

Sustainability: Study Perspective to plastic consumption by online food delivery services

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Abstract

The restaurant industry is just one of the hit areas being hardest regarding the COVID-19 pandemic. The closures which are too long decreasing patrons set off by neighbourhood lockdowns have actually enforced financial struggles for numerous restaurants and meals establishments. Through the worldwide 2020 outbreak that is COVID-19 the demand of web food delivery were rising, as it facilitated customer access to meals that are prepared and deliver at their doorstep by service providers. The need that is growing this sort of food service is predicted to substantially affect the consumption structure of restaurant patrons, which might accelerate the intake of single-use plastic materials and ecological impacts include the generation this is certainly considerable of and its high carbon footprints. Moving ahead, stakeholders must consider just how better to mitigate the unfavourable impacts of online food delivery services. In this study, challenges relating to consumption this is certainly associated with online food delivery solutions are presented along with tips about how to deal with all of them. From the suggested activities becoming implemented, it seems that online food service providers are in a central place, if they take actions that would be possibly high-impact a relatively faster result will see contrast to various stakeholders, such as the customers, restaurants, and governing bodies. Hence, encouraging greater responsibility and initiatives from online food service providers are crucial within the drive go green and eliminate the usage of plastic materials derived from meals deliveries.

Keywords: Food delivery services, Pandemic, Plastic Packaging, Environment

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Introduction

This paper was related to "sustainability and going green awareness". There are many reasons and grounds for picking this topic which is discussed in this area. India is a country that is rich in human and renewable resources. But today, all those resources are under threat from various factors, such as population development, the industrial revolution, and lifestyle. This is certainly contemporary. Populace growth possesses an effect that is major on other elements, such as ecological problems, increased consumption of resources, and even more use of electronic devices. Consequently, India is suffering from various issues like environmental pollution, shortage of energy and liquid supplies, deforestation, corruption, political, and issues that are economic (Batth, 2020).

The pandemic is undoubtedly COVID-19, but SAR-CoV-2 has significantly altered the global landscape. In the absence of standard practises and set up medications for treating the illness, neighbourhood quarantines or lockdowns were enforced to limit the movement of the populace for the purpose of reducing the spread of the virus. As the lockdowns played a critical role in mitigating the scatter of COVID-19, they negatively impacted the economy. This is certainly true for global offer chains where the ripple effects are expected (Yu & Aviso, 2020). Among the sectors hit hardest by the pandemic may be the restaurant industry. The imposition of lockdowns has actually resulted in a considerable decline in restaurant clients that may have played a major role in the shutting down of several restaurants. Apart from the decrease in economic meal usage, choices in dining behaviour (Kim and Lee, 2020), and the tendency to the utilisation of electronic platforms have been a few of the other after effects of the pandemic regarding the restaurant business. For example, the demand for web food in Taiwan has grown. This is certainly a pandemic wherein sales and clients increased by 5.7% and 4.9%, correspondingly, for each confirmed instance of COVID-19 (Chang & Meyerhoefer, 2020). The pandemic has additionally produced an influence that is tremendous in restaurant-related synthetic usage.

Online food delivery services (OFDS)?

In this business design, restaurants register with food delivery apps, and consumers can order food via an app. The ordered food will be picked up by a delivery person from the restaurant and brought to the customer. If a restaurant does not have its own delivery service, then such a form of an app may take proper care of delivery for a reasonable fee. Delivery fees can be quite a portion of the purchase price or perhaps a charge that is level on distance. The advantage of this continuing business model for restaurants would be that they could carry on their functions despite lockdowns and fewer base visitors to their particular organizations, and additionally, they need not purchase additional manpower or motorcycles/automobiles in order to offer food distribution services. This concept is certainly not brand-new and it was currently operational before the pandemic. The food online service (OFDS) has actually ushered in an alternative revenue stream for restaurants. The Statista Digital Market Outlook on web food delivery reports that in 2018 and 2019, the global revenues of OFDS were approximated at 91 million US dollars and 107 million US dollars, correspondingly (online food delivery, 2021).

The lockdowns could have accelerated the adoption of this mode. This is certainly new for both the customers and the restaurants. Single-use plastic food and cutlery bins are chosen by restaurant patrons out of concern about COVID-19 transmission (Hale and Song, 2020). Shifting restaurant operations to focus more on food delivery requires greater use of takeout containers and packaging. Unfortunately, this also contributes to a larger ecological footprint (Li, Miroso, & Bremer, 2020). The sustainability challenges in this paper experienced by restaurants inside the framework of OFDS in this scenario are new and provided, along with several suggested actions and solutions.

Challenges in the path of sustainable consumption

The issue of single-use plastic waste has not, however, gotten the eye that it deserves from the authorities or even consumers. According to a business estimate, all food delivery aggregators put together process roughly about 40 million orders in a month, generating almost 22,000 metric tonnes of single-use plastic waste (Girimaji, 2019). The COVID-19 pandemic led to increased usage and disposal of plastic-based services and products such as, for example, face masks, face shields, and personal protective equipment (PPE), where the increased usage of plastic leads to an additional 280 tonnes of medical waste on a daily basis (Managing Infectious Medical Waste during the COVID-19 Pandemic, 2020). While the rise of these medically-associated plastics is a cause for concern, the share associated with the restaurant industry in environmental pollution is likewise warranted. Even before the pandemic, the restaurant industry was a big user of plastic materials in the form of meal containers, cutlery, drinking cups, straws, amongst others. According to the National Restaurant Association of India (NRAI), Delhi's foodservice marketplace is calculated to be worth Rs. 1 crore , and home or using the internet delivery of food accounts for 25% of this marketplace. Chintan, an environmental research and activity group based in Delhi, states that plastic, the quickest growing business in India, makes up about 49% of all of the packaging material, getting the solitary packaging product this is certainly biggest in the nation (Lal, 2019). The pandemic has exacerbated the consumption of single-use plastics for the restaurant industry due to the choice that is developing food distribution solutions and concerns about protection and health. The number of OFDS users is expected to skyrocket in the coming years .In China, for instance, it is believed platform-to-consumer people will reach 2897.1 million in 2025, up from 263 million people in 2019 (online food delivery, 2021). OFDS consumption additionally increased during the lockdowns, as evidenced in the case. This is certainly high in Mexico, wherein as much as a 60% increase in OFDS tasks ended up being taped (Nusra, 2020). It is obvious that the real number of users that is growing may also translate into higher plastic consumption. Another driver of OFDS utilisation is the concern with contracting COVID-19, which has led to a preference for making use of utensils which are throwaway food containers. While experiments have uncovered that the SARS-CoV-2 can survive on different surfaces such as plastic materials for days (Morris, Holbrook, Doremelan, & Gamble, 2020), A few of these claim that the OFDS will catalyse the increased use of plastics produced by packaging, which already form 46% of worldwide synthetic waste (Online Food Delivery, 2021).

And even though this packaging product is recyclable, what good does it do if it ends up in trash cardboard boxes and finally in landfills? Recently, in many restaurants, a change has been seen in the use of packaging materials from plastic to thin aluminium bins. It's wonder if it is because of health issues or issues which are environmental. Both in complete cases, it's no better than plastic. Aluminium takes significantly more than 100 years to decompose if it leads to landfills. If single-use plastic manufacturing continues at this high rate, in the next few years we will see waste piling up over the curb side and landfills wherever you dig (Raj, 2019). Bengaluru currently produces 5,757 tonnes of trash per day—double what it produced only two years ago. 64% of this is damp waste, and 28% of the waste is dry. Associated with dry waste, the major contributor is waste packaging containers (Reddy, 2019). In Australia, it is absolutely estimated that the greenhouse gasoline emission expense associated with single-use takeout bins from OFDS ranges from 0.15 to 0.29 CO₂e (Arunan& Crawford, 2020).

While these scholarly studies have successfully provided a glimpse into the ecological impacts of OFDS due to increased plastic consumption, they have been conducted in highly developed countries. It would be interesting to know and compare the environmental effects of OFDS on developing countries. Another research related to waste management and the food industry discusses "green innovations" being supported by sound practises in order to tackle plastic waste originating from food packaging containers (Viachaslau, 2020). PET is considered the most commonly used plastic on the planet. The material is mainly utilised for food packaging that requires glass-clear quality, e.g. salads, fruits, hot meals, cool meat, snacks, etc. PET is very tough and flexible with high impact power. Also, PET packaging is simple to transport and won't break. It is completely recyclable and may be converted into a variety of brand-new uses. But Steer clear of the LDPE packaging with rule 4 together with category 'Others' with rule 7. Almost all of the loaded chips, biscuits, and chocolates are packed in this. This product is non-recyclable or minimally recycled even though feasible (Raj, 2019). A lot more alarming is the fact that this sort of container features a carbon footprint of 75 kt of carbon dioxide equivalents, that will be similar to automobile production (Foteinis, 2020). This particular single-use plastic, along with 4 and 7% LDPE, is discarded into the sea, rivers, and beaches. The five major categories of marine debris are plastic, paper, material, textile, rubber and glass. Plastics are recognised as the major constituent of marine debris, representing between 50% and 90% of the total marine debris that is found worldwide (Agamuthu, Mehran, &Norkhairah, 2019). The food industry, due to huge criticism towards the usage of single-use packaging, has switched to eco-friendly and, nowadays, bio plastic food packaging is gaining popularity among restaurants (Bandoim, 2019). Bio plastics can cost 2–10 times more expensive than traditional packaging products, which may be caused by the first phase of development of bio plastics, which lacks a dominant market (Ladapo, 2021). All-cellulose Nano composite (ACNC) film made from bagasse/sugarcane can be viewed as a material that has a multi-performance prospect of application in cellulose-based food packaging owing to its encouraging properties (flexible, bio-based, biodegradable, and appropriate levels of water vapour permeability) (Ghaderi, Mousavi, &Labbafi, 2014). Bagasse-based food packaging has resistance to both cold and hot temperatures, but it may lose its power whenever utilised to carry foods hotter than 95 degrees Celsius (Bagasse Packaging: A Guide For Catering & Hospitality Businesses, 2021).

Hence, innovative products tend to be created so that we can reduce our dependence on plastic. A pandemic may prevent restaurants from adopting eco-friendly treatments for their takeout services and packaging because the pandemic creates financial constraints for them. Restaurants that survived the long closures due to the pandemic may prefer profit and sales maximisation over the utilisation of eco-friendly packaging products that are more expensive than already used plastic containers.

It is therefore evident that internet-based food delivery services can have an influence on the important plastic consumption pattern of restaurants. Therefore, it is very necessary to discuss this matter, which is a burning issue nowadays. Hence, more research is required that aims to quantify and determine just how increasing preferences towards OFDS, alongside increased use of plastic consumption, will impact the environment, particularly in highly urbanised places. Therefore, improving the sustainability of restaurants and online food delivery services might require serious efforts from different stakeholders.

Solutions: small changes have big impacts.

Firstly, the question arises who is accountable for the plastic garbage generated by food delivery? The three parties most responsible for this are: the owners and employees of restaurants who pack the food; food aggregators that bring it directly to customers' homes; and consumers who unpack the food from the parcel and throw it away indiscriminately. Consumers try to look for a restaurant that is nearby and avoid delivery. Consumers have also adjusted their habits by bringing their own reusable shopping bags, water bottles, and lunch boxes to the store. They became accustomed to doing so, and it became a habit (Chavanich, 2021). But this could nevertheless be a challenge because of the pandemic. Customers might also select organisations that are eco-conscious. Sustainable food packaging is now more important to two out of three customers than it was five years ago. Sixty-six per cent of all consumers are willing to pay a premium for products from environmentally conscious brands, with half of those willing to pay a premium for food packaged in environmentally friendly packaging. As a result, if more consumers become aware of the impact of their choices on the environment, they will be able to leverage the effectiveness of their specific choices, which will collectively cause change. Prior to this, a number of studies determined the customer's experiences, attitudes, and behavioural intentions towards online food delivery services (Goh, Rezaei, & Yeo, 2017), but no study included how consumers perceive green services. Therefore, future studies that study how ecological awareness affects consumer behaviour in the context of online food delivery services tend to be needed to create encouraging strategies to go green and use zero plastic.

Restaurants and taverns are also undergoing significant transformations in order to lower their carbon footprint. The first phase entails a thorough trash audit and evaluation of plastic usage. Managers can begin by inventorying packaging, such as cling film and single-use plastics. It's critical to keep an eye on bins to see how much plastic is being thrown away and whether some products are being discarded more than others. Next, calculate how much plastic costs you and collaborate with your suppliers to find less expensive and

environmentally good alternatives. Staff should be educated and trained on current techniques that reduce plastic waste on a regular basis. Encourage consumers to bring their own container when ordering takeout. Encourage customers to return cup holders so they can be reused. Instead of using disposable water bottles, serve filtered water in glasses (How restaurants can reduce plastic usage with a waste audit, 2021). This action could be immediately implemented but might also have marginal impact as it varies according to the values which can be environmental choice associated with customers.

Online food delivery aggregators should step forward and take on a larger role in creating innovative answers to check plastic consumption derived from food delivery packaging. In recent years, the food delivery industry has been gradually expanding. When consumers are choosy about their service providers who care about the environment, competitive price and fast delivery may no longer be the primary criteria of success. This is a new challenge for forward-thinking businesses, which should focus on minimising the amount of plastic trash that is accumulating across the world, and take the lead and differentiate themselves while benefiting financially from their "green" image.

The 3 R principles are Reduce, Replace, and Reuse. They help to curb plastic usage in online food delivery services. Online food delivery service providers are in a central position to take action to curb plastic and will get high-impact results in a short timeframe. 1st Reduce the consumption of plastic: online food delivery operators may accomplish this right away by providing a default "no plastic cutlery" function. If customers do not wish to get plastic cutlery, they may turn it off. This tradition has spread throughout the world, and some businesses exploit it as a marketing tool by offering discounts to consumers who refuse to use plastic utensils. The majority of customers like discounts, but platform operators must ensure that food suppliers adhere to the standards. 2: Reusable packaging: Although this method is not yet widely used, some small businesses have begun to experiment with it, such as employing a deposit-return system by designating container return sites in commercial and residential buildings or scheduling return appointments through an app. If consumers believe the programme is important and comply, this strategy is likely to have the most impact. As an example, in Japan or South Korea, for example, restaurants that delivers directly to clients employ ceramic bowls or plates as takeout containers. Following that, the delivery rider will come back to collect the used ceramic bowls or plates (Janairo, 2021). OFDS should put money into developing creative operational frameworks that will lead to the circular usage of food containers, comparable to the scenario described above. What exactly is of crucial significance in promoting container reuse is customer loyalty, and making sure container reuse provides bonus points as an economic incentive to the customers (Grimes-Casey, Seager, Theis, & Powers, 2007). This strategy may be able to help control a certain level of waste. However, if this is successful, it will greatly reduce the amount of plastic garbage produced without causing concern to customers. Better yet, with government help in managing alternative packaging costs, which are currently higher than plastic packaging, faster progress can be accomplished.

Governmental actions related to plastic packaging waste management are anticipated to be of high influence. Despite having a long time horizon, this is certainly true. The People's Republic of China's plastic ban policy is a case study that shows that if the government is rigorous, enforcement tactics will work. bans on single-use plastic bags in supermarkets, non-biodegradable packaging for online food delivery businesses in major cities before expanding to other cities across China, and bans on the manufacturing and use of eight types of single-use plastic: cutlery, chopsticks, plates, straws, cotton swabs, stirrers, balloon sticks, foam boxes, and other products that contain non-biodegradable plastic (Chavanach, 2021). With effect from July 1, 2022, the manufacturing, import, stocking, distribution, sale, and use of the following single-use plastic commodities, including polystyrene and expanded polystyrene, will be prohibited. The government has also taken steps to raise awareness about the need to eliminate single-use plastics and to effectively enforce the Plastic Waste Management Rules of 2016. A two-month-long Single Use Plastic 2021 Awareness Campaign has been organised. In order to raise awareness among school kids across the country, the Ministry has also established a pan-India essay writing competition on the topic. The India Plastic Challenge – Hackathon 2021 has been organised for students of higher educational institutions and start-ups recognised under the Start-up India Initiative to encourage innovation in the development of alternatives to identified single-use plastic items and digital solutions to plastic waste management (the government notifies the Plastic Waste Management Amendment Rules, 2021, prohibiting identified single-use plastic items by 2022., 2021). If all the programmes were strictly implemented by the government, there would be a high impact on controlling single-use plastic consumption.

Conclusion

Due to the pandemic, online food delivery has supplied struggling restaurants with a new or extra stream of revenue. While this platform has actually helped restaurants to survive, it has also resulted in a rise in unsustainable plastic usage brought by takeout bins and packaging materials. This paper presented the sustainability challenges restaurants face and actions that can be guaranteed to be implemented that may promote reducing plastic consumption with high impact. This paper discusses the role of all stakeholders in online food delivery services and how they can help society reduce plastic waste. As online food delivery service providers are the main stakeholders, they can implement a high-impact solution with a shorter time span. The future of online food delivery is bright, and in order to guarantee that the sector evolves in a way that benefits all stakeholders, it must be done in a sustainable manner.

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