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Techniques, Tools and Methodologies Applied to Global Supply Chain Ecosystems

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Chapter 2

The Role of Employees' Performance and External Knowledge Transfer on the Supply Chain Flexibility



José Roberto Díaz-Reza, Jorge Luis García-Alcaraz, Liliana Avelar-Sosa and José Roberto Mendoza-Fong

Abstract This chapter reports a structural equation model which relate four latent variables associated with employee performance, knowledge transfer, supply chain complexity and flexibility, which incorporate 17 observed variables. The latent variables are related through 6 hypotheses that are tested with data gather from 269 responses to a questionnaire applied to the Mexican maquiladora industry in Mexico. The model is executed using the partial least squares technique to analyze the direct, indirect, and total effects. In the same way, the probabilities of occurrence are obtained in an independent manner, jointly and conditionally for the latent variables analyzed at their high and low levels for each of the hypotheses. Findings indicate that the external knowledge transfer is crucial within the supply chains, since it explains 44.6% of its complexity, 19.5% of the employees' performance, as well as 10.6% of the supply chain flexibility.

Keywords Supply chain · Maquiladoras · Structural equation modeling · Supply chain flexibility · Supply chain complexity

2.1 Introduction

During the last two decades from the twentieth century, maquiladora industries have had a great importance in the Mexican economy. The maquiladoras are export assembly and processing plants specialized in labor-intensive products, and since 1965, favorable economic regulations have been established with the United States [69]. Since then, the proximity to the US market and the relatively cheap and qualified workforce labor have made Mexico one of the most favored offshore destinations

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