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A decision support framework for manufacturing improvement and relocation prevention in Thailand: A supply chain perspective^{*}

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Abstract

The low economic growth and competition among neighboring countries have caused Foreign Direct Investments (FDIs) to relocate their businesses. In order to prevent further business relocation, this paper proposes an integrated framework based on the supply chain to analyse decision making for plant situations and enhance manufacturing performance. The context of this perspective is applied to manufacturers located in the industrial estate region of Lumphun province, Thailand. Data collection and review of literature were used to identify the factors that influence industrial investment. The Supply Chain Operations Reference (SCOR) model was applied to define the parameters, which were then implemented in Arena simulation. The simulation needs to describe factors affected on industrial performance. From this result, the importance of mitigating risk in supply chain and the effectiveness on supply chain collaboration are introduced for manufacturing improvement and prevent further business relocation.

Key words: Supply chain management, Foreign Direct Investment, Relocation plant

1 Introduction

In electronics manufacturing, high technology and cost investment, skill requirement, continuous research and development, and intensive labour are needed. In Thailand, most of the electronics manufacturers are depended on the Foreign Direct Investments (FDIs) decision in funding and implemeting high technology. At the same time, FDIs are interested in the investment of developing countries in order to get the benefits of low labour costs.

In particular, the Lumphun province is the key location that has a large industrial estate in the northern part of Thailand. Earnings from industrial labour is a key factor driving the province's growth. Sixty-three factories are

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