ABSTRACT

The use of information and communication technology (ICT) tools especially e-business in the area of Supply Chain Management (SCM) is assuring greater significance both in large scale and MSMEs world wide to remain competitive and for sustained growth. Today, e-business becomes an integral part of many business undertakings, providing opportunity for growth. Therefore, it becomes necessary to understand the influence exercised by e-business in supply chain components and performance. This will be of benefit to both researchers and practitioners.

Several studies have been made in the past involving Information Technology (IT) or e-business as evident from supply chain literature. Most of the studies deal with the implications of one or two aspects of supply chain, strategies, tools and techniques, but not holistically. Moreover, the influence of e-business system for an effective SCM has not received adequate attention especially relating to Indian MSMEs. The present research study is an attempt to provide a holistic approach to explore the influence of e-business systems on micro, small and medium enterprises (MSMEs) supply chain components and performance factors.

From the literature review, evidences of influence of e-business in MSME’s SCM were collected. Being an exploratory study, a descriptive
research design was adopted to provide a comprehensive and detailed explanation of the status. For the collection of primary data, a questionnaire was constructed by combining questions designed and tested by some previous researchers. Responses to the questionnaire in the form of schedule were obtained from a sample of 131 MSMEs randomly selected in and around Chennai. The data, thus obtained through the questionnaire were checked, collated and analyzed to arrive at findings and conclusions.

A Chi-square test was used to test the association between variables based on the hypotheses formulated in the study. To measure the level of influence of e-business in various aspects Friedman test was used and multivariate analysis was used to establish relationship between the variables considered. The technique of factor analysis was adopted for the purpose of reducing several sub-factors into few major factors for the MSMEs to focus.

The research reveals the usage of e-business systems like ERP, MRPs, CRM and SRM was found to be quite high. By their own admission about 40% of the firms are not happy about the way their supply chains are managed. Though the usage of e-business systems cannot be the only criteria for the success of SCM, it is interesting to note that all of the MSMEs are using one form of the e-business systems or the other. It is pertinent to note that 69.5% of the MSMEs are not ready to practice EDI, even though, on an average 49.03% of the MSMEs started using e-business enablers.

It is evident that the influence of e-business system on usage of third-party logistics in MSMEs is only average. MSMEs demand that all
activities of firms should be linked electronically with appropriate e-business systems and that they should be updated periodically as evidenced from the analysis. Further, holding inventories using third party logistics and practicing JIT supply were identified as prominent SC enablers.

The two significant factors to be focused to enhance MSMEs SC performance are the Supplier – MSME relationship and Supplier involvement. The financial performance of MSMEs are addressed in terms of increase in profitability, increase in market share, increase in return on investment and decrease in cash to cash cycle time with the aim to design the activities of SC

Interpretive Structural Modeling (ISM) is a well established methodology for identifying relationships among specific items, which define a problem or an issue. Moreover this helps in understanding complex systems better. To assist better comprehension of e-business influencing performance factors in the supply chain of MSMEs and their linkages, an ISM was developed. From the ISM Model developed, e-SCM attributes, e-SCM infrastructure, e-inventory management in SC, firm’s strategy on SC and SCM benchmarking have been identified as six major e-business factors that drive the immediate improvement in SC performance. It helps to segregate the e-business factors influencing MSMEs SC performance into four different levels, and also explain the linkages and relationship between levels based on driving power and dependence power of the factors.