Order Management: Overview and Solution Options
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Many Multi-channel commerce companies are turning to an order management system (OMS) as a solution for inventory management, order fulfillment, and order orchestration. The value-added features of an OMS, such as support for custom kitting and optimized financial settlement tools, are also driving companies to adopt dedicated OMS software packages over traditional Enterprise Resource Planning (ERP) systems or commerce platform order management modules.

This paper focuses on some of the key considerations for evaluating order management solutions. Those solutions include dedicated OMS solutions such as Sterling Commerce Multi-Channel Fulfillment from IBM and Order Lifecycle Management from Manhattan Associates. In addition to these “best-of-breed” solutions, there are several niche solutions that focus on specific areas (for instance, Amdocs in the telecommunications space), as well as order management modules within ERP suites (such as Oracle and SAP) and Commerce platforms (e.g., hybris).

The Multi-Channel Commerce Ecosystem

Figure 1 shows how order management and fulfillment fit within the overall multi-channel commerce ecosystem – they are a core component of customer care. An OMS provides a bridge between various order capture systems (Web, mobile, call center order capture, electronic data interchange) and a range of fulfillment alternatives (drop-ship vendors, fulfillment centers, stores, etc.). One of the key components is matching supplies at the fulfillment sources to demand from the order capture systems in the optimal manner.

This sourcing process can be complicated by the need to segment inventory for specific channels (for example, owned Web site, owned retail stores and wholesale customers) or customers. There may also be a need to prioritize orders based upon specific characteristics.

In addition to optimizing order sourcing, order management involves:

- orchestrating order fulfillment (triggering shipment orders to fulfillment centers and/or drop-ship vendors)
- tracking order lines as they progress through processing stages
- triggering payment settlement
- providing visibility to order status
- managing returns and exchanges
ADDITIONAL OMS FUNCTIONALITY

In addition to the OMS components noted earlier, order management systems may play a role in the provision of value-added services. These services can include custom kitting (bundling, monogramming, computer configuration, etc.) and services at the customer site (preparation, installation, setup, etc.). An OMS system can be used in managing capacity, sequencing, and scheduling for these services.

Customer service may also be aided through order management systems. Some OMS solution providers have built user interface capabilities that guide customer service representatives through task-based screen flows in processing returns and exchanging orders, price matching, and providing appeasements to customers for service issues.

OMS solutions may also provide a variety of financial capabilities. Credit card settlement can be triggered by the OMS—frequently via a direct integration with the settlement provider. In addition, the OMS may be integrated directly to tax calculation systems and pricing/promotion engines to support recalculation as changes to the order occur.

Returns and exchanges are generally managed in the OMS, and the OMS is responsible for keeping track of the entire lifecycle of the order. In many cases, the OMS provides for return policy management (return eligibility, restocking fee calculations, etc.) and payment processing to issue refunds for returns or charge for exchange order activity requiring additional charges to the customer. This lifecycle and status information can be accessed by an eCommerce site via API (Application Programming Interface) calls to enable real-time customer inquiries.
OMS SOLUTION DRIVERS

As retailers investigate changes to their systems and business processes related to multi-channel commerce, they often ask whether they really need to implement a full OMS or can they leverage their existing eCommerce platform and/or ERP investments. There are several different factors which may drive the investment in an OMS solution.

In the past, eCommerce businesses would frequently have a single order capture channel (the company’s website) and one pool of inventory (a dedicated fulfillment center). However, in recent years additional channels have become very common, and a retailer may receive demand from their base website, a call center, a mobile website, store-based kiosks, and affiliated websites or social channels. In addition, the introduction of fulfillment alternatives such as in-store pickup, ship from store, and vendor drop-shipping add complexity to the fulfillment alternatives to satisfy this variety of channels. This requires that the overall commerce solution effectively manage multiple demand sources and be capable of fulfilling orders from a variety of supply sources. In multi-channel inventory management, an OMS can be extremely helpful by providing a single inventory database with a variety of rules and processes that address the requirements of the various channels. The best OMS systems provide a great deal of flexibility for determining where to source the product from, based on a variety of factors including:

- ship-to address
- gift processing
- inventory positions and configured safety stock levels
- fulfillment capacity

In addition to individual order sourcing, sophisticated ATP (Available to Promise – how much inventory can be made available for sale) determinations may be required if any of the supply alternatives are shared across channels and there is a need to reserve or segment inventory between those channels. In those instances, the OMS will likely provide the capability to incorporate inventory segmentation and/or reservations and safety stock calculations into the ATP determination.

The need for complex order orchestration will also drive companies towards OMS. If there is a need to handle different types of orders or items using different business logic, it may require multiple order pipelines, which are generally supported by best-of-breed OMS systems. In the telecommunications industry, an OMS is used for inter-line dependencies. If some pre-provisioning work needs to be completed before the technician arrives (for example, some settings need to be initiated at a central hub) and something else needs to be triggered following the technician’s visit (such as initiation of the billing cycle), the OMS can be configured to manage that sequence of events and ensure communications with downstream systems are triggered at the appropriate points in the service lifecycle.

For business-to-business scenarios where there are frequently multiple shipments going from the same location to the same location in the same time frame, an OMS can provide inter-order shipment consolidation. This allows savings in freight and warehouse handling costs. OMS configuration of shipment consolidation parameters can drive fewer larger shipments within a defined maximum order-to-shipment time frame and can be configured differently depending upon customer requirements (for instance, inability to mix multiple purchase orders within a shipment or carton).

While eCommerce payment processing can be managed in many different ways, some OMS systems can provide an additional benefit through the capability of consolidating settlement requests. This configuration allows the aggregation of multiple settlement triggers if shipped from multiple points for the same order within short timeframes. This consolidation can eliminate processing charges related to multiple settlements against the same authorization. In addition, if there is a need to accept future orders (such as for a street date or a gift event), the OMS can be configured to trigger the authorization to occur right before the order is dropped to the warehouse. This ensures that the authorization won’t expire prior to shipping and settling the charge.

OMS SOLUTION SELECTION

There are a number of comparison tools we use to assist clients who are making solution design and software selection decisions. One of the key components of any of those selection toolsets is a Business Context Diagram (BCD), which can be used to identify the functionality that is
critical for clients. In addition to the BCD, SapientNitro has built other tools which compare functionality across various options with the ability to weigh the functionality that is most important to the client.

Figure 2 displays an example of a high level BCD which shows the breadth of responsibilities that may be covered by an OMS software solution. In most cases, a single client will not require all of the functionality shown in Figure 2. As a result, other comparison tools have weighting mechanisms which focus comparison scores on the most relevant functional areas.

**USERS**
- Customer
- Warehouse
- CSR
- Drop Ship Vendor
- 3PL
- Business Analyst
- Administrator
- Merchant
- Marketer
- Field Sales

**CHANNELS**
- Web
- Brick and Mortar
- Call Center
- Catalog (Direct Mail)
- Mobile Device
- Vending/Pop-Up Store
- Field Sales

**Order Entry**
- Create Order
- Modify Order
- Order Validation
- Order Notification
- Exception Management
- B2B Order Creation
- Shipping Calculations

**Analytical Reporting**
- Data
- Reports

**Financial**
- Payment Engine
- G/L Account Management
- Fraud Detection
- Tax Calculations

**Order Fulfillment**
- Order Entry
- Partial Shipment
- Order Entry into Fulfillment
- Back Order Management
- Pick/Pack/Ship Order
- Multi Channel Management
- Order Status/Package Tracking
- Distributed Order Management

**Returns**
- Order Line Item Return
- Reverse Discounts & Tax
- Multi-Channel Return
- Exchange Orders

**User Interface**
- Saved Searches
- Menu Groups
- Localization/User Control
- Task Based Screen Flow
- Screen Support

**Purchase Order Management**
- Order Management
- Vendor Setup

**Inventory**
- Inventory Management
- Inventory Visibility
- Loss Management
- Inventory Planning
- Inventory Feed Capabilities
- Sourcing/Order Routing

**Customer Service**
- Appeasement
- Copy Order
- Order History
- Checkout/Incomplete Orders
- Edit, Cancel Order
- Service Scheduling

**Value Added Services**
- "Stock" Services
- Order Services
- Work Order Management
- Capacity Management

**Figure 2: Example of a BCD**
OTHER CONSIDERATIONS

Frequently, the complexity of an OMS project is driven not so much by the configuration and customization of the OMS application, but by the integration work that needs to be done. Order management systems are integrated with any number of systems including:

- Product Information Management (PIM) system
- Customer Data / CRM systems
- ERP systems
- eCommerce platforms
- Payment Processing, Tax Calculation, Fraud Detection and Address Verification systems and services
- Warehouse Management systems – internal and those of 3rd party fulfillers
- Carrier tracking systems

In scenarios where these components and the tools to integrate with them are well defined, the duration and complexity of the OMS implementation will be greatly reduced. The evaluation of order management solution alternatives should include a thorough evaluation of these other systems and their ability to provide data through extracts, event-driven integration or real-time service calls.

CONCLUSION

Order Management is a critical building block of an effective multi-channel commerce effort. Given the wide variety of functionality that is available in various solutions, requirements needed for different businesses, and existing supporting systems that may be leveraged, order management requires a careful evaluation of both the needed functionality and the viable alternatives to provide that functionality.

Subject Matter Expert: Jon Panella

Jon Panella has over 25 years of technical, consulting and leadership experience in enterprise architecture planning, commerce strategy, product evaluation/selection, software development and technology implementation/support. He is currently responsible for technology direction within Sapient’s Global Comm Practice, which includes oversight, planning and reviews for numerous commerce strategy and implementation engagements.

Jon has led many strategy and implementation projects with Fortune 500 clients, including Target, Barnes & Noble College Booksellers, Sprint, JCPenney, and PetSmart. Some of his recent engagements include:

- eCommerce product evaluation, selection and roadmap for JCPenney
- Architectural assessment and eCommerce planning for Target
- Enterprise Architecture assessment and product recommendation for Sprint
- Design and implementation of an eCommerce solution for Barnes & Noble College Booksellers
- An architectural and business assessment, product selection, and roadmap for PetSmart

Jon has been with Sapient for eight years. Prior to joining Sapient, Jon was at American Airlines/Sabre for over 15 years, where he was responsible for a number of technology areas, including airline reservations, pricing and yield management, and ticketing. He was also Vice President of Technology for GetThere (now Travelocity Business).

Jon has been a member of the IBM Websphere Commerce Product Advisory board for over two years and manages the technical components of Sapient’s partnerships with key Commerce vendors such as IBM, ATG, Endeca, Hybris, Bazaarvoice, and Omniture.