



DEPARTMENT OF MANAGEMENT STUDIES, IIT DELHI

AND

SEA MOVEMENT

**Research project on packaging waste generated by
various E - Commerce companies**



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Rise of E – Commerce in India:

India's e-commerce industry set to grow 84% by 2024, says report

- ✓ Accelerated by the pandemic, the [Indian e-commerce industry](#) is set to grow by 84% to \$111 billion by 2024. Similarly, Southeast Asia is on its way to record an annual growth rate of 22%, reaching \$146 billion by 2025.
- ✓ Shopping app installs in India showed strong y-o-y growth in July and August 2020, and remained above 2019 levels into 2021. Shopping app installs surged again in July 2021, surpassing 80 million that month, up more than 15 million month-on-month. Meesho alone contributed more than 12 million downloads, up 3.7 million month-on-month.

Android	iOS
Meesho	Amazon
Flipkart	Flipkart
Ajo	Meesho
Myntra	Myntra
JioMart	OLX

- ✓ According to NASSCOM, India's e-commerce market is forecasted to cross a whopping \$200 billion by 2030 due to increased analytics, transactions, and internet penetration.
- ✓ A robust supply chain and a well-established reverse logistics network in India will enhance the success of e-commerce companies. E-commerce

companies and similar enterprises seek a particular logistics requirement that may not be executed by traditional logistics suppliers. The courier companies that generally deliver documents are not experienced in delivering commercial goods. Thus, the e-commerce companies are establishing their own delivery network. One such example is Flipkart's logistics, which is called "eKart".

Impact on packaging waste:

Online shopping means cutting billions of trees

India's booming e-commerce industry has huge environmental costs and there are no estimates about the amount of packaging and waste disposed from e-commerce

- ✓ E-commerce packaging and the disposal of waste have huge environmental costs. At present, e-commerce packaging comes in multiple layers, which is made of plastic, paper, bubble wrap, air packets, tape and cardboard cartons.
- ✓ While most of these packaging materials are recyclable, India's abysmal record indicates that a large portion of these materials will end up clogging our drains and landfills. The problem of excessive packaging has been exacerbated due to the growth of priority customer services that place a premium on ultra-fast delivery which do not allow for consolidated delivery of packages. This is leading to multiple individually packed deliveries thus increasing the generation of waste.
- ✓ The toxic chemicals used in the production of these packaging materials are bound to affect human health as they enter our food cycle. Some of these chemicals are brominated flame retardants, polyvinyl chloride and Bisphenol A, which is an endocrine disruptor.
- ✓ In addition to increasing the waste generated in India, the growing trend of excessive packaging will certainly lead to considerable loss of forest cover, as wood pulp remains the main raw material for making packaging cardboard.

Types of Packaging wastes present in the E – Commerce

Industry:

- ✓ A typical e-commerce parcel may use up to seven types of packaging materials: paper bills, envelopes, cardboard box, plastic bags, woven bags, tape, and buffer materials (bubble wrap, styrofoam).

Ways to Reduce Packaging waste in e – commerce

industry:

- ✓ **Stop over-packaging:** At some point, we've all been on receiving end of an excessively-packaged item. It's the moment when you find a huge box sitting on your doorstep – only to find upon opening that the item could have fitted into a container many times smaller. Make sure that you have a variety of container sizes at your disposal – including mailer bags for very small items that aren't appropriate for sending in boxes. This reduces the amount of filler you need to use. Best of all, this doesn't reduce waste; it also helps to lower your fulfillment costs!
- ✓ **Minimize plastics use:** Plastic continues to be a massive contributor to packaging waste, with enough plastic packaging thrown away every year to circle the globe four times over. The impact of single-use plastic is not exactly a secret in 2021, but what about 'recyclable' packaging? Paper-based packaging is a great replacement for plastic when it becomes to wrapping or cushioning objects. It also gives your packaging a much more high-end look, which is great for enhancing the customer experience.
- ✓ **Research biodegradable packaging alternatives:** naturally biodegradable materials such as corn starch and sugarcane are popular for single-use packaging items, like mailer envelopes and shrink wrap. Mushroom fiber

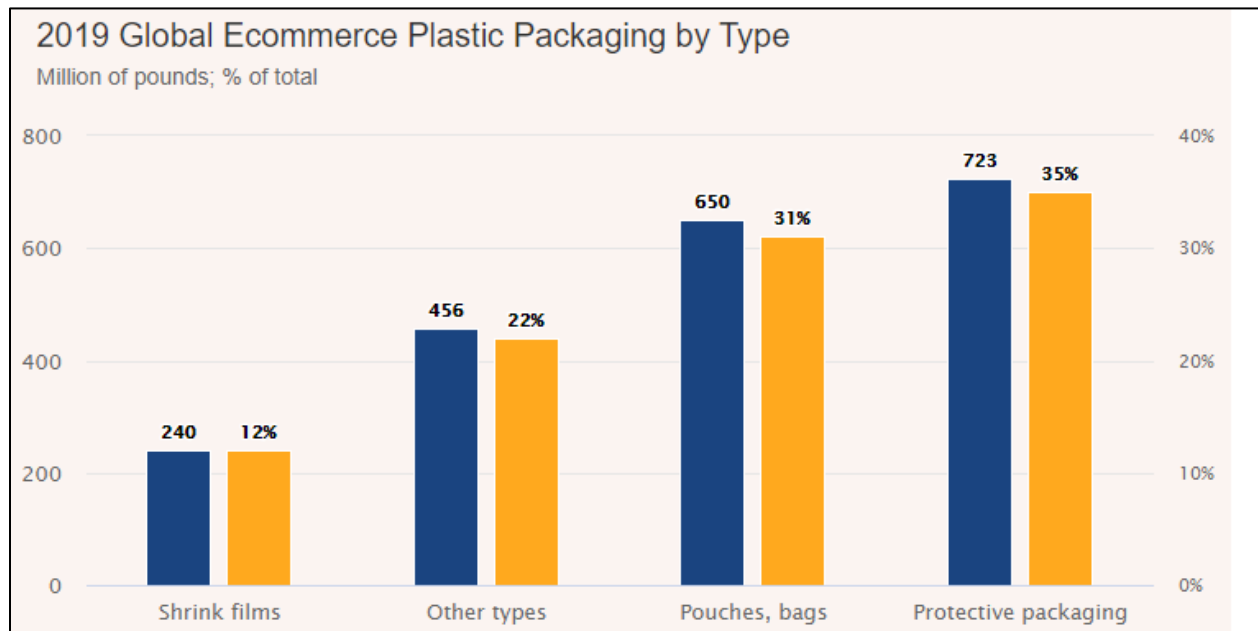
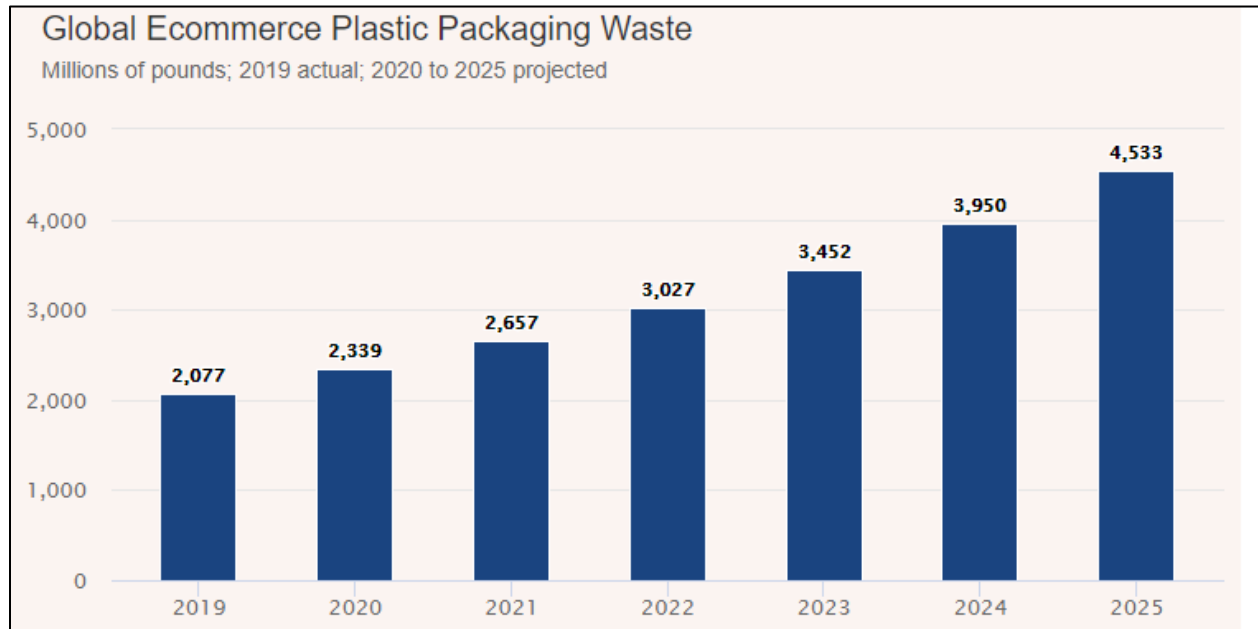
packaging is also seeing growing popularity, due to its similarity to polystyrene.

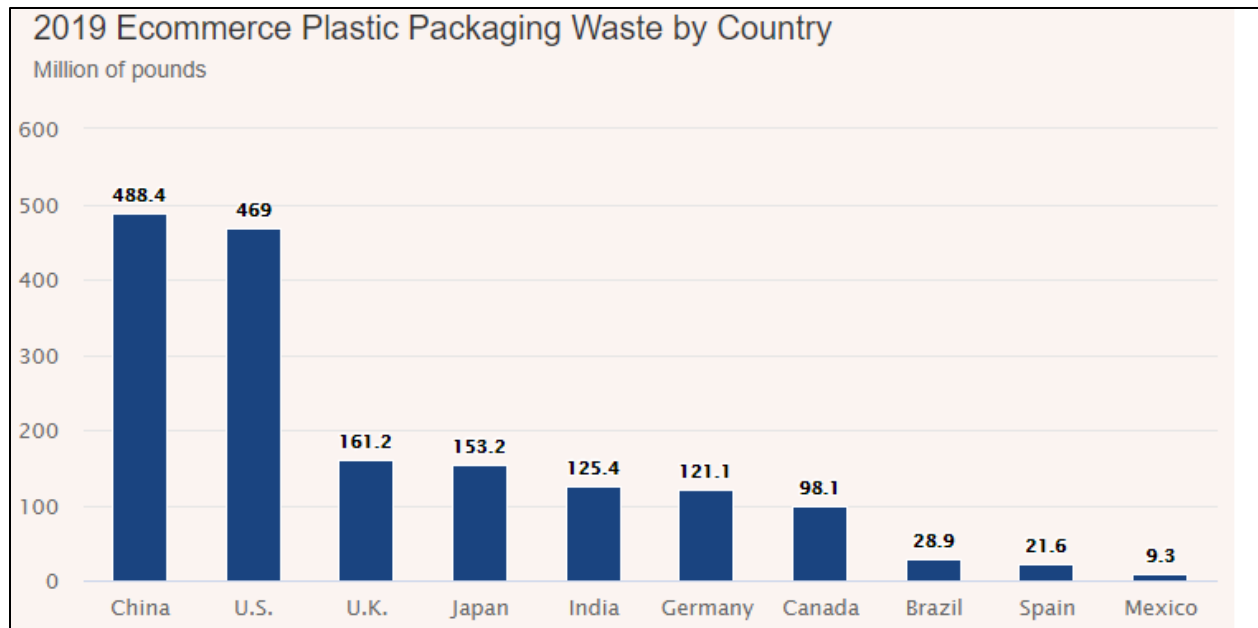
- ✓ **Consider reusable packaging designs:** Reusable packaging offers your business the double advantage of lower packaging waste and easier returns management. When packages are sent out to customers, it's important that brands are thinking about the post-purchase experience – which means the possibility of returns. With return rates in ecommerce at all-time highs, seamless returns processing has never been more critical. Yet this is made more difficult by single-use packaging designs that force customers to source their own packaging to send items back. By choosing 'return ready' packaging designs like double-sealed mailers or zip-locked garment bags, you save both you and your customer a lot of money and hassle. If you integrate this returned packaging into future orders, this circular approach lowers your costs even further!

Contribution of e – commerce industry in generating packaging waste:

- ✓ Currently, less than 14 percent of the nearly 86 million tons of plastic packaging produced globally each year is recycled. The majority of it is left for landfills, incinerated, or left to pollute the earth.
- ✓ A study by Oceana recently found that Amazon generated 465 million pounds of plastic packaging waste in 2019. They also estimated that up to 22.44 million pounds of Amazon's plastic packaging ended up in the world's freshwater and marine ecosystems as pollution in the same year.

Plastic packaging waste on various fronts with the help of charts:





Note: The latest data available was of 2019.

Plastic packaging waste produced by various E-commerce giants:

- ✓ **Amazon:** Oceana analyzed e-commerce packaging data and found that Amazon generated 465 million pounds of plastic packaging waste in 2019. This includes air pillows, bubble wrap, and other plastic packaging items added to the approximately 7 billion Amazon packages delivered in 2019.
- ✓ **Flipkart:**

Flipkart eliminates single-use plastic packaging from supply chain

On July 7, 2021, Flipkart announced that it had attained the milestone of 100% single-use plastic elimination packaging throughout its own supply chain. Having initiated the drive to reduce plastic in 2018, Flipkart in 2019 announced the ambitious commitment to eliminate single-use plastic

by 2021. In 2020, when the COVID-19 pandemic introduced new variables into the business, Flipkart ensured that the drive towards sustainable packaging did not slow down. The milestone was achieved while navigating a tough year impacted by COVID-19.

Steps taken by e - commerce firms to reduce the use of plastic for packaging:

- ✓ **Flipkart:** This includes switching to eco – friendly paper shreds, replacing poly pouches with recycled paper bags, replacing bubble wraps with carton waste shredded material and 2 ply roll, among others. Flipkart has also filed for EPR (Extended Producer Responsibility) and is targeting 30% collection back in the first year to begin with. Flipkart also committed to maximize recycled content in single-use plastic to boost the recycling ecosystem and reduce virgin plastic consumption. These initiatives acknowledge India’s vision to phase out single-use plastic, as well as the company’s impact on the environment.
- ✓ **Amazon:**

Amazon India successfully eliminates 100% single-use plastic in packaging across its Fulfilment Centers

The first milestone towards this goal was achieved in December 2019 when the company replaced plastic packaging material, such as bubble wraps and air pillows, with ‘paper cushion’ in its packaging. The company then introduced 100% plastic-free and biodegradable paper tape earlier this year, which is used to seal and secure customer shipments. Additionally, the company has replaced thin cling films for customer deliveries among other material with packaging options that are not single-use plastic in nature. All other plastic packaging material originating from the Amazon Fulfilment Centers is 100% recyclable through available collection, segregation and recycling channels. Amazon India continues to educate sellers, who directly fulfil customer orders, to join in this directional change in packaging.

Organizations involved in the recycling of the packaging waste:

1. Skrap
2. PaperMan
3. Saahas Zero Waste
4. Citizengage
5. Gem Enviro Management
6. Vital waste
7. Namu E-Waste
8. Plastics for change