



The Importance of Green Supply Chain Management and Its Role in Marketing Management

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ABSTRACT

Supply chain is a network of organizations that in connection with those upstream to downstream are involved in the processes and activities and they produce value to the final customer in the goods and provided services. This subject on its own figured new challenges out for them. The chain management is offering a complex of methods used in integrating the providers, producers, barns and stores in order to produce and offer the intended products on a specified amount, in a certain time and in a specified place. This caused the whole chain expenses be decreased, in addition the customers' needs be met with high service level. In this study, first of all the history of the emergence of supply chain and continue to components and elements and how the evolution of the green supply chain management will be discussed. The aim of this issues and literature related to green supply chain and understand its importance in the production of goods for all researchers, manufacturers and marketing.

Keywords: Supply Chain, Green Supply Chain Management, Marketing

JEL Classifications: M31, R41

1. INTRODUCTION

In the 1980s with the increasing diversity in desired patterns of customers, manufacturing organizations became increasingly interested in rising the flexibility in production line, the production improvement and the exiting processes and the new productions' development in order to satisfy the customers' needs. This subject in its turn figured new challenges out for them.

In the 1990s, parallel to improvements in production capabilities, industry executives realized that the materials and services from different suppliers have considerable influence on the organization's capacity to deal with customers' requirements that this matter in turn raised the organization's focus on sourcing strategies and supply resource bases. Moreover, managers found that just producing a qualitative product is not enough. In fact, providing products with high quality standards and cost to their customers created new challenges.

In such circumstances as a result of these changes, organizations found that these changes in long-term is not enough for their

organization management. They must manage their organization's network of all the factories and companies- directly or indirectly- provided, also, the companies' network related to the customer's product delivery and after- sales services were involved.

With such an approach, "supply chain" and "supply chain management" came into existence (Ghazanfari et al., 2001).

However, the term supply chain management was introduced and was considered later by a group of consultants for the first time in 1980 (Chen and Paularja, 2004).

Different definitions of supply chain have been presented, that some of them are listed below:

Supply chain is a network of organizations that related to those upstream to downstream are involved in the processes and activities and they produce value to the final customer in the goods and provided services (Christopher, 1998; Lysons, 2000).

Supply chain includes all activities associated with the flow and transformation of goods from the stage of raw material (mining) to delivery to the final customer, as well as the information flows associated with them (Ghazanfari et al., 2001).

Supply chain is a set of attitudes and thoughts that its task is to create synergies in the company's performance (Zhang, 2003).

The supply chain is a network of steps and activities that its task is developing new products, supplying the raw materials from the sellers, transporting the materials between the units, manufacturing and distributing the finished products to the customers and finally after-sales services (Mabert and Vakaramanan, 1998).

Supply Chain is a network of infrastructures that includes the material purchase task, transformation of these materials to the intermediate and final products and distribution of these final products to the customers and this is in both manufacturing and servicing organizations (Kiahara, 2003).

The supply chain is something more than physical goods move from beginning to the end of the chain and consists of two other flows:

1. Information flow between the components:
The communication between the components to run and maintain the supply chain is necessary.
2. The final flow that it's the primary goal of every companies in the supply chain.
As it can be seen that the physical goods flow is from the beginning to the end of the chain and the data and financial flow is vice versa.

Supply chain management is asset of procedures that is used the effective integration of suppliers, barns and stores in order to produce and offer the intended products on a specified amount, in a certain time and in a specified place. This causes the whole chain expenses be decreased, in addition the customers' needs will be met with high service level (Mir and Seyed, 2003).

In general supply chain management is a set of attitudes that is used to integrate the suppliers', manufacturers' and barns' performance so that goods are produced and distributed at proper sizes, in the right place at the right time in order to decrease the costs throughout the system, despite the fact that service needs are provided (Simchi et al., 2000).

2. SUPPLY CHAIN COMPONENTS

2.1. Upstream Supply Chain

This includes primary providers that each of their suppliers can have other suppliers. In this case the supply chain will be longer. The main activities in this part are the purchase and transportation.

2.2. Internal Supply Chain

This section includes all the activities that an organization does on the inputs from the upstream supply chain from when the materials are entered to the final product and are become ready to be distributed outside of the organization.

The main activities of this part include material handling, inventory management, manufacturing and quality control.

2.3. Downstream Supply Chain

All activities related to the products' transportation and distribution to the final customers' are taken in this chain.

This part includes distributors, retailers and the final customers. It should be mentioned that each customer can have his/her own customers which in this case the supply chain will be longer. The main activities of this supply section are packaging, storage and transportation.

2.4. Supply Chain Management Goals

the main goals of supply chain management include the emphasis on making the customers' demands come true effectively, the profitability of the supply chain, and also the secondary objectives of supply chain management that include creating the ability to develop new products, minimizing the amount of time that a product passes through the supply chain and arrives the final customer and moreover maximizing the supply chain flexibility at responding the changes in customers' needs (Mir and Seyed, 2003).

3. THE SUPPLY CHAIN MODELS

The most important supply chain models include.

3.1. The Production-distribution Model, Lee and Kim

The main activity in the supply chain is the production planning and distribution (Lee and Kim, 2000).

There are 2 distinct models: The production models and the distribution models that in production models-the distribution of these models are joined together and it's considered as a production-distribution model in the supply chain. These models are relevant in operation and closely linked to each other. In this model, the first production model factory produces n different products that are used in m different products at the second production model factory.

The distribution model includes stored buffers of all product types in which all the manufactured products are temporarily stored and the source of the demand are the intermediate barns that store a variety of products and the retailers.

Products are stored in a unique amount of buffers to both the barns and the retailers and directly transferred from the barns to the retailers in order to satisfy the demands.

3.2. Chandra and Fisher Model

This model is a harmonic multi-period planning in production and distribution in which several products that are produced over time in a factory are considered.

A vehicle loads them in a factory then distribute them to some of the retailers. The demand for each retailer is specified.

The matter of production and distribution scheduling is to minimize the total cost at the launch of production, distribution and inventory (Chandra and Marshal, 2003).

3.3. Arntzen, Brown, Harrison and Trafnon Model

Arntzen and his colleagues present a model as global supply chain model that the coordinated production network, distribution and purchase in Equipment digital company are studied.

The presented model by them includes a type of supply chain that consists of products, technologies, customers, suppliers, multiple production and distribution centers that are spread over several countries (Arntzen et al., 1995).

3.4. Pike and Cohen Model

Pike and Cohen, by providing an integrated model of production/distribution of probability kind, try to reduce the supply chain expenses (Mir and Seyed, 2003).

Several products which are produced with independent and probable demands in a factory will be stored in a final products barn and then are sent to a retailer to meet the customers' needs.

The final products' barn sends a batch production request to the factory when there is a reduction of product supply and reaching the reorder point.

3.5. Zhou, Cheng and Heva Model

Zhou et al. have tried for industries with continuous processes in order to optimize the entire supply chain from the purchase of raw materials to distribution by providing a model of goal programming. There are 4 goals in their model which are:

1. Economic goal that is optimizing profits of entire chain and it will be obtained from differences of chain costs and contains the cost of purchasing, energy sales, management, transportation, stock, salaries, depreciation and taxes.
2. Social purpose that is satisfying the needs of customers.
3. Goal that relates to resource which includes 3 sub goals:
 - Minimizing the consumption of raw materials
 - Minimizing energy consumption
 - Maximize the capacity of production, distribution and warehouses centers.
4. Goal that relates to environment and it includes waste minimization of production, and distribution and discover progression for turning them to usable raw materials or energy.

4. PORTER SUPPLY CHAIN AND MARKETING

Supply chain concept has become common by Michael Porter's book that its name is "competitive advantage: Creating and maintaining superior performance" in 1985. Organization goal is favorably optimizing each factor of supply chain in the analysis of different factors such as inland transportation (raw material supply, control and check, timely delivery) exterritorial transportation (the formation of order, transportation). Marketing and sales (product development, pricing, sales promotion, distribution) services

(on-site and off-site, spare parts, customer care) organizations are not only aware of their abilities but they look at competitors capabilities. Porter had considered distinction between main activities and support activities. Main activities are directly related to goods delivery, or services delivery these activities are including.

Inland transport, operations, exterritorial transportation, marketing, sales and service and support activities to improve the efficiency of main activities. These activities are determining infrastructure, human resources management, technology development and supplying (Malekakhlagh and Forouzanfar, 2014).

5. SUPPLY CHAIN ROLE IN MARKETING

1. Supply chain reflects organizational capabilities to carry out effective marketing activities.
2. It is used to assess the cost.
3. It can be evaluated in comparison with the supply chain competitors.
4. Target market can affect condition of supply chain.
5. The decisions made by organization outside sources depends on supply chain weaknesses.
6. Improves strategic decision making and cooperation for entering in new markets or access to special abilities to meet consumer needs.
7. Supply chain, enables value-added analysis from the perspective of customers (Doroudchi and Nikmehr, 2007).

6. GREEN SUPPLY CHAIN MANAGEMENT

With increasing the concerns about environment in the last decade, should also consider environmental pollutants alongside the development of industry and in SCM operational process. All solution of this issue are better to be compound into a comprehensive supply chain procedure (Fallah and Mohajeri, 2014).

Supply chain management is an important factor and it is directly linked to productivity and competitive position. Making green the supply chain is a new concept. According this concept buyer will use his buying power to demand better environmental performance than superior supplier at supply chain this means that buyer (which is mostly a big firm) it has facilitator's role for suppliers (this supplier are usually small and medium-sized companies) and helps them in turning to an environmentally friendly organizations.

7. MAKING GREEN SUPPLY CHAIN

Making green the supply chain is the process of taking into account environmental criteria or environmental considerations in organizational purchasing decisions and long-term relationships with suppliers, making green the supply chain is greatly depends on organization nature.

Making green the supply chain activities are usually divided into two categories:

1. Those cause to improve coordination with suppliers in the field of environmental efforts to facilitate the development of greener and more environmentally friendly products.
2. Demands of improving the environmental performance of suppliers such as getting certification of ISO 14000 or achieving a performance standard.

The major differences between these two types of activities are that the first one is focusing on supplier role in helping customer (with product design and solving environmental problems of customers) and the second one focuses on internal performance of supplier in combination with customer demand (to reduce risk or cost by using better environmental management supply chain).

8. THE BENEFITS OF GREEN SUPPLY CHAIN

At the individual level, it cause to certain competitive advantages such as lower prices, greener products, and better integration with suppliers and at the GSC national level it can create markets for green products and it can cause to better adoption of supplier with environmental issues.

Making green the supply chain can cause to improve the company's competitive position by reducing costs. For industrial firms at their private section with lower profit margins, supply chain costs can improve their market situation.

Making green the supply chain can also make new market for companies. A case study shows that governments of Taiwan, Indonesia, the United States and Canada have plans to buy Eco products.

At national level, green supply chain are also important for government to achieve international competition at their industrial sector of the country. While economics are seeking for solving sustainability challenges, the main issue is in the maintenance of market situation which is the ability of a nation's industry in designing and production of green products that minimizes demanding for resources (Ansari et al., 2014).

9. EVOLUTION PROCESS FROM SUPPLY CHAIN MANAGEMENT TO GREEN SUPPLY CHAIN MANAGEMENT

SCM complexity revolves around three crucial factors which are:

1. Products
2. Suppliers
3. Raw materials.

Due to the global green projects, new methods have been emerged to take methods and standards for analyzing sustainable development at pioneer companies of developed countries. These ways are usually focusing on 3 aspects of a company that are:

1. Product design
2. Manufacturing process
3. The organization itself.

10. NECESSITY OF GREEN SUPPLY CHAIN

Making green the supply chain will create a good opportunity for those who are worried about sustainable consumption issues and environmental business operations. Companies should reconsider about their product design and production techniques (to make products more environmentally whether during production or consuming time). Some author claim that products should be recycled and reused after their end of life (as a strategy to reduce demand of raw materials, and solving problems related to the problem of lesions) this change has many applications for companies and organization's long-term success depends on its ability to manage and coordinate relationships with suppliers and above all to making green its supply chain.

At macro view, it is important to pay attention to green issues even as a mechanism for increasing the ability to design green products or as a means to create markets for Eco-green products. Making green the supply chain requires a series of new entries and it create an opportunity for company in return to invest for designing and production of greener products and to eliminate sustainability requirements, it's not only for consumer goods but also inputs from suppliers it is causing them to get involved in to creation of green markets (Mir and Seyed, 2003).

11. CONCLUSION

In the 1990s, parallel to improving production capabilities, industrial executives realized that materials and services that are received from different suppliers has significant impact on increasing organization capacity in order to dealing with customer requirements. This in turn had a great impact on organizational focuses on supply base and sourcing strategies, managers have also found that simply producing a qualitative product is not enough. Supply chain includes all related tasks, the flow and converting products from the stage of raw material (extraction) to delivering to end consumer and also data flow that are related to them. Generally supply chain management to minimize costs at all over the system while supply services requirements are being supported, is a collection of opinions that are used for efficient integration of suppliers, manufacturers and warehouses in a way that products in suitable size, in suitable place and in suitable time will be produced and distributed. The main objectives of supply chain management include emphasis on effectively satisfying the customer demands, profitability of supply chain and also secondary objectives of supply chain management include creating the ability of developing new products, maximizing supply chain flexibility in responding to changes that arise at customer requirements. Supply chain reflects organizational capabilities to carry out effective marketing activities. Decision making to have strategy and cooperation for entering in new markets or achieving to special abilities, will improve supplying consumer needs. Making green the supply chain is the process of taking into account the environmental criteria or environmental considerations in organizational purchasing decisions and long-term relationships with suppliers. The value of making green supply chain largely depend on the nature of organization. Making green the supply chain creates a great opportunity for those are worried about

sustainable consumption and environmental business operations issues.

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