DYNAMIC FULFILLMENT (DF)

The Answer To Omni-channel Retailing's Fulfillment Challenges

Who's This For?

This publication will be of greatest value to retailers in need of a highly efficient and flexible solution for omni-channel fulfillment.

The Omni-channel Challenge

The omni-channel fulfillment world today is nothing short of chaotic. It is characterized by highly fluid, unpredictable, complex and rapidly evolving fulfillment processes. Customers' ever-changing behaviors for wanting products instantaneously are forcing retail companies to deliver products in ever shorter lead times, accessing all available inventory units (whether in-store or at distribution centers). The consumer demand for "anything, anytime, anywhere" and the growing competition from e-tailers are forcing traditional retailers to juggle:

- large numbers of orders; large numbers of SKUs
- different channel expectations on response time and service level
- multiple delivery transportation options with different transportation lead times and costs
- inventory targets and quantities across channels
- multiple supplier locations, capacities and lead times
- seasonal patterns requiring seasonal operating parameters

To operate effectively, today's retail supply chains must be incredibly flexible and agile, capable of intelligently determining the best ways to fulfill orders, and dynamically optimizing the availability of the right inventory at the right location to achieve desired customer service levels.

Sustaining multiple sales channels complicates the inventory management and order fulfillment process – so much so, in fact, that finding a dynamic solution gives organizations a distinct and powerful competitive advantage. Companies that find dynamic fulfillment solutions see immediate cost and service impact, and have a valuable tool that helps them reduce stock outs while improving margin performance concurrently.

By navigating the supply chain deftly, leveraging the entire network, retailers can reduce costs across the board – people, processes, tools, brick-and-mortar – and improve the service level. If they don't – if they continue to rely on outmoded, traditional methods like static rule-based Distributed Order Management (DOM) – they run the real risk of being quickly bested by competitors.

Solvoyo DF Is The Solution

The stakes are huge in omni-channel retail today; what Solvoyo Dynamic Fulfillment represents is even bigger.

In the simplest terms, Solvoyo DF is a cloud-based Software as a Service (SaaS) that gives retailers optimized fulfillment plans, leveraging end-to-end inventory visibility and fulfillment options across the entire network.

With consumers now expecting to be able to purchase, receive and return products anywhere, any time, retailers can no longer rely on simplistic order-flow rules to move products from the supply source to the consumer. Only Solvoyo DF optimizes the order fulfillment, with a holistic context of the supply chain that dynamically recognizes what products are available at each point and channel at any time, then fulfills the customer orders in the most **cost-effective** way in line with **channel priorities** and customers' **service expectations**.

Solvoyo DF leverages real-time inventory visibility from end to end – from supplier to end consumer and at all entities in between, then fulfills orders using actual costs and easily configurable algorithm that takes into account dynamically calculated order priorities in different channels, due dates, total cost of fulfillment and any applicable penalties.

Solvoyo DF minimizes cost-to-serve by:
- Determining inventory deployment across multiple echelons of the fulfillment network to **ensure the right goods are in the right places at the right times**
- Planning replenishment to minimize backorders or lost sales
- Optimal allocation of resources and goods to maximize fulfillment of orders and at the same time aim to maximize service levels
- Consolidating shipments to minimize transportation costs

What kind of results can retailers expect of Solvoyo DF? The graph below provides a more detailed picture of the significant impact Solvoyo DF can have in 11 critical areas of operation. The chart is representative of changes expected in key supply chain metrics after implementing Solvoyo DF.

"The results are nothing short of remarkable," says one of our customers.

In fact, the payback of Solvoyo DF averages between 3 and 9 months. Inventory savings range from **10 - 30%**, annual freight bill savings from **5 - 25%**, and on-time fulfillment improvements from **10 - 35%**.

Across-The-Board Improvements

SKU-level Metrics
- inventory holding cost
- handling cost per unit
- transportation cost
- delivery cost

Business Metrics
- profit margin per unit sold
- inventory efficiency (reduced stock-outs, reduced markdowns)
- lead time to customer
- working capital
- DC cost
- distribution throughput
- improved customer service (availability, reduced split shipments, reduced delivery time

Mo 1   Mo 2   Mo 3   Mo 4   Mo 5   Mo 6
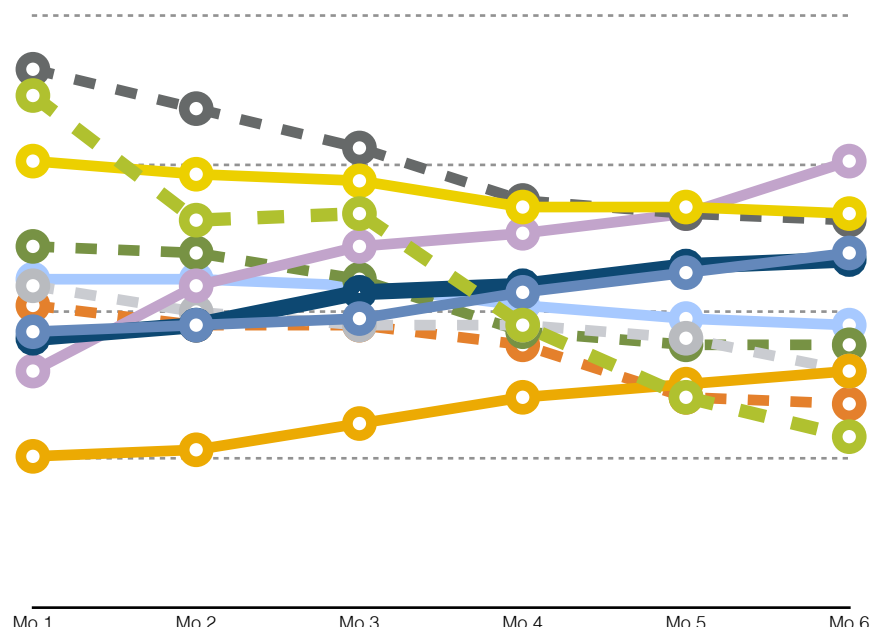
Solvoyo DF Is Nothing Short of a Game-Changer

An intelligent, algorithm-driven, cloud-based solution that integrates with ERP systems, is quick to deploy, easy to extend, and offers exceptionally fast ROI.

Solution Areas	Frequency & Impact	Features				Results
Omni-channel fulfillment across the network	daily/ hourly *operational*	Matches open orders to network inventory (allocation) across multiple channels using business rules as well as measurable objectives	Plans transportation and detailed multi-stop routing	Integrates with WMS and TMS systems to specify order pick lists and transportation modes		• Optimized matching of open orders from multiple channels to network inventory • Multi-objective prioritized allocation • Frictionless product return
Sales-driven replenishment planning	weekly/ daily *operational*	Generates best-pick forecasts at different aggregation dimensions	Optimizes inventory for each SKU across a milti-echelon network based on channel service requirements	Recommends intra-company (DC to DC or store to store) transfers	Recommends purchase order quantity and timing based on vendor constraints	Optimizes multi-mode freight consolidation on inbound	• Optimized inventory plans with Channel x Product segmentation • Demand planning at Channel x Region & Product level • Optimized replenishment & order frequencies
Procurement system parameter optimization	seasonally *tactical/ strategic*	Optimizes vendor order frequency, balancing transportation cost and inventory investment	Selects vendor source location (when there are multiples for a vendor)	Optimizes end-to-end flow path for the upcoming season	Performs multi-objective what-if scenario analyses		• Optimized balance of product availability and inventory efficiency • Aligns replenishment workflow with transportation and inventory management • Enhances existing systems – no rip and replace
Supply chain network design	periodically *strategic*	Determines the role and capacity of each DC and fulfillment location	Assigns service territories and backups for each fulfillment location	Performs multi-objective what-if scenario analyses			• Efficient, right-purpose DCs • Multi-mode outbound transportation • Seasonally optimized product flow from source to store • Multi-objective, multi-echelon scenario modeling

Designed specifically for omni-channel retailers, this SaaS platform is a scalable planning solution, ensuring that every order is filled by the best source while minimizing cost-to-serve and maximizing profit.

Throughout the order day, Solvoyo DF dynamically executes the batch size and release schedule; its sophisticated algorithms determine the best fulfillment solution for every order line in the batch.

Solvoyo DF also takes into consideration the value of inventory according to the location where it's maintained. For example, if a store is in an overstock position anticipating markdowns to move excess, these items can be given priority for e-orders.

…and DOM Is "Dumb"

Rules-driven DOM can't take omni-channel retailers where they need to go. Distributed Order Management (DOM) is a simple, heuristic-based solution that isn't capable of intelligently assessing inputs and determining the best next action; it simply does what it's told…even if what it's told doesn't make sense holistically. For example, once an order comes in, DOM will just pick one available item for the order. It does not consider the impact of assigning this item. The allocation for this order might be good by itself, but it might have significant negative impact to the bottom line without considering other orders simultaneously.

On both the strategic and tactical fronts, traditional methods and tools like DOM don't provide the analytical insight into the network structure needed by retailers today. On the operational front, DOM's rule-based approach may provide a feasible order-to-inventory or order-to-delivery assignment, but its blind to the full set of revenue, cost, service and product availability dimensions needed in order to make the best fulfillment decision. It doesn't provide the much-needed end-to-end flow and total landed cost in the decision criteria.

4 Facts About Solvoyo DF

1. executes the *best* inventory assignment for *every* order line, *every* time
2. ensures retailers get the *most* from their centralized and deployed inventory
3. enables the *total lowest cost-to-serve* resulting in the *greatest profit*
4. delivers *maximized total customer satisfaction* for any level of inventory investment

Let's Compare

Feature	Solvoyo DF	DOM
solution methodology	intelligent, mathematic programming with the ability to optimize for customer service, revenue and inventory availability, or minimizing markdowns at particular stores	rules-based sort
order batching	aligned order batches	single order
scope	end-to-end supply chain	inventory by location
timing	workflow based	instantaneous per order
solution results	optimal	feasible

Scenario

An omni-channel retailer receives two online orders – one a single line order and the other a multi-line order.

A **DOM** solution may allocate the last available-to-promise item, located in a store, to the single line order and fill the multi-line order from a DC. **Total transaction cost: $17**

Solvoyo DF sees a more cost-effective way to fulfill these orders and can use the store's last available-to-promise item in filling the multi-line order, and use an alternative source, like a DC, for the single line order, based on anticipated future value reduction of the store markdown. **Total transaction cost: $16**
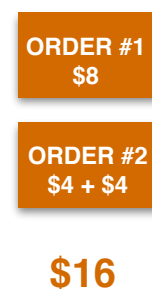
item F		item F	item G
order #1		**order #2**	

Cases In Point

Grocery, Home Fashion & Department Store

$1.5B Regional Supermarket Chain
This supermarket chain with a nascent online business was focused on optimizing both store allocation and warehouse replenishment. Using Solvoyo, shelf availability improved from 90% to a sustainable 97%. The super market chain realized annual recurring up-lift of $10M to their bottom line as a result of better run in-store and online operations.

$200M Home Fashion Retailer
This 270-store retailer sought Solvoyo's help in optimizing their in-store as well as online fulfillment, allocation, and replenishment. Solvoyo now even helps the retailer create vendor purchase orders. Shelf availability increased from 55% to 85% within the first year and the company saw a sustainable increase of their inventory turns.

Department Store Retailer
This Southeastern US retailer has 2 e-tail warehouses and 19 stores designated for online order fulfillment. Solvoyo developed a fulfillment optimization solution that identified 10% cost savings, balanced workload and improved margins.

Distribution Order Mgmt.

ORDER #1 $3

ORDER #2 $7 + $7

$17

DC

DOM looks at each order in a silo. The first available product is typically the one picked to fill it.

Solvoyo Dynamic Fulfillment

ORDER #1 $8

ORDER #2 $4 + $4

$16

Store

Solvoyo DF looks at aligned order batches and selects the product based on several factors including location, potential for markdown, and transport costs to determine where to pick the product for greatest optimization.

Solvoyo DF At Work
Implementation

Once you're up and running (typical implementation lasts 3-4 months), you will begin seeing positive results.

Implementation is relatively straightforward, as the Solvoyo DF platform operates hand-in-hand with your existing retail technologies and can be integrated seamlessly into the enterprise IT systems. There's no need for a lengthy trial-and-error rules adjustment period. No need to rip-and-replace your existing systems until you are absolutely sure that Solvoyo DF works!

Using our proven Agile Implementation Methodology (AIM), Solvoyo DF deploys an omni-channel fulfillment solution using:
- … professional implementation resources with deep retail experience
- …iteration sprints of short design-build-validation steps in order to ensure acceptance by your IT team and key users
- …efficient modeling through sector-specific templates: grocery, fashion retailer, and hard goods

Solvoyo DF applications utilize a secure, scalable, flexible and dependable cloud infrastructure, or can be deployed in your private cloud and behind your own firewall.

FAQs

What kind of investment are we talking about?

There is no front-end capital expenditure required, and only minimum up-front expense related to implementation; thereafter, fees and services are billed monthly. Solvoyo DF has a low cost-of-entry and you'll have no additional maintenance expense – our solution is all-inclusive.

Do we need to sign a long-term contract?

No, Solvoyo DF is a pay-as-you-go solution and you are not tied to a contract term longer than 1 year.

Will Solvoyo DF connect with our systems?

Yes. Solvoyo DF is ERP-, Excel-, and Access-friendly for both inputs and outputs. Solvoyo DF provides integrated, real-time information and tracks current status of inter-related processes across various business functions/departments and geographies.

Will we need add-ons to make it work for us?

No. Unlike DOM, Solvoyo DF is an all-in-one solution.

How can we anticipate the kind of results I'll get?

Our Rapid Assessment of your key business issues allows us to define potential solutions, and quantify a value proposition in advance of your making a contractual commitment.

Can Solvoyo DF be customized for my unique requirements?

Solvoyo's rich out-of-the-box functionality gets configured per customer and usually covers what the customer needs. Customization requests are handled in two ways: 1) put the request in our roadmap, and 2) develop with a separate agreement.

Is Solvoyo DF difficult to use?

Not at all. Solvoyo DF requires no special expertise to use, and the user experience is intuitive and logical. Our implementation team works with yours to onboard each client quickly and effectively.

The Time Is Now

There's an urgency to implementing a smart, flexible omni-channel fulfillment solution. According to a Retail Industry Leaders Association study, an effective solution for omni-channel fulfillment is a top priority for nearly all executives respondents.

The study also declared that omni-channel retailers that can implement agile, intelligent systems and processes have a huge competitive advantage, allowing retailers to "smash their competitors."

To learn more about Solvoyo DF and how it can make your business be more profitable, boost customer satisfaction and guide you as you grow, contact us at info.solvoyo.com.

The Solvoyo DF platform is integrated with real-time information for all locations with:

- available-to-promise inventory
- pick, pack & ship capacity
- staffing
- the role of DCs, warehouses, stores and 3PLs
- the status of inventory relative to future demand
- how much has been spent on the inventory in position
- how much more it will cost to allocate the inventory
- the service implications of the potential fulfillment solution

SOLVOYO

Global Headquarters
77 Franklin Street
Suite 504
Boston, MA 02110
Main: +1 617 642 1338
Fax: +1 800 617 3880
For more information, please contact
info@solvoyo.com
www.solvoyo.com