



Going Sustainable

Behind the Effort Towards a more Eco-friendly Online Food Culture in Jakarta

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Ten years ago, ordering food deliveries meant having pizza and fast-food fried chicken from your favourite big restaurant franchises. However, in 2022, we can order almost anything from anywhere around the city to be delivered to our doorstep. Between 2017 and 2021, the number of food delivery users in Indonesia has skyrocketed from 1.4 million to 17.8 million users (Statista, 2021). The abundance of digital food platforms combined with the pandemic forcing food vendors to offer takeaways and deliveries has accelerated the shift not only in Indonesia, but also within a global urban context (Süßbauer et al., 2022). As a means to further increase online food purchases, food apps also incentivise purchases through the availability of discounts and promotions, some only available through online transactions. And as the love and orders for food deliveries increases, so too the waste it creates.

However, the solution to quickly change online food delivery packaging into more sustainable materials is not straightforward and policy take-up of single-use plastic bans have been slow. The Indonesian food industry is still heavily dependent on single-use plastic packaging, with food and beverage packaging as the biggest consumers of plastic packaging in Indonesia. This is particularly because it is easy to use, costs a fraction of the meal's price, and online food delivery increased immensely as social and physical distancing policies were enforced during the Covid-19 pandemic. Despite various local governments having banned single-use plastic bags for supermarkets and restaurants in shopping centres, each government regulation with their own unique incentives and

disincentives, the convenience of online food delivery platforms have proliferated small-medium food vendors that depend on single-use packaging, rendering weak enforcement of plastic bans.

Addressing unsustainable food packaging in big cities like Jakarta requires a deeper look into more sustainable forms of consumption and understanding its trade-offs within a flourishing online food delivery market. As a capital city in the Global South, Jakarta's booming food industry still thrives off of informal sector vendors particularly as many of the larger retails and food outlets were severely crushed by the slowing economy in the early days of the pandemic, which further adds to the complexity of regulating the ban of single-use plastic and promoting the use of more sustainable packaging materials. Due to the myriad of complexities of the urban online food delivery, consumer choices, and enforcement of sustainable packaging in Jakarta, what are the potentials and challenges of moving towards more sustainable urban consumption? What are the trade-offs of attaining sustainability? Is sustainability and more environmentally-conscious consumption a lifestyle for everyone?

Efforts Towards Less

Within the Indonesian government, there has been a nationwide commitment to ban the use of any single-use plastic by 2030. This ban includes plastic packages such as sachets, straws, plastic bags, containers and utensils. The local regulation also promotes and pushes the development of recycling plants and programs before 2030. Some of the big cities like Jakarta have already stopped

giving single-use plastic bags for any purchases made in the local department stores, convenience stores and traditional markets since July 2020. The other cities such as Banjarmasin, Bogor, Denpasar, Balikpapan, Bekasi, and Semarang have followed suit with similar regulation within their own legal jurisdiction. Jakarta made this choice due to a high share of single-use plastic waste in their disposal site in Bantar Gebang Landfill site, which is almost a third of their total waste production. The Jakarta government claims that the usage rate of single-use plastics has gone down by 82% since the regulation was enforced, although this is a very bold statement considering the significance of plastic bag culture within the informal and MSME sectors. Their main concern now is banning plastic bags in the traditional markets, where their use is still quite prevalent and harder to regulate due to the more informal nature of the marketplace. However, the challenges that are facing these efforts stand as tall as their solutions. Within the period of April to May 2020, LIPI's research reported that 96 percent of online purchases that happened are still using some form of single-use plastics. This concerning stats accompanies the rise of online purchases from 1 to 5 times a month to almost double of it. The rising popularity of delivery culture and online shopping would be one of the biggest challenges for global countries in their effort to reduce and eliminate single-use plastics. Additionally, the increasingly conscious consumer society fighting against the spread of the Covid-19 pandemic has also made way for individually wrapped food to ensure hygiene. Hence in early 2020, LIPI reported that within their observation of Jakarta Bay, there are a high number of various single-use plastics that end up floating there. This includes plastic bottles (7%), plastic cups (9%), plastic cover (4%), thin plastic wrap (7%), thick plastic wrap (6%), straws (6%), and plastic utensils (6%). Annually, it is estimated that over 10 billion plastic bags are thrown away to the environment. This number equals almost 85 thousand metric

ton of plastic waste just from the plastic bags alone. These challenges are further amplified by the lack of sorting capabilities from most, if not all of Indonesian landfills and waste treatment plants. The sheer number of plastic wastes and garbages combined with low sorting capability and capacity provides a tall task for the Indonesian government, from the national to local jurisdiction.

Within the packaging context itself, nowadays there are already quite diverse options of environmentally friendly options for both shopping and food delivery. Paper box/paper board has become one of the most popular eco-friendly packaging, collecting 28% usage share in 2020 below only to single-use plastics (Indonesia Packaging Federation). The use of cloth bags as a replacement for plastic grocery bags is also steadily climbing, while other goods stores opted for biodegradable bags made from plant-based cellulose such as cassava. Various eco-friendly based straws are also gaining popularity, from paper straws to metal straws. These diverse and multifunctional packaging also starts to get easier to procure, with a lot of new packaging industries jumping on the trend followed by diversifications from the bigger, more established packaging companies. Reusable food containers are also widely used, such as banana leaves, but many questions still linger should it be used for food packaging on a larger scale.

In the smaller scale vendors and street foods, laminated wrapping paper and banana leaf still holds the candle for the most widely used food packaging, especially for menus with rice and traditional snacks/cakes. However, considering it as an organic-based material and its difficulty to be used as a packaging on its own, there are concerns that arise should its use be taken up on a larger scale. Ghatak and Chatterjee (2018) raised the issue of ensuring quality hygiene in street vendor food handling and packaging. Upscaling the use of banana leaves on a larger scale would require additional effort in ensuring the durability of banana leaf packaging. Other tradition-



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al forms of packaging, such as bamboo straw baskets or besek, might offer another alternative to more sustainable forms of packaging but also needs additional packaging to cater for soup-based food.

There is also an increase towards the popularity of 'sustainable lifestyle' within the young adults in Indonesia's big cities. This could be influenced by the high amount of exposure and easy access to various information and knowledge about sustainability and environmental protection efforts. This wave of new environmental lifestyle can be found to various degrees through various efforts and little habits. The usage of reusable portable mugs and tumblers between the avid coffee drinkers become even more prevalent for those practising green lifestyles. There are some who started to carry reusable straws for personal uses and even their own utensils to avoid needing any extra disposable ones. Although this idea has already been encouraged by the governments and local activists, there are concerns about the actual sustainability of it by the way it's being promoted. The excessive use of plastic bag alternatives given by shops for every purchase creates piles of unused tote bags in the households, and there are some genuine concerns about the carbon footprint of these metal straws and the fragility of the paper and fibre-based straws. Existing waste banks have also grown and adopted a more digital approach. Some of the start-up based waste banks had phone apps or services that allow citizens to request for some pickups for their sorted garbage waste or drop their waste at their designated site. These services, albeit limited for specific waste banks only, provide a more convenient way for people to participate towards the effort to manage their personal waste better and be more responsible towards the amount of garbage they produce.

Additionally, online food delivery platforms are also working towards more sustainable packaging and disposal of their products. Online delivery platforms are incentivised to educate drivers and vendors or online food delivery merchants are conducted in collaboration with related ministries, NGOs, consumer-goods companies, and academia in hopes to reduce single-use plastic waste. Efforts to increase access to more sustainable packaging alternatives and accelerate innovation to induce behaviour change are also conducted through the establishment of drop-off points for the exchange of plastic bottle waste with online food credits, incentivise merchants to purchase eco-friendly shopping bags through their marketplace, and distribution of tote bags for drivers. One of the features available for consumers include the option to opt-out of plastic cutlery, which is claimed to reduce more than 13 tonnes of single-use waste in 2020 (GOJEK, 2021).

While there are still confusion towards the enforcement of single-use plastic bans and the still limited capacity to sustainably dispose waste through waste recycling at a regional scale, the rise of a more sustainably-conscious urban society and their consumption choices in large cities such as Jakarta are paving way for new opportunities to move forward to more sustainable packaging and online food delivery behaviour. And with time, it is not wishful thinking that even more parts of the citizen community and groups will adopt a more eco-friendly

and wasteless lifestyle in the near future. However, the question remains on the price that must be paid in order to move towards sustainable online food consumption. Even further, if all layers of the urban society should face the same burden and benefits in the effort towards a greener, more environmentally friendly food industry and food culture.

The Price of Sustainability

Our mini research on exploring stakeholder perspectives on the significance and challenges of adopting sustainable packaging for online food delivery services in large urban cities such as Jakarta extends to various issues concerning urban lifestyle choices, waste, and the price of sustainability. We conducted an online questionnaire and semi-structured interviews to online food vendors and consumers as well as secondary data research on related policies and regulations to enrich our discussion.

While consumer spending dropped in many countries across the globe in 2020 due to Covid-19 disruptions, many vendors took up the challenge of adapting to online food delivery as a means to recover and boost back the economy. Interestingly, in big cities in Indonesia, such as Jakarta and its surrounding cities where the food industry lives in a wide spectrum of high-end markets as well as a thriving informal sector, food vendors are noted to have varying concerns and means of adapting to the new Covid-19 consumer market and regulations. For this research, we categorised food vendors into street vendors; pre-order vendors; mid-range vendors; and restaurants. Street vendors, or commonly known as pedagang kaki lima, offer quick and affordable service of food for takeaway or on-street dining. On top of the issue of single-use plastic packaging, the issue of proper waste disposal has always notoriously haunted the prevalence of street vendors. Some governments have even taken the initiative to distribute plastic bags for street vendors to collect waste from piling up around street vendor hotspots (Kuswandi, 2013; Hermawan, 2016). More specifically regarding online food purchases and deliveries, even before the pandemic in 2020, street vendors have used online food apps to widen their market and give options for consumers to avoid dining on-street. Single-use plastic is the most common material to ensure safe and affordable kaki lima takeaway packaging. As many governments started rolling out policies to regulate the use of single-use plastic by late 2019, however, the take up of such policy has differed even amongst street vendors. Many rice-based foods have and can be packaged using paper, but some struggled to find affordable reusable packaging for their consumers, particularly those who catered to soup-based and takeaway food products (Pribadi, 2019).

In 2020, the Covid-19 pandemic and economic disruptions also caught up amongst many street vendors as many suffered from loss of customers during that time and the rise of online food delivery platforms enabled street vendor owners to cater for takeaway and online delivery packaging options. To ensure increased access towards more sustainable packaging materials, platforms such as Gojek distributed reusable delivery packaging to many drivers and merchants to accommodate the growing demand for online food delivery during the pandem-

ic. Enforcements of single-use plastic bans have been lax towards street vendors and traditional markets, however, due to the sheer number of vendors and difficulty for local governments to control them. Studies have shown how this may be in part due to the lack of compliance and regulatory knowledge from street vendors (Efendi and Sulistyowati, 2018). However, even with increased supply of sustainable packaging materials, should it even be accessible to all street vendors, the online food delivery business for street vendors, the lifecycle of the packaging and its sustainable disposal is contingent on the consumer as well as the overall waste disposal system and its enforcement. Our questionnaire suggests that nearly 80% of online food delivery consumers tend to directly dispose of their food packaging, while the rest tend to reuse them or send them to waste banks.

For pre-order vendors, taking advantage of not having a permanent place for dining in and seasonality in its production, online delivery platforms and digital branding are the lifelines of their business. The rationality behind their choice of packaging is dependent upon their awareness and priority to create a lasting and environmentally-conscious brand for their consumers, which target young, middle income consumers in urban cities. Nevertheless, as an emerging pre-order food vendor, the concern on affordability also presents a serious challenge. Restaurant-based food vendors had a more sustainable outlook on their packaging, but still got hit with similar issues in moving towards more sustainable packaging. One of the franchise stores of Moro Burger in Bintaro mostly uses a relatively environment-friendly packaging of laminated paper wrap and paper trays for dining in. The packaging material was chosen by its ability to contain spills and soaks from the burger and its condiments to ensure its ease to handle attribute. For takeaways, they use paper bags not unlike the ones used by fast food places. Ayamayaman, which is one of the popular vendors located in Bandung mostly uses paper boxes for their takeaways due to their variety of rice and pasta based menu, and has long stopped giving utensils as a default. But both admit that due to the delivery order needs, they still use plastic bags for those orders for the delivery workers carrying purpose. When talking about possible transition towards a more eco-friendly packaging, both vendors indicate their concern towards packaging costs. Ayamayaman once tried to experiment using biodegradable bags called telobags that are made from cassava as plastic bag replacement, but soon found that it deteriorates when exposed to rain and water while also costing almost ten times the cost of using regular plastic bags. This is considered a liability for now, especially when there is already a price hike for delivery options due to the high platform fee charged to them combined with the budget-oriented customers that come from it. Moro Burger Bintaro faced costs almost 2.5 times their original packaging. While their current market allows them to adjust the price more easily, their young operational age and design novelty concerns are currently holding them back from moving towards the more eco-friendly packaging options right now.

Consumers, on the other hand, had a more pragmatic approach to the food they ordered for themselves and oth-

er people. Online food delivery platforms have created another aspect of cost as a result of the increased ease of delivery and availability of discounts and promotions which, through our short questionnaire, plays an important aspect in consumer choices. The concern of food quality and affordability (regarding the food and cost of delivery) are still more important than having reusable packaging. Across food vendor types and consumers of online food apps, our study shows that the transition towards sustainable consumption of online-based food products is still contingent on the ability to pay for and increased knowledge of alternatives to more eco-friendly online-purchased food packaging. Either types of food vendors indicate a reliance towards their consumers' preference and purchasing power in making the decision to switch into more sustainable means of wrapping and packaging for their products. Current mismatch between urban consumption choices, efforts for a more environmentally-conscious food packaging, and waste disposal regulations suggest while small steps are being made in certain sectors and stakeholders, a significant burden of sustainability efforts still depends on the alignment of individual consumer and stakeholder choices. This creates an imbalance between restaurants and vendors in various market classes in incorporating more sustainable packaging, while also placing a huge responsibility towards the customers especially with a middle to lower budget. On the other hand, the larger urban policy towards resolving urban waste is still mostly focusing towards the frontend of the plastic waste problem (i.e. the rise of recycle companion app amongst young, middle-income urban societies) while putting less effort on developing more sustainable means of waste disposal and recycling efforts (such as increasing recycling facility capacities and avoiding open-dumping in landfills) to ensure sustainable urban consumption in the longer run.

Packaging for the Future

Looking at the 2030, there are still some lingering questions about the transition towards a greener, more responsible, food and food packaging industry. In the larger picture, there is still a considerable challenge in waste management due to a mismatch between the consumers who are willing to make better choices against the absence of actual management and handling processes to actually make those choices matter. There are some promising progress, with the development of a government-owned Intermediate Treatment Facility in Sunter, Jakarta. On the other hand, although already showing a serious interest towards transitioning into eco-friendly packaging for their foods, there are some indications that this interest is mostly hampered by their existing market characteristics and purchasing power. Some showing willingness and capability to transition more easily if not only just start operating for a short time, while others are more concerned towards avoiding having to increase their product price due to limited customer budget or specific market niche. While they are probably not applicable generally to others, especially street food vendors and kaki lima shops.

Thus, the concerns towards cost while showing a willingness to embrace green packaging indicates a mismatch

between the affordability of eco-friendly food packs and the food vendors' ability to afford. Is this caused by a lack of economic benefits, or is it the higher cost of financial disadvantage that came from these efforts that caused it? And if it is one of those, how could the smaller vendors participate towards these efforts with such limited budgets and markets with lower purchasing power? These questions should alarm us with the thought that maybe, not everyone and every sector could afford to go to a more sustainable route. And if it is so, maybe there should be a different load of responsibility for vendors to go sustainable. Street vendor collectives have already played a significant role in street vendor resilience in cities such as Jakarta and Bandung (Malasan, 2019), particularly in cases of street vendor eviction and relocations. While promoting for street vendor collectives in effort to promote sustainable packaging might provide a clearer channel for government incentives, street vendors might have other more pressing concerns to deal with. A more direct approach to push for sustainable packaging among them, such as direct provision of sustainable packaging, might be more effective and less burdensome for the vendors, but this is contingent on each government's ability and political power.

Consumers and online delivery platforms, on the other hand, still play an important role in the transition towards more sustainable, online delivery-based food products. But as our mini research shows, the lifecycle of food packing doesn't stop at the consumer and online food apps. Should consumers and vendors be incentivised to adopt more sustainable packaging for their online food deliveries, how should government policies regulate online delivery platforms in terms of the waste that they facilitate to generate?

And by the end, there is also a need to improve the capacity of our waste management system backend, especially towards its sorting and recycling capabilities. Even if we could achieve the absence of single-use plastic in our food industry, the alternatives would still mostly end as waste. Most of our waste management culture still revolves around landfill dumping which has grown closer to collapse into a health and safety disaster, along with the very high emission of methane (a greenhouse-gas 25 times worse than CO₂).

This involves the development of government-owned waste processing sites, with priorities towards the urban areas that contribute the most garbage and the at-risk region or cities with lack of final dumping facilities access. There should also be an effort to push and encourage investment for third-party owned sorting and recycling facilities to complement local sites and create financial benefit for both the local citizens and private sectors. The increased economic incentives could also help to reshape the paradigm towards waste management and promote

the increase in other stakeholders participation within it. It is also important to involve the local citizens through existing waste bank programs and improve its capabilities to provide broader and more convenient opportunities for the people to actually participate in sorting and recycling their personal garbage waste and enforce the sorting habit into the general public and business.

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