



Antuit.ai Workcloud Allocation with Size Optimization

The Challenges of Allocation in the Complex Environment of Omnichannel Retailing

Retailers today are grappling with escalating costs of goods, as well as labor and other fulfillment constraints. There is also growing complexity for retailers due to the more than 25% shift to online shopping that was driven by the pandemic. With this shift expected to remain, retailers must address the margin degradation erosion and fulfillment capacity issues that can result.

A significant component in solving this issue is to place inventory in the best location while considering both the store and the online demand fulfilled from that location. Key questions to be answered include 1) what to fulfill from and where? 2) will there be adequate capacity at that location at the moment in the future when it is needed? and 3) will the stores and/or distribution centers be adequately staffed to handle fulfillment?

With an omnichannel aware allocation system, retailers are can place inventory where the demand is best fulfilled rather than where it originated. As a result, it will help pre-empt downstream DC capacity issues and lower overall shipping costs by lowering split shipments and fulfilling orders from non-ideal locations. To achieve this, demand signals from customers must be mapped and aligned to the strategy. In addition, when fulfillment paths do crisscross, business rules about which channel gets credit for the sale, which alternate location can best benefit from fulfilling the order, and how the demand signal get assigned for future planning must also be resolved.

Optimizing allocation for size is a particularly hot spot in the increasing world of omnichannel consumers. Traditional practices of guiding allocation by assigning size profiles to store clusters will no longer be effective when alternative fulfillment options like curbside pickup and ship from store are now possible. A more disaggregate view of demand and the drivers at play, by location, will be required.

Antuit.ai's Allocation Optimization – Nailing the Right Inventory, Right place, and Right time

The objective of antuit.ai's Workcloud Allocation solution is to minimize the time required to allocate product and maximize profit by placing the right amount of Inventory in the right location at the right time -and if the merchandize is sized - in the right size.

The guiding principle of Workcloud Allocation solution is to make this as simple as possible with an easy to use workflow that helps the allocator pick the inventory available to allocate, assign stores and finally pick an optimization method. This simple workflow is powered by sophisticated and intelligent, AI/ML-driven, forward-looking granular forecast which drives an optimization engine under the hood.



Allocators can choose from a range of optimization methods:

1. **Demand** – Targets the allocation to the exact units as derived from the forecast and size profile output
2. **Need** – Targets the allocation to the exact units as derived from the forecast and size profile output **while also subtracting existing inventory for the items being allocated.**
3. **Allocate 100%** – In conjunction with the Demand method, this optimization will **force** 100% of the available quantity to be allocated.
4. **User Entry Quantity** – In the case where the allocator has a specific quantity in mind that is less than the total available to allocate, this method allows the allocator to overrule an optimization based on total available.

Improving Planner productivity and reining in fulfillment costs

For one \$120M Fashion Retailer, allocation was a manual and labor-intensive process consuming a major portion of planners' time that could have been otherwise producing better allocation strategies. Antuit.ai's solution helped them centralize key workflows and better align buying decisions with multiple variables—seasonality, localization, and other anticipated shifts in customer demand. In addition, the solution optimized long-term assortment planning and efficiently distributed inventory across more than 80 store locations in the U.S. and Puerto Rico, alongside a sizeable e-commerce presence.

For a Multi-branded, Multi-channel Fashion Retailer with approximately 40% of revenue online, the impact of omnichannel complexity was causing a massive impact on their business. *“Our consolidated sales were running negative by low-double digits - with online demand up 300% - though our adjusted gross margin decreased 990 basis points from 36.7% to 26.8%. The gross margin decrease was a result of higher fulfillment costs.”* With the Allocation solution, the retailer's goal was to improve margins and lower their overall shipping costs by improving their inventory positioning, even though their volume was expected to increase. After an initial pilot, they replaced their existing, manually intensive allocation tool.

2x

Increase in
Ship Completes



2-5%

Margin
Improvement





Intuitive Workflow – Minimize the manual spreadsheet work to maximize saved time and effort for the Planner.

Multi-faceted Optimization — Balance the impact of a multitude of factors, including local demand, omni demand, store capacities and inventory.

Scenario Capability – Run multiple optimization methods and constraints as scenarios and compare results.

Manage by Exception – Automatically allocate available inventory as an overnight batch so that allocators can save time by reviewing results and zeroing in on exceptions

Unified View – Eliminate the disconnects of siloed processes with a unified demand-based forecast that connects allocation and fulfillment decisions to improve inventory efficiency

Integration Capabilities — Use antuit.ai’s Workcloud Allocation and Size Optimization user interface or use API’s to integrate into existing ERP systems

Disaggregated Profiling for Size – To account for lost sales, generate store and channel level size profiles and create cluster level profiles when appropriate.

Guided Hierarchical Clustering – Develop alternative and attribute-driven hierarchies via analysis over time that will improve predictability and size profile application.



“Our continued success depends on keeping one step ahead of customer demand, ensuring each store offers the right products and experience to shoppers. AI and machine learning are offering important advantages in retail business operations, and antuit.ai stood out as an excellent choice for us.”

Randall Blumenthal, Chairman & CEO,
Everything But Water

Our solutions are built upon antuit.ai's world-class AI Demand Forecasting

Unified Demand Signal

Control for the differences between regions, stores, online, and even the fulfillment type, and serve as the connective tissue across financial, assortment, allocation, size, and pricing decisions.

Dynamic Aggregation

An analytic methodology to address data sparsity, avoid the impact of fringe sizes, handle new items, and protect unit minimums.

Omnichannel Profiling

Delivering demand profiles that consider store and online sales independently, but optimize for BOPIS and ship-from-store (SFS) aspects of inventory location.

Seamless Integration

Delivers pricing and forecasting results through API integration, feeding either antuit.ai's application suite or existing ERP solutions.

Scalable Data

AI models capable of digesting data that accounts for every demand driver - including seasonality, price, product lifecycle, trends, and local events.

Cloud Native

Built natively in the cloud with scalable distributed processing.



About antuit.ai

We operate with one goal –

Deliver measurable business & financial improvements by enriching decisions and workflows at scale.

That commitment makes antuit.ai different by design.

Our approach amplifies your strategy with SaaS solutions that enable fluid processes, leverage AI, and support user adoption.

We strive to bring you significant value in a very short period that escalates over time.

To learn more visit antuit.ai



Serving Fortune 1000 companies globally, antuit.ai - now part of Zebra Technologies - is rethinking the way consumer products and retail companies use AI to solve real business problems. Antuit.ai offers solutions that inform the most important business decisions, from supply chain to merchandising to marketing, empowering world-class retailers and consumer products companies to digitally transform their businesses to achieve substantial business results.