Whitepaper

Unleashing operational excellence: The power of advanced order management

By Stefano Montanari and Nabaraj Chanda

Introduction

An increasingly strong trend across several industries is highlighted by Amazon in its blog on multi-channel fulfillment: the global ecommerce industry has experienced explosive growth over the past few years. Online sales – which hit a record of $4.1 trillion USD last year – are expected to increase by over 50% annually over the next three years to reach $7.4 trillion USD in 2025.

Efficient order management systems (OMS) are pivotal for operational excellence, accurate inventory visibility, accurate order promising, optimizing the entire order lifecycle from initiation to fulfilment. OMS integration minimizes miscommunications and delays, ensuring streamlined processes and reduced error margins. Advanced analytics within OMS are essential for accurate demand forecasting, efficient inventory management, and overcoming logistical challenges, significantly reducing costs, enhancing customer satisfaction, addressing key sustainability requirements and driving operational efficiency across various sectors. To meet evolving customer expectations, businesses must prioritize customer-centric experiences, necessitating intelligent engagement and rapid adaptation to scale seamlessly. A domain service-based architecture of OMS offers agility, scalability, and performance, allowing tailored solutions to specific operational needs while adapting to market dynamics and regulations.

What Is an order management system?

Implementing an order management system (OMS) streamlines technology integrations, enabling efficient omnichannel order fulfilment processes like real-time inventory and warehouse management, curbside pickup, and buy online pickup in-store (BOPIS).

OMS provides comprehensive control throughout the order lifecycle, covering order capture, inventory management, fulfilment, and post-sales tasks such as returns and refunds. Businesses access and manage customer orders at scale from a centralized location with the right OMS, seamlessly integrating with eCommerce & different sales channels. OMS helps to provide the much-needed single view of orders & single view of inventory across all selling channels. It also ensures order items are sourced from the most optimal source, ensures timely delivery, full order transparency, and quick shipping to meet evolving customer expectations, especially in the era of same-day shipping becoming the norm. Key functionalities of OMS include managing orders across all channels, offering a single source of truth for all types of orders (orders, returns, exchanges), providing a real-time view of inventory availability considering real time demands and accurate order promise dates. It acts as the main orchestrator engine for customer databases, sales channels, suppliers, and accounting processes, streamlining product fulfilment, and financial reporting. Automation through OMS improves efficiency, saves time, improves promise accuracy, reduces cancels, reduces substitution (wherever applicable) and prepares businesses for sales growth and expansion by automating sales tracking, inventory management, and fulfilment processes.

Order management system integrations

OMS landscape is generally webbed with multitude of integrations across multiple applications or services as a fundamental requirement for achieving OMS functionalities. These connections enable automatic data exchange and coordinate processes, enhancing efficiency and reducing manual work. Key integrations include:

- Enterprise resource planning (ERP)
- Customer relationship management (CRM)
- Configure, price, quote (CPQ)
- Billing software
- Selling platforms
- Inventory management.
- Enterprise capabilities like Payments, Pricing, Tax, Customer communication & alike
- Returns & reverse logistics
- Fulfilment WMS (warehouse management system)
- Last mile delivery (Transportation, parcel routing)

Order management system functionality

An OMS consolidates various systems and functionalities crucial for effective order management. Key features include:

- Inventory management
- Order orchestration
- Order tracking
- Customer support
- Multichannel / omnichannel support
- Shipping
- Returns management
- Analytics

Implementing an OMS that integrates with existing infrastructure is crucial for capitalizing on sales digitization and accelerating business growth. OMS functionality spans across areas such as accounting integration, customer database management, inventory management, sales channel consolidation, and sales support, offering benefits like streamlined financial data management, enhanced customer recognition, optimized inventory management, and seamless multichannel sales fulfilment. By leveraging OMS capabilities, businesses fulfil customer needs across multiple channels, eliminate manual processes, forecast inventory needs accurately, integrate across company systems, and expand into new markets efficiently.

Eco-system of an Order Management Application

| Platform	Security	Technology trends
• Cloud-first architecture - Leverage a single cloud-based order management platform to drive efficiency in order fulfillment • Inventory management consumed as a domain / business capability along-side order orchestration – agility, scalability, composability	• Secure by design is of utmost importance – integration patterns, data exchanges across data-centres and platforms • Order data persisting on OMS need to comply with Payment card industry / Personally identifiable information / GDPR regulations.	• OMS platforms are undergoing continuous evolution starting from COTS products, custom build platforms, and hybrid platforms.

Channels

E-Commerce (site & marketplace)

- Product listing and details
- Real time inventory visibility
- Basket management – promise inventory
- Accurate promising and estimated delivery date.
- Order history lookup
- Order status

Store

- Clienteling
- Product and inventory search
- In-Store fulfillment (Buy online, Ship to store, SFS, STS)
- Omni-channel returns
- Store inventory management

Customer service

- Order capture
- Inventory visibility
- Order amendments
- Order and shipment visibility
- Customer maintenance
- Fulfillment options
- Appeasements
- Returns and exchanges

Order management system

Order

- Order lifecycles
- Order event and alert mgmt.
- Omni-channel fulfillment
- Rules based Order monitoring
- Order fulfillment threshold

Shipping and delivery

- Warehouse fulfilment
- Store fulfillment (SFS, Buy online, Ship to store, Buy online, Pick up in store, Same delivery date)
- Dropship vendor fulfillment
- Local vendor fulfillment
- Delivery scheduling
- Warehouse pickup
- Shipment tracking

Inventory visibility and ATP

- Global inventory visibility / available to promise
- Supply / demand matching
- Business / microservice
- Built for massive Scalability
- Inventory thresholds

Supply collaboration

- Management and monitor inbound purchase order
- Purchase order tracking and fulfillment
- Inbound orders impacts on inventory supply and availability
- Granular tracking and updates

Sourcing and release

- Sourcing request
- Resourcing
- Order release
- Order orchestration
- Backorder management
- Order sourcing Optimization – cost / Capacity / labor / stockout / markdown

Returns

- Omni-channel returns and exchanges
- Returns dispositioning
- Return order status visibility
- Payment credit processing – refunds

Operational monitors and alerts	Profile manager
Exception / task management	Partner integrations	Operational user interface

Common services

Catalog	Price	Inventory	Location	Customer
Tax	Payment	Fraud	Sourcing	Delivery / carrier
Settlement	Address. validate	Comms.	Registry	Promotions

Fulfillment

Warehouse management system	Scheduling	Store
Gift Card	Vendor	EDI
Purchase order	Drop ship vendor	Servicing (VAS)

Reporting

EDW
Marketing
Business analytics

Key Capabilities of an intelligent Customer ordering Inventory Management system

Inventory Visibility

Enterprise-wide Inventory Visibility	Business Context oriented availability	Fine-grained Inventory Controls

Intelligent Promise

Pre-purchase Promise	Dynamically Managed Promise Levers	Complete Promise Management

Optimization

Well defined business levers	Continuous Measure & Audit	Visibility of cost to serve

Intelligent   **Scalable**   **Resilient**
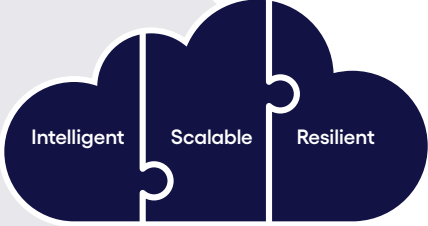
Challenges in order management

Processing, tracking, and fulfilling orders can be tedious, time-consuming, and costly for businesses. As a recent analysis performed by Adobe revealed ecommerce orders are often exposed to double-digit return rate. Challenges include coordinating orders and inventory across multiple channels, managing shipping schedules, and streamlining order fulfilment using third-party logistics (3PL). Implementing an OMS can pose challenges such as data integration, change management, customization, and cost evaluation. Additionally, concepts such as scenario planning, end-to-end visibility, and optimization are crucial considerations in OMS implementation.

How an OMS works

Customers today expect fast shipping, easy returns, and clear order tracking. To stay competitive, companies are adopting advanced delivery technology, following leaders like Target.

An order management system streamlines the order process, ensuring transparency and cost savings. It accepts orders, provided accurate inventory visibility, accuracy in promise date for delivery and payments processing. Tracks orders from purchase to delivery, forecasts stock levels, and offers real-time inventory visibility. Additionally, it optimizes delivery dates, provides seamless order management, and offers adaptive fulfilment. The OMS ensure:

- Complete real-time inventory visibility: Utilizing AI/ML, it offers real-time product availability, maximizing inventory exposure without risking overselling.

- Optimized delivery dates: Personalized options improve customer satisfaction while reducing costs with ML-driven optimization algorithms.

- Seamless order management: It enables a unified view and management of orders across channels, ensuring a smooth order lifecycle.

- Adaptive fulfilment: It facilitates speedy options like curbside pickup and same-day delivery, streamlining operations.

- Order and fulfilment Insights: ML algorithms provide actionable insights to enhance order fulfilment and predict potential issues.

- Returns management: Effective returns management & restocking processes.

Additionally, it manages:

- Inventory levels: Calculating ideal ATP rates, it optimizes inventory across warehouses, stores, and suppliers.

- Automated order processing: It automates order processing, payment, and confirmation across multiple channels.

- Automated order fulfilment: From purchase to delivery, it automates fulfilment processes and provides shipment notifications.

- Inventory tracking: It optimizes inventory levels across channels and analyzes demand flow.

- Reverse logistics: It simplifies returns and refunds, offering an omnichannel return experience and automating return processing.

- Accounting integration: It connects with accounting solutions to automate data sharing and streamline back-end processes.

The order management process

The order management process ensures accurate and efficient fulfilment of customer orders through various steps:

1. Order capture: Customers submit orders, including payment collection and sending order details for fulfilment preparation.

2. Order fulfilment:

   - Picking: Locating items from inventory using strategies for optimization.

   - Packing: Ensuring proper packaging and compliance with shipping regulations.

   - Shipping: Generating labels, invoicing, updating order status, and providing shipping confirmation and tracking details.

3. Inventory management: Updating inventory levels post-dispatch to forecast demand accurately and avoid overstocking or stockouts.

4. Post-sales management: Handling returns, exchanges, refunds, and customer feedback to ensure satisfaction and explore upsell opportunities

B2B order fulfilment may include additional steps like just-in-time delivery, vendor-managed inventory, cross-docking, kitting, and drop shipping.

An effective order management system follows a six-step process:

1. Discovery: Customer places an order, based on inventory availability & accurate promise date. Triggering inventory updates and alerts for abandoned carts, if any.

2. Order placement: OMS verifies payment and routes the order for fulfilment, with options for bulk purchases.

3. Order fulfilment: OMS selects shipping options, generates labels, and assists with packing.

4. Warehouse & delivery updates: Provides customer orders at the correct time for delivery processing & hence provides an effective mechanism to manage WMS fulfilment capacity. Also, in the events of short picks re-sources the order / lines from other locations based on scenarios. It reciprocates in near real time the delivery updates based on the fulfilment progress.

5. Shipping: Picks, packs, and ships orders, providing tracking information to customers.

6. Post-sales follow up: OMS sends feedback requests, manages returns, exchanges and refunds, and flags special orders for personalized attention.

An OMS streamlines processes, enhances accuracy, and improves customer satisfaction by automating tasks and providing comprehensive visibility and control over the entire order lifecycle.

The importance of order management for businesses

Order Management promises a 170% ROI in three years by using technology to minimize costs. Order management is vital for meeting customer expectations, ensuring satisfaction, and improving delivery times. Omnichannel support, tracking, and analytics streamline processes and integrate inventory management and sales to ensure adequate stock to meet demand. OMS solutions coordinate teams and systems, leading to increased customer satisfaction and revenue, by removing manual bottlenecks and integrating with customer service platforms. Key benefits include self-service options, order alignment across channels, inventory matching, online order tracking, complex shipping management, analytics access, commerce-customer service integration, and device-agnostic ordering.

Key considerations in choosing an OMS

Choosing the right OMS involves identifying business pain points and objectives, establishing goals, creating a request for proposal (RFP), and evaluating vendor proposals based on criteria like automation, real-time inventory management, reporting, and multichannel sales management is key. Defining objectives prioritizes scalability, fulfilment options, distributed order management, enterprise-level inventory visibility, customer service, store fulfilment, and omnichannel promotions management. Alignment with sustainability principles, cost optimization, cloud scale & reduction in OpEx is also pertinent.

Assessing OMS capabilities

An effective OMS should accept orders from multiple channels, route orders efficiently, keep inventory levels updated, enable customers to track their orders online, provide order details to warehouses or third-party logistics providers, establish shipping schedules, offer self-service options for customers, facilitate returns, and connect commerce with customer service teams. Implementing an OMS brings automation, reduces human errors, provides real-time reporting, prevents stockouts, offers a single source of truth for business data, and facilitates ease of scale and multichannel opportunities as businesses grow.

Optimizing order management systems

Optimizing the order management process presents opportunities to enhance efficiency, reduce costs, and improve customer satisfaction by managing return inventory, maintaining inventory visibility, minimizing excess costs, reducing complexity, and consolidating into a single platform. Automating order management offers benefits such as streamlined workflows, enhanced order ingestion, faster and more accurate fulfilment, improved financial management, better customer experience, and enhanced self-service capabilities.

Innovative technology for order management

Consumer expectations are increasing, which is driving consumer product companies and retail players to digitize and automate. Innovative technology leverages unified real-time data views, intelligent order-routing UI engines, fulfiller user interfaces (UIs), and call center UIs to create effective order management systems.

Technology University of Munich, Department of Mechanical Engineering, Institute for Machine Tools and Industrial Management, published a paper on ScienceDirect on how digital twins in order processing (DTOP) revolutionizes OMS for manufacturing companies, leveraging advanced technologies such as data modelling, simulation, and decision support to navigate the increasing dynamism and complexity of the modern industrial environment. Through comprehensive data, transparency, forecasts, and scenario simulations, DTOP promises to unlock unprecedented levels of efficiency, optimization, and competitiveness in order processing operations, heralding a critical evolution in the realm of OMS for manufacturing.

Cognizant

A consumer-centric supply chain strategy is where the transformation starts. Choosing Cognizant means partnering with a trusted leader with a proven track record, exemplified by successful implementations like G-Star RAW. We offer best practices based on industry standards, robust security measures, and compliance adherence. Our solutions are future-proof, incorporating cutting-edge technology to anticipate evolving customer expectations and business requirements, with scalability and flexibility at the core.

At Cognizant, we are fully aware of the challenges that come with OMS implementation. Our team is equipped to address these challenges effectively, providing end-to-end OMS implementation capabilities. We have strategies in place to mitigate risks and ensure a smooth transition for your business, taking into account the complexities of data integration and change management hurdles.

Our approach provides emphasis on customer journey and experience-led, helps to ensure that our solution provides intuitive working principles, workflows and seamless integration with existing workflows or applications. This maximizes user adoption and satisfaction, making the transition to an OMS solution as smooth as possible. We are confident that our experience and expertise in this area will provide your business with a successful implementation and transformation.

Despite challenges like data integration, change management, customization needs, and cost considerations, Cognizant ensures that our OMS solutions deliver tangible benefits. We help businesses navigate these challenges, optimize their operations, and realize a measurable return on investment through cost savings, efficiency improvements, and revenue generation opportunities enabled by the system. With Cognizant, confidently embark on your OMS journey knowing you have a reliable partner by your side every step of the way.

Authors

Stefano Montanari

Head of Retail & Consumer Goods Consulting, Benelux

Nabaraj Chanda

Enterprise Architect, Retail & Consumer Goods Industry Solutions Group, United Kingdom

cognizant®

© Copyright 2024, Cognizant. All rights reserved. No part of this document may be reproduced, stored in a retrieval system, transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the express written permission of Cognizant. The information contained herein is subject to change without notice. All other trademarks mentioned here in are the property of their respective owners.

WF2926662