


# Chapter 4

## Exploring the Future of Quick Commerce: Consumer Expectations Toward Anthropomorphic Virtual Agents

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### **ABSTRACT**

*Quick commerce (Q-commerce) has transformed the digital commerce landscape by providing ultra-fast delivery services that meet consumers' growing demand for immediacy and convenience. To further improve customer experiences, businesses are adopting advanced technologies, particularly anthropomorphic virtual agents (AVAs), which exhibit human-like traits such as empathy and adaptability. These AI-driven agents are especially effective in Q-commerce, where short but impactful interactions are essential. This chapter explores the integration of AVAs into Q-commerce, emphasizing their ability to enhance customer engagement while optimizing backend operations. Drawing from an exploratory study on students' perceptions of AVAs in online meal ordering, the chapter examines how AVAs contribute to a more personalized, efficient, and human-like customer journey. It also addresses operational challenges and sustainability concerns in Q-commerce, highlighting the need for innovative solutions that balance speed, customer satisfaction, and environmental responsibility.*

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## INTRODUCTION

The rise of quick commerce (Q-commerce) signifies a significant transformation in the digital commerce landscape. By offering ultra-fast delivery, often within minutes, Q-commerce addresses the growing consumer demand for immediacy, convenience, and efficiency (Gund & Daniel, 2024 ; Pinar, 2025 ; Ma, Tsang & Lee, 2025 ; Raj & Das, 2025; Peng et al., 2025). This rapid fulfillment model has reshaped customer expectations, particularly in urban areas where timely deliveries are increasingly prioritized. In contrast to traditional e-commerce, which typically operates with delivery times of several days, Q-commerce utilizes advanced logistics networks, localized inventories, and real-time data analytics to provide near-instant service (Harter & Spann, 2025). The effect of delivery time on repurchase behavior in quick commerce. The segment has seen substantial growth, with approximately 511.8 million consumers using Q-commerce services globally in 2023, a figure projected to surpass 788 million by 2027 (Statista<sup>1</sup>, 2023b).

However, success in Q-commerce relies not only on speed but also on delivering personalized and seamless interactions. Tailored recommendations, intuitive interfaces, and effective real-time support have become essential for customer satisfaction and loyalty in the digital age. Businesses must deploy technologies that enhance engagement while maintaining operational efficiency. Anthropomorphic virtual agents (AVAs), AI-driven digital personas capable of human-like interactions, are emerging as valuable tools to meet these dual requirements (Tussyadiah & Park, 2018; Vernuccio et al., 2025; Sayed and Abutaleb, 2025). With their capacity to simulate empathy, friendliness, and adaptability, AVAs enhance the customer experience in digital environments. Their advanced natural language processing (NLP) and machine learning capabilities allow them to provide personalized assistance and navigate complex service situations with efficiency. The anthropomorphic traits of AVAs also foster trust and emotional connections. These traits are especially valuable in Q-commerce, where customer interactions are often brief yet impactful. (Tussyadiah & Park, 2018; Nass, Steuer, & Tauber, 1994).

Despite their promise, the adoption of AVAs in Q-commerce faces challenges. The rapid pace of Q-commerce necessitates technology solutions that are not only reliable and efficient but also responsive to dynamic customer needs. Operational challenges such as order fulfillment accuracy, real-time inventory updates, and seamless communication between stakeholders compel AVAs to integrate into backend operations to optimize workflows (Van Doorn et al., 2016). Furthermore, Q-commerce raises substantial environmental concerns, as the growing dependence on instant delivery services contributes to CO<sub>2</sub> emissions, traffic congestion, and urban noise pollution. These issues exacerbate sustainability challenges in logistics. The Paris Agreement (2016), which sets forth a goal to reduce global carbon emissions by

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