

CITY UNIVERSITY OF HONG KONG

香港城市大學

**RISK MANAGEMENT OF ORDER
FULFILLMENT FOR PLASTICS INDUSTRY
IN CHINA**

中國塑膠業在訂單履行中的風險管理

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Abstract

Order fulfillment is more than just the ability to provide goods and services at a designated time and place. This process has financial and reputational implications on the rest of the supply chain, and even large corporations like China Petroleum & Chemical Corporation have suffered high volatility in stock price due to failures in effective order fulfillment.

However, much of extant research has focused on the downstream physical movement of goods, especially on finished products to end customers. For instance, The International Plastics Federation has found that a facility-related failure of an Indian petrochemicals supplier precipitated an order non-fulfillment that had serious downstream disruption to the plastics supply chain. Among upstream raw materials, plastics are of utmost importance. The application of plastics can range from support functions like packaging to industrial uses like automotive manufacturing and general consumer products fabrication. In other words, the use of plastics is ubiquitous. This industry is particularly important in China, which can be shown by the continuous increase of this industry's contribution to the country's GDP. The current research examines the upstream order fulfillment risk concerning this indispensable industry to address the following research problems:

“What risk factors can hinder the order fulfillment process of the plastics industry in China and how?” Are there any references to improve the process?

A mixed-method was used in this research where the qualitative part included a series of in-depth interviews to confirm whether risk factors provided by previous research studies on order fulfillment risk fit the plastics industry in the Chinese context. The in-depth interviewees were experienced managers of various companies, ranging from international raw materials firms to Chinese OEM firms. The results of the interviews show that risk factors in the plastics industry are similar to other industries.

The next step is to find out how these factors affect the operation of order fulfillment in the industry. The factors confirmed in the qualitative analysis were subsequently used while drafting questionnaires for more quantitative analysis. This questionnaire aimed to investigate the most influential risk factors in the industry and provide best practices to handle this process based on the experience of firms with outstanding performance in order fulfillment.

The analysis demonstrated that the order fulfillment risk factors identified from various research studies are sufficient for the plastics industry even though they are not intentionally designed for this highly diversified industry. Among these, sustainability is the most important factor that the companies in the plastics industry should pay attention to. This is because sustainability is believed to lead to high deviations in various types of order fulfillment losses and have a higher chance of order fulfillment failure for companies with international customer base.

Companies should focus on how to improve the sustainability (e.g. long term relationships with various parties along the chain) rather than over-

emphasizing the short term documentation accuracy since the long term improvement is likely to result in an overall improvement in the performance on order fulfillment.