Chapter 10
Methods and Applications of Quick Commerce (Q-Commerce): Quick Commerce and Sustainability

S. Kavitha
https://orcid.org/0009-0004-9915-4479
SASTRA University, India

K. Santhanalaxmi
https://orcid.org/0000-0002-7441-6127
SASTRA University, India

ABSTRACT

A completely new business model that emerged during the COVID-19 pandemic is quick commerce. During COVID-19, lockdowns and social alienation forced many to purchase goods online, particularly groceries and perishables. With prominent platforms offering immediate delivery, it has become known as a major trend in the rapidly evolving Indian retail industry, raising the standard for ease. The long-term viability of this quick service in India's D2C market is still up in the air, though. Quick commerce has grown as a result of rising demand and a desire for speedy delivery. The emphasis on quick deliveries where products and services are delivered within 10 to 30 minutes of receiving an order has revolutionized retail establishments in India. It uses a dark store for operating its Kirana store. Quick commerce is more helpful when it comes to delivery speed than traditional retail

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stores, which are open around-the-clock.

INTRODUCTION

This chapter aims to explore the environmental sustainability challenges and solutions within the Quick Commerce (Q-Commerce) sector, with a particular focus on carbon emissions, packaging waste, and labor practices. It investigates how the rapid growth of Q-Commerce—characterized by ultra-fast, last-mile delivery—has reshaped urban logistics while posing significant ecological and social concerns.

Quick Commerce has evolved as a important player in the emerging retail sector. Being Driven by the demand for ultra-fast delivery, Q-Commerce represents the next stage of e-commerce enabling consumers to receive products within an hour or even minutes of having placed an order. Q-Commerce is known for its speed, convenience, and near-instant access to a wide range of products like the traditional e-commerce involving long delivery. Nowadays customers expect almost immediate delivery directly to their doorsteps from groceries to pharmaceuticals.

This rapid service model has been made possible by delivery platforms such as Instacart, GoPuff, DoorDash, and Deliveroo, which utilize advancements in technology, logistics, and urban planning to meet customer demands for speed.

Although, Q-Commerce has reformed convenience for consumers, sustainability is an important concern. The speed of delivery is due to significant trade-offs, especially regarding environmental impact, social responsibility, and the long-term viability of these business models. Due to the growth of Q-Commerce there has been an increase in delivery vehicles, packaging waste, and energy consumption which poses a serious challenge to the environment. The cities had become more congested and urban streets are filled by delivery vehicles, raising the carbon footprint of this rapid delivery model, thereby leading to pollution, traffic, and a heavier reliance on fossil fuels.

Packaging waste is one of the key issues faced by Q-Commerce. In order to ensure safety of product during fast transit results in excessive packaging. The use of single-use plastics is widespread and non-recyclable materials which are needed to protect goods during quick deliveries contributes to global plastic pollution and accumulation of waste. Moreover, Q-Commerce's rely on gig workers for delivery, who in turn lack job security and benefits, raising concerns about labor exploitation and rights of worker, which require urgent attention as these businesses scale.

In future, in order to to mitigate negative environmental impacts, Q-Commerce companies and policy decision makers will need to innovate and implement sustainable solutions. In the future Q-Commerce cannot be defined solely by delivery speed; but it should also incorporate sustainable practices that account for carbon