Chapter 2
AI in Quick Commerce: Technologies, Models, and Market Drivers

Zokir Mamadiyarov
Termez University of Economics and Service, Uzbekistan

Sindor Sapaev
Urgench State University, Uzbekistan

Gularam Masharipova
Alfraganus University, Uzbekistan

Munir Ahmad
https://orcid.org/0000-0003-4836-6151
Survey of Pakistan, Islamabad, Pakistan

ABSTRACT

This chapter explores how AI underpins the operational backbone of Quick commerce (Q-commerce), driving innovation and redefining convenience in modern digital retail. Q-commerce represents a transformative shift in the retail and e-commerce landscape, emphasizing ultra-fast delivery within minutes. Driven by rising consumer expectations for instant gratification and seamless service, Q-commerce has gained momentum in urban areas, especially for groceries, personal care, and medicines. Central to its success is the integration of Artificial Intelligence, which enables real-time demand forecasting, dynamic route optimization, micro-inventory management, and personalized customer interactions. AI technologies such as machine learning, predictive analytics, and computer vision empower Q-commerce platforms to operate with precision, speed, and scalability.

DOI: 10.4018/979-8-3373-4392-1.ch002

INTRODUCTION

Q-commerce, also known as quick commerce, is the newest trend in the retail and e-commerce business world, which has been centered on getting items to the customer in minutes as opposed to hours or even days (A. Gupta & Jha, 2025a; Kavitha & Santhanalaxmi, 2025). As opposed to the common e-commerce operation, which is based on a wide selection of products and the efficiency of logistics at the expense of speed, Q-commerce is focused on providing an ultralow delivery speed. Q-commerce emerged through the combination of on-demand services and the trend towards digitalization of retailers and quickly acquired popularity in cities with a high population density, which also allows consumers to opt out of immediate satisfaction. This model is particularly notable in the industry of groceries, personal care products, and over-the-counter medicine, where the speed of delivery is directly related to the decision to buy (Astini et al., 2024; Chavhan & Dutta, 2024; Schorung, 2024).

The Q-commerce is all about addressing the growing consumer demand in terms of convenience and immediacy (Harter et al., 2024; Naik & Gupta, 2025; Rathee et al., 2025). In today's society, where people are used to the immediacy of online services, delays are becoming a hindrance to satisfaction. It is no longer a luxury to be fast, but it is the minimum requirement needed in competitive markets. One of the key distinguishing factors is convenient accessibility; convenience is not only obtained through speedy delivery, but also user-friendly, flexible payment, and on-demand delivery. These upheaved expectations are directly answered by adopting the transition of hyper-local fulfillment centers or even by what is known as dark stores, combined with dedicated delivery fleets. In that regard, the effectiveness of Q-commerce is dependent on the possibility of demand prediction, optimization of delivery routes, and micro-inventory management, as close to perfect as possible.

Artificial intelligence (AI) has a disruptive effect on scaling Q-commerce in line with such operational obstacles (S. Gupta et al., 2025; Presskila et al., 2025a). Inventory management can be managed through AI systems in terms of predicting the inventory, so that products will be stocked according to the current time trends about consumption, as well as local preferences. Machine learning algorithms study huge amounts of data the weather schedule, the traffic flow, etc., to predict the delay and recommend the best way to deliver a good. Chatbots and recommendation engines fueled by artificial intelligence make the process even more individual, which leads to engagement and repeat purchases. Also, with computer vision technologies, one can have an automated warehousing or quality control system, eliminating the need to rely on manual workers and avoiding errors. In sum, AI is the foundation that enables Q-commerce platforms to work productively, dynamically react, and provide exceptional service levels in a high-pressure, low-latency setting.