



Effect of ICT integration on SC flexibility, agility and company' performance: the Mexican maquiladora experience

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Abstract

This article reports a structural equation model (SEM) with four latent variables to measure the relationship between information and communication technologies (ICT) integration with supply chain flexibility, supply chain agility, and company's performance. The SEM integrates six hypotheses with relationships among variables and is validated with 378 responses from manufacturing sector to a questionnaire and partial least squares technique is used to evaluate it and test the hypotheses statistically. A sensitivity analysis is conducted in different scenarios to know conditional probabilities of occurrence of dependent variables, since a scenario has occurred in the independent variable with low and high success level. Findings indicate that ICT integration in supply chain facilitate to monitoring the production process, partners integration and have a direct effect on agility and flexibility for manufacturers, providing an active material' or sub-assemblies' flow among partners with greater visibility and making agile and joint decision-making.

Keywords ICT · SC agility · SC flexibility · SC performance · Tracking and visibility

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1 Introduction

A supply chain (SC) is defined as a sequential network of partners involved in production processes that includes activities related to design, manufacturing, and delivery

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