IDC PeerScape

IDC PeerScape: Peer Insights for Omni-Channel Order Orchestration and Fulfillment

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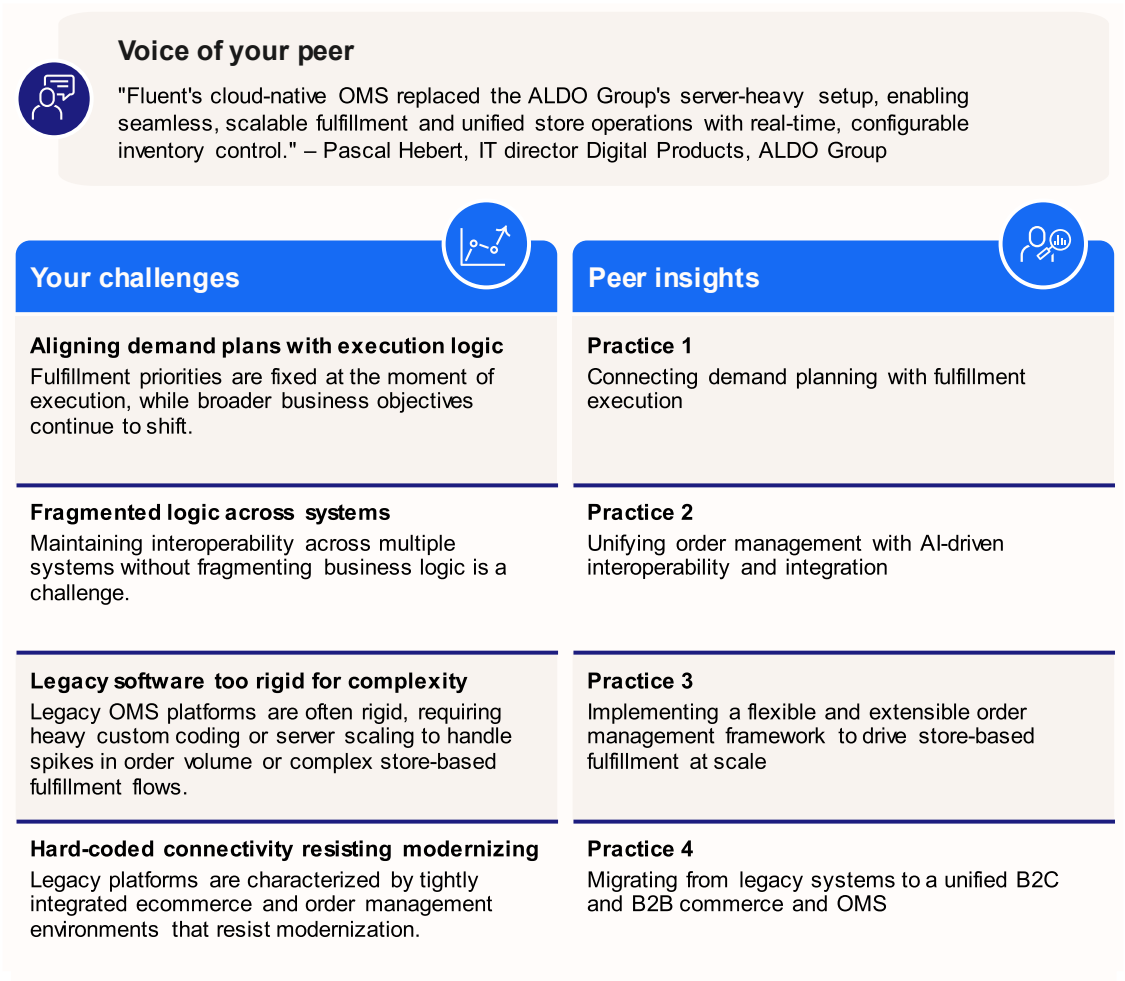
IDC PEERSCAPE FIGURE

FIGURE 1

IDC PeerScape: Omni-channel order orchestration and fulfillment — practices to drive operational agility and improved customer experiences



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EXECUTIVE SUMMARY

The future of omni-channel lies in dynamic, interoperable, and extensible order management ecosystems. Retailers must move beyond static, rules-based systems and legacy architectures, embracing data-driven planning, AI-powered integration, and modular platforms that empower both business and IT users. By doing so, they can achieve the agility, scalability, and customer centricity required to thrive in an increasingly complex retail environment. The most successful organizations will be those that treat order orchestration as a continuously optimized capability, leveraging technology to align planning and execution in real time.

This IDC PeerScape explores best practices for omni-channel order orchestration and fulfillment, highlighting various use cases about how retailers are addressing challenges in aligning demand planning with fulfillment execution, integrating systems, modernizing legacy platforms, and automating workflows. Through real-world examples, this document demonstrates the value of flexible, AI-driven, and API-first order management frameworks that enable seamless, scalable, and customer-centric fulfillment across B2C and B2B channels, ultimately driving operational agility and improved customer experiences.

"Efficient omni-channel fulfillment that both delights the consumer and enables profitability for the retailer isn't just about adding more options," said Jordan K. Speer, research director, Worldwide Retail Product Sourcing, Fulfillment, and Sustainability Strategies at IDC. "A modern omni-channel fulfillment platform must behave like the conductor of an orchestra, directing orders, systems, and channels in harmony to unlock agility, efficiency, and growth."

PEER INSIGHTS

Practice 1: Connecting demand planning with fulfillment execution

Challenge

One of the biggest challenges for retailers is to keep demand plans aligned with real-time execution. Demand planning systems suggest where inventory should be positioned across a network, while order orchestration systems make fulfillment decisions order by order based on preconfigured priorities such as cost, speed, capacity, margin protection, and proximity to the customer. These priorities are typically fixed at the moment of execution, even as broader business objectives around profitability, service levels, and sustainability continue to shift. The result is a structural mismatch: Planning teams optimize using longer-term forecasts and network-level scenarios, while order orchestration systems react to real-time inputs without visibility into those planning inputs. When these two operate independently, they can work against each other, leading to unintended outcomes such as

split shipments, higher fulfillment costs, inventory imbalances, and missed margin opportunities. Even retailers with mature technology solutions find a translation of planning to execution difficult to achieve.

Example

Duluth Trading Co. experienced this dynamic of diverging execution logic and planning assumptions during peak holiday demand in 2024. "Following the surge in unit demand over the Black Friday weekend, we significantly depleted inventory units housed in our highly automated Adairsville center," said Sam Sato, then CEO, during the retailer's March 2025 earnings call. This depletion resulted in a higher level of orders being routed to its Belleville facility. Because Belleville's throughput capacity is considerably lower than Adairsville's, the shift created operational strain and a significant backlog of orders that resulted in customer order processing delays, he said.

Subsequently, those capacity constraints began influencing revenue strategy itself. "Although we experienced improved performance leading into Black Friday week through Cyber Monday, resulting in record sales during that period, we subsequently reduced promotional depth and frequency to address the order backlog and maintain sales quality," Sato said. The company saw the impact of its fulfillment challenges reflected in its financial results. In the fourth quarter, gross margin declined by 410 basis points as the average unit retail (AUR) fell 8.9% as the company pushed unit sales and worked down inventory levels, executives said. Together, the comments illustrate how operational bottlenecks forced trade-offs on both sides of the income statement. Orders were pushed toward higher-cost fulfillment nodes, while promotional activity was deliberately scaled back to protect execution stability and customer experience.

So where did the disconnect occur? Duluth's order management system (OMS) did exactly what it was configured to do — routing orders to the most optimal available node based on its decision logic. However, under peak volume pressure, those rules revealed a misalignment between planning assumptions and how the network actually behaved in execution. The network was not positioned to absorb the downstream impact of a rapidly exhausting inventory at its primary state-of-the-art fulfillment center. While this location plays a central role in the company's optimization strategy — processing more than 60% of total volume at a cost per unit that is 66% lower than the cost of processing through its legacy facilities while providing faster click-to-delivery times for customers and significantly expanding Duluth's network capacity — the company underscores the importance of flexibility across channels. It emphasized during the earnings call how stores remain central to its omni-channel strategy and are increasingly called upon to support fulfillment when distribution centers experience congestion. Crucially, the fourth-quarter experience, as Sato noted, pushed Duluth to refocus on inventory positioning and planning discipline, leading the company to adopt stronger operational protocols and planning processes to ensure more optimal unit inventory distribution across its fulfillment network.

To close the gap between planning and execution, the retailer partnered with omni-channel fulfillment planning provider Bricz to introduce a fulfillment planning layer to optimize order management configurations. Using daily inventory positions, order history, forecast deviations, and target performance metrics across speed, sell-through, and fulfillment performance, Bricz built predictive models to simulate different inventory and network strategies. These models provided a data-driven way to evaluate trade-offs between customer SLAs, inventory margin, and fulfillment costs and to translate the insights into changes in sourcing logic, routing priorities, and capacity allocations.

The models provide planners with scenario-based insight that can be translated directly into configuration changes inside the order management system. Instead of relying solely on static rules, routing logic and sourcing priorities can be tuned in advance based on projected demand patterns, capacity constraints, and profitability goals, allowing planning and execution to operate in concert.

Guidance

While modern order orchestration platforms provide powerful flexibility, that flexibility must be governed by planning intelligence. Without a planning layer that continuously evaluates trade-offs and anticipates downstream impacts, even well-configured systems can produce outcomes that conflict with enterprise goals. This results in hard financial costs as well as softer, but equally important, customer risks. The aforementioned example is one of many across the retail industry that illustrates how tightly planning and execution must operate in concert. When sales planning, inventory positioning, and order orchestration logic are not synchronized, retailers can simultaneously sacrifice top-line opportunity, increase bottom-line pressure, and introduce risk to customer trust. Retailers should approach order orchestration not as a static rules engine but as a dynamically planned capability. By combining simulation, scenario modeling, and execution tuning, organizations can continuously align fulfillment decisions with evolving demand, inventory availability, network capacity, and financial objectives. Seek a solution that will enable you to create a bridge between planning science and real-time execution to enable your organization to proactively manage both the economic efficiency and the strategic resilience of your supply chain networks. The goal is to ensure that every operational decision simultaneously supports revenue quality, margin protection, and customer experience.

Practice 2: Unifying order management with AI-driven interoperability and integration

Challenge

Modern commerce operations often evolve faster than the core platforms that enable them. Small and medium-sized retailers (SMEs) using cloud commerce systems may find that built-in order routing and fulfillment logic in these platforms often meets a large chunk of

their operational needs but that edge cases such as custom shipping configurations, multiwarehouse workflows, or integration to external 3PLs require extensibility. One of the core challenges presented in addressing these edge cases is maintaining interoperability across multiple systems without fragmenting business logic. Each platform, from OMS to TMS to WMS to ERP, holds pieces of the order life cycle, but they don't always "speak" the same data language. Without a system to create unification, disparate manual configurations or inconsistent data mapping will create operational blind spots that lead to undesirable outcomes such as delayed fulfilments or inefficient routing. Retailers need an integration layer that is open and flexible enough to extend platform functionality.

Example

Allbirds, which uses Shopify as its commerce platform, was able to extend functionality of the platform through the adoption of an AI-native Order Operations Platform (Pipe17), which connects Shopify's native order orchestration to Allbirds' external fulfilment centers, 3PLs, warehouses, and ERP. While the commerce platform handles front-end order capture, routing, and store fulfillment, Pipe17 acts as the data and orchestration backbone in a networked model. Using its canonical data model and modern APIs, Pipe17 allows the popular footwear retailer to manage logic across multiple systems, says Allbirds' senior director of Product Management, Micah Nelson, handling exceptions such as carrier-specific routing rules, zone-based shipping extensions, and dynamic weight thresholds that the commerce platform does not natively support. Pipe17's embedded AI agent (dubbed Pippen) simplifies even the most complex operations by giving users instant clarity into what's happening across the order life cycle, why issues occur, and how to resolve the issues. AI enables operators to quickly diagnose exceptions such as delayed product receipts or warehouse transfer errors, understand orchestration decisions, and take corrective action without digging through multiple systems. What previously required technical scripting or middleware development at Allbirds can now be configured directly by business users, enabling faster iteration and less dependency on IT.

Guidance

The next stage of retail fulfillment modernization will involve interoperable orchestration, where AI assists in maintaining real-time visibility and governance across every connected node. Seek systems that bridge the operational gap between commerce platforms and fulfillment networks by simplifying the complexity of integration through canonical data models and open APIs. This will enable line-of-business users to extend business logic dynamically. As commerce ecosystems continue to diversify, this approach will allow retailers to adapt to new channels such as dropshipping and social commerce without re-engineering their order management core.

Practice 3: Implementing a flexible and extensible order management framework to drive store-based fulfillment at scale

Challenge

Many retailers struggle to balance flexibility with stability when relying on legacy order management systems. Traditional OMS platforms are often rigid, requiring heavy custom coding or server scaling to handle spikes in order volume or complex store-based fulfillment flows. For retailers operating primarily or significantly out of stores, this rigidity can hinder the ability to customize workflows, manage dynamic inventory visibility, and respond to rapidly changing fulfillment conditions. As fulfillment increasingly shifts between locations — and as the number of possible sourcing options grows into the hundreds — the need for a more configurable, API-first, and scalable solution becomes critical.

Example

Shoe retailer **ALDO Group,** which recently went live on Shopify, made the strategic decision to migrate from its legacy OMS to Fluent Commerce, prioritizing flexibility and extensibility over traditional out-of-the-box functionality. With its previous OMS, the company had to spin up multiple servers during high-volume periods, risking downtime and performance issues. Fluent's cloud-native, modular framework removed that constraint, enabling the retailer to orchestrate and scale fulfillment across hundreds of stores without risking performance issues. With Fluent Store, the company unified store operations, enabling real-time inventory checks, configurable workflows, and special logic around inventory, such as temporarily hiding or pausing store stock availability when necessary, which previously was very difficult to do, says Pascal Hebert, IT director Digital Products of ALDO Group. Orders could seamlessly shift from store to store, supported by AI-driven sourcing logic that evaluates hundreds of fulfillment options in real time. As a result, the retailer is less constrained by its OMS while giving internal developers the freedom to continually evolve store experiences, says Hebert.

Guidance

When selecting or upgrading an OMS, retailers may want to approach the platform as a framework for innovation, prioritizing extensibility, scalability, and developer empowerment rather than a fixed set of capabilities, depending on the business model and resources at hand. A headless, API-first OMS enables retailers to design unique fulfillment workflows, connect AI-driven decision engines, and dynamically manage inventory visibility — all without re-architecting core systems. To realize these benefits, organizations should invest in active development teams that can build and refine fulfillment logic continuously, enabling stores to be nodes in a scalable fulfillment network that offers high performance even during extreme peaks.

Practice 4: Migrating from legacy systems to a unified B2C and B2B commerce and OMS

Challenge

Retailers often face escalating costs and rigidity from tightly coupled legacy systems that hinder multichannel agility. Legacy platforms such as AS/400, activated decades ago, create tightly integrated ecommerce and order management environments that resist modernization. These systems accumulate obsolete features, support convoluted pricing and promotions with diminishing returns, and demand constant effort to strip away unneeded functionality. For businesses juggling B2B (with punchout catalogs and EDI), 3PL services (executing signals from external platforms), and omni-channel retail (BOPIS and in-store pickup), the complexity explodes, making rapid adaptation to marketplaces such as Amazon or to evolving customer needs nearly impossible without prohibitive costs.

Example

A nationwide U.S. retailer that runs B2B wholesale, 3PL fulfillment, and omni-channel B2C operations replaced its AS/400 system after years of mounting costs to eliminate unneeded functions and enable speed and scale of order orchestration and fulfillment operations. It accomplished this with new ecommerce (VTEX) and order management software (KIBO) that were integrated seamlessly together by the two organizations and supported by a systems integrator (SI) (Perficient), over the span of eight months, with the parties working so cohesively that the CIO said he "didn't know who the SIs were." The retailer reported that it saved enormous sums of money by freeing its teams from twisting themselves into knots to use capabilities that were unnecessary and slowing operations. The new system processes marketplace orders, including those from Amazon, eBay, and Newegg, directly into warehouses; supports dropshipping execution; supports omni-channel capabilities such as BOPIS; and will manage EDI-based B2B catalogs. The rollout is being implemented across its customer base in an incremental way, with the retailer targeting to have 30–40% of its B2B clients live on the new platform by the end of 2026.

Guidance

Prioritize unified commerce platforms such as those with headless ecommerce and marketplace ingestion and pair them with composable OMS (which, if needed, is flexible for B2B pricing, EDI, dropshipping, and omni-channel) when working to move away from a legacy environment. Engage SIs early to achieve a unified platform, focusing on iterative releases, and mitigate migration risks through phased customer conversions rather than "big bang" implementations.

LEARN MORE

Related research

- *IDC Market Glance: Concept-to-Consumer Retail Supply Chain, 4Q25* (IDC #US49907323, December 2025)
- *IDC FutureScape: Worldwide Retail 2026 Predictions* (IDC #US53865625, October 2025)
- *AI-Driven Supply Chain Optimization and Thresholds of Acceptability* (IDC #US53801825, October 2025)
- *Retail Supply Chain Findings and Implications: Insights from IDC's Supply Chain Survey, 2025* (IDC #US52658225, June 2025)
- *Accelerating Digital Transformation to Mitigate Risk and Achieve Resilience in Retail and Consumer Goods Supply Chains* (IDC #US51739724, February 2025)
- *IDC MarketScape: Worldwide Order Orchestration and Fulfillment Applications for Retail 2023 Vendor Assessment* (IDC #US49615623, December 2023) (Note: An updated IDC MarketScape for the worldwide order orchestration and fulfillment applications for retail market will be published in spring 2026.)

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