

The Impact of Supply Chain Strategy and Integration on Supply Chain Performance: Supply Chain Vulnerability as a Moderator

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Abstract : The objective of a supply chain strategy is to reduce waste and increase efficiency to attain cost benefits, and to guarantee supply chain flexibility when facing the ever-changing market environment in order to meet customer requirements. Strategy implementation aims to fulfill common goals and attain benefits by integrating upstream and downstream enterprises, sharing information, conducting common planning, and taking part in decision making, so as to enhance the overall performance of the supply chain. With the rise of outsourcing and globalization, the increasing dependence on suppliers and customers and the rapid development of information technology, the complexity and uncertainty of the supply chain have intensified, and supply chain vulnerability has surged, resulting in adverse effects on supply chain performance. Thus, this study aims to use supply chain vulnerability as a moderating variable and apply structural equation modeling (SEM) to determine the relationships among supply chain strategy, supply chain integration, and supply chain performance, as well as the moderating effect of supply chain vulnerability on supply chain performance. The data investigation of this study was questionnaires which were collected from the management level of enterprises in Taiwan and China, 149 questionnaires were received. The result of confirmatory factor analysis shows that the path coefficients of supply chain strategy on supply chain integration and supply chain performance are positive (0.497, $t= 4.914$; 0.748, $t= 5.919$), having a significantly positive effect. Supply chain integration is also significantly positively correlated to supply chain performance (0.192, $t = 2.273$). The moderating effects of supply chain vulnerability on supply chain strategy and supply chain integration to supply chain performance are significant (7.407; 4.687). In Taiwan, 97.73% of enterprises are small- and medium-sized enterprises (SMEs) focusing on receiving original equipment manufacturer (OEM) and original design manufacturer (ODM) orders. In order to meet the needs of customers and to respond to market changes, these enterprises especially focus on supply chain flexibility and their integration with the upstream and downstream enterprises. According to the observation of this research, the effect of supply chain vulnerability on supply chain performance is significant, and so enterprises need to attach great importance to the management of supply chain risk and conduct risk analysis on their suppliers in order to formulate response strategies when facing emergency situations. At the same time, risk management is incorporated into the supply chain so as to reduce the effect of supply chain vulnerability on the overall supply chain performance.

Keywords : supply chain integration, supply chain performance, supply chain vulnerability, structural equation modeling

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