

Green Supply Chain Management in Food Industries

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Abstract— Supply chains within the food industry have been subjected to many pressures in recent years in light of globalization, food recalls, technological innovations, and decreasing consumer trust. Strategically, rather than compete within low costs market segments, many food producers are following a differentiation strategy that targets niche market segments, such as organic food. Purchasing managers are becoming more focused on environmental issues, which have led to the emergence of the concept of green purchasing. In many firms, purchasing represents in excess of fifty percent of total expenditure, which indicates its strategic importance as a function, but also that the total environmental impact of a product may originate within the supply chain. Therefore, efforts to minimize the environmental impact of a product will require the greening of the supply chain as well as the greening of the internal operations of the firm.

Index Terms—About four key words or phrases in alphabetical order, separated by commas.

I. INTRODUCTION

Green supply chain management is defined as —integrating environmental thinking into supply-chain management, including product design, material sourcing and selection, manufacturing processes, delivery of the final product to the consumers as well as end-of-life management of the product its useful life. Environmental concern has become an important factor in manufacturing industries, so they are in need of practicing supply chain concern towards environment or green supply chain management. The growth of the industries is rapid but the growth can't be stated as vigorous growth because of their awareness and concern towards environmental manufacturing. The industries are experiencing an increased pressure to reduce cost, improve quality and reduced time of delivery to sustain in the present market, so they are narrowed on focusing to the factors of their sustainability and other influencing factors to the environment are ignored. The lack of awareness and because of high recklessness the environment is affected to great extent by these industries. The traditional supply chain comprises five parts: raw material, industry, distribution, consumer, and waste. Each of the links in the supply chain can be a reason for pollution, waste, and other hazards to the environment.

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II. GREEN SUPPLY CHAIN MORE BENEFICIAL AS COMPARED TO TRADITIONAL SUPPLY CHAIN

The green supply chain focuses on changes in the following five aspects compared to traditional types of supply chain:

[1]The goal: The traditional supply chain aims to lower the cost and improve the efficiency of supply chain enterprise so as to maximize the economic benefits. Green supply chains also seek to maximize economic benefits, to decrease the consumption of resources and energy and to reduce the emissions of pollutants – all in an effort to create a socially responsible enterprise, and to balance the economic benefits, social effects and environmental effects.

[2]Management structure of supply chain: For green supply chain management, environmental performance is included in the enterprise's internal and external management, which is lacking in traditional supply chains?

[3]Business model: A green supply chain means a more complete business model. Elements including low carbon and environmental protection must be included in the entire logistics and supply chain to realize a complete green and low carbon supply chain system through the whole life cycle, from raw material sourcing and industrial design to production and delivery.

[4] Business process: The traditional supply chain starts with suppliers and ends with users, and the products flow is one-way and irreversible, known as “Cradle- -to-Grave”. The green supply chain changes this management mode and hopefully realizes “Cradle-to-Reincarnation”. In green supply chain thinking, product flow is circular and reversible and all products must be managed throughout the entire life cycle, and beyond so that “waste” finds a second life or becomes raw material available for new production or other purposes.

[5]Consumption pattern: The consumption pattern of the traditional supply chains is a voluntary initiative governed by consumer interests and business activities. Green supply chains can be promoted through green government procurement, corporate social responsibility, and sustainable consumption education and practices.

III. DESIRABLE ESSENTIAL INFORMATION REQUIRED IN VARIOUS AREAS:

Supplier Management and Purchasing Essentials:-

- ** Must-know green purchasing policies
- ** Environmentally preferred purchasing
- ** Green inventory management and procurement plans
- ** Expert advice on vendor selection
- ** Purchasing green IT systems

Transportation, Warehousing and Distribution:-

- ** Green network analysis

** Key considerations for green transportation, network optimization, warehousing and distribution

** Expediting deliveries and conducting follow-up

** Green distribution and transportation with IT systems

Direct Store Delivery, Returns and Recycling:-

** Green Suppliers Network: cost-reduction opportunities & supplier sustainability scorecard

** Direct store delivery planning and processes

** Green continuous improvement process

** Green indirect purchasing

** Crucial end of lifecycle considerations

Value Enhancement Strategies:-

** Green supply chain risk management

** Pivotal supplier product and quality issues

** Important role of product origin and traceability

** Green business intelligence

** Financing and leveraging strategies for purchasing

The Green Supply Chain: Essential Strategies and Foundations :-

** Best practices in green supply chain management

** Green sustainability and carbon neutrality strategies

** Critical tools for ensuring quality

** Supplier assessments for environmental and social responsibility

Carbon Accounting, Sustainability, Renewable Energy, Greenhouse Gases (GHG),

Water and Land Use:-

** Sustainable development within the supply chain

** LEED: sustainable building and green factories

** Embracing corporate social responsibility

** Environmental and carbon accounting issues for the supply chain professional

GHG and Climate Change Regulations, Impacts and Strategies:-

** Regulatory considerations and sustainability strategies

** Imperative global warming perspectives

** Carbon credits, green power and renewable energy credits

** Consumer expectations of a green supply chain

Manufacturing, Demand, Factory, Materials and Network Planning:-

** Green manufacturing, forecasting and strategies

** Green product lifecycle management (PLM)

** Case study: corporate environmental footprint determination

** Outsourcing, building and leasing in a green world

** Green manufacturing systems

IV. EFFECTIVE INVENTORY MANAGEMENT PLAYING A VITAL ROLE IN THE INDUSTRIES

Food may spoil if not packaged properly and delivered promptly, so packaging and transportation employees play a vital role in the industry. Various activities includes freight, stock, and material movers, who manually move materials; hand packers and packagers, who pack bottles and other items as they come off the production line; and machine

feeders, who feed materials into machines and remove goods from the end of the production line. Industrial truck and tractor operators drive gasoline or electric powered vehicles equipped with forklifts, elevated platforms, or trailer hitches to move goods around a storage facility. Truck driver's transport and deliver livestock, materials, or merchandise and may load and unload trucks. Driver / sales workers drive company vehicles over established routes to deliver and sell goods, such as bakery items, beverages, and vending-machine products.

V. MCDONALDS REDUCES OPERATIONAL WASTE: A SUCCESSFUL EXAMPLE

McDonalds set up its first restaurant in the country it infused Rs 400 Crores to set up its delivery mechanism. McDonald's initiative to set up an efficient supply chain and deploy state-of-art technology changed the entire Indian fast food industry and raised the standards of performance to international levels. Today, McDonalds India works with 38 different suppliers on a long term basis and several other stand alone restaurants for its various other requirements. Through its unique cold chain, McDonalds has been able to both cut down on its operational wastage, as well as maintain the freshness and nutritional value of raw and processed food products. This has involved procurement, warehousing, transportation and retailing of perishable food products, all under controlled temperatures.

VI. CONCLUSIONS

Today, environmental pollution is the main problem which mankind faces every day, the major emission of toxic gases is from the manufacturing industries. To overcome this problem and to reduce environmental pollution, the manufacturing industries should include concepts of green in to their supply chain. Manufacturing firms in Taiwan had successfully implemented highly innovative and effective environmental management practice between suppliers and manufacturers. The success is attributed to the relationships developed between the manufacturing firms and their suppliers. Involvement of suppliers in manufacturer's plant and manufacturers in supplier's plant helps them to communicate better, build trust, plan effectively and concentrate on each individual process and part to achieve a desired environmental rating for a product.

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