The Instant Consumption Paradigm: Enterprise Supply Chain Governance and Decision-Making Refinement in On-Demand Retail—A Cross-Industry Evidence-Based Inquiry

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Abstract. Considering the retail needs of people around the world ascending to unprecedented levels due to instant consumption, on-demand retail, characterized by a combination of brick-and-mortar locations within local areas and deliveries networks in real time, has become a new power changing the position and role of retail. The master logic of on-demand ecosystem (digital empowerment + supply chain orchestration) is the focus of the current research, as well as the focal points of bottlenecks in supply chain governance that an enterprise faces in the on-demand retail environment. This paper applies a mixed-methodology, which includes literature synthesis, conducting multi-sector examples(grocery, 3C electronics, household appliances, and fast-moving consumer goods), and cross-contextual comparisons to investigate supply chain decision optimization in four dimensions namely demand anticipation, inventory configuration, fulfillment efficacy, and multi-stakeholder alignment.The results of empirical studies indicate that: (1) Granular demand sensing and scenario-sensitive prediction (with the help of Location-Based Service (LBS)) significantly improves the accuracy of the forecast; (2) A hybrid inventory architecture (with dark fulfillment hubs and physical experiential stores) and omnichannel inventory pooling work effectively to resolve the trade-off between operational cost-efficiency and delivery promptness; (3) Cross-entity data-sharing and benefit-coordination mechanisms between platforms, retailers, and brands significantly contribute to improving the overall supply chain resiliency.[5]

Keywords: On-demand retail; Supply chain governance; Decision refinement; Digital orchestration; Dark fulfillment hub.

1 Introduction

1.1 Research Context

One paradigm shift in the global retail towards instantaneity has been fueled by urbanization, technological developments, as well as changing consumer trends in the last few years. The concept of on-demand retail, i.e. a process of delivering products to

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consumers within hours (or even minutes) through the use of digital technologies connecting local stores and logistical infrastructure, has experienced a tremendous growth. The industry forecasting shows that the retail on-demand market will rise to $500 billion around the globe by 2025, with the majority of the growth being contributed by China: the market size in China has grown to over RMB 590 billion in the year 2022, and the market is projected to double to achieve a RMB 3.6 trillion in the coming 2030 (6 percentage points of the total retail sales in China have been made by the retail on demand).(All the above data are sourced from2023 White Paper on the Development Trends of Instant Retail, jointly released by China International Electronic Commerce Center, JD Consumer and Industry Development Research Institute, and Dada Group Research Institute (October 2023))[5]

Unlike conventional e-commerce and store retail, on-demand retail is featured in short delivery loops, diversified consumption, and multi-agent involvement, which present unique challenges to the supply chain management:

Fluctuating, scenario-reliant demand creates difficulties in demand forecasting Fluctuating, scenario-reliant demand like surges during festivals or sudden change in weather) makes it hard to predict consumer needs as soon as possible. Inventory management complexity: The explain of product categories--from fast moving consumer goods (FMCG)to 3C electronics, appliances, and apparel--increases the difficult for maintain optimal inventory levels across multiple warehouses. Last-mile fulfilment. This final delivery link can transport goods from local warehouses to consumers, must balance delivery efficiency with operational costs.

Although demonstrating similar on-demand models (e.g., Instacart in the U.S., Deliveroo in Europe), China has different conditions that predetermine the formation of its own dynamics (high level of population composition, a well-developed digital sector, and strong demand in instant services).Against the backdrop of the above industry pain points and China instant retail players address these supply chain challenges and from localized competitive advantages is of great academic and practical value.

Such an exploration of supply chain governing and decision refinement in the Chinese on-demand retail sector is therefore a practical contribution to business requirements as well as global knowledge on digital retail supply chains.As shown in Table 1, China's on-demand retail industry has grown fast from 2019 to 2030.

Table 1. Market Scale and User Base Growth of China's On-Demand Retail Industry (2019–2030 Proj.)

Year	Market Size (RMB Billions)	User Base (Million People)	Development Phase
2019	148	210	Embryonic (Fresh food dominance)
2020	236	290	Accelerated by COVID-19
2021	367	380	Category Expansion
2022	**590**	**460**	Explosive Growth
2023 (Est.)	760	530	Quality Enhancement
2025 (Proj.)	1,200	650	1 Trillion Milestone
2030 (Proj.)	**3,600**	—	Maturity

1.2 Research Significance

One, the current research is an extension of the supply chain management theory to the new on-demand retail situation: provide insight into the gap in traditional theory of supply chains concerning short-cycle, highly uncertain, situation. Second, the D-I-F-A conceptualization combines digital technologies (LBS, big data, AI) and supply chain governance, which provides new theoretical frameworks in which studies on digital economy-supply chain integration may be conducted. Third, the cross-cultural knowledge about on-demand retail supply chain management is obtained through comparative analysis of Chinese practices in enterprise and international models, developing the globalization of the related theories.

This research provides solutions to on-demand retail supply chain pain points that can be implemented by business enterprises: local data-driven accurate demand forecasting, dark hub-enabled inventory structure, end-to-end fulfillment efficiencies, and multi-agent coordination processes. To policy makers and industry associations, the results guide supportive policy. Chinese enterprise cases successes that have been established worldwide offer lessons to international retailers when they enter an on-demand market, especially in high-density emerging markets.

1.3 Research Questions and Framework

1.3.1 Core Research Questions.

Given China's distinctive features higher population density compared to many countries, mature digital infrastructure, and robust demand for instant services what are the unique manifestations and underlying roots of supply chain governance bottlenecks in the Chinese on-demand retail context?

For each identified core bottleneck, what localized and feasible optimization pathways are available? Specifically, how to enhance demand forecasting accuracy through data integration and scenario modeling, optimize inventory configuration via the hybrid layout of dark fulfillment hubs and physical stores, balance fulfillment efficiency and costs using digital tools and multi-modal capacity scheduling, and establish effective multi-stakeholder coordination mechanisms amid data silos and interest disputes?

How can the aforementioned optimization pathways be integrated into a holistic supply chain optimization framework tailored to Chinas on-demand retail industry? What theoretical and practical values does this framework offer to both Chinese enterprises and international retailers entering high-density emerging markets?

1.3.2 Research Framework and Methods.

The research is organized into several subsections that are divided into literature synthesis, theoretical underpinning, status/bottleneck analysis, case-based optimization pathways, discussion and conclusion. It starts by synthesizing the literature on on-demand retail supply chain governance to elucidate the theoretical bases. Second, it examines the current retail supply chain situation and bottlenecks of China through secondary data. Third, it examines optimization pathways using cross-industry case

studies in detail. Lastly, it builds the D-I-F-A and his/her contributions. Overall, this study based on document and analyses case combine Chinese analyze the industry status of content analysis, and finally use D-I-F-A as an auxiliary tool.

Systematic Literature Review: Reviews Data 120+ papers in international journals (e.g., Journal of Supply Chain Management, International Journal of Production Economics) and domestic core outlets, focusing on on-demand retail, supply chain coordination, inventory optimization and real-time pickup to discover the research gaps.

Multi-Case Inquiry: The sample will include 6 representative enterprises (grocery: Metro; 3C: Xiaomi; appliances: Midea; FMCG: Mengniu; maternal-infant: Haiziwang; fashion: PurCotton), where the data will be gathered through 3 different sources: corporate reports, interviews with people, and platform operation metrics.

Cross-Contextual Comparison: Provides comparisons between supply chain ways of Chinese companies and global (e.g., Instacart, Amazon Fresh) companies to showcase on-demand Chinese supplier retail chain uniqueness and similarities.

2 Literature Synthesis

2.1 Theoretical Grounding

2.1.1 Supply Chain Orchestration Theory.

According to supply chain orchestration theory, the interaction between suppliers, manufacturers, retailers and customers lead to performance that is greater than that of the components of the individual contribution (Simatupang and Sridharan, 2002)[10]. Others coordinated in on-demand retail are data alignment (synchronization of demand, inventory, and order information), operational alignment (planning picking, delivery, and after-sales), and benefit alignment (fair distribution of costs and profits). The theory forms the basis of the analysis of platform-retailer-brand collaboration mechanisms.

2.1.2 Digital Transformation Theory.

The digital transformation theory suggests that business firms become more efficient in their operations, as well as competitive by integrating digital technologies (big data, AI, IoT) into the business processes (Bharadwaj et al., 2013)[1]. This is reflected in on-demand retail supply chains in the following form: demand-side (portrait-based precision marketing), supply-side (intelligent inventory management), and fulfillment-side (intelligent picking/delivery) digitalization. The theory assists in the analysis of the digital-based optimization pathways.

2.1.3 Inventory and Fulfillment Optimization Theories.

Inventory theory puts more interest on inventory costs-service trade (e.g., EOQ, JIT models) (Silver et al., 2016)[11]; the dark hub model (small-batch, high-frequency replenishment) is aligned with the JIT principles on on-demand retail. The thinking of fulfillment optimization theory focuses on enhancement of the order processing, picking, and delivery to increase customer satisfaction (Van der Vlist et al., 2014)[13].

These theories put into perspective inventory configuration and fulfillment efficiency analysis.

2.2 On-Demand Retail: Conceptualization and Evolution

On-demand retail is a type of retail where customers fulfill their immediate requirements through an online system with the help of the physical stores inventory and real-time delivery (Wang et al., 2023)[15]. It builds around the O2O model but has four phases, namely embryonic (pre-2013: home delivery focus), developmental (2014-2017: omnichannel integration), explosive (2018-2022: supply chain orchestration), and quality enhancement (2023+: construction of an on-demand ecosystem) (China International Electronic Commerce Center, 2023). Unlike traditional e-commerce, it prioritizes "localization" and "immediacy"; unlike brick-and-mortar retail, it relies on digitally driven supply chain operations (Zhang & Liu, 2022)[16].

2.3 Supply Chain Governance in Retailing: Research on Traditional Model and Digitalization

Traditional supply chain governance focuses on cost reduction and efficiency via inventory optimization, logistics coordination, and supplier management (Chopra & Meindl, 2021)[3]. With digital retail growth, scholars emphasize digital technologies: big data analytics improves demand forecast accuracy (Chen et al., 2020)[4]; IoT enables real-time inventory tracking (Li et al., 2021)[8]; blockchain enhances supply chain transparency (Wang & Chen, 2022)[14]. However, most research targets traditional e-commerce or brick-and-mortar retail, with limited attention to on-demand retail's unique needs (e.g., short fulfillment cycles, scenario-dependent demand).

2.4 The Core Research Directions of On-demand Retail Supply Chain:Focus on International and Domestic

International studies focus on three areas: (1) Last-mile delivery optimization (e.g., AI-driven route planning, multi-modal capacity coordination) (Dell'Amico et al., 2020)[6]; (2) Dark hub inventory management (exploring optimal stock levels and product mixes) (Camdereli & Birbil, 2019)[2]; (3) Platform-retailer collaboration (analyzing multi-agent incentive mechanisms) (Taylor & Xiao, 2021)[12]. Domestic research centers on Chinese market characteristics (e.g., low-tier city penetration, policy impacts) (Liu et al., 2023)[9]. However, systemic research integrating demand, inventory, fulfillment, and collaboration is scarce, and holistic optimization frameworks are underdeveloped.

2.5 Research Gaps

Most literature concentrates on isolated aspects (e.g., a last-mile delivery or inventory optimization) instead of a systemic view; recent studies lack empirical evidence on the

emerging markets such as China. Moreover, few research works have been able to put in place the holistic view of optimization including the demand, inventory, fulfillment, and collaboration.

Three gaps are identified: (1) On-demand retail supply chain uniqueness (e.g., real-time fulfillment, multi-scenario demand) is under integrated into supply chain theory; (2) Empirical evidence from emerging markets like China is insufficient, with limited cross-comparisons between Chinese and international models; (3) Existing studies focus on single optimization components, lacking holistic frameworks covering demand, inventory, fulfillment, and collaboration. This paper discusses these gaps.

3 Status and Bottlenecks of China's On-Demand Retail Supply Chain

3.1 Development Status

3.1.1 Market Scale and Growth Trajectory.

China's on-demand retail market maintained a 51.6% CAGR (2019–2022), exceeding RMB 590 billion in 2022. Penetration has expanded from first-tier/new first-tier cities to lower-tier regions (low-tier city growth is 3x faster than first-tier) (JD-Daojia, 2023)[7]. Categories have expanded from FMCG/fresh goods to 3C, appliances, and apparel, with high-value categories growing rapidly.

3.1.2 Supply Chain Ecosystem Stakeholders.

The ecosystem comprises four core entities: (1) Platforms (e.g., JD-Daojia, Meituan Flash Buy): provide digital infrastructure and traffic support; (2) Retailers (e.g., Metro, Xiaomi Home): supply goods and offline services; (3) Brands (e.g., Mengniu, P&G): lead R&D and supply; (4) Delivery providers (e.g., Dada Express): handle real-time fulfillment. Close collaboration has formed a "digital platform + physical stores + real-time delivery" supply chain model.

3.2 Critical Bottlenecks

3.2.1 Inaccurate Demand Anticipation.

On-demand retail demand is highly volatile and scenario-dependent (e.g., night consumption, camping, holiday gifting). However, many enterprises rely solely on historical sales data, neglecting real-time traffic, local preferences, and scenario information. A 2022 survey found Chinese on-demand retailers have only 60–70% forecast accuracy, leading to hot-sku stockouts and slow-sku overstock (China Chain Store & Franchise Association, 2022).The following table 2 demonstrates that the demand for 3C digital products is increasing.

Table 2. Structural Shift in On-Demand Retail Product Categories: From Fresh Food to General Merchandise (2019 vs. 2022)

Category	Market Share (2019)	Market Share (2022)	YoY Growth Rate (2022)
Fresh Food & Grocery	85%	68%	28%
3C Electronics	2%	**12%**	**78%**
Home & General	5%	10%	55%
Healthcare	6%	7%	42%
Fashion & Beauty	2%	3%	65%

3.2.2 Inefficient Inventory Configuration.

The expansion of product categories has significantly increased the operational complexity of retail inventory management. Fast-moving consumer goods (FMCG), characterized by short product life cycles and highly volatile demand, require lean inventory replenishment mechanisms to maintain high turnover rates, thereby mitigating the risks of slow-moving inventory and capital lock-up. In contrast, high-value 3C products and home appliances, which involve high procurement costs and extended sales cycles, necessitate refined inventory control to balance supply and demand, minimizing capital lock-up from excessive stockpiling. These two categories exhibit significant conflicts in inventory management objectives, making it challenging for retailers to develop unified and efficient inventory strategies, which further exacerbates overall operational complexity.

The fragmentation of inventory data in omnichannel models frequently triggers severe inventory misalignment. Liu et al. (2023)[9] revealed that 45% of retail enterprises experience asynchronous inventory data between online and offline channels. This issue not only results in unfulfilled orders when offline warehouses or physical stores lack corresponding inventory after online orders are placed, leading to higher order cancellation rates and compromised consumer experiences, but also causes inventory buildup in offline channels. Meanwhile, online sales of similar products fail to convert due to outdated inventory information, creating ineffective inventory accumulation that reduces overall inventory turnover efficiency.

Table 3. Summary of Case Studies (The D-I-F-A Framework)

Category	Market Share (2019)	Market Share (2022)	YoY Growth Rate (2022)	Supply Chain Characteristics
Fresh Food & Grocery	85%	68%	28%	High perishability, high frequency
3C Electronics	2%	**12%**	**78%**	High value, low frequency, high security needs
Home & General	5%	10%	55%	Diverse SKU dimensions (Long-tail)
Healthcare	6%	7%	42%	Strict regulation, urgency
Fashion & Beauty	2%	3%	65%	High return rate risk (mitigated in O2O)

The table 3 illustrates that High value, low frequency, high security needs (such as 3C electronics) exhibit faster e-commerce growth, while high-frequency, perishable categories (e.g., fresh food & grocery) show slower online penetration, indicating that supply chain characteristics determine the e-commerce development speed of different product categories.

The product mix planning and replenishment frequency of dark hubs have not been scientifically optimized, significantly weakening their core support function in omnichannel inventory allocation. Currently, most retail dark hubs rely on rough historical sales projections rather than real-time demand data for precise forecasting, resulting in frequent inventory shortages for high-demand categories while slow-moving items occupy warehouse space and logistics resources. Moreover, replenishment frequency lacks dynamic adjustments based on real-time front-end sales data, regional demand variations, and current inventory levels. This leads to either supply chain disruptions due to delayed replenishment or inventory overstocking within dark hubs themselves, ultimately failing to achieve efficient omnichannel inventory allocation.

3.2.3 Fulfillment Efficiency-Cost Imbalance.

The cost of fulfillment comprises 15-20% of the price of products (60% through the last-mile delivery). Problem areas: (1) inefficient distribution of capacity: delays during peak hours; idle capacity during low times of the day increase expenses; (2) inefficient picking: scaling picking requires 15-20 minutes to pick an order in a large store; (3) independent delivery-installation of large products (such as appliances) disrupts experience (Dada Express, 2023).

3.2.4 Inadequate Stakeholder Alignment.

There is a high level of data silos: among the enterprises, there is data sharing with platforms in one in three cases; brands do not have access to real-time demand, and the development of new products does not remain aligned with the needs of the market. Coordinating the benefits is not easy: retailers denounce platform commissions of 1520% and platforms use poor digitalization of retailers as the cost factor. Lack of alignment is a hindrance to the efficiency of the supply chain (China International Electronic Commerce Center, 2023).

4 On-Demand Retail Supply Chain Decision Refinement Pathways—Case Evidence

4.1 Demand Anticipation Refinement: LBS and Big Data-Driven Granular Sensing

4.1.1 Theoretical Rationale.

Demand anticipation refinement is based on the combination of multi-source data (LBS, user behavior, scenario) and AI algorithms, that will make it possible to predict scenarios in a manner that is situation-specific and local.

4.1.2 Case: Metro China.

Metro (a major chain of Chinese grocery stores) worked with JD-Daojia to optimize demand forecasts: (1) Constructed a local data point that combines LBS, user behavior, and scenario identification to generate finer local user profiles; (2) With the Kunce, the demand of products and their price elasticity of demand were studied at grid levels in the urban business districts; (3) Applied scenario-based marketing (stock-up promotions of products, home goods promotions) and dynamically adjusted the supply based on seasonal fresh product trends.

Results: JD-Daojia sales by Metro increased by 130 percent due to YoY (H1 2023); high-end products (meat, fruits, appliances sales) increased by 80260 percent. The accuracy of the forecast increased to 82% as compared to the 65% which led to a 30% reduction in stockouts and a 25% reduction in the overstock.

4.1.3 Refinement Strategies.

Data Integration: 2. Builds local data centers (LBS, user behavior, scenario, weather) to create full demand maps.

Deployment of Algorithms: Implement AI (LSTM, random forest) and create scenario-based prediction instruments, including time (period, season, holiday) and space (location, climate) factors.

Rapid Response: Have demand response teams to real time mix product/inventory product (e.g. camping trends).

4.2 Inventory Configuration Refinement: Dark Hubs + Omnichannel Inventory Pooling

4.2.1 Theoretical Rationale.

Refinements of inventory configuration strike a balance between immediacy and cost through hybrid configurations of dark hubs, and omnichannel inventory pooling to increase the effectiveness of turnover.

4.2.2 Case: Xiaomi & JD-Daojia.

Xiaomi (one of the strongest 3C brands) cooperated with JD-Daojia in perfecting inventory configuration: (1) Connected Xiaomi new retail framework with JD-Daojia to synchronize the omnichannel inventory information in time; (2) Implemented mixed formats: Dark hubs stocked high-frequency replenishment goods of instant demand (smartphones, chargers); physical stores have seen experiential selling and low-frequency product inventory; (3) Used category-differentiated management: small-quantity, high-frequency replenishment of

Results: surpassed 4,000 Xiaomi Home warehouses became a part of JD-Daojia; the range of store operation increased 3km to 10km. The increase in monthly sales increased by 50% YoY; days inventory turnover dropped to 32.

4.2.3 Refinement Strategies.

Hybrid Layouts: Dark hubs specialize in decorative goods that are of high frequency; physical stores specialize in experiential sales/low-frequency goods (complementary advantages).

Omnichannel Pooling: Implement real time inventory sharing systems to enable cross store replenishment and local delivery (cut down on stockouts/overstock).

Category Differentiations: FMCG/fresh goods- small-batches and high-frequency replenishment, 3C/appliances- central inventory/accurate allocation.

4.3 Fulfillment Efficacy Refinement: Digitalization + Multi-Modal Capacity Scheduling

4.3.1 Theoretical Rationale.

End to end (picking, delivery, service) efficacy refinement is achieved through digital means and multi-modal capacity planning which improves efficiency and experience.

4.3.2 Case: Midea Group.

Midea (a top brand of appliances) used JD-Daojia to optimize fulfillment efficacy: (1) Digital picking: intelligent picking kanbans and path-planning optimization have decreased the picking time by 40%; (2) Multi-modal capacity scheduling: large appliances are delivered by two-wheel (hourly delivery) and four-wheel (next-day delivery); (3) Built-in delivery-installation: large appliances are supplied by a one-stop system to increase satisfaction.

Results: The JD-Daojia sales of Midea increased 135% every year (2023 618); customer satisfaction was 96%. The time taken by the small appliances to fulfill was reduced to 45 minutes, large applause delivery-installation time was reduced to 24 hours.

4.3.3 Refinement Strategies.

Picking: Select exclusive pick-off areas/in-store warehouse in dark hubs/supermarkets; reduce picking routes through smart algorithms.

Capacity Scheduling: Combine two-wheel, four-wheel and unmanned delivery, to align optimal capacity to product/situation demand.

Service Integration: Intensify integrated satisfaction (delivery-installation, maintenance) of large/high-value items (enhance experience).

4.4 Stakeholder Alignment Refinement: Data Sharing + Benefit Coordination

4.4.1 Theoretical Rationale.

At the refinement stage, stakeholder alignment helps in the creation of win-win ecosystems through data sharing, order coordination, and benefit sharing between the platforms, retailers and brands.

4.4.2 Case: Mengniu Dairy.

Mengniu (a top dairy brand) had formed a strategic relationship with JD-Daojia to refine the relationship: (1) Data sharing: mutual real-time sales, user preference, and inventory through the JD data platform (supports new products development/optimisation of inventory); (2) Order coordination: adopted the local order + local delivery model to maximise efficiency; (3) Benefit coordination: shared marketing costs/ profits by the sales (alleviated marketing pressure on retailers).

Results: The volume of JD-Daojia transactions increased by 25% YoY (2023 Spring Festival) in Mengniu; the increase in the number of new users was 23%. The cycle of new product launches reduced by 30 percent; cost of marketing by the retailers decreased by 15 percent.

4.4.3 Refinement Strategies.

Data Sharing Platforms: Build cross-enterprise hubs to share demand, inventory, and order data (ensure transparency).

Order Coordination: Deploy flexible scheduling to support cross-store/region delivery (local fulfillment, improve efficiency).

Benefit Distribution: Design profit-sharing plans based on stakeholder contributions (balance interests, enhance collaboration willingness).

5 Conclusion and Implications

5.1 Theoretical Contributions

The work contributes in three fundamental ways: First, the D-I-F-A framework is a combination of demand prediction, substantial organization, fulfilment efficacy, and alignment of stakeholders, which is a contribution to the DRCM theory in digital retail. Second, it determines distinctive on-demand retail supply chain features (scenario-dependent demand, real-time fulfilment, multi-agent coordination), and their influences on decision-making- filling in short-cyclic, high-uncertainty supply chain research. Third, it gives empirical data in biography of Chinese market- bridging gaps in emerging market supply chain research.

5.2 Practical Implications

In the case of on-demand retail businesses:

(1) Invest in data reinvention to enable demand forecasting power;

(2) Optimize stocks through dark hubs and multi-channel pools;

(3) increase the efficacy of fulfillment with the help of (a) digitalization and (b) multi-modal capacity planning;

(4) enrich platform-brand-retailer partnership in win ecosystems. International transacting businesses: An international business enters the high-density emerging markets based on the practices of Chinese cases (Metro case with scenario-based forecasting, Xiaomi omnichannel pooling case).

5.3 Limitations and Future Research

Limitations: (1) Case focuses on large companies (optimization Traces might not be applicable to SMEs); (2) Absence of large-scale panel data quantitative evaluation (the efficacy of the framework must be verified). Future studies: (1) Compare on-demand retail supply chain governance in SMEs; (2) Test the D-I-F-A structure with large scale data and quantify the effects of optimization pathways; (3) Cross-border comparison(China vs. Western markets) to obtain extensive insights.

In this paper, the authors investigate the topic of on-demand retail supply chain governance and decision refinement through literature syntheses, case studies, and comparisons. Key optimization leverages are: LBS/ big data-driven accurate demand foreseeing, dark hub world- multi-channel inventory formation, digital/ multi-mod sourcefulness, data/ benefit match-point coordinating. D-I-F-A framework offers a holistic approach to the on-demand of the retail supply chain pain points.

The growth of instant retail has significantly increased the complexity of supply chain management. In second-and third-tier markets, logistics challenges and product diversity further complicate inventory and order management. Additionally, innovative technologies like unmanned delivery and blockchain face limitations due to high costs, incomplete standardization, and poor compatibility, hindering their large-scale and efficient implementation in supply chain optimization.

Future studies need to concentrate on automation of strategies and integration of the emerging technology to aid sustainable on-demand retail development.

References

1. Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital business strategy: Toward a next generation of insights. MIS Quarterly, 37(2), 471-482.
2. Camdereli, A. Z., & Birbil, Ş. İ. (2019). Dark store location and inventory management for online grocery retailing. European Journal of Operational Research, 275(3), 974-988.
3. Chopra, S., & Meindl, P. (2021). Supply chain management: Strategy, planning, and operation (7th ed.). Pearson.
4. Chen, C., Wang, Y., & Liu, J. (2020). Big data analytics in supply chain demand forecasting: A systematic review. Computers & Industrial Engineering, 149, 106858.
5. China International Electronic Commerce Center, JD Consumer & Industry Development Research Institute, Dada Group Research Institute. (2023). White Paper on the Development Trends of On-Demand Retail in 2023. China International Electronic Commerce Press.
6. Dell'Amico, M., Montanari, R., & Morandi, R. (2020). A matheuristic for the on-demand food delivery routing problem with time windows. Computers & Operations Research, 119, 105021.
7. JD-Daojia. (2023). 2023 Operational Data Report. JD.com.
8. Li, J., Liu, Y., & Zhang, H. (2021). IoT-based real-time inventory management system for smart retail. Journal of Retailing and Consumer Services, 61, 102568.
9. Liu, X., Wang, Y., & Zhang, L. (2023). Development of on-demand retail in China's low-tier cities: Challenges and strategies. China Business Review, 51(2), 89-102.
10. Simatupang, T. M., & Sridharan, R. (2002). The collaborative supply chain. International Journal of Logistics Management, 13(1), 15-30.

11. Silver, E. A., Pyke, D. F., & Peterson, R. (2016). Inventory management and production planning and scheduling (4th ed.). Wiley.
12. Taylor, T. A., & Xiao, W. (2021). Platform-retailer collaboration in on-demand retail: Incentive mechanisms and performance. Journal of Retailing, 97(3), 354-370.
13. Van der Vlist, J., de Koster, R., & Van der Vorst, J. G. (2014). Order picking in retail distribution centers: A literature review. International Journal of Production Economics, 155, 211-225.
14. Wang, M., & Chen, Y. (2022). Blockchain technology in supply chain management: A systematic review. Supply Chain Management: An International Journal, 27(3), 789-809.
15. Wang, W., Li, S., & Zhang, Y. (2023). On-demand retail: Definition, characteristics, and development trends. Journal of Business Research, 156, 113345.
16. Zhang, H., & Liu, J. (2022). Comparative analysis of on-demand retail models in China and the United States. International Journal of Retail & Distribution Management, 50(4), 678-696.