



Recycling of used package materials of FMCG products and its Sustainable Strategy - A Review

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Abstract:

Purpose: In the present world, corporations are producing nearly 400 million tonnes of plastic waste each year and are continuously supplying single-use plastic to the rapidly rising populations due to which our planet is choking. It has become an alarming issue and created global concern. It is resulting to the increase of emission of greenhouse gas associated with production, usage and disposal of single-use plastics. Considering the issue on a serious note, the researchers intends to highlight the sustainable strategies initiated by FMCG focusing on the packaging innovations used after recycling the used packaged products.

Design/Methodology approach: The research is descriptive in nature and complied on secondary data garnered from published reports of ITC, articles and journals.

Findings: It is found that ITC has been already contributing towards sustainable packaging and recycling over 99 percent of the trash and resulting from its functioning and plastic waste. They are using glass, plastic, carton/cardboard, paper and can/tin for packaging the products in FMCG industry. Unilever and Coca-Cola brands are among those have already adopted.

Research and social implications: Initiatives taken by various companies are not enough to save the planet. The consumer behavior tends to matter a lot when it comes to minimizing the use of plastic and to improve the waste management. The recycling process begins at the household level. Initial process of separating the plastic waste can contribute to the success of recycling process.

Keywords: Environment, FMCG, ITC, Packaging, Products, Sustainable, Recycling.

1. INTRODUCTION:

The packaging of food involves a huge portion of waste, particularly in industrialized nations. Arranging waste at the household level is a significant step toward fostering a circular economy that intercepts environmental change by producing fewer virgin plastics. A ton of waste, particularly plastic food and FMCG products, is found not arranged properly by customers at home. Buyers are found to have an elevated degree of uncertainty regarding the right arrangement of various plastic packaging for food and FMCG products (**Corporate Finance Institute, 2023**).

Plastics are the product of human innovation and are durable, lightweight, cheap, and mouldable. Woefully, this evolution comes at a cost because it is extremely wasteful and adversely affects the planet. The bulk of plastic waste is shifted to landfills or dumped in the surroundings because of its inadequate quality. Only 9 % of the 9.2 billion tons of plastic produced are adequately recycled. Because plastic is non-biodegradable, each piece of plastic created at any point is still present on the planet. Plastic that is disposed of or washed into the seas is ingested by marine species, regardless of whether it separates into miniature plastics (**Supply Chain Solution Centre, 2023**). During the 1950s to 1970s, a minimal amount of plastic was made and the waste generated from it was relatively manageable, while between the 1970s and 1990s, plastic waste generation exceeded tripled and rose even more in the early 2000s. Today, corporations are producing nearly 400 million tons of plastic waste each year and are continuously supplying single-use plastic to



the rapidly rising populations due to which our planet is choking. If this increasing trend continues, global production is forecast to reach 1,100 million tons by 2050. Approximately 36% of the total production of plastics is used in packaging. In particular, one-time use plastics are used for food and beverage containers, and 85% of them are found in the surroundings as unregulated waste (**UN environment program, 2023**). Thus, the concept of sustainable packaging has emerged within global companies to overcome the climate crisis caused by single-use plastic. The ITC sector is one among those that have already initiated sustainable packaging. ITC is one of India’s private sector companies with businesses extending fast-moving consumer goods (FMCG), hotels, agribusiness and information technology, and paperboards and packaging.

Fast-moving consumer goods (FMCG) have a very rapid consumption pattern and product life cycle and tend to be something people can use in their daily day to day life. The only downside is that it creates massive packaging waste that pollutes the ecosystem. A critical work area in FMCGs to tackle this issue has been developing sustainable packaging that seeks to reduce the environmental impact. In this research paper we deep dive into sustainable packaging evolution, current processes and future trends followed in FMCG.

During the financial year 2022-23, the ITC Company has collected and sustainably managed over 60,000 tons of plastic waste across the country. The volume of plastic waste managed during the year exceeded the previous FY volume (5400 tons recycled during FY 2021–22 and 27,500 tons recycled during FY 2022-23), enabling the company to step toward sustainable packaging. ITC has been rigorously recycling over 99 % of the trash resulting from its functioning and plastic waste since a decade (**ITC Limited, Report and Accounts, 2023**).

Table 1.1: Turnover of FMCG during the year 2022 and 2023:

Sector	Description of Business Activity	% of total turnover contributed in 2022	% of total turnover contributed in 2023
FMCG	Deals: Cigarettes	39.68%	40.60%
	Deals: Branded Packaged Foods Supplies (Snacks; Beverages; Chocolates, Coffee, Cakes, Biscuits, Dairy & Beverages & Confectionery); Stationery Products; Educational items, Personal Care Products; Agarbattis and Safety Matches.	27.01%	27.46%

Source: ITC Limited, Report and Accounts 2022 & 2023

The Annual Report of ITC 2022 highlights that cigarettes in FMCG Sector total turnover contributes 39.68% and for other business activities is 27.01%, while 2023 report holds a total turnover contributes 40.60% by Cigarettes, a rise of 0.92% from the previous year and for other business activities growth of 0.45% is seen resulting to 27.46%.

2. LITERATURE REVIEW:

Jain and Hudnurkar (2022) analyzed consumer behavior and perceptions related to sustainable packaging. Positive correlations were found among consumers between increased environmental awareness and the impact of purchases. Most people believe that their actions will not significantly change the environment; therefore, they choose to remain in their comfort zone. **Ma et al. (2020)** identified the factors for avoiding plastic packaging in FMCG. They found that consumer pressure is the most important factor in plastic reduction. Conversely, consumers tend to perceive FMCGs as a barrier to alteration and thus perform as a double-edged sword, based on their awareness of the issue and inclination to take action. **Ellen MacArthur Foundation (2020)** explained the shift towards a circular economy model, where materials are continuously reused, is also gaining traction. **Patel et al. (2018)** mentioned that FMCG brands have the power to manage sustainable initiatives while understanding the nature of packaging to achieve the target of sustainable packaging. **Singh et al. (2022)** mentioned that the past decade, advancements in materials science and design have significantly expanded the scope and effectiveness of sustainable packaging. **Rizos et al. (2016)** were concerned about the fact that the despite progress many challenges are faced that includes higher costs, technological limitations, and logistical complexities. However, the ongoing innovation and increasing consumer demand for sustainable products present significant opportunities for further advancements. **Sukhmani et al. (2013)** found that the reason for adopting sustainable packaging is the safety and health aspects of the individuals followed by the usage of renewable or recycled materials by effectively using the available resources.



3. OBJECTIVE OF THE STUDY:

This research focuses on highlighting the recycling of used packaged FMCG products and the sustainable strategies adopted.

4. DATA SOURCE:

The paper is descriptive in nature and based on secondary data garnered after reviewing other works, referring published reports of ITC and statistical data from various websites.

5. DISCUSSION AND FINDINGS:

The details of usage of plastics packaged materials and volume recycled by different brands under FMCG can be understandable by the tables positioned as under:

Table 5.1: Collective weight of virgin and recycled plastic used in packaging of major FMCG companies from 2018 to 2022.

Year	Virgin plastic (metric tons)	Recycled content (metric tons)
2018	11.9	0.7
2019	11.8	0.8
2020	11.5	1.1
2021	11.8	1.3
2022	11.9	1.6
2025 target	9.8	

Source: Statista, 2024

The use of virgin plastic by FMCG companies has increased by 0.6 percent in 2022 to 11.9. This growth was significantly driven by the overall increase of plastic packaging weight of 4.3 percent that year. The use of recycled content accounted approximately 11.9 percent of total plastic packaging weight. The use of virgin plastic in packaging is required to decrease by approximately 5.4 percent per year so as to achieve the 2025 target. It is also evident from the predicted records that in the year 2021 the global sustainable plastic packaging market was valued around 85.8 billion U.S. dollars and are expected to reach 143.7 billion U.S. dollars by 2030 (statista, 2024).

5.2 Packaging material preferences

The most common materials used for packaging the products in FMCG industry are glass, plastic, carton/cardboard, paper and can/tin.

Material	Used in
Glass	Alcoholic and non-alcoholic
Plastic	Household care, laundry, health care, beauty and grooming, baby care
Carton/cardboard	Protection during handling or transportation, such as glass jars
Paper	More biodegradable than plastic
Can/tin	Non-alcoholic and alcoholic

Source: (GlobalData, 2021)

Babaria BIO, Potts and Mugunghwa are few major brands that have commenced new packaging innovations for their products to cater to environmentally conscious consumers (GlobalData, 2021).

Table 5.3: Annual Plastic packaging volume used by the leading companies from 2020 to 2021

Companies	2020	2021	2022
Coca-Cola Company	2.96	3.22	3.43
PepsiCo	2.35	2.5	2.6
Danone	0.72	0.73	0.76
Diageo	0.04	0.04	0.42
Henkel	0.35	0.34	0.31
Colgate-Palmolive	0.29	0.28	0.26
SC Johnson	0.09	0.09	0.81
Unilever	0.69	0.71	0.7
Nestle	1.27	0.92	0.93



LOreal	0.14	0.14	0.15
FrieslandCampina	0.07	0.05	0.42
Mars, Incorporated	0.18	0.2	0.21
Essity	0.04	0.04	0.4
Kellogg	0.07	0.06	0.67
Mondelez	0.19	0.12	0.19

Source: Statista, 2024

The use of plastic in packaging used by the FMCG leading companies over the past 3 years are witnessed to increase by various brands including Coca Cola, PepsiCo, Danone, Diageo, SC Johnson, LOreal, FrieslandCampina, Mars Incorporated, Essity, and Kellogg. It is surprising to know that one of the most popular brands worldwide is also included the list but it is also known that Coca-Cola generates three million metric tons of plastic packaging waste annually.

Table 5.4: Share of plastic packaging used by leading FMCG companies that is reusable, recyclable, or compostable in 2018 and 2022

Companies	2018	2021	2022
Coca-Cola Company	99%	99.9%	99.9%
PepsiCo	77%	76.1%	77.2%
Danone	65.5%	74.2%	74%
Diageo	81%	72%	70.9%
Henkel	74%	67.9%	67%
Reckitt	59%	64%	66%
Colgate-Palmolive	57%	60.3%	60.2%
SC Johnson	51.4%	57.3%	58%
Unilever	50%	53%	55%
Nestle	49%	45%	51%
LOreal	30.3%	39.1%	45%
FrieslandCampina	25.6%	26.6%	27%
Mars, Incorporated	23%	20%	21%
Essity	18%	15.8%	15%
Kellogg	16%	12.7%	15%
Mondelez	5%	5.9%	6%

Source: Statista, 2024

Table 4 highlights the percentage of plastic packaging used by the Coca Cola, Danone, Reckitt, Colgate-Palmolive, SC Johnson, Unilever, LOreal, FrieslandCampina, and Mondelez during the year 2018 and 2022 are reusable, recyclable, or compostable. Coca Cola Company is in the verge to complete 100 percent of reusable, recyclable, or compostable packaging.

5.2 Sustainable Packaging Innovations

Sustainable packaging innovation incorporated by FMCG is a step towards using the recyclable, reusable and made from renewable resources or materials such as using eco-friendly boxes so as to minimal environmental impact on our planet. It surrounds the entire life of packaging, from obtaining materials to disposing them. Sustainable packaging has turned up to be a global concern for businesses to figure out climate crisis. It is safe, healthy, and beneficial for individuals throughout their life cycle. The issue of sustainability is a pressing issue for FMCG and favorably it has already started sustainable packaging practices. The FMCG brands, Unilever stands out to be the first in the year 2019 to pioneer the usage of recycled Polypropylene plastic in its ice cream range (**Patel et al., 2018**). Another example set by Coca-Cola to reduce the plastic packaging is the brand have introduced Freestyle machines by making Coke to be stored and distilled from a single storage cartridge. Few more instances are as under:

- Aashirvaad Organi Atta in Paper-based Packaging
- Sunfeast Yippee Noodles: Transitioned to 100% Mono Material PP Laminate (Outer pack and inner sachet)
- ITC Master Chef Frozen Snacks: Transitioned to 100% Mono Material PE Laminate
- Aashirvaad Iodized Salt: 100% Mono Material PE Laminate
- ITC Savlon First in the category to use 70% Recycled Plastic Material in the PET Films of Savlon Glycerin Soap Wrapper



- Fiamma Shower Gel Bottles made from 50% Recycled Plastic
- Engage Cologne Secondary Packaging is 100% Paper-based Recyclable Cartons.

(Source: ITC Limited, Report and Accounts, 2024)

Contribution towards sustainable packaging solutions have been made by substituting single-use plastics by Paperboards like FiloPack and FiloServe, OmegaBev and OmegaBarr, IndoBowl, WrapWell, Bio-seal, Oxyblock, Sign-up Green, TribeKraft.

6. CONCLUSION:

ITC has been already contributing towards sustainable packaging and recycling over 99 percent of the solid waste resulting from its operations and plastic waste. They are using glass, plastic, carton/cardboard, paper and can/tin for packaging the products in FMCG industry. The FMCG brands, Unilever stands out to be the first in the year 2019 to pioneer the usage of recycled Polypropylene plastic in its ice cream range. Coca-Cola have introduced Freestyle machines by making Coke to be stored and distilled from a single storage cartridge and also in the verge to complete 100 percent of reusable, recyclable, or compostable packaging.

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