International Journal of Social Sciences and Public Administration
ISSN: 3005-9836 (Print), ISSN: 3005-9585 (Online) | Volume 10, Number 6, Year 2026
DOI: https://doi.org/10.62051/ijsspa.v10n6.17
Journal homepage: https://ijsspa.org

A Concise Review of Fresh E-Commerce Supply Chains: Pricing Coordination and Live-Streaming Commerce

Kezhi Mao

School of Economics and Management, Chongqing Jiaotong University, Chongqing 400074, China

ABSTRACT

Fresh e-commerce has become an important channel for the circulation of fresh agricultural products, supported by digital platforms, mobile consumption, and the development of cold-chain logistics. Because fresh products are perishable, non-standardized, and sensitive to time and temperature, fresh e-commerce supply chains face persistent challenges related to pricing, freshness preservation, logistics costs, product quality, and consumer trust. This review synthesizes recent studies on two main research streams: pricing and coordination strategies in fresh e-commerce supply chains, and live-streaming e-commerce for fresh agricultural products. Existing research shows that freshness-keeping efficiency, information sharing, return policies, government subsidies, and cost-sharing contracts significantly affect supply chain performance. In live-streaming contexts, product quality, perceived value, interaction, platform reputation, and seller credibility shape consumer purchase intention. Future studies should develop dynamic decision models, strengthen research on supply chain resilience, improve trust and quality-governance mechanisms, and examine the integration of artificial intelligence, Internet of Things technologies, blockchain, and supply chain finance.

KEYWORDS

Fresh E-commerce; Fresh Agricultural Products; Supply Chain Coordination; Pricing Strategy; Live-streaming Commerce; Supply Chain Resilience.

1. INTRODUCTION

Fresh e-commerce refers to the online sale of fresh agricultural products such as vegetables, fruits, meat, aquatic products, and other perishable foods. With the expansion of digital platforms and the gradual improvement of cold-chain logistics, consumers increasingly purchase fresh products through online channels. This shift has changed the traditional circulation model of agricultural products and created new opportunities for producers, platforms, logistics providers, and consumers. Fresh e-commerce can reduce spatial constraints, broaden product choices, and provide farmers with additional market access. However, its development is also constrained by high logistics costs, product perishability, uncertain demand, quality variation, and intense platform competition. Unlike standardized industrial products, fresh agricultural products require strict temperature control, timely delivery, and credible quality assurance. These characteristics make supply chain coordination a central issue in fresh e-commerce research. Existing studies mainly focus on two themes: pricing and coordination strategies in fresh e-commerce supply chains, and the influence of live-streaming commerce on consumer behavior and supply chain operation.

2. PRICING AND COORDINATION IN FRESH E-COMMERCE SUPPLY CHAINS

Fresh e-commerce supply chains usually involve farmers or suppliers, e-commerce platforms, retailers, and third-party logistics providers. Because these actors have different objectives, coordination mechanisms are needed to allocate profits, maintain freshness, and stabilize the supply chain. Studies on sales-mode selection show that quality competition and platform commission rates influence whether suppliers and platforms adopt agency or wholesale modes. When commission rates or quality differences change, the optimal sales mode may also shift [1]. Information sharing is another important coordination issue. Research suggests that e-retailers may voluntarily share information when freshness elasticity is sufficiently high, particularly when suppliers are efficient in freshness investment or when e-retailers are efficient in service investment [2].

Freshness preservation is a core factor in pricing decisions. Platforms with higher freshness-keeping efficiency can often adopt a high-freshness and high-price strategy, while platforms with lower efficiency may face cost pressure and weaker competitiveness [3]. Therefore, relying only on low prices is unlikely to secure sustainable market share in fresh-product markets. Return policies also affect supply chain profitability. Studies considering consumer returns indicate that high return rates can reduce demand and total channel profit, although limited return policies may support market confidence under specific conditions [4]. Time and temperature further complicate pricing and preservation decisions. Since freshness changes with temperature, supply chain actors must consider product attributes, ambient conditions, and consumers' freshness sensitivity when setting prices and designing preservation strategies [5].

Government subsidies and contractual arrangements have also received attention. In green fresh e-commerce supply chains, subsidies to farmers, platforms, or consumers may improve product greenness, freshness level, and member profits, although their effects differ across subsidy targets [6]. Cost-sharing and revenue-sharing contracts can mitigate free-riding behavior, encourage preservation efforts, and improve quality control [7]. Under information asymmetry, however, more information disclosure or greater pricing power does not always benefit the actor who holds it. The effect depends on freshness levels, signal reliability, and the relative benefits of disclosure [8]. Overall, pricing and coordination studies show that fresh e-commerce supply chains require integrated decisions on freshness investment, service effort, information disclosure, subsidy design, and contract coordination.

3. LIVE-STREAMING E-COMMERCE FOR FRESH AGRICULTURAL PRODUCTS

Live-streaming commerce has become a rapidly growing sales channel for fresh agricultural products. It combines real-time product display, interactive communication, and online transactions. Compared with traditional online retail, live streaming can reduce information asymmetry by showing product appearance, production scenes, and service processes. Research on fresh-food live broadcasts indicates that product transparency, perceived trust, customer engagement, perceived quality, urgency, and scarcity may influence purchase intention [9]. For green agricultural products, information quality, system quality, service quality, telepresence, and social presence are important factors shaping consumer responses [10].

Consumer behavior studies generally emphasize perceived value. Product quality, streamer expertise, interaction, and time pressure can increase perceived value and purchase intention, whereas the effect of logistics service may depend on the specific research context [11]. The characteristics of streamers also matter. Streamers can create social presence and emotional connection, which may increase consumer willingness to purchase fresh agricultural products [12]. At the same time, live-streaming

commerce introduces governance risks. Sales may depend excessively on the performance and reputation of individual streamers, generating volatility in demand and supply chain operations. Seller reputation and consumer feedback may help constrain opportunistic behavior, but the effect is not always stable. Therefore, fresh-product live commerce requires stronger quality-control systems, traceability mechanisms, after-sales services, and platform governance.

4. RESEARCH GAPS AND FUTURE DIRECTIONS

Although existing research has improved understanding of fresh e-commerce supply chains, several limitations remain. First, many pricing and coordination models simplify market conditions. In practice, consumer preferences, demand fluctuations, product freshness, logistics disruptions, and policy changes interact dynamically. Future studies should develop adaptive models that combine real-time platform data, machine learning, and dynamic optimization to support pricing, inventory, and delivery decisions. Second, cross-border fresh e-commerce deserves more attention. International logistics, exchange-rate volatility, quality standards, customs rules, and heterogeneous consumer preferences increase the complexity of supply chain coordination.

Third, live-streaming commerce should be studied not only as a marketing tool but also as a supply chain mechanism. Future research may examine how streamer incentives, platform rules, product traceability, and cold-chain capacity jointly affect supply stability. It is also necessary to design mechanisms that connect streamer income with long-term supply chain performance rather than short-term sales volume alone. Fourth, consumer trust remains a key issue. Blockchain and Internet of Things technologies can be used to record production, storage, temperature, transportation, and delivery information, thereby improving traceability and reducing quality uncertainty. Fifth, the integration of digital technologies and supply chain finance requires further study. Financial tools such as order financing and credit support can ease the capital constraints of small suppliers, but their risk-control mechanisms and performance effects need more empirical evidence.

5. CONCLUSION

Fresh e-commerce supply chains are shaped by the interaction of perishability, digital platforms, cold-chain logistics, consumer trust, and multi-actor coordination. Existing studies have mainly examined pricing strategies, freshness-preservation decisions, information sharing, return policies, government subsidies, contract coordination, and live-streaming commerce. These studies show that supply chain performance depends not only on price but also on freshness, service, transparency, and governance. However, current research still relies heavily on theoretical models and context-specific cases. Future work should strengthen empirical testing, develop dynamic and data-driven models, and explore how digital technologies can improve resilience, trust, and sustainability. A more integrated research agenda will help fresh e-commerce move from rapid expansion toward stable, efficient, and responsible supply chain development.

REFERENCES

[1] Lin, Q., Chen, L., & Lin, X. (2023). Study of the selection of sales mode of fresh e-commerce under quality-price competition. Operations Research and Management Science, 32(2), 22–28.

[2] Liu, M., Dan, B., Zhang, S., & Ma, S. (2021). Information sharing in an e-tailing supply chain for fresh produce with freshness-keeping effort and value-added service. European Journal of Operational Research, 290, 572–584.

[3] Shi, Y., Gan, J., & Xiao, X. (2024). Pricing optimization of fresh e-commerce retail platforms considering freshness competition. Technology Economics, 43(12), 97–110. (in Chinese)

[4] Wang, F., Wang, L., & Hou, Y. (2024). Pricing of fresh e-commerce supply chains considering customer returns. Journal of Henan University of Technology (Social Sciences), 40(5), 79–88. (in Chinese)

[5] Li, X., & Ouyang, A. (2024). Pricing and coordination of online fresh agricultural product supply chains considering time and temperature. Industrial Engineering and Management, 29(5), 32–39. (in Chinese)

[6] Yang, H., Yang, K., & Chen, X. (2023). Pricing decisions and coordination mechanisms in green fresh e-commerce supply chains. Price: Theory & Practice, (12), 189–193, 211. (in Chinese)

[7] Lu, F., Wu, X., & Xu, Y. (2023). Quality control and freshness-keeping effort decisions in fresh e-commerce supply chains. Journal of University of Jinan (Science and Technology). (in Chinese)

[8] Ling, W. (2023). A comparative study of pricing modes in fresh agricultural product supply chains under dual information asymmetry [Master's thesis]. Nanchang University. (in Chinese)

[9] Park, Y.-G., Min, D.-H., & Lee, H. (2023). The effect of live broadcast of fresh food on customers' purchasing intention. The Journal of Industrial Distribution & Business, 14(9), 31–39.

[10] Dong, X., Zhao, H., & Li, T. (2022). The role of live-streaming e-commerce in consumers' purchasing intention regarding green agricultural products. Sustainability, 14(7), 4374.

[11] Lin, B., & Zheng, L. (2024). Factors influencing consumers' purchase decisions for fresh agricultural products on mobile live-streaming e-commerce platforms. Journal of Xidian University (Social Sciences), 34(3), 25–41. (in Chinese)

[12] He, H. (2024). The influence of e-commerce streamer characteristics and social presence on agricultural product purchase intention. Times Economy & Trade, 21(1), 148–152. (in Chinese)