Global operations and supply chain management in the automotive industry research...

Business, Marketing

Customers are now more demanding in terms of their requirements for goods and services. The change in customer preference has driven competition fiercely, forcing change in the market place that is now populated by products that have shorter life cycles and highly fluctuating levels of demand. The automotive industry is one of the major world industries that have benefited at the same time suffered from the pressure brought about by changing consumer preferences. Car manufacturers all over the world are required to enhance their quality and styling, increase their organizational efficiencies, provide innovative products and services in order to attract more customers and retain existing ones. To do so, automotive manufacturers must achieve a higher level of market responsiveness and operational flexibility.

Supply chain management (SCM) is a critical element in assuring the success of an automotive manufacturer. Several studies have shown that automotive manufacturers have acknowledged the critical role of SCM to retain competitive advantage. As a result of the importance of SCM, both the industry and supply chain methodologies have evolved towards “ leaner” production approaches that focus on efficiency within the whole supply chain.

These lean production approaches include known concepts such as just-in-time supply; supplier base rationalization; use of virtual inventories; product or process outsourcing; development of customized and global networks; reduction or removal of buffers in material, capacity and time; and right-sizing of the number of distribution facilities. All these improvements have

been empirically evaluated to improve efficiencies and reduce production costs.

However, the effectiveness of SCM, when subjected to the vulnerability and volatility of the market place, indicates that the current approaches for SCM, particularly those that advocate lean and agile business and production processes, may not be an “ end-all” type of solution. For example, some supply chain methodologies do not provide for waste minimization and is therefore not acceptable in most countries. In this case, lean processes must be coupled with smart, updated technology to remain relevant, acceptable and hopefully cost efficient and competitive, applied at a relatively quick pace.

The evolution of agile and lean systems have provided the automotive industry with the responsiveness to deliver cost-effective yet still efficient answers brought about by the unpredictable changes in the market place, so much so that the term “ leagile” supply chain strategies are now in place in most automotive manufacturing systems in the world.

Despite the popularity of this approach, there is a need to evaluate this SCM concept and determine if there are:

Different types of leagile systems or strategies that exists in the automotive industry;

Conditions precedent for implementing a leagile system; and

Different levels of responsiveness of leagile systems with respect to changing customer requirements.

Methodology and Objectives

The proposed methodology for addressing the issues stated above follows a theoretical analytical approach of examining available scholarly literature that are related to automotive supply chain strategies, particularly leagile strategies that are employed by major and minor automotive players. The literature revue will determine the types of supply strategies that are in existence, the conditions that are required to implement such as system, and determine the customer satisfaction or efficiency improvement rating of organizations that have implemented such strategies. Selected scholarly works shall be evaluated to determine these points. If and when possible, a formal interview will be conducted with a supply chain manager to determine how supply chain protocols are implemented.

The objectives of the study are:

1. To determine the types of lean and agile (leagile) systems that are being implemented in the automotive industry;

2. To determine the internal requirements for implementing such as system and the common external conditions that drive automotive manufacturers to adapt the system; and

3. To develop an understanding of the effects of using a lean and agile system on customer satisfaction, company performance, and its general and specific effects on market conditions.

The key areas that shall be considered for the study are the following:

1. The manufacturing history of the automotive corporation, including any performance evaluation that has been initialized, conducted, modified,

applied and recorded by the organization.

2. The supply chain process that is currently employed by the organization. This would include an understanding of the customer requirements at the front end up to customer expectation and reception at the final delivery end of the supply chain.

3. The production process will also be evaluated to understand the strategies undertaken by automotive manufacturers in the conduct of an efficient supply chain strategy.

4. The quality standards espoused by the organization and the quality platforms that are considered by the organization with respect to the rest of the industry.

5. The distribution process of the organization’s products and services.

6. Other areas that affect the supply chain strategy of the organization.

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