm’s competitive marketing performance. The study assesses the impact of IT in the downstream supply chain on the outcome variable – competitive marketing performance.

This empirical research is based on the responses from 307 managers in supply chain, logistics, sales, marketing and operations in Indian manufacturing organizations. The data was put through a statistical analysis to test for content, construct validity and reliability. Further a structural equation model was developed to test the relationships between IT resources, Supply chain capabilities and Competitive Marketing Performance outcomes. In addition, Multiple Regression analysis was used to analyze the various relationships at the dimension and item level. Canonical correlation was used to test the relative influence of both operational benefits and strategic marketing benefits on Competitive Marketing Performance.

The research findings support the hypothesis that the competitive business environment has led to a greater extent of usage of IT. Such usage has led to greater IT
Advancement (advanced technology utilization) and IT Alignment (with channel partners). The impact of such IT resources is mediated by supply chain capabilities which enhance the operational and strategic marketing benefits of the firm. These two benefits together have a positive impact on competitive marketing performance.

The research also uncovered the critical and specific aspects of supply chain capabilities that enhance the benefits to the firm through the dimension level analysis which identified Supply chain responsiveness and collaboration as leading to significant operational and strategic marketing benefits. Specific item level dimensions that have significant impact on competitive marketing performance were identified.

The implications of this research are that investment in IT resources must aim at the creation of supply chain capabilities that will lead to improvements in marketing performance. The findings explain how a firm’s IT resources can create an impact on firm competitive marketing performance. The research thus provides an insight into the positive impact of IT-enabled processes in the downstream supply chain.

**Keywords:** Information Technology, Downstream supply chain, Competitive Marketing Performance, Manufacturing companies, India.