Chapter 6
Navigating Sustainability:
Addressing Plastic Waste and Health Risks in Food Delivery Services in Malaysia

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ABSTRACT

While it is encouraging to see the food industry thriving, growing concerns exist about increased demand and reliance on plastic packaging. The convenience of plastic wraps for food and durable plastic containers for drinks, designed to prevent spillage, has led to a significant rise in plastic consumption. This chapter highlights the growing plastic waste associated with food delivery services and explores the potential health risks of plastic materials, including microplastics, in food delivery operations in Malaysia. By analysing existing policies and regulations on plastic use, this chapter highlights the need for enhanced sustainable practices in the food service industry. It aims to provide insights into balancing convenience with environmental responsibility and proposes strategies for mitigating the negative impacts of plastic consumption.

INTRODUCTION

The COVID-19 pandemic has pushed for adopting many new technologies in various industries. Food service was among one of those industries that thrived with technology. The lockdown and criticality of the pandemic have shaped consumer behaviours to prioritise food safety, contactless delivery and hygiene, requiring the food industry to meet these changing demands quickly (Ali et al., 2020). Among

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the initiatives were cloud kitchen, mobile applications for food ordering and contactless take-out services for sustaining business operations (Agarwal et al., 2024). FoodPanda and Grab were among the dominant players in online food delivery in Malaysia, catering to an increasing number of consumers seeking convenience and efficiency (Jamil et al., 2024). Consumers prefer having meals delivered to their doorstep, enjoying the convenience of ordering without the need to leave home. The digital transformation in the food delivery industry has eased customers' avoidance of traffic congestion, ensuring timely delivery and saving on parking fees (Su et al., 2024). However, there are notable environmental and health concerns. The excessive use of plastic materials in packaging, from plastic containers and cutleries to wrappers and protective coverings for beverages, and the reliance on single-use plastics (SUP) has become a significant environmental challenge (Varese et al., 2024). Disposing of these plastic materials is another challenge. Single-use plastics are notoriously difficult to recycle. They often end up in landfills or, worse, in natural environments where they pollute and harm wildlife (Bharadwaj et al., 2024; Shin et al., 2024). Not only does it pose a risk to the environment, but health risks are also rising. Hot food placed in plastic containers leads to the leaching of harmful chemicals and microplastics into the food, adversely affecting human health (Gündogdu et al., 2024). This chapter explores the downside of these practices and focuses on the critical need to address online food delivery services' environmental footprint and health concerns. The chapter intends to balance technological convenience and environmental responsibility in food delivery by highlighting the challenges and proposing feasible solutions to merchants and food delivery owners.

LITERATURE REVIEW

The Rise of Online Food Delivery Services During Covid-19 Pandemic

Southeast Asia is growing with a vast food delivery market. The delivery market is a tiny fraction of the trillion-dollar business. In Malaysia, the growing popularity of these deliveries mainly started during the pandemic, as eating out was a risky option, projecting a market size of more than USD 319.1 million by 2026 (Allah Pitchay et al., 2022; Sin, 2022). Online food delivery (OFD) service is not just about ordering food but also the new norm of takeaways and eating out. The need for social distancing during the pandemic strengthened the role of OFD as a prime element of the food and beverage industry (Teoh, 2023). The demand increase has generated several Food Delivery Applications (FDAs) by delivery companies focused on denser cities such as Penang, Kuala Lumpur, Klang Valley and Johor Bahru (Chai & Yat, 2019). These mobile applications enhance the user experience by allowing them to choose various foods and compare prices with just one touch (Samsuddin et al., 2022). Upon the Movement Control Order (MCO) in March 2020, there was a 30 per cent surge in these FDAs (Sin, 2022; Mohamad, 2023). The main factor influencing the use of FDAs is consumer convenience. The smartphone advancement in e-commerce has significantly contributed to OFD (Samsudin et al., 2022). On top of that, the sector also had to compete to maintain its popularity by adopting consumer needs and preferences to ensure consumer loyalty and satisfaction with its services. Among the factors that consumers prioritised were food and service quality, hygiene, safety and overall experience (Aryani et al., 2022; Tarmazi et al., 2021; Pai & Mayya, 2022).