

The Current Situation and Development Direction of Sustainable Packaging Practices in the Retail Industry

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Abstract. Packaging is an indispensable element in all industries, as it can both protect products and attract consumers. However, it has also become one of the main causes of global environmental problems. The widespread use of disposable plastics, non-recyclable materials, and excessive packaging designs has led to a large amount of waste and significant carbon emissions. In response, governments and enterprises around the world are promoting sustainable packaging policies that are in line with the United Nations' Sustainable Development Goals. Walmart is a typical example, demonstrating how Green Supply Chain Management (GSCM) can strike a balance between operational efficiency and environmental responsibility. By collaborating with suppliers, establishing a sustainability index, innovating logistics, and reducing packaging, Walmart has decreased emissions, waste, and costs, while fulfilling its social responsibility through food donation programs. However, small businesses often struggle to adopt similar practices due to budget and structural constraints. This article proposes practical strategies for small businesses, including using appropriately sized recyclable packaging, offering incentives to customers who use reusable containers, and integrating transportation with local partners. These methods show that sustainability is not limited to multinational companies; through targeted practices, small businesses can also reduce their environmental impact, improve efficiency, and attract environmentally conscious consumers.

Keywords: Sustainable packaging practices; retail industry; current situation and development.

1. Introduction

Package exists almost everywhere through the supply chains of different industries. For example, the food retail industry needs high-quality packages to keep food fresh. Fashion industries such as clothes and shoes need fancy packaging to attract customers. The furniture industry needs tough packages to protect its products. Although packages are important tools to protect products and attract consumers, they also play a major role in environmental problems such as waste production and excessive resource consumption. Since the package itself has served its purpose and reached the end of its life cycle after the product has been delivered, it has frequently been seen as an unavoidable problem that is linked to waste and negative environmental effects [1]. Those disposable plastics, non-recyclable materials and complex packaging designs that people throw away often lead to packages being ultimately landfilled and polluting natural ecosystems. As the report stated, Production and packing alone accounted for 1.2 million tons of China's CO₂ emissions in 2015 [2].

Plastic packages are one of the most popular packages in the world. Despite its long-lasting qualities, plastic causes ecological issues during the disposal phase, affecting human life, the environment, and marine life. Approximately 5000 million tons of plastic have already accumulated in landfills and the natural environment, and by the middle of the century, that number is expected to rise by 12,000 million tons. This suggests that people are essential to the attempt to minimize single-use plastic [2]. Unsustainable packaging not only harms the environment but also puts businesses' reputations at risk and results in financial inefficiencies. Companies that don't adjust risk increased material costs, regulatory demands, and possible negative feedback from eco-aware customers.

Policymakers and consumers are putting more pressure on businesses to use sustainable packaging solutions as concerns about pollution and resource depletion become more widespread. This change is becoming a necessary component of competition and is not just a question of corporate social responsibility. By 2030, all materials will be environmentally friendly, with the aim of fully

implementing packaging that does not require the use of additional coal and oil, in accordance with the UN Sustainable Development Goals. By 2030, the amount of polyethylene terephthalate material used per bottle should also be reduced by 35% [2]. At the same time, consumers are becoming more aware of the environmental problems. They are more willing to pay a premium for eco-friendly products nowadays.

GSCM is a contemporary management approach that combines the ideas of green manufacturing and supply chain technology. It stresses the incorporation of sustainability and environmental protection principles into supply chain operations in order to reduce pollution, emissions, and energy consumption. Corporate value reflects the company's social responsibility, environmental impact, and impact on diverse stakeholders. It also includes the company's resources and competencies as well as its views, philosophies, and ambitions [3]. As the research shows, adopting green management practices increases the likelihood that small enterprises and multinational corporations will innovate, collaborate with consumers, develop eco-design, and use green marketing techniques, all of which help to attain GSCM and improve overall performance of the firm [4].

2. Case Study

Due to the severe environmental problem that the entire world is facing, many companies have started their own eco-friendly strategy. For example, Walmart has its GSCM system to ensure that it can efficiently reduce waste and also reduce some costs.

Sourcing is one of the most important steps in the supply chain. To achieve Green Supply Chain, Walmart contacts its suppliers closely to find more ways to improve the efficiency of energy or fuel. Wal-Mart also made a sustainability index to help suppliers understand how sustainable they are and to make the supply chain more transparent to others. Four areas are the emphasis of the index: people and communities, nature and resources, material efficiency, and energy and climate. With the sustainability index, both suppliers and Walmart can understand how eco-friendly they are. In addition, Walmart will also provide suggestions to suppliers about what they need to improve to reduce the pollution they have caused [5].

By implementing innovative techniques to boost fuel economy and lower emissions, Walmart Logistics has emerged as a pioneer in environmentally friendly transportation. For example, in India, Walmart ships frozen and perishable items across large distances using shipper boxes filled with dry ice. Cooling blankets, which were only effective for short trips, have been replaced with this invention. In addition to benefiting the environment, the boxes increase the cold supply chain, decrease the need for energy-intensive refrigerated trucks, and give more consumers access to frozen items [5].

Walmart, as a leading company in the retail industry, also puts much effort into designing environmentally friendly packages. Walmart not only uses reusable packages to reduce package waste but also reduces the size of packages. Smaller packages can not only enable the transport vehicle to carry more goods per truckload which makes shipping more efficient and low cost because less shipping vehicles will be used to ship more goods. The action of reducing package size also reduces the air pollution that is made by trucks or other shipping vehicles [5].

Waste exists everywhere, from people's daily life waste to industry waste. Walmart, as one of the largest supermarket brands in the world, will create different kinds of waste such as food waste and package waste per day. In this case, to keep Green Supply Chain Management, managing the waste well is a vital process. To reduce food waste, Walmart will provide the food to some charities if the quality of this food is safe enough. This action not only reduces food waste produced by Walmart but also proves that it's socially responsible. In addition, Walmart also provides customers with better methods of keeping food to ensure foods' quality in the long term [5].

To conclude, Walmart's Green Supply Chain Management is an example of how a multinational retailer may balance operational effectiveness with environmental responsibility. Walmart lowers waste, fuel use, and emissions by working directly with suppliers, utilizing resources like the sustainability index, and implementing cutting-edge logistics solutions like shipper boxes and fleets

with low emissions. In addition, its emphasis on reusable and smaller packaging and reducing food waste through donations demonstrates its dedication to social responsibility and environmental preservation. All things considered, Walmart demonstrates how sustainable business practices not only help the environment but also reduce expenses, boost productivity, and increase community trust.

Another example of Green Supply Chain Management is a Chinese car company called BYD. The founding of BYD took place in February 1995. Its commercial scope spans several industries, including electronics, vehicles, new energy, and rail transit, and it has developed over 30 industrial parks globally after more than 20 years of rapid development [6].

BYD is dedicated to ecological innovation, putting climate pledges into practice with cutting-edge green solutions and doable measures. The first automotive firm in the world to formally announce the discontinuance of fuel vehicles was BYD, which did so in 2022 and concentrated on the pure electric and plug-in hybrid vehicle markets. Through creative approaches in four areas—green suppliers, green products, green logistics, and green packaging, BYD actively supports green transformation in terms of green supply chain management techniques. The business mandates that suppliers adopt ongoing improvement steps to lessen the effects of their production and product design on the environment [6].

Additionally, BYD has signed a "Green Supply Chain Management Contract" with suppliers, which requires them to reduce emissions, improve processes and production methods, comply with national environmental regulations, and provide the required environmental certificates. These actions have strengthened the transparency and compliance management of BYD's supply chain. In order to ensure that its environmental goals are being fulfilled, BYD has set up a supply chain supervisory structure that allows it to regularly audit and check its cooperative suppliers on-site [7].

3. Development Directions and Advice

As the case study shows, although many large corporations have already started operating green supply chain management, a lot of small enterprises or firms might not have the capability to operate green supply chain management. On the one hand, some companies might think that it spends too much money to adjust to green supply chain management, such as developing a new eco-friendly material or product, and transforming it into a new system. On the other hand, some companies might state that the adjustment might break the balance that the company is holding because they need to spend time and money on transforming to green supply chain management which might cause negligence on other sides, such as products' quality. Moreover, it might affect a company's vital suppliers. Although there are a bunch of challenges for small firms, there are still some methods that might work well for small companies. Also, operating a suitable GSCM could influence a firm's marketing sales positively. As the research showed, by using GSCM as a new environmentally friendly marketing technique, companies can influence consumers' decisions by showing them about green products and manufacturing practices [7].

Packaging is among the first things small firms may start with. Businesses can utilize appropriate-sized, recyclable packaging in place of bulky boxes or single-use plastics. By getting rid of unneeded resources, this not only cuts waste but also costs. To ensure freshness and be more environmentally friendly, a small supermarket could, for instance, ask the customers if they would mind using the cardboard boxes that the supermarkets use for stocking goods to store the products they have purchased. If the customer agrees, this means that the supermarket will have the opportunity to reduce plastic waste by giving fewer plastic bags. This could be a virtuous cycle, because as more and more customers agree to use cardboard boxes, supermarkets can also reduce some of the costs associated with using plastic bags. And those paper boxes that would have been discarded directly also got a second chance to be used.

Encouraging consumers to use reusable materials is another fantastic way to make a firm more sustainable. Local grocery stores, for instance, could provide small discounts or loyalty points to customers who use reusable containers for bulk purchases.

Moreover, social media is a good tool to propagandize the importance of being responsible for the environment. Social media such as Instagram and tiktok are widely used by people nowadays. Companies can show how eco-friendly they are on these platforms. For example, companies can post some new products on social media to attract potential customers. Also, they can release statistics related to environmental protection. For example, small supermarkets can show how many plastic bags they save each day to attract customers who are concerned about the environment. Business owners can also build their communities on social platforms. With a community that focuses on being environmentally friendly through people's daily lives. People in the community can show their performance in their daily life, such as riding a bike to work instead of driving. After they post several performances, stores could provide small discounts for customers to earn more customer loyalty.

Shipment consolidation is essential to logistics. Although using electric cars is a good idea for reducing air waste emission on the way, it still costs too much for small businesses. Reducing empty or partially filled journeys is one way to address the transportation expenditures. Fuel consumption and expenses can be reduced by pooling delivery resources with nearby firms or by more effectively planning deliveries. For example, rather than scheduling individual deliveries, a number of eateries in a single district could work together to share a vegetable delivery truck. This reduces pollution and road congestion in addition to saving money.

In conclusion, small businesses do not need the resources of a multinational like Walmart to make a positive impact. By focusing on controllable areas such as reducing packaging wastes and emphasizing multiple uses of packages, encouraging consumers to join the eco-friendly community through small discounts and social media, also shipping adjustment to reduce emissions by minimizing empty spaces in the truck small enterprises might able to operate their own style of GSCM, and reduce the costs at the same time [8-10].

4. Conclusion

Although packaging is essential to maintaining corporate operations and safeguarding products, it also produces a lot of waste and harms the environment. Big businesses are proving that green supply chain management can combine efficiency and environmental responsibility, as exemplified by Walmart and BYD. Sustainability may lower costs, increase transparency, and strengthen consumer trust, as demonstrated by initiatives like supplier collaboration, sustainable logistics, packaging reduction, and waste management.

Limited resources may provide difficulties for small organizations, but a global corporation's size is not necessary to implement GSCM. Small businesses can still make significant progress by concentrating on doable actions, such as utilizing recyclable and suitably sized packaging, urging clients to use reusable containers, combining shipments, and using social media to promote environmentally friendly practices. In addition to lowering expenses and their negative effects on the environment, these steps also operate as powerful marketing strategies that draw in eco-aware customers.

In the end, GSCM is a route to long-term resilience and competitiveness, not merely compliance or corporate image. Businesses who adopt sustainable practices, whether they are local or international retailers, will be better positioned to thrive in a market that is becoming more and more influenced by environmental responsibility and awareness.

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