

Supply Chain Management Development Strategy in Manufacturing Industry

Osep Hijuzaman¹, Edward SH. Naibaho²

^{1,2} Indonesia University of Education in Bandung, Student at Doctoral Program in Management of Science, Indonesia

Abstract: *The study was conducted by taking data at a certain time for a group of samples as a model of cross-sectional study. The object was Supply-Chain Management Development Strategy of Manufacturing Industries in West Java. The populations of this study were the entire manufacturing industries in the logistics department in West Java region. The study aimed to analyze how the supply-chain management developments strategic were implemented in the manufacturing industries. The approach was done by four independent variables: information sharing, long-term relationships, cooperation, and integration processes. The study used quantitative method as a complete method and mainstay of many researchers. It performs multiple tasks according to the researchers' demands, see the comparison and trends, determine the relationship, and make either simplification or the grouping of variables. The study findings revealed that supply chain management (SCM) is an area of increasing importance among enterprises and of growing academic interest. It is based on the concept of firms as part of a multiple organization oriented to the provision of goods and services for the final customer.*

Keywords: Manufacturing Industry, Independent Variable, Process Integration, Supply Chain Management, Development Strategy

1. Introduction

Business competition in an era of globalization characterized by the instability of the market requires companies to have a competitive advantage both in terms of price and quality. Operationally, the company is faced with the fact that the competence of the resources required to achieve these goals is hard to get. To fix this, the company is required to cooperate in the provisions of resources or competencies each company required to satisfy their needs fit more strict global competition and the increasing company's desire to become innovative business and able to be the first in introducing new products according to market requirement.

One way to address these issues is through the supply chain management development strategies in manufacturing industry. SCM is a whole series of activities related to the transformation of the current of goods from the earliest stages of raw material to the end user, and therefore the flow of money and information (Ballou, 2004). SCM involves producers, transporters; logistics service providers, retailers, and consumers (Poerwanto 2012).

Along with the development and demands of the business competition, the supply chain management practices have undergone a shift in paradigm from the traditional supply chain, lean supply chain, to the agile supply chain. Traditional supply chain has focused on efforts to make the protection and emphasis on costs and benefits, rather than on the process to achieve the competitive goals of the company. Lean supply chain integration of upstream and downstream is between suppliers and consumers who have significant competitive goals. Supply chain management development strategy focuses on not only the high collaboration with suppliers and customers but also competitors, integration of data, and cooperative enterprises in the manufacturing process.

Efficient supply chain management development strategy design enable fair distribution of value added to all agencies involved in the supply chain and reduce costs without

lowering customer satisfaction and can effectively deliver products to consumers in accordance with quality, quantity and continuity (timely) and at satisfactory price.

According to Setiawan (2009); Chopra and Meindel (2007); Hanna and Newman (2001), SCM is the integration of planning, coordination and control of the entire process and business activity in the supply chain to deliver superior value of manufacturers to customers at the lowest cost. At agro-industries level, the supply chain management pays attention to the supply, stock, and transportation of distribution.

According to The Council of Logistics Management; Mentzer (in Ballou, 2004), the Supply Chain Management is systematic, strategic coordination of the traditional business functions in a company and across business sectors in the supply chain, for purpose, for improving the long-term performance of individual companies and the supply chain as a whole. As Heizer and Render (2005) put it, "supply chain management is the integration of activities in the procurement of materials and services, conversion of them into intermediate goods, and final products, as well as delivery of them to customers (consumers) through the distribution process. Furthermore, according to Siagian (2005), these activities include the traditional purchasing functions plus other important activities which is connecting between suppliers and distributors.

Supply chain management is the integration of activities in the procurement of materials and services; conversion of them into semi-finished goods and pro supply chain management applications has, basically, three main objectives: cost reduction, capital reduction, and service improvement.

Supply chain management development strategies for innovative products are more known as responsive supply chain strategies. The selection of supply chain management development strategies by approach to products may influence the selection of corporate strategies from the

stages of designing products, storing products, pricing to the delivery of goods to consumers.

2. Literature Survey

According to Levi (2000) in his book entitled *Designing and Managing the Supply Chain, Concepts, Strategic and Case Studies*, the supply chain management is defined as follows: 'Supply chain management is a set of approaches utilized to efficiently integrate suppliers, manufactures, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to the right location, at the right time, in order to minimize wide system costs while satisfying service level requirements.' The definition is based on several points:

1. Supply chain management need to consider that all activities ranging from suppliers, manufacturing, warehouses, and distributors to retailers have impact on the cost of products appropriate to customer needs.
2. The objective of supply chain management is to make the total cost of all parts ranging from transportation and distribution of supplies of raw materials, goods in process, and finished goods more effective and efficient, thereby reducing costs.
3. Supply chain management revolve on the efficient integration of suppliers, manufacturing, warehouses, distributors, retailers, and resellers that covers all the company's activities, ranging from the strategic level to the tactical level of operations.

Daft (2003) defines supply chain management as a term for the management supplier and buyer chain which is covering all stages of the processing from the purchase of raw materials to the distribution of finished goods to the end consumers.

The interpretation of SCM according to Said (2006) is the management of information. In the context of a supply chain, the operational strategy in SCM is more known as supply chain strategy (SC). This strategy is defined as a collection of activities and strategic actions along the supply chain that creates a reconciliation between what the end customer needed and the ability of resources in the supply chain (Pujawan,2005).

To achieve such goals, the company must have abilities to operate in an efficient way. Chopra and Miendl (2004) propose two strategies, i.e. supply chain lean supply chain (efficient supply chain) and agile supply chain (responsive supply chain). Efficient supply chain focuses on efforts to meet consumer demands at the lowest price by minimizing the total cost. Responsive supply chain focuses on efforts to quickly respond to corporate requests.

Lanny et al (2000) suggest three points as key drivers in the supply chain: product innovation, product uniqueness, and innovative products. Products are categorized in two classifications: functional products, has a long life cycle, short lead time, high volume, and low variability. Innovative products, has a short life cycle, long lead time, uniqueness, and low complexity.

Functional product strategy focuses on efforts to suppress the physical costs along the supply chain. In other words, the

most appropriate strategy for functional products is efficiency. In supply chain, this strategy is referred to as efficient supply chain or lean supply chain. Innovative product strategy focuses on the ability of a particular chain by using many respondents. This research take data at a specific time for a group of samples and therefore this research is a model of cross-sectional study. This study uses quantitative method. A quantitative method is a complete method and a mainstay of many researchers. Quantitative method can perform multiple tasks according to the demands of researchers, i.e. saw the comparison, determine the relationship, and see trends, and grouping or simplification of variables. To perform these tasks requires two main matters; first, the measuring instrument and, second, analytical tools.

Quantitative method has advantage in terms of efficiency. Quantitative analysis does with a sample to solve problems. Apart from the sample, in certain cases, the quantitative method provides a more precise explanation of the facts at hand. Even on a particular study, the quantitative method will have to be used.

3. Methods/Approach

There are two studies in literature, i.e. applied research directed to solve specific problems during the study and basic/fundamental research aimed at developing science/theory (Sekaran, 2003). This type of research can be looked at the sampling technique, the incidence of variables, the development or growth design, and the study design (Arikunto, 2006:12). Based on the incidence of variables, the type of research can be distinguished into non-experimental study and experimental study. This research is non-experimental study, as the researcher did not provide treatment (control) over the subjects under research. Non-experimental studies can be distinguished into the case studies, causal comparative studies, correlation studies, historical studies, and philosophical studies in terms of both patterns and characteristics of a research.

In the development or growth design, the type of research can be distinguished into longitudinal and cross-sectional design. Longitudinal design studies various stages of growth by "tracking" the development of the same subject. While cross-sectional design is study in a particular time.

The functional product strategy focuses on efforts to emphasize consumer demand and needs through supply chain management. Supply chain management provide an alternative strategy to win global competitive excellence-based competition, i.e. focus on consumer, quality, and agility espoused by corporate competence such as involvement of consumers, management of supply, technology, product development, and environmental responsibility. The implementation of strategy include the development of a supportive culture on strategy, the creation of an effective organizational structure, the remobilization of marketing efforts, the preparation of budgets, the development and the utilization of information systems, and the flow of employee compensation for organizational performance.

The implementation of strategy is often called the "action phase" of strategic management. Implementing strategy means mobilizing employees and managers to implement strategies after they have been formulated. Frequently, it is regarded as the most difficult stage in strategic management and, therefore, application or implementation of the strategy requires discipline, commitment, and personal sacrifice. Successful implementation of a strategy is dependent upon the ability of managers to motivate employees, constituting more an art than a science.

Assessment of strategy is the final stage of strategic management. Assessment or evaluation of strategy is the main way to obtain information of this type. All strategies are open to the future modifications due to continually change in various external and internal factors. Three fundamental activities on the assessment of strategy are as follows:

- a. Review of external and internal being a base of this strategy.
- b. The measuring of performance.
- c. The adoption of corrective measures.

Assessment of strategy is essential because of what works today does not always succeed later. The success is constantly creating new and different problems; organizations having tendencies to be easily complacent will fail. Strategic management process is aimed at enabling organizations to adapt effectively to the domain of SCM. Information technology is a major driving force for the creation of integrated supply chain and the increasingly complex consumer demand as well.

4. Results/Discussion

The increasingly competitive business and the rapid development of information and communication technology requires the company to be able to implement a right strategy in the face of a turbulent business environment, as it is indicated by a continuous process of innovation and great change in consumer tastes. Companies need to establish quality standards, accomplishment of customer satisfaction, and customer loyalty programs so as to remain competitive in the business environment in which they operate.

One effort that can be taken by the company in the face of an uncertain environment and increasingly critical consumers is by integrating both marketing strategy and manufacturing strategy. Successful integration of manufacturing strategy and marketing strategy requires a change in thought of the company's business design and of business functions in the organization.

Both manufacturing technology and information technology are important factors characterizing the current businesses. The technology is designed to complement the capabilities of human resources (HR) and help individuals to apply their knowledge, So an adoption of technology can support individual skills, not replace them. Implementation of strategy requires companies to establish annual goals, make policies, motivate employees, and allocate resources so that strategies that have been formulated entail long-term modifications.

Strategic management process can be described as an objective, logical, and systematic approach to make significant decisions in the organization. Strategic management seeks to organize qualitative and quantitative information in such a way so as to enable effective decisions to be made under conditions of uncertainty surrounding them. Based on the past experience, judgment, and opinion, most people agree that intuition is very important to make good strategic decisions. Intuition is particularly useful for making decisions in situations characterized by uncertainty or just little precedent. It is also helpful when there are various interrelated alternatives or when people must choose some of reasonable alternatives.

Implementation of strategy include the development of a supportive culture on strategy, the creation of an effective organizational structure, the remobilization of marketing efforts, the preparation of budgets, the development of and the utilization of information systems, and the flow of employee compensation for organizational performance.

The implementation of strategy is often called the "action stage" of management strategy. Implementing strategy means mobilizing employees and managers to implement strategies that have been formulated. Frequently, it is regarded as the most difficult stage of strategic management, so application or implementation of the strategy requires discipline, commitment, and personal sacrifice. Successful implementation of strategy relies on the ability of managers to motivate employees, constituting more an art than a science.

Assessment of strategy is the final stage of strategic management. Assessment or evaluation of strategy is the main method of obtaining such information. All strategies are open to the future modifications due to continually change in external and internal factors.

Most organizations take advantage of strategic management which is based on the integration of intuition and analysis in decision making. Selecting an intuitive or analytic approach to decision-making is not a contradictory proposition. Managers at all levels of a organization include their intuition and judgment in the analysis of strategic management. Analytical thinking and intuitive thinking complement each other.

The strategic management process is based on the belief that organizations must continually monitor events and internal trends externally, so modifications can be made at a time when they are needed. The rate and magnitude of modifications that affect the organization are dramatically rising.

5. Conclusion

The conclusion that can be drawn from the foregoing discussion is that targets to be achieved in every dimension of supply chain management development strategy is starting at individual companies level and then extended at organizational and interorganizational units level in all three stages of the accomplishment of supply chain management development strategy. Supply chain management is a

strategy providing a solution in the face of environmental uncertainty to achieve competitive advantage. Through customer satisfaction, the supply chain management development strategy offers mechanisms that govern business processes, improve productivity, and reduce operational costs. Supply chain management is a set of approaches utilized to efficiently integrate suppliers, manufactures, warehouses, and stores, so that merchandise is produced and distributed at the right quantities to the right locations, at the right time, in order to minimize system-wide costs while satisfying service level requirement.

6. Future Scope

This research has future possibilities to be improved by means of expansion studies about SCM development strategy applied to the next manufacturing industry. Consider the performance of subsequent research could as a final variable of the impact of these relationships. As evidenced in the majority of studies about SCM, this practice contributes to improving the performance and it would be interesting to verify to what point this positive influence is intensified when the SCM development strategy is included in the analysis. This research did not go deeply into identifying the nature of SCM practices among SMEs and their clients and suppliers. Future research could identify the level of sophistication of SCM among SMEs, relating this to the variables proposed in this work which could contribute to a better understanding of the results.

Reference

- [1] Arikunto, Suharsimi. (2006). *Research Procedure: A Practice Approach*. Jakarta: Rineka Cipta.
- [2] Bhagwat, R., Sharma, MK, (2007), *Performance Measurement of Supply Chain Management: A Balanced Scorecard Approach*, Computers & Industrial Engineering, 53 (2007), 43-62.
- [3] Bozarth, C.C, Handfield, R.B., (2006), *Introduction to Operations and Supply Chain Management*, Prentice Hall, New Jersey, USA.
- [4] Burt, D.N, Dobler, D.W. straling, S.L. (2004). *World Class Supply Management, The Key To Supply Chain Management*. International Edition, Seventh Edition. Mc.Graw- Hill Companies. American: New York.
- [5] Chopra, S., Meindl, P., (2007), *Supply Chain Management: Strategy, Planning and Operation third edition*, Prentice Hall, New Jersey, USA.
- [6] David, F.R., (2005), *Strategic Management: concept and cases, 10 th ed. Pearson Education*, Prentice Hall, New Jersey, USA.
- [7] Donald J. Bowersox, at all. (2002). *Supply Chain Logistics Management*. McGraw Hill.
- [8] Fisher, M.L., (1997), *What is the Right Supply Chain For Your Product? Harvard Busioness Review*. Gunasekaran, A., Patel, C., Tirtiroglu, E., (2001), Performance Measurement and Metrics in a Supply Chain Environment, International Journal of Production and Operations Management, 21(2001), 71-87.
- [9] Gunasekaran, A., Patel, C., Ronald, E., McGaughey, R., (2004), *A Framework for Supply Chain Performance Measurement*, International Journal of Paroduction Economics, 87(2004), 333-347.

- [10] Indrajit, R.E., dan Djokopranoto, R. (2002). *Concept of Management Supply Chain: Supply Chain Management for Modern Corporate in Indonesia*. Jakarta: Grasindo.
- [11] Kaplan, R.S., and Norton, D.P., (1996), *Translating Strategi Into Action – The Balanced Scorecard*, Harvard Business School Press, Boston, Massachussets. Lee, Y., Kozar, A.K., Larsen, K.R.T., (2003), The Technology acceptance Model: Past, Present, and Future, CAIS vol. 12/50, page 752-780.
- [12] Lee, Hau L dan S. Whang. (2000). *E-Business and Supply Chain Integration*. Stanford Global Supply Chain Management Forum.
- [13] Levi, David Simchi and Philip Kaminsky. (2000). *Designing and Managing the Supply Chain, Concepts, Strategis and Case studies*. Singapore: Irwin McGraw-Hill.
- [14] Neely, A.D., (1999), The Performance Revolution: Why Now and What Next? International Journal of Operation & Production Management, Vol.19 No.2, pp.205-208.

Author Profile



Osep Hijuzaman received the S.Pd., M.T., postgraduate in Electrical Engineering Education from University of Indonesia in Bandung (1999) and Magister Industrial Engineering and Management from Pasundan University (2007), now studying at the University of Indonesia in Bandung, Doctoral Program in Management of Science.



Edward SH. Naibaho received the SE., MM., Postgraduate in Management from Islamic University Nusantara (1982) and Magister Management from Satyagama University (2007), now studying at the University of Indonesia in Bandung, Doctoral Program in Management of Science.