

# A Review of Supply Chain Risk Management in Agribusiness Industry

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## INTRODUCTION

There will always be risk in business. Nowadays, to be able to run business and succeed, companies should be able to identify risk factors and minimize the risks involved. The biggest challenge now is not only identifying and minimizing risk factor in the company's internal, but the risk factors in the company's supply chain network, in both upstream and downstream activity. Companies that are not able to handle the risks that arise in their business will inevitably suffer losses.

Facing increasing global competition and the fact that supply chains become more complex, there is a possibility that increasing the performance of supply chains will be difficult to reach, mainly because of the failure risk of supply chains (Tumala and Schoenherr 2011).

Companies that will able to survive is those resilient enough in managing risks. Risks that would be faced by companies are very diverse, depending on the company's business type. For example, the iron industries in India have risks and problems such as; short life cycle and season ability, supplier inefficiency, design and technological changes, union strike, fluctuations of demand, lack of ownership, capacity and information, inventories, corporate strategy and goal, implications, and customer uncertainty (Pradhan and Srikanta, 2014).

Indonesia is the largest archipelagic country in the world and agricultural lands are widely available in Indonesia. Furthermore, most of

Indonesians are working in agricultural sector. Agricultural sector is a critical industry to support daily life and food consumptions of Indonesian population. With such conditions and demands, Indonesia should be the world's agricultural source, but, ironically, it is a frequent occurrence that Indonesian depends on imported agricultural products including nine basic commodities rather than produce its own demands for food source.

Supply chain of agricultural commodities become a major concern of Indonesian scholars and practitioners. Many companies engaged in this industry unable to survive in the long term. This is an unfortunate condition because Indonesia has abundant natural resources and plenty of commodity producers.

The development of industry and services sectors have a significant impact on the amount of agricultural land that is converted industrial and residential areas (Trisnasari et al., 2010). Indonesia is facing a decline in agricultural land area of about 2.65% (Pertanian.go.id, 2014). Agricultural land in Indonesia are switching functions, fields and rice paddies are being converted to housing and offices. This decline in agricultural area contributed to the decline of food production, which led to Indonesia importing agricultural products.

Aside from the reduced agricultural production, agriculture is no longer a major contributor to Indonesia GDP. In 2012 to 2014, the percentage of agricultural GDP decreased if compared with trade and processing industry (BPS, 2015). Despite being forecasted that in 2017 Indonesia

will become self-sufficient in food production (Gera, 2015), it cannot be achieved if agricultural production has declined.

Indonesia has abundant natural resources adequate for agriculture, but unfortunately agriculture cannot be a source of revenue for Indonesia. The government must begin to focus on agriculture, because Indonesia has the resources, community livelihood, and agricultural fields. Besides agriculture is the primary food source for Indonesia, and a major needs worldwide.

Indonesia archipelago is unique compared to other agribusiness countries, such as Thailand. The problem faced by Indonesia is more complex, especially problems in the distribution and transportation sector. Besides Indonesia is experiencing other problems that hinder the development of agribusiness in Indonesia. With the current condition of Indonesia, farmers face a variety of business risks. Companies that will able to survive is those which resilient in managing risks. Risks that would be faced by companies are very diverse, depending on the company's business type.

The literature review was a synthesized and limited articles published on supply chain risk management in agribusiness industry. It mostly has been discussed regarding supply chain risk management in manufacturing industry. The lack of studies to investigate the risk factors in agribusiness will make this study a contribution to the supply chain literature. This is because the managing risk in supply chain in agribusiness industry could be different compare to manufacturing industry.

## BACKGROUND

Supply chain management is an overall coordination of supply chain activities including the improvement of customer value (Heizer and Render, 2015).

Supply chain management will improve companies' performance. In supply chain management, companies will get challenges from risks that pos-

sibly would be faced by the company. Companies must be able to know the risks, therefore, could interfere in business resilience.

Risks that arise in the supply chain can negatively impact supply chain performance. Companies must have a strategy to manage the risks, so that effectiveness can be achieved (Giannakis and louis, 2010). This can be evidenced by an example of a toy company that faced lawsuits and must withdraw the toy because of the supply chain failure due to a risk emergence in the supply chain (Story, 2007; Tumala & Schoenherr, 2011). For a manufacturing company producing pencils, supply chain risks that may arise are demand, delay, disruption, inventory, manufacturing, capacity, supply, system, sovereign, and transportation problem (Tumala and Schoenherr, 2011).

According to Thun and Hoenig (2009), supply chain risk is divided into external and internal risks. Internal supply chain risks consist of supplier failure, malfunction of IT systems, supplier quality problems, change in customer demand, machine breakdowns, increasing raw material prices, transportation failure, disruption of the delivery chain, and technological change. While the external supply chain risks, for example, in manufacturing firms in German are accident, strike, war, natural disaster, import restriction, oil crisis, terrorist attacks, and increasing customs duty.

The definition of demand risk in supply chain is the order fulfilment errors, inaccurate forecasts due to longer lead times, product variety, swings demand, seasonality, short life cycle, and small customer based on information distortion due to sales promotions and incentives, lack of supply chain visibility, and exaggeration of demand during product shortage (Tumala and Schoenherr, 2011). While other researchers assert that demand fluctuations and customer demand uncertainty is also included in the demand risk in supply chain (Pradhan and Srikanta 2014).

Delay risks occur due to excessive handling in border crossing or change in transportation mode, port capacity and congestion, custom clearances

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