

## Is Slotting Optimization Ready for Prime Time?

### Trends Are Driving Increased Interest, and Software Vendors Making the Tools Easier to Use; McKesson, Vera Bradley, and O'Reilly Auto Parts Finding Slotting Success

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Is "Slotting Optimization" likely to be one of the next "hot" supply chain management software applications?

Slotting is the art and science of determining what SKUs should be placed in what picking locations. To take a simple example, fast moving products should generally be placed near shipping doors to reduce travel distance. Or in split case picking, fast moving SKUs should generally be placed at the chest high "golden zone" level to increase picker efficiency.

Sounds simple enough, but complexities soon arise. Making these decisions across hundreds, thousands, and for some companies even tens of thousands of SKUs in a distribution center is simply beyond the capabilities of human beings, even using spreadsheets or similar tools.

Sales forecasts and product lifecycles can change rapidly, requiring corresponding changes to slotting plans. Companies often having multiple product storage types (pallet flow rack, carton flow rack, static rack, carousels, etc.) and often want help first in deciding what products are stored in which modes, then what specific locations within each pick zone. They may want to do even more sophisticated analyses, such as determining which products are frequently ordered together, so that they can be slotted nearby each other. Balancing work across pick areas or zones can be another consideration.

Slotting Optimization software is a decision-support tool that takes a variety of SKU-related information (history, forecasts, dimensions, etc.) and recommends, using sophisticated mathemat-



ics, an optimal slotting plan, including the physical DC moves needed to get there.

For a variety of reasons, the potential interest in these tools should be at high levels:

- The trend towards larger DCs makes the slotting problem more complex – and increases the cost in travel time for sub-optimal decisions.
- Continued "SKU proliferation" means most companies have more products requiring slotting decisions
- Changes in order profiles continue drive most companies towards more full case picking from full pallet, and more piece picking from full case, increasing slotting requirements
- Distribution labor costs continue to rise
- Companies are increasingly trying to become more "demand-driven," letting the forecast pull the rest of the supply chain—and if done right, slotting can actually be seen as a very demand-driven approach to distribution management.

Still, a relatively few number of companies have implemented Slotting Optimization tools. Part of the issue is simple education, as many distribution center managers are not well versed in this class of application.

## Is Slotting Optimization Ready for Prime Time? (Con't)

But there have been practical issues as well.

Early generations of the tools were hard to use. More importantly, even when the tools were giving managers the right answers in terms of the optimal slotting plans, the effort to actually making the slotting moves required proved too much for many operations.

### Adoption Rates are Increasing

There are signs, however, that this is starting to change. The combination of DC operational pressures and substantial improvements in Slotting Optimization software tools is leading to increase adoption rates.

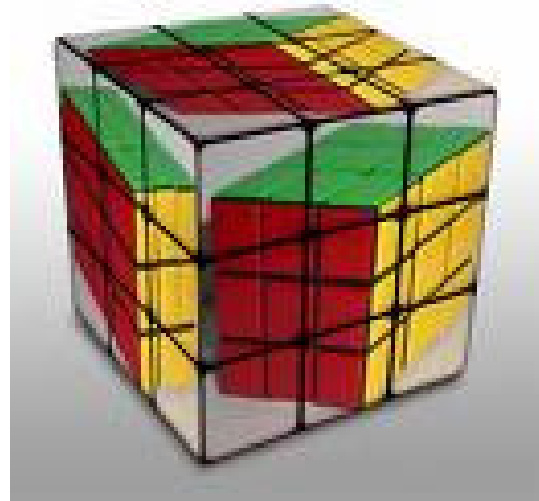
At a recent Manhattan Associates user conference, a diverse array of companies supported that view.

A panel discussion there on slotting included **Chris Smith** of pharmaceutical wholesaler McKesson, **Justin Daugherty** of purse and accessories manufacturer Vera Bradley, and **Kenny Dugger** of O'Reilly Auto Parts. Each of these companies was using Slotting Optimization to solve unique challenges.

McKesson has more than 80,000 SKUs in most of its 30 DC network, with many very small products and primarily "eaches" picking. It has been using Manhattan's slotting application for five years, and seen significant benefits, including double digit productivity gains and reduction of "emergency replenishments from as high as 20% of all replenishments in some facilities to the low single digits today.

Vera Bradley primarily uses the tool in planning mode. As a fashion manufacturer and distributor, the company's product lime turns over frequently, with new styles and colors. It uses the slotting tool primarily to optimize slotting plans for each new season.

With as many as a 100,000 SKUs in each DC, multiple pick areas and storage modes, and wildly different velocity profiles across that SKU base, O'Reilly's has a huge and classic slotting challenge.



### Getting Slotting Plans Right is not Dissimilar to Mastering a "Rubik's Cube" - Optimization Software Can Help

The company has used spreadsheets and more legacy slotting solutions in the past, but found it just couldn't meet its level of requirements. It is in the final phases of implementation of Manhattan's slotting solution.

One key trend in all three cases is the use of more disciplined—and pragmatic—approaches to getting the slotting moved made. The tools increasingly today can calculate and estimate the cost and benefit from making a particular move. Those that fall under a given threshold may be ignored. Companies may also simply ask for the top 100 or 200 moves that will deliver the largest productivity gains, and act on those suggestions from the tool.

There is also a trend, as illustrated by McKesson and O'Reilly's, of having dedicated slotting teams that manage set-up and data maintenance within the slotting application on a centralized basis—and then working with local DCs to ensure the slotting changes are enacted on the DC floor.

**The bottom line: Slotting Optimization tools themselves are getting much easier to deploy and use, and leaders are developing the internal skill sets and disciplines to maintain slotting data and ensure the most beneficial slotting recommendations are consistently made.**