

# FACTORS AFFECTING THE ADOPTION LEVEL OF C-COMMERCE: AN EMPIRICAL STUDY

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## ABSTRACT

The major objective of this paper is to examine the determinants of collaborative commerce (c-commerce) adoption with special emphasis on Electrical and Electronic organizations in Malaysia. Original research using a self-administered questionnaire was distributed to 400 Malaysian organizations. Out of the 400 questionnaires posted, 109 usable questionnaires were returned, yielding a response rate of 27.25%. Data were analysed by using correlation and multiple regression analysis.

External environment, organization readiness and information sharing culture were found to be significant in affecting organizations decision to adopt c-commerce. Information sharing culture factor was found to have the strongest influence on the adoption of c-commerce, followed by organization readiness and external environment. Contrary to other technology adoption studies, this research found that innovation attributes have no significant influence on the adoption of c-commerce.

In terms of theoretical contributions, this study has extended previous researches conducted in western countries and provides great potential by advancing the understanding between the association of adoption factors and c-commerce adoption level. This research show that adoption studies could move beyond studying the factors based on traditional adoption models. Organizations planning to adopt c-commerce would also be able to applied strategies based on the findings from this research.

**KEYWORDS:** Collaborative Commerce, Technology Adoption, Collaborative Supply Chain

## INTRODUCTION

Supply Chain Management (SCM) is defined as the systemic, strategic coordination of the traditional business functions within a particular company and across businesses within supply chain, for the purposes of improving the long-term performances of the individual companies and the supply chain as a whole [8]. Traditionally, the supply chain faces common challenges such as the forecasting of demand and supply of products resulting in the inability to meet demand for certain products while having oversized and expensive inventories for other products [49]. However, many of the problems found along the supply chain

could be solved via strategic SCM through the implementation of Information Technology (IT) [15].

Recent literature on IT and SCM focus on IT and especially Internet tools that support collaborative SCM known as Collaborative Commerce (c-commerce) [8], [20]. C-commerce is defined as a set of electronically-enabled collaborative interactions between an organization, its suppliers, trading partners, customers and employees, and also leverages the internet to create and maintain an interactive business community of employees, trading partners, suppliers and customers [13]. Unlike e-commerce, c-commerce covers exchanges of information and ideas between trading organizations and within the organizations, and allows them to collaboratively design, develop, build and manage products through their life cycle. It enables companies to automate information flows within a multi-channel distribution network.

An effective and efficient supply chain will increase the competitiveness and the survival of organizations [44]. As such, the implementation of an effective SCM via IT technologies such as c-commerce tools will enable the industry to gain and maintain its competitive advantage. Most existing literature on the adoption issues on c-commerce technologies or collaborative supply chain were mainly conducted in western countries such as the United States and United Kingdom. Previous technology adoption literatures have studied the factors affecting the implementation of technologies based might not be able to fully provide the reasons for c-commerce adoption as c-commerce have different characteristics with existing information systems (i.e. c-commerce implementation requires the sharing of information between the trading partners). Therefore in order to bridge the gap and provide companies with practical assistance of adopting c-commerce, this research will examine the adoption factors that influence the implementation of c-commerce among Malaysian E&E companies.

The paper proceeds as follows: In the next section, the theories laid down in the literatures of IT adoption theories and the link between E&E organizations and c-commerce adoption are reviewed. In the following section, the hypotheses development and development of conceptual framework are presented. The next section provides information concerning the data used in the study, including descriptive information on the sample drawn out of Malaysian E&E companies as population. Finally, the results are discussed followed by research limitations, conclusions and implications, and recommendations for future research.