

E-Commerce and Environment



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Shri Praful Amin
CERC, Chairman

Editorial Team

Uday Mawani
Chief Executive Officer

Anindita Mehta
ENVIS Project Coordinator

Divya Namboothiri
Programme Officer

Apeksha Sharma
Information Officer

Hiren Tank
Design & Graphics

FOREWORD

Buying and selling culture in India has witnessed a boom in the recent past. The major contributing factors have been the pandemic and the consequent lockdowns and also the aggressive promotion of the Digital India program. The deep penetration of mobile usage has also been a substantial contributor to the growth in e-commerce, more so with very low internet charges, easy availability of Android phones in all regional languages and user-friendly applications.

According to IBEF [Indian Brand Equity Foundation] as on Sept.2020, the number of internet connections had risen to a high of 770.45 million. India's consumer digital economy is expected to scale US \$ 800 billion by 2030 up from US\$ 85 to 90 billion in 2020. The major drivers of this growth are e-commerce and online education, both of which have in some sense come to the rescue of Indian consumer whilst being locked inside homes for long periods of time. In the process consumers have discovered a variety of merits, some real, some perceived, in online shopping. These include the range of products available, getting product deliveries right within the comforts of

one's home, easy return policies, digital payment facilities etc. With these real and perceived benefits, online shoppers tend to overlook the downsides of e-commerce, more especially the environmental fall outs. Though the operational systems created by e-commerce have some positives with regard to its carbon emissions, the negative repercussions cannot be, and should not be overlooked.

The current issue aims to examine causes and impacts of these contra-factors on the consumer e-commerce eco-system. To that end, we have contributions in this issue from leading consumer activists who have been doing commendable work in the area of e-commerce and environment.

The views of Mr. George Cheriyan and Ms. Simi TB from CUTS International, have been elaborated in their article titled "Environmental Impact of Rapidly Growing E-market Place". Ms.Anusha Iyer, Advocacy Officer at Consumer Education and Research Centre presents her views through her article titled "E-commerce and Environment - A Consumer Perspective".

Environmental Impact of Rapidly Growing E-Market Place



George Cheriyan
Director, CUTS International



Simi T.B
Policy Analyst,
CUTS International

E-commerce is growing by leaps and bounds in India and the recent reports suggest that the last quarter of 2020 alone saw a 36 percent growth in its order volume¹. Various factors like the emergence of global supply chains, rise in international trade, rise in sales of smartphone and personal computers, increased penetration of internet and better network coverage coupled with restriction in movement at public places due to the threat of pandemic, all contribute to this sudden surge. According to experts, it is expected that the country's e-commerce would further rapidly increase from four percent of the total food and grocery, apparel and consumer electronics retail trade in 2020 to eight percent by 2025.²

From a consumer perspective, the increase in online transactions, the improvements made to ensure safe and secure transactions, wide choice of products available at affordable and discounted prices and fast delivery of goods purchased have significantly encouraged a great number of consumers, both urban and rural, to make full use of services of e-commerce for their benefits. It allowed manufacturers to keep their business going inspite of lockdown and travel restrictions and provided small and medium

industries, local artisans, craftsmen, and even local provision stores, an even playing field to compete with established brands.

Infact during this time of pandemic and uncertainty, the e-commerce industry is seen as a lifesaver by almost all households as it is because of this industry that the basic needs of most people could be met with. Consumers had the privilege to buy their most essential items sitting safely at home, which were even unavailable at local markets due to surge in demand.

Realising the true potential of the sector in economic growth, the government too since 2014 has been introducing various initiatives such as Digital India, Start-up India, Make in India, Skill India and Innovation Fund to accelerate e-commerce in India. Such sustained efforts for the growth of e-commerce have already created huge employment opportunities, with a 22 percent rise in workforce in the sector in the year 2020 alone.³ Now various reports estimate that it has the potential to further create one million jobs by 2023.⁴ This spike in growth within the sector is not just limited to Indian market; consumers across the world have started realising the true potential of the e-commerce industry and are accommodating it conveniently to their needs.

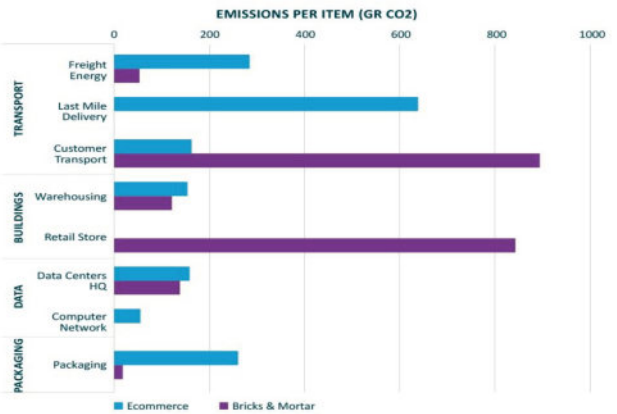
Use of digital technology to efficiently sell a product by the manufacturers themselves to the consumers without involvement of any middlemen has proved beneficial both to the manufacturer and the consumer. It helped reduce the overall cost of the product and lessened the burden of distribution and record keeping, apart from helping to keep up with changing consumer needs.

The sector has thus proved itself to be a bridge between the digitalisation of our society and the transition to a more robust economy. However, there are downsides too that the sector brings along with its growth, which cannot be ignored. The exponential growth of e-commerce has paved the way for increased concern on the impact of the sector on the environment. While there is a general perception that e-commerce is a sustainable practice as business is carried out without physical commuting and a physical store, it is important to keep in mind that there are studies and reports that point out how the sector contributes to many harmful practices that negatively impact the environment.

The discussion below provides brief insight into the impacts of e-commerce on the environment.

Positive Impacts

Along with its huge economic benefits, the sector contributes to the betterment of our environment in its own ways. According to various studies, e-commerce can lower the environmental impact of shopping and contribute reducing the greenhouse gas emissions. Certain studies have even gone further by coming up with figures in percentage to show how carbon-efficient e-commerce is when compared to regular retail stores. For instance, according to a US based financial service and investment management firm, greenhouse gas emissions for e-commerce are 17 percent lower when compared to shopping done at a normal store.⁵



The benefits outweigh as e-commerce companies rely less on physical stores thereby consuming less energy and having more flexibility to ensure both efficient logistics and warehouse. A bricks and mortar retail shop consumes more land space and typically requires a lot of lighting and other high energy consuming electrical gadgets and systems to regulate the temperature and ventilation inside the shops to maintain comfort and enhance the consumers' shopping experience. This type of high energy consumption is not required for a warehouse of an e-commerce company. According to a study by St Gallen University, while the energy consumption related to buildings results in 170 g carbon dioxide equivalent with online shopping, due to the energy needs of warehouses; it results in 1,180 g carbon dioxide equivalent with offline shopping, due to the need to run both warehouses and physical stores.⁶

Besides, e-commerce platforms provide consumers the luxury of purchasing products at the convenience of home without the necessity to personally commute. He gets the products delivered at the doorstep thereby significantly bringing down the number of people and vehicles on the road. Therefore, e-commerce saves 4 to 9 times the traffic it generates otherwise for shopping by physical stores. E-commerce deliveries in urban areas such as Paris, Berlin and London where the study was conducted generate 0.5 percent of total traffic while physical stores generate 11 percent.⁷

So the number of such commuters and associated traffic congestion can further be reduced if more such shopping transactions are conducted online, like it is being carried out these days during the lockdown period. This would help the consumer save more from his monthly fuel consumption, which of course would reduce the dependence on fossil fuel and emission of greenhouse gases thereby resulting in less air and land pollution.

Another most important environmental benefit, especially for Indian consumers, is more options, the facility to choose products of different brands through e-commerce purchase. This would help environment conscious consumers to purchase sustainable products more easily, which are otherwise largely unavailable in the local stores in India. It is undeniable that e-commerce or online advertisements have to some extent contributed in raising awareness about sustainable options among youth who are generally seen to be willing to spend more on such items.



Adverse Impacts

On the other hand, there are some adverse influences of the environment due to the increased dependence on e-commerce. Responsible consumption has almost gone for a toss as consumers sitting at the comfort of their homes always show an inclination to purchase more than they actually need. Wide variety of choices, attractive discounts, free delivery and various other promotional features from time to time attracts the gullible consumers. Such increased production and excessive consumption of consumer goods especially electronic items contribute significantly towards piling up of more waste. Both over consumption and subsequent increase in waste have its own environmental repercussions. Likewise, when such products are later discarded as waste they are again transported to either end up in landfills emitting greenhouse gases or to incinerators generating more pollution as they burn.

Amazon in its annual sustainability report released last month claimed that its activities emitted the equivalent of 60.64 million metric tons of carbon dioxide in 2020. Last year it was 51.17 million metric tons and therefore there is

an increase of nearly 15 percent this year.⁸ This growth in emissions is largely due to the ongoing pandemic induced growth of its business. Such increased online purchases therefore mean increased packaging and complex delivery. One could often witness that even when a consumer purchases various products as a single order, the order is split and the products are delivered as individual packages by different sellers, resulting in excessive use of plastics, paper, tapes and cardboards for packaging.

Also, such packaging is usually done several times bulkier than the product inside with several layers consisting of plastic covers, papers, bubble-wraps and air packets for the safety of the products as well as to fill the void in the box and cardboard cartons. Such multi-layered packaging is always justified by service deliverers as to protect the product from any damages all throughout its journey from the sellers table to the buyers door step. Though most of these materials are recyclable, in a country like India with a poor record of handling waste and recycling, such materials often end up in landfills or drains causing hardship to the people and the surrounding. Besides materials like bubble wrap and air packets, though technically recyclable, often clog recycling machinery and cause a whole host of problems. Seeing such menace, recently the National Green Tribunal (NGT) had directed the Central Pollution Control Board (CPCB) to conduct environmental audit and recover fine from Amazon and Flipkart, the two leading e-commerce giants in India, for violation of environmental norms and expressed its displeasure at lack of action against excessive use of plastic in packaging by the companies.⁹



Besides, to deliver these packages the companies depend on increased use of transports. Often it is seen that products are

delivered to the same address at different point of time in different packages, all from a single order. Such unsustainable practices defeat the possibility of accruing any environmental benefits when delivered as a single package. Such practice also negates the benefit caused by the consumer who abstained from commuting. The situation gets even worse when the consumer decides to return a product he purchased to the seller as this means even more transportation and repacking. Almost 25-30 percent of the products ordered online are returned and replaced every year according to various studies.¹⁰ Often this happens in online shopping as the consumer gets carried away by flash and discount sales wherein, they hardly get sufficient time to decide if they really want the product or not. Besides they also do not get the opportunity to personally evaluate the products before getting them delivered.

At the same time, the rise in the sale of counterfeit and fake products online is also a matter of concern to the environment. Studies show that almost a third of e-commerce consumers are getting fake products delivered. Other than the very short life span of such products, its disposal later proves to be a challenge to the environment as often the composition of such products remains unknown making it difficult for safe disposal. Safe and secure disposal of such products is critical to ensure the environmental risks are mitigated, but often this proves to be costly and technically complex. At the same time, the rise in the sale of counterfeit and fake products online is also a matter of concern to the environment. Studies show that almost a third of e-commerce consumers are getting fake products delivered. Other than the very short life span of such products, its disposal later proves to be a challenge to the environment as often the composition of such products remains unknown making it difficult for safe disposal. Safe and secure disposal of such products is critical to

ensure the environmental risks are mitigated, but often this proves to be costly and technically complex.

Sustainable E-commerce is the Future

E-commerce companies like any other business establishment have a responsibility to take care of the environment. They need to be held accountable for the repercussions of their activities. Since online shopping will only further grow due to the ongoing pandemic, companies themselves seriously need to find ways to tackle concerns related to packaging. Multiple products from a single order should always be bundled up at a common logistic centre and then transported and delivered to the final destination. More importantly, such companies also need to fulfil their Extended Producer Responsibility (EPR) under the Plastic Waste/E-Waste Management Rules, 2016, and establish themselves a system for collecting back the e-waste, and plastic wastes that are generated.

Meanwhile efforts should also be taken to encourage research on developing sustainable packaging. Current practices are inefficient, so more investment and research in coordination and support of all relevant stakeholders become vital. This should be supported with strong advocacy and policies for innovative packaging and a sustainable approach towards a circular economy.

Since consumer behaviour too has a greater effect on the environmental impact of e-commerce distribution, it is vital that the consumers are educated to opt for sound consumer choices. Products should display carbon foot print, that means the total greenhouse gas emissions generated by a product, from extraction of raw-materials, to end-of-life, which will help consumer to make informed sustainable choice. Customers who choose speedy delivery or those who buy single items from different places also contribute

towards increasing the carbon footprint. They should be made aware of the impact of their purchase and delivery decisions, enlightened more about responsible consumption and safe disposal of waste. The government's recent initiatives to link local grocery stores with e-commerce is also a welcome move from an environmental perspective as it encourages consumption of local produce and local products. If such a partnership model could be successfully developed, it can to a larger extent address the issue of transportation and heavy packaging as the products could be delivered to the consumers from a more nearby location.

Ultimately, it is important to keep in mind that e-commerce has changed the way we shop for the better, and continues to offer new opportunities even during this difficult time of pandemic. It certainly needs to be encouraged and promoted but definitely not even at the slightest cost of the environment and well-being of the people.

Source:

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E-commerce and Environment – A Consumer Perspective



Anusha Iyer

Advocacy Officer & Associate Editor
(Grahak Sathi)

Consumer Education and Research
Centre

Shopping from the comfort of homes was the USP that catapulted the popularity of online shopping. Availability of wide options in terms of brands, tempting discount offers, facility for cash on delivery as well as improvement in digital payment infrastructure, and easy returns have been major factors that lured more and more people towards online shopping. COVID-19 brought a paradigm shift in consumer behaviour in the world of e-commerce. More and more people started relying on e-commerce retailers even for their basic needs like groceries and medicines to clothes and cleaning equipment.

The e-retail industry in India has seen a surge in the last five years. The online retail penetration currently is at 3.4% with potential for further growth in the coming years.¹ According to India Brand Equity Foundation (IBEF), 'The Indian E-commerce industry has been on an upward growth trajectory and is expected to surpass the US to become the second-largest e-commerce market in the world by 2034. Indian e-commerce sector is poised to reach US\$99 billion by 2024 from US\$30 billion in 2019, expanding at a 27% CAGR, with grocery and fashion/apparel likely to be the key drivers of incremental growth.'²

Much of this growth can be credited to the increase of internet and smartphone penetration driven by the 'Digital India' programme. This has no doubt affected the

economy, but the environmental impact of e-commerce is a topic of debate around the world.

Impact of e-commerce on the environment

E-commerce companies have benefited consumers and the economy in multiple ways. It has made life easier for buyers to access goods from anywhere and for sellers by opening new markets for their products. However, the tremendous growth of e-commerce has had a negative effect on the environment.

Transportation

The biggest boon that the e-commerce model provides to businesses is the ability to operate without huge physical space. While inventories were needed to be maintained by retail sellers in the past, it is now possible to have a central inventory that can cater to the online purchases made by the customers. Maintaining a central inventory is beneficial to the environment as it reduces carbon emissions. E-commerce has also led to many professionals working remotely and the idea of going to the office is now being reconsidered with many e-commerce companies offering work-from-home. This has saved the time and resources of commutation to work which is directly linked to a reduction in carbon footprint.

Every boon is accompanied by a bane. The flip side is that the distance between the location of the consumer and the distribution center is a major function that determines the emissions. In retail shopping, a customer would often shop by lists – make multiple purchases on a single trip. Due to the convenience of shopping online, the customer does not hesitate to place an order for even a single item.

This mentality leads to multiple delivery trips being made for a customer instead of a single one. While delivery vans do logistically plan their

routes to cater to multiple customers on a single trip, the issue of customers ordering in smaller units remains a matter of concern.



Many e-commerce platforms do compile the entire order and send it as a single package. However, there are several concerns raised on the transport vehicles used for delivering by merchants and their carbon emissions.

Packaging

The issue of packaging is one of the main topics of discussion about the environmental impact of e-commerce. Many environmental advocates are calling out e-commerce platforms for excessive use of plastic and oversized packaging. The e-commerce platforms need their packaging to be such that it protects the product from any damage while in transit. Thus a lot of plastic in the form of Styrofoam and bubble-wrap is used. It also needs to be functional and also allow brands to implement their marketing strategies, if they want to.

Unfortunately, all these packaging material whether plastic, bubble-wrap, tape and cardboard carton is not recycled and ends up in the landfills or seas. The increased use of



packaging also means that more and more trees are being cut to procure wood pulp and paper which are the main raw material used for making packaging cardboard. Also, the production of these packaging materials emits toxic chemicals which are hazardous for the health of consumers.

Returns

To attract more customers and give them a better shopping experience, online shopping sites have made product returns to be a simple, hassle-free process. Customers return items due to various reasons like wrong product delivered, goods damaged in transit, goods not being as per the description, not proper size etc. No questioned asked policy works well for consumers especially in the case of fashion products. It is observed that customers often purchase multiple products, compare them, retain the one that they need and return the rest. This is akin to going to a shop, picking up multiple products for trial and comparison and purchasing one. However, in the online scenario, this comes with an additional price to the environment. As the product has to travel back to the warehouse/seller, the additional transportation adds to the emissions and worsens air quality.

How e-commerce companies can be more environment friendly

Tackle packaging

Organisations need to look for innovative ways to ensure that bare minimum packaging material is used. The material should also be sustainable like compostable boxes or zero plastic. They can also think of grouping orders of the same consumer and getting them packed in the same box instead of individually packing them. E-commerce platforms can also work out systems by which their packaging material can become reusable. Collection centers can be set up where consumers can drop off the packaging material to be reused by the e-tailer. Such consumers can also be given some incentive as a token of appreciation. This has the potential to become a great brand-building exercise as more and more consumers are now trying to adopt sustainable choices.

Aim for cleaner transportation

E-commerce companies should encourage their logistic partners to use vehicles that have low carbon emissions. Delivery partners can move towards using vehicles that minimise the

potential air pollution. DOT, a Delhi-based start-up, provides electric vehicles (EVs) to Swiggy, Amazon, and Bigbasket for last-mile delivery.³

Implement sustainable shipping

Most consumers opt for express delivery if it is at a nominally higher price. This increases the carbon footprint because the package has to be shipped separately without waiting for all the orders to the same area to be collected and shipped in the same consignment.

A great way to dissuade people from ordering express delivery is to charge a premium for this service. Give consumers incentives to select standard delivery instead of express delivery. Additionally, every time a consumer selects express delivery, a pop-up message should be displayed on the screen about its environmental impact.

Promote eco-friendly products

Online shopping platforms can look for listing more and more eco-friendly products. Every time a consumer buys a product that is not good for the environment, an alternative product that is an eco-friendly option can be suggested. This might also attract a section of consumers who are environmentally conscious and are eager to try such products.

Accurate product description to reduce returns

E-commerce platforms should give in detail product descriptions with high-quality photos that represent the true product. This would help consumers make an informed choice and minimise the returns rate. Many online shopping sites give virtual trial options where a consumer can also get a feel of how the product would look on them.

What consumers can do

Purchase in Bulk

Start by ensuring that you buy products in bulk so that the transport cost is reduced. Ordering piecemeal means each order leads to another delivery trip. Try to consolidate the orders and buy from a single site, so that the products can

be shipped together. An easy way to do it is by creating wish-lists and periodically reviewing them and then purchasing all necessary items.

Opt for zero or low packaging

Check on the site to see if there are options to reduce waste from the packaging material. Prefer services that use recyclable packaging material.

Avoid express delivery : Even if express delivery is available at a minimum fee, avoid it as far as possible. Selecting the slower delivery option is an easy way to reduce carbon emissions. This is easier said than done. Every time you shop, assess how urgent is the need for the product. Ask yourself if it can wait or can it be purchased later with other items. Use standard delivery option so that parcels can be transported in optimally loaded transports.

Reduce returns

Do thorough research about the product before you purchase. Reading reviews about the product and the seller will give a fair idea of the product. This will reduce the chances of returns. Mindful shopping will minimize unnecessary returns and even if you have to return, see if there is a collection center near your place where you can drop the items for returns. This will ensure that your online shopping is as green as possible.

Avoid failed delivery attempts

Ensure that you schedule the delivery at such a time that there is someone to collect it. If you happen to not be there, use the tracking system and try to reschedule it rather than making the delivery person make an unsuccessful attempt. You can also request your neighbours or the security persons at the gate to collect the parcel. In case of a failed delivery, the logistics partner will have to make another trip to your place to deliver the goods, thereby increasing the carbon emission.

Finally...

A multipronged approach including commitment from all stakeholders viz. Government, business and consumers is needed to ensure that the development that is achieved with the growth of e-commerce sector is not at the cost of environment.

Source:

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Events (July-September 2021)



Celebration of Van Mahotsav



In-House Workshop on 'Making of Eco-friendly/ Homemade Rakhi'

Eco-friendly celebration of Ganesh Chaturthi at CERC



Pamphlet on Eco-friendly festivals in English & Gujarati



Pamphlet on Blue Flag

Brochure on 'All about the ozone layer'



Seminar on 'Role of VCOs in sustainable Consumption & Healthy Lifestyle'

Webinar on 'Responsible Consumption'




Poster on various environmental themes



The Environmental Information System acronymed as ENVIS was implemented by the Ministry of Environment & Forests by end of 6th Five Year Plan as a Plan Scheme for environmental information collection, collation, storage, retrieval and dissemination to policy planners, decision makers, scientists and environmentalists, researchers, academicians and other stakeholders. The Ministry of Environment and Forests has identified Consumer Education and Research Centre (CERC), Ahmedabad, as one of the Resource Partners to collect and disseminate information on “Environment Literacy - Eco-labelling and Eco-friendly Products”. The main objective of this ENVIS Resource Partner is to disseminate information on Eco products, International, and National Eco labeling programmes.


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**Project Coordinator, CERC-ENVIS Resource Partner
On Behalf of Consumer Education & Research Centre,**
507-8, 5th Floor Sakar II Building, End of Ellisbridge, B/H
Ellisbridge ShoppingCentre, Ellisbridge, Ahmedabad
- 380 006, Gujarat, India. Phone : 079 68181600/28/29

 cerc-env@nic.in, cerc@cercindia.org

 www.cercenvis.nic.in

 @EcoProductsEcoLabeling

 @cerc_envis

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