

**celect**

## celect: Inventory Optimization for the Right Store Assortment



Source: [celect.com](http://celect.com)

- 1) Historically, retailers have made assortment-planning decisions based on backward-looking sales figures and intuition. At the store level, managers typically select assortments based on past point-of-sales (POS) data and demographic information of the trade area, but neither set of data is very accurate in terms of revealing shoppers' purchase preferences.
- 2) Celect transforms the intuition-based merchandise-planning process into a data-driven one with machine learning and predictive analytics.
- 3) Celect's assortment-optimization solution accurately predicts the optimal product mix for a particular store for the current and upcoming season. Retailers that used the solution in stores saw an average lift in sales of 5%–15%.
- 4) While a number of data analytics companies are attempting to solve the in-store assortment problem, Celect's predictive technology, which is based on machine learning, sets it apart, and the tool has demonstrated strong sales results for retailers.

### Industry Overview

Historically, retailers have made assortment-planning decisions based on backward-looking sales figures and intuition. At the store level, managers typically select assortments based on past POS data and demographic information of the trade area, but neither set of data is very accurate in terms of revealing shoppers' purchase preferences. Without an understanding of true demand, retailers may continue to miss the mark.

Using data to assist in merchandising optimization remains a challenge, as few retailers have the capacity to process unstructured data from different aspects of operations and deliver insights in real time.

**About Celect**

Celect provides a cloud-based, predictive merchandise-optimization platform that helps retailers optimize their overall inventory portfolios in stores and across their supply chain. Celect transforms the intuition-based merchandise-planning process into a data-driven one with machine learning and predictive analytics.

Celect also solves the problem of scale in data processing. Celect's platform is built to handle the scale, and can calculate detailed preference data from unstructured data such as inventory, sales and customer information, and online browsing history, then present it all in one view.

Celect's cloud-based platform integrates with retailers' existing merchandise-planning systems and uses product description, customer information, inventory, online and offline sales transaction data, product catalog and online browsing histories to build models to predict shoppers' future buying patterns. The company uses a patented "choice model" to help retailers understand customers' shopping preferences versus the options presented to them. The tool analyzes, in real time, what was bought and what was not. The technology was named one of the 50 greatest innovations by the Massachusetts Institute of Technology's Computer Science and Artificial Intelligence Laboratory.

Founded in 2013, Boston-based Celect deploys a software-as-a-service (SaaS) model. It provides the merchandise-planning SaaS for a subscription fee, based on a retailer's number of stores and SKUs. Last year, Celect tripled its revenue compared with the previous year. The company has raised a total of \$15 million in two funding rounds.

The Celect team includes both retail industry veterans and technical experts. Prior to joining Celect, CEO John Andrews spent two decades helping retailers optimize their operations strategies at Oracle Commerce, Endeca and Deloitte Consulting. VP of Business Development José Chan has held senior management positions in buying, merchandising and planning at Richemont, LVMH and Roberto Cavalli. On the technology side, CTO Vivek Farias and Chief Scientist Devavrat Shah are both professors at the Massachusetts Institute of Technology, where they have led breakthroughs in data algorithms in their respective fields.

**What Problems Does Celect Solve for Retailers?**

While the e-commerce space is somewhat saturated with predictive analytics solutions, Celect is uniquely positioned to address the in-store assortment and supply-chain inventory challenges that affect most retailers, as almost 90% of retail sales are still generated from stores. Celect's platform helps retailers:

- 1) Lift in-store sales:** The platform has demonstrated significant sales improvement for retailers. When it was A/B tested, retailers saw an average 5%–15% lift in sales at stores that implemented the tool. Celect's merchandising tool accurately predicts the optimal product mix for a particular store for the current and upcoming season. The Celect Choice Engine also helps retailers optimize store assortments based on their understanding of the positive or negative impact that products have on each other. It helped a multibillion-dollar department-store chain discover that one category of high-end dresses had a positive "halo" effect on a moderate dress category, and made recommendations to place the two category ranges together in stores, which ultimately yielded sales increases in both categories.

FLASH REPORT

**2) Improve markdown strategies:** Celect’s analytics tool also predicts the best time for markdowns during and at the end of the season, so store managers can proactively adjust in-store assortments to maximize conversion and revenue while avoiding excessive markdowns. Without data analytics, retailers often take a reactive stance on promotions, failing to consider their possible negative effect on other related categories, and potentially hurting margins.

**3) Optimize in-store fulfillment decisions:** Celect forecasts potential demand for products in stores and uses the information to make in-store fulfillment recommendations for e-commerce orders, based on simultaneously balancing multiple objectives such as shipping-cost considerations, speed to customer and store weeks of supply. Celect’s platform aggregates online and in-store data to project demand for requested products in different store locations, and decides on the best stores from which to pull such inventory for orders.

**What Differentiates Celect?**

While a number of data analytics companies are attempting to solve the in-store assortment problem, Celect differentiates itself through its unique, patented, predictive technology based on machine learning and through the strong sales that retailers have seen as a result of using the company’s tool. Celect’s proprietary technology builds on a fundamental advancement in customer choice modeling that can analyze consumers’ preferences based on what was sold and unsold at a specific store, and then make merchandising recommendations based on the data.

Celect focuses on solving assortment problems for fashion retailers and department stores, while its competitors focus on grocers, value retailers and drugstores. Celect’s engine reveals customer preferences more accurately at specialty fashion stores, department stores and high-end boutiques, where individual shoppers usually purchase a few items at a time. The model is less effective for grocery stores, where a large number of items are typically purchased at once.

### Bringing Science to the Art of Retail®

 <p><b>Customer Choice Modeling</b></p> <p>Leverage omni-channel data you already have to develop a granular and precise understanding of how your customers choose. Determine the optimal assortment based on customer preference and product interactions.</p>	 <p><b>Revolutionary Science</b></p> <p>Celect's technology builds on a fundamental advance in Machine Learning. MIT's Computer Science and Artificial Intelligence Laboratory called this one of the 50 greatest innovations it has produced.</p>	 <p><b>Celect Choice Engine</b></p> <p>As the world's first fully data-driven, SaaS-based, customer choice modeling suite, the Celect Choice Engine provides retailers with actionable insight into how customers choose.</p>
---	---	--

Source: [celect.com](http://celect.com)

**Figure 1. Company Specifics: Celect vs. Its Main Competitors**

Company Name	Headquarters	Core Services	Funding (USD Mil.)	Clients
Celect	Boston, MA	Assortment optimization, order-fulfillment optimization	\$15	Urban Outfitters, Saks Fifth Avenue, Neiman Marcus, Zipcar
Profitics	Schaumburg, IL	Software and services in enterprise profit/planning analytics	N/A	N/A
4R Systems	Berwyn, PA	Replenishment optimization, assortment optimization and markdown analytics	\$9.7	The Vitamin Shoppe, Family Dollar, Dollar Express, Dillard's
1010data	New York, NY	Store-level assortment analysis and pricing-optimization services; offers data analytics to retailers, brands and financial services verticals	Acquired for \$500 million in 2015	Procter & Gamble, Rite Aid, Dollar General, Coca-Cola, Claire's, Wegmans

Source: Company websites/Fung Global Retail & Technology

**Case Study**

Celect rolled out its assortment optimization tool at six stores belonging to a Midwest-based department-store chain over a period of six months. Celect identified specific store locations where demand for Michael Kors handbags was potentially high, based on shoppers' buying patterns. The retailer made modifications to increase its Michael Kors offerings at the identified locations, and sales exceeded expectations. The analytics tool was able to identify consumer demand for a product category at specific stores that traditional demographic and segmentation methods would not have been able to identify. Overall, Celect helped the six stores achieve a sales lift of 7% compared with other stores in the area.

Celect is currently working with department stores Neiman Marcus and Saks Fifth Avenue, and with specialty retailers Anthropologie, Urban Outfitters and Free People, among others. One specialty retailer client recently expanded its subscription to additional stores after seeing success in its initial testing.



Source: celect.com



FLASH REPORT

---

**Deborah Weinswig, CPA**

Managing Director  
Fung Global Retail & Technology  
New York: 917.655.6790  
Hong Kong: 852.6119.1779  
China: 86.186.1420.3016  
deborahweinswig@fung1937.com

**Jing Wang**

Research Associate

---

**Hong Kong:**

8th Floor, LiFung Tower  
888 Cheung Sha Wan Road, Kowloon  
Hong Kong  
Tel: 852 2300 4406

**London:**

242-246 Marylebone Road  
London, NW1 6JQ  
United Kingdom  
Tel: 44 (0)20 7616 8988

**New York:**

1359 Broadway, 9th Floor  
New York, NY 10018  
Tel: 646 839 7017

**[FungGlobalRetailTech.com](http://FungGlobalRetailTech.com)**