

# Chapter 77

## Exploring Drivers of Closed Loop Supply Chain in Malaysian Automotive Industry

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### **ABSTRACT**

*This chapter explores the drivers of closed loop supply chain in the Malaysian automotive industry. The growth of the automotive industry in Malaysia is rapidly increasing. There are five drivers identified that can implement the closed loop supply chain in the Malaysian automotive industry. Customer awareness has urged the manufacturers and suppliers to produce and supply more environmentally friendly products. Social responsibility is the firms' obligation to ensure that their operation activities could reduce environmental impacts that can be harmful to the society. Environmental concern is the awareness of environmental preservation and conservation. Governmental legislation has been implemented to ensure the firms adhere to the government policies to attain greener industrial practices. Waste management refers to the waste disposal system in order to reduce waste treatment costs, pollution, and landfill issues. Therefore, the drivers are important elements in carrying out the closed loop supply chain in the Malaysian automotive industry.*

### **INTRODUCTION**

With the emergence of industry, people have become voracious pursuit of profit, in which they affect the environment and social wellness. Issues related to environmental and social destruction such as pollution, carbon footprint, ozone depletion, deforestation and waste management problem had threatened the environment and human being on this day. These environmental issues have caused resurgence and challenges in finding a solution to this problem, namely sustainability.

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The concept of sustainability has been introduced by the World Commission on Environment and Development (1987), has given a change to the business world today. The issue of sustainability has brought changes to the terms of a business venture of the company's goals, operations, manufacturing, supply chain, administration and marketing. The concept of sustainability has rejuvenated the world of supply chain where green practices in supply chain can reduce environmental impacts. The green supply chain management is defined as the integrated supply chain management where it revolves around the green purchasing ranging from suppliers, manufacturers, users, and so the process will revert to reverse logistics, which will close the loop process of the supply chain (Q Zhu et al., 2005).

## **BACKGROUND**

This study takes the approach of a closed supply chain in the automotive industry in Malaysia. automotive industrial sector in Malaysia has been developing since Malaysia has its own national car industry and is seen as encouraging growth in the national economy to this day. Starting in 2015, the Malaysian government has imposed regulations to the automotive industry to perform activities 3Rs reduce, reuse and recycle. This has made the automotive supply chain to the supply chain is closed. Therefore, this study examined the main factors that make the automotive industry players to engage in the closed loop supply chain.

## **CLOSED LOOP SUPPLY CHAIN**

Closed-loop supply chain is defined by Guide & Van Wassenhove (2009), as a supply chain management which can maximize the creation of value through the entire life cycle of a product and also the dynamics of the recovery of the species and the number of returns in a short period of time. The maximizing value creation process and also the dynamics of the recovery is obtained through the design, control and operation of the system.

The closed loop supply chain combines both forward and reverse supply chain where these green practices able to minimize the industrial waste and also reduce the environmental impact. The practice of zero-waste which includes recycling, reuse, reduce, remanufacturing, refurbish and repair in closed loop supply chain has generate a process of cradle-to-cradle where it can generate values not only in terms of profitable values to the shareholder and also to its stakeholders. Shaharudin, Govindan, Zailani, & Tan (2015) stated that when the organization could identify the benefits of all types of product returns, then the combination of design for forward and reverse supply channels and an environmentally friendly way to dispose the product; it will then give the organization the ability to achieve sustainability in business.

## **Forward Supply Chain, Reverse Supply Chain and Reverse Logistics**

Traditionally, supply chain management is revolving on the forward supply chain. For the forward supply chain, it starts from the raw materials purchases from the supplier to the manufacturer, manufacturing and assembling operations, distribution centre, then to the distributors and retailers, and ultimately to

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