

# Sustainable Packaging In The FMCG Industry

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## Abstract

The Fast-Moving Consumer Goods (FMCG) industry regularly produces a huge amount of waste. Today sustainability is the key issue of every society. Consumers today are more aware of the environmental impact of products than a consumer five years ago. There is also constant regulatory pressure from government. The change is apparent and cannot be ignored. With this tectonic shift in consumer preferences towards eco-friendly and sustainable products, it is for the need of the hour for the companies in the FMCG industry to make some strategic changes. In this paper, we have found 5 startups across the world that provides sustainable packaging solutions. Examples of 5 companies that have adopted sustainable packaging have also been discussed.

**Keywords:** Consumer behaviour, FMCG, Sustainability, Packaging.

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## I. Introduction

Fast-Moving Consumer Goods (FMCG) are the lower priced and larger quantity products that are fast selling. Products in this sector includes Food and Beverages, Consumer Durables, Personal Care and Cosmetics, Sports Goods etc. The sector has a strong MNC presence, some of the most common distribution channels include supermarkets, hypermarkets, convenience stores and other stores that perform retail activities. The FMCG industry is highly competitive, with several brands vying for the attention of customers. Burgeoning Indian population, particularly the rural segments and the middle class, presents an opportunity to the makers of FMCG products.

### Purpose Of Packaging

Packaging plays several important roles in the FMCG industry. This includes:

#### Attraction

Modern packaging trends such as bold graphics, vibrant colours, unique sizes, and shapes helps in drawing the attention of consumers. Attractive packaging can create an instant emotional connection with the consumer, and this will stimulate the consumer to buy the product.

#### Convenience

Packaging also has features such as resealable packaging, single-serve packaging, and easy-to-open containers. These features make it easier for consumers to store and use the products, which can lead to repeat purchases.

#### Information

Packaging conveys information such as the ingredients, nutritional content of the product and cooking instructions. This information helps the consumer to make informed purchasing decisions and can positively impact their buying behaviour.

Packaging has several forms. A general classification of packaging includes: primary, secondary, and tertiary packaging. Primary packaging is the packaging that is in direct contact with the product, like the milk carton that has milk in it. Secondary packaging is the type of packaging that has one or more primary packages. It serves to protect the primary package, communicates the properties of the product, and helps in identification of the product. Example of a secondary package includes a carbon box carrying a perfume bottle inside. Lastly, tertiary packaging contains both the above-mentioned packages and it is primarily used to facilitate the handling and transportation of the product.

Although most of the materials used in packaging could be recycled, a large amount cannot. The production, usage, disposal and recovery of packaging not only create sizeable amounts of waste, but they also consume raw materials and energy. In recent years, packaging has undergone a significant transformation, with a focus on sustainability and convenience. Sustainable packaging helps in lowering the environmental

impact. Companies are thus investing in innovative and new packaging designs that can create a positive emotional connection with consumers, leading to repeat purchases and brand loyalty. However, the adoption and implementation of the sustainable packaging practices may be influenced by factors such as cost, regulatory policies, consumer demand etc.

## **II. Review Of Literature**

Priyanshi Jain, Dr. Manoj Hudnurkar (2022) in the paper “Sustainable packaging in the FMCG industry” studies about the consumer perception and behaviour towards the eco-friendly and sustainable packaging. The authors have thoroughly reviewed over 30 articles and papers. The research also uses carefully crafted questions that were asked during moderated focus group sessions. It was observed in the research that an increased pattern of environmental consciousness and awareness was observed with the increase in educational level. People who were more aware and who had the drive to make a change were purchasing sustainably packed goods. Words like natural, biodegradable, organic were found to drive the purchase. On the other hand, it was found that price is one of the biggest factors that deterred purchase.

Idowu David Ibrahim, Yskandar Hamam, Emmanuel Rotimi Sadiku (2022) in the paper Need for Sustainable Packaging: An Overview presents the need for sustainable packaging because of the environmental impact of packaging materials after use and the growing demands. The applications, drawbacks and solutions of different packaging materials like plastics, paper, glass, and metal were presented in this study. The areas of application for sustainable packaging materials like cosmetics, food, pharmaceuticals were discussed. The findings of the study highlight that sustainable packaging can be made possible by using recyclable and bio-based materials.

Dr. Shilpa Kulkarni, Dr. Patil Hemant Baliram and Dr. Deepali Satish Ubale (2023) in the paper “Impact of Modern Packaging trends on consumer buying behaviour with special reference to FMCG products” collected data from a sample of 400 consumers through questionnaire and analyzed it using t-tests and multiple regression analysis. The results of the study found that consumers have a stronger preference for FMCG products with sustainable packaging compared to the products with non-sustainable packaging. The study also showed that younger, higher-income and more educated consumers are likely to prefer FMCG products with sustainable packaging.

Dr. Sukhmani, Ms. Ashima and Mr. Varun Nayyar (2013) in the paper “Sustainable packaging in Selected FMCG Companies of India”, has made research on 100 FMCG Companies that have adopted sustainable packaging. Empirical results were obtained using tests like Friedman Two Way ANOVA, One Way ANOVA, Coefficient of Preference Analysis, Factor Analysis. The tests demonstrate that companies have to be responsible not only for the social and environmental performance of its own production deeds but also for using raw materials which infuse wastes and emission that degrade our environment.

Varun Nayyar, Dr. Anurag Pahuja and Dr. Balam Dogra (2014) in the paper “Sustainable Packaging: An Exploration of Green Indian Consumers” has done an exploratory study to identify the factors that influence the perception of rural and young Indian consumers towards eco-friendly packaging. The specific driving factors which impact the minds of consumers while practicing sustainable packaging behaviour in their normal routine buying were also determined. A survey of 500 Indian consumers (250 rural and 250 urban) was conducted in different geographical areas using a well-structured questionnaire. Principal Component Analysis with Varimax Rotation was used to specifically determine the factors that affect the perception of Indian consumers towards sustainable eco-friendly packages while purchasing different products.

Shailesh Jadhav, Dr. Nitin Zaware (2023) in the paper “An Assessment of Green Practices in Relation to the Packaging of Selected Indian FMCG Companies” have explored the green practices of selected Indian FMCG companies with reference to packaging. The results of this study give us knowledge on the different initiatives taken by FMCG companies for change in the packaging, supporting the overall sustainability of the products.

Mohd Amir and Prof. Atul Dhyani (2018) in the paper “Sustainable Green Marketing Practices Enhance Competitive Advantage in Indian FMCG Sector” have examined 73 out of 100 ensured and enlisted FMCG companies in the Delhi and NCR region to measure the impact of green marketing practices on competitive advantage. Structural Equation Modelling (SEM) was used to determine the relationship among independent (green marketing practices) and dependent (competitive advantage) variables. The findings tell us that FMCG companies are not yet getting the coveted advantages through green marketing practices. This is because the three components (product, price and place) were found to be insignificant except the promotional activities which were significant in order to gain an advantage.

Ilangasekara, A.S.P and Siriwardana, M.L.D.A (2022) in the paper “Consumer Buying Behaviour towards Sustainable Packaging in FMCG market: A Study among High Income Earners in Colombo” have tried to understand the relationship between consumer buying behaviour and sustainable packaging among high earning residents in the city of Colombo, Sri Lanka. The two objectives for this study were to identify the

association of each dimension of sustainable packaging towards consumer buying behaviour and to identify the most significant dimension that affects the consumer buying behaviour. Consumer Inspection and Consumer Awareness on sustainable packaging and Consumer Willingness to pay for sustainable packaging were taken as dimensions. A sample of 200 respondents in the age group between 18 to 60 were studied. Pearson correlation analysis and multiple regression analysis was carried out to achieve the objectives. Among the three dimensions, consumer willingness showed the highest strong positive correlation, followed by consumer awareness and consumer inspection.

Rui Dantas, Irfan Sabir, Jose Moleiro Martins, Muhammad Bilal Majid, Mohammad Rafiq, Jessica Nunes Martins and Kanza Rana others (2023) in the paper, Role of Green and Multisensory packaging in environmental sustainability: Evidence from FMCG sector of Pakistan have explained about green packaging – A significant aspect of a sustainable environment. This has been studied using two independent variables: Green packaging and multi-sensory packaging. Consumer environmental knowledge was used as a mediating variable and Consumer perception was used as a moderating variable. Quantitative research was done and data were collected from 302 FMCG customers through a self-administered questionnaire survey. AMOS software and Structural Equation Modelling (SEM) was used to test the proposed hypotheses. The studies reveal that green packaging has a significant and positive effect on environmental sustainability and multisensory packaging has a negative impact. It was found from the research that consumer perception positively moderates the relationship between green packaging and ecological sustainability, and consumer environmental knowledge had no mediating effect between green packaging, multisensory packaging and ecological sustainability.

Ayodeji Abatan, Oluwaseun Augustine Lottu, Ejike David Ugwuanyi, Boma Sonimitiem Jacks, Enoch Oluwademilade Sodiya, Andrew Ifasinachi Darojimba and Alexander Obaigbena (2024) in the paper “Sustainable Packaging Innovations and their impact on HSE practices in the FMCG industry” describes the multifaceted impact of sustainable packaging innovations on Health, Safety and Environmental (HSE) practices in the FMCG sector. The article has reviewed several aspects of sustainable packaging that includes its environmental impact, safety and health implications, operational efficiency, stakeholder engagement and regulatory compliance. Key findings include the benefits of sustainable packaging in enhancing brand reputation, consumer trust and supply chain resilience, while also reducing waste generation, resource consumption and carbon emissions.

### **III. Findings**

#### **Eco-Friendly FMCG Packaging Solutions**

Due to the natural properties of plastics and metals to limit oxidation, they are widely used in the packaging industry. Although, both the above-materials compound environmental degradation. In addition, recycling metal-based products require dedicated facilities that adds to the carbon footprint. Because of this reason, several startups are trying to develop packaging solutions based on eco-friendly materials.

#### **Varden (Australian Startup)**

The Australian startup Varden has developed Agricultural Residue-based Packaging. The startup makes use of natural molded pulp fibres to create sustainable as well as high-performing food packaging. The packaging is capable of food preservation by limiting oxidation and controlling moisture. The biomaterial sources are obtained from agricultural residues and the startup then repurposes these natural fibres.

#### **Proud Source Water (US Startup)**

Water bottles generally constitute single-use plastics. Most of this waste ends up in the global oceans. To replace that, US-based startup Proud Source Water has made an aluminium packaging for water bottles and caps. In addition, the bottles are bisphenol-A (BPA) free and are hence safe.

#### **Lean Orb (US Startup)**

Lean Orb is a US-based startup that develops eco-friendly FMCG packaging using natural materials. The startup uses fibrous sugarcane stalks to produce sustainable plates, bowls, cups and to-go containers. Areca palm leaf is used for the development of disposable tableware for all purposes. The startup also makes use of wheat straw, bamboo, birchwood to make FMCG packaging products.

#### **Evanescence (Canadian Startup)**

Canadian startup Evanescence uses food waste to develop sustainable packaging. It's compostable and plant-based food packages offer reliability for the transportation of food. The products made using Evanescence Molded Starch Technology are free from synthetic polymers. They have a shelf-life of 2 years and decompose into the soil within 90 days. The startup uses a bio-based coating which makes the products heat resistant and leakproof. They are also oven and microwave safe.

### **Saathi Pads (Indian Startup)**

Saathi Pads is an Indian startup that makes biodegradable packaging for sanitary pads. In addition to packaging, the startup uses banana-based fibres and bamboo to design pads that naturally biodegrade in 6 months after utilization.

### **Examples Of Companies That Have Adopted Sustainable Packaging**

#### **P&G**

Procter & Gamble Company is an American multinational consumer goods corporation which has presence on various divisions and one such is Fabric & Home Care division. In partnership with paper bottle company Paboco, P&G's Fabric Enhancer brand Lenor unveiled a real prototype paper bottle. Virgin fiber, used for paper and board production from timber, is now directly being used as packaging material through this to eventually create a fully bio-based bottle.

#### **Nestle**

Nestlé is a Swiss multinational food and drink processing conglomerate corporation. It is the world's largest food and beverage company with more than 2000 brands. In order to promote sustainability, Nestlé Nutrition's NAN infant formula introduced bio-based lids and scoops. This method of substituting with bio-based plastics is that are made from a renewable plant material such as sugarcane ensures that it can be continually replenished and further absorbs carbon dioxide from the atmosphere.

#### **Coca-Cola**

The Coca-Cola Company is an American multinational corporation with more than 200 brands and thousands of beverages around the world, from soft drinks and waters, to coffee and teas. In order to improve sustainability, the company is introducing rPET, which stands for recycled PET bottles for their beverages. Furthermore, as an extended step, the company is collaborating with Tech Partners to Create Bottle Prototype Made from 100% Plant-Based Sources.

#### **Unilever Global**

Unilever PLC is a British multinational fast-moving consumer goods company. It houses more than 31 brand globally. For an improved and sustainable future, Unilever has piloted a program on "Reuse. Refill. Rethink.". Through this approach, a consumer can pick up a pre-filled stainless-steel bottle from the shelf and return it in-store once used, where they are collected to be cleaned and refilled. This can be effectively classified under returnable packaging. Also, the use of recycled polypropylene plastic (rPP) in its ice cream range, which also induces the idea of reuse.

#### **Danone**

Danone S.A. is a French multinational food-products corporation which pioneers in Essential Dairy and Plant-Based Products, Early Life Nutrition, Medical Nutrition and Waters. The above categories are largely dependent on packaging mostly PETs previously. With sustainability in mind, the company is moving largely towards 100% reusable, recyclable or compostable packaging. When it comes to water, the phase change from PET, HDPE to Glass and paper.

## **IV. Conclusion**

Currently, there are not many companies in the FMCG industry who have adopted sustainable packaging. But, the demand for sustainable packaging solutions is increasing because of consumer pressure and regulations. Therefore, it is imperative for the companies in the FMCG industry to prioritize the integration of sustainable packaging practices into their operations. This entails investment in research and development, adoption of emerging technologies, collaboration with suppliers, manufacturers, and regulatory authorities. Moreover, consumer education is essential for building trust, awareness, and demand for sustainable packaging solutions. By embracing sustainability as a core value and taking collective effort, FMCG companies can lead the way towards a more responsible, resilient, and sustainable future for packaging.