

**E-Commerce Implementation in India:  
A Study of Select Organizations**

by

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Department of Management Studies**

**Submitted**  
**in fulfillment of the requirement of the degree of Doctor of Philosophy**

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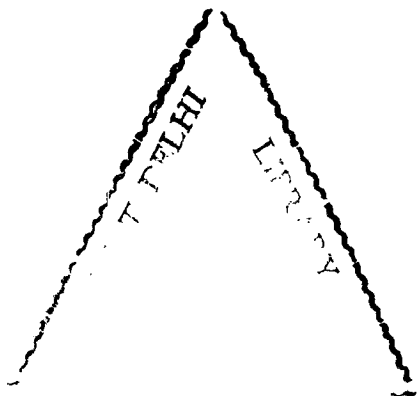


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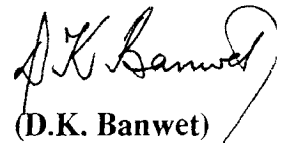
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# CERTIFICATE

The Thesis entitled "**E-Commerce Implementation in India: A Study of Select Organizations**" being submitted by Mr. Rajiv Arora to the Indian Institute of Technology, Delhi, for the award of the degree of Doctor of Philosophy (Ph.D.) is a record of bonafide research work carried out by him. He has worked under my guidance and supervision, and has fulfilled the requirements for the submission of this thesis, which has attained the standard required for a Ph.D. degree of this institute. The results presented in this thesis have not been submitted elsewhere for the award of any degree or diploma.



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## ABSTRACT

The study aims to evolve a framework for E-Commerce implementation in India especially for the organizations which are involved in the international trade and are part of the facilitation network. It makes an attempt to identify and critically discuss various implementation issues pertaining to E-Commerce development for trade facilitation. The broad objectives of this study include identification of practices and critical success factors for E-Commerce network development and suggesting an appropriate framework for E-Commerce implementation.

A comprehensive review of available literature was done. The review included policy, technical, process and organizational issues pertaining to E-Commerce implementation. The review helped in the identification of the key strategic, tactical and policy issues pertaining to E-Commerce implementation. The important issues included E-Commerce readiness building, approach for capability building and diffusion and evaluating E-Commerce usage and effectiveness.

The principles of flexible systems methodology have been used for the study design. The entire study has been divided into three components, namely, the pilot study, macro study and synthesis study. The pilot study, an exploratory study is conducted through case study using a purposive stratified sample of three organizations. The macro study includes empirical study to capture the perception of various users and stake holders of the network and comprise of case studies of five select trading partners. Lastly the synthesis component of the study suggests a conceptual framework.

The issue identification was done through the process of idea engineering and a pilot study. This was further refined and structured by the interpretive structural modelling (ISM) methodology.

In the pilot study, the implementation issues from the perspective of the three actors which include an apex policy making and coordinating body for E-Commerce and EDI for trade facilitation, trading partners as stake holders, and the trading community as the users were analyzed. The major implementation issues were identified as harmonization and re-engineering of processes, mapping of trade processes to structured messages with global compatibility, launch of pilot projects and their phased diffusion in various application areas and flexibility of network access to users.

The questionnaire survey as a part of macro study has been conducted to identify various facilitators and inhibitors for E-Commerce implementation, and the approaches for BPR and the management strategies adopted to implement E-Commerce. The diffusion and penetration of E-Commerce with various key trading partners for conduct of international trade and trade processes were also captured in the questionnaire survey.

Situation, actor and process(SAP)- Learning, actor and process (LAP) paradigm was used for analyzing case studies of five select Indian organizations which act either as hub or spoke in the trade facilitation network and play a vital role in different processes of the trade facilitation cycle. The case studies identify the implementation models in these five organizations which include an early adapter's comprehensive (hub) model, flexibility driven resonance model, network driven model, user dampened model and CEO driven model.

With synthesis of learnings and results of the various components of the research study, a suggestive framework for E-Commerce implementation has been proposed for select

organizations in India. Significant contributions of the research, limitations of the research work and scope for further research in the area has been reported in the concluding part of the study.

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