On-Shelf Availability: Fueling Profitability, Customer Loyalty and Topline Sales Growth
Executive Summary: Winning Against On-Shelf Availability Challenges

In recent years, a transforming economy and disruptive technology have converged to turn the CPG industry on its ear. Today’s shoppers are more sophisticated and demanding than ever, expecting a best in-store experience that includes having the shelves stocked properly so that the shoppers find the products they are looking for quickly, easily and consistently.

Retailers must be at the top of their game at all times. The battle to win customer loyalty and maximize customer lifetime value is fierce, and every store visit will move the retailer closer to victory or defeat. At each and every visit, ensuring a good customer experience is a must, and proper on-shelf availability is a critical lynchpin in delivering excellence.

To provide retailers with a customer-lens perspective of in-store execution issues that tend to lead to out-of-stock situations, IRI has developed a proprietary on-shelf availability (OSA) optimization capability that quickly and inexpensively provides near real-time analysis of first- and third-party big data sets, using AI and ML algorithms to pinpoint problems in the store, all the way down to the item level.

With this system, daily item-level alerts are delivered directly to in-store personnel, pinpointing the exact products that have OSA challenges, allowing for rapid remediation and setting the stage for an enhanced customer experience and, ultimately, higher topline sales and maximum customer lifetime value.
Flawless In-Store Execution Fuels Rewarding Shopper Experiences

Today’s shoppers are demanding. They are laser-focused on accomplishing their mission — buying the product they want, where and when they want it. This leaves retailers with a daunting challenge: They must ensure that the product is on the shelf and ready for purchase. This is difficult — on-shelf availability is a complex process involving buyers, suppliers, distribution centers and in-store execution.

As a result, out-of-stock situations continue to plague the CPG industry. The reasons for out-of-stocks are many, but the result is the same: If the product is not on the shelf, the sale is lost. Fully one-third of out-of-stock situations are due to empty shelves (see Exhibit 1).

EXHIBIT 1

Top Reasons for Out-of-Stock Situations

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty Shelves</td>
<td>32%</td>
</tr>
<tr>
<td>Price in Store Didn’t Match Ad</td>
<td>18%</td>
</tr>
<tr>
<td>Couldn’t Find Staff to Help</td>
<td>17%</td>
</tr>
<tr>
<td>Found Staff but Couldn’t Find Merchandise</td>
<td>17%</td>
</tr>
<tr>
<td>Other</td>
<td>16%</td>
</tr>
</tbody>
</table>

Source: IHL, Out of Stock, Out of Luck, June 2018

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58% of supply chain leaders say they are most inclined to spend on systems that help increase stock availability and decrease stock holding.¹

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¹ Source: Symphony Retail AI & EnsembleIQ, Strengthening the Supply Chain, July 2018
The cumulative financial cost of out-of-stocks is quite high. A recent report from IHL Group estimates that out-of-stock situations in the United States cost retailers $47.4 billion annually. To offset, retailers have increased safety stock, which increases expense.

Shoppers are dispersing their trips across multiple retailers, both online and brick and mortar. It is critical for retailers to capture every potential dollar from each shopper in every shopping occasion. For these reasons, the supply chain has become a major focus area for retailers. Optimizing supply chain efficiency can have a big impact on costs and provide a competitive advantage. To thrive in today’s crowded, competitive retail space, getting supply chain right is critical.

Entire industries are dedicated to supply chain optimization, and libraries’ worth of studies have been published on strategies for reducing out-of-stock situations through enhanced supply chain management. But, significant gains can be achieved at a much lower cost by improving on-shelf availability.

Consumers today encounter at least one out-of-stock item during one out of five trips to a food, drug or mass merchandise store.
Improving On-Shelf Availability with Daily Store-Level Alerts Allows Retailers to Recapture Tens of Millions of Dollars in Lost Sales Annually

The CPG marketplace is evolving at an incredible pace, and today’s shoppers are faced with a near-limitless array of options of what to buy and when, where and how to buy it. This bigger, more complex environment has made it difficult to build and maintain an agile, flexible and transparent supply chain that is capable of keeping pace with the changes.

On-shelf availability – the state of ultimately having retail shelves stocked and ready for shoppers to buy – is the end result of an orchestration of a series of complex events: buyers need to forecast and order accurately, suppliers need to deliver the right quantities at the right time, distribution centers must ensure that the product reaches the store and the store personnel must get the product onto the shelves.

And that’s the clincher: The availability that truly matters is the availability on the shelf – not the availability in the stockroom. Too often, customers cannot buy the items they want even if the inventory is in the store because the product:

1. Is blocked by another item
2. Has been misplaced
3. Has an incorrect or missing price tag
4. Has an incorrect inventory count

To avoid empty shelves, retailers carry increased safety stock, and this carries financial impact. In reality, though, increasing backroom inventory does not address many aspects of the OSA problem. Often, empty shelves are the result of poor in-store execution. Complex workflows and multiple touchpoints in the store contribute to many of these challenges. In the past, these issues were identified and addressed through extensive manual shelf audits. Today though, retailers are looking for savings and efficiencies that will allow them to focus more on lowering price while also improving the in-store experience.

To arm retailers with the insights they need to conquer these store execution challenges, IRI has developed the IRI On-Shelf Availability Optimizer. This near real-time alerting system leverages big data, machine learning and artificial intelligence to flag items that should be selling but are not selling. It also identifies items that have an obsolete inventory count in the system, which could result in out-of-stock or overstock situations. Retailers that are leveraging this alerting system have been able to fix millions of inventory defects, all leveraging science and data that replace manual shelf audits.

Given the complexity of the supply chain and the many steps involved in getting a product from the manufacturer to the store shelf, it is no surprise that it is extremely difficult to identify when a product is in the store but not on the shelf.

Perhaps the most challenging obstacle facing retailers is the reams of disparate and often discordant data that tracks products along the supply chain. Up until recently, harnessing that data was an unwieldy task – painfully arduous, expensive, time-consuming and prone to error. Retailers have “done the best that they could” with the information available at the time. Now, though, technology has evolved and the integration of this is not only possible – it is a required element of effective supply chain management and optimization.
IRI Has Created Machine Learning-Driven Supply Chain Alerts to Assist Retailers in Addressing Key Store Execution Challenges and Improve On-Shelf Availability

The IRI On-Shelf Availability Optimizer was developed to provide a customer-lens perspective of in-store execution issues that lead to out-of-stock situations. The solution analyzes an array of first- and third-party big data sets, including data on sales, inventory, shipments, causals, seasonality, planogram and macro-economic indicators using AI and ML algorithms to pinpoint problems at the store and item level. This cloud-based model is hosted on the industry’s premier IRI Liquid Data™ platform, which stores, integrates and harmonizes these disparate sources of data, leveraging predictive automated analytics to generate near real-time insights, in many cases before OSA challenges start to impact the customer. The solution is integrated with store workflows and alerts available on handheld devices, making them available to employees on the floor, on the move and positioned to quickly address the issue.

Through a system that sends customized lists to each store on a daily basis, IRI’s On-Shelf Availability Optimizer provides a variety of powerful benefits:

- Flags items that should be selling but are not selling
- Flags items that have an obsolete inventory count in the system that could result in out-of-stock or overstock situations

The IRI On-Shelf Availability Optimizer also allows for the capturing of store associates’ feedback, which is continually integrated to improve model accuracy and to provide reporting to corporate users and management.

A major grocery retailer has been using the IRI On-Shelf Availability Optimizer for several months (see Exhibit 2).
For this retailer, IRI generates OSA alerts daily. The alerts are made available to the store early in the morning, allowing store associates to assess the alerts during morning store walk-throughs to improve efficiencies and enable early action to correct deficiencies, often before the store opens for business.

Leveraging big data, technology, machine learning and artificial intelligence, IRI’s On-Shelf Availability Optimizer is correcting over 2 million inventory defects annually for just this one retailer.

Illustrative Example

A particular UPC in a Retailer X store stopped selling from 7/11/2018 until IRI’s OSA Optimizer identified and sent an alert on 7/26/18. After the alert was generated, the item was corrected on the shelf, started selling right away and continues to sell consistently.

On average, the system generates 10,000 alerts each day for this retailer across its 700+ stores, with store associates taking action on about 95 percent of alerts generated. Sixty-five percent of the alerts have proven to accurately pinpoint potential problem areas – meaning over 6,000 inventory defects are corrected each day, or about 2 million inventory defects annually! During the past three months, each alert has allowed the retail client to recapture an average $68 in sales, translating to incremental sales of tens of millions of dollars annually.

Machine-driven store alerts enable:
• Topline improvement
• In-store efficiency
• Improved customer experience
• Focus on retailer’s strategic team

Each alert has the potential to recapture an average $68 in sales, translating to incremental sales of tens of millions of dollars annually!
The Zero-Moment of Truth Is a Must-Win Moment

The CPG marketplace is highly competitive, and the only constant is change. For retailers looking to win, the race to keep pace is fast and furious. After all, demanding customers seek instant gratification — they want to purchase what they want, when and where they want it. Failure to deliver at the zero-moment of truth is a fast-track to the bottom, so on-shelf availability is a make-it-or-break-it situation.

“Making it” requires near-flawless in-store execution that ensures that the customer can find the desired product at just the right moment. Luckily, big data and technology have converged to provide near real-time alerts when in-store execution goes awry, allowing in-store teams to correct the situation almost instantaneously.

With shelves stocked accurately and appropriately, retailers are able to provide excellent customer experiences, building loyalty and, ultimately, lifetime customer value.
IRI Supply Chain Management and Optimization™

IRI’s Supply Chain Management and Optimization suite is a proprietary solution that combines supply chain data with a comprehensive array of IRI and other data sets, such as rest-of-market point-of-sale data, frequent shopper loyalty data, media data and expanded causal data, with artificial intelligence and machine learning to provide near real-time insights to key supply chain performance indicators, including out-of-stocks and overstocks, vendor compliance and service levels, inventory turns and forecast accuracy. Key differentiating features include:

- **Real-time alerts:** Leverages machine learning, AI and proprietary IRI algorithms to trigger alerts for out-of-stocks/overstocks, vendor collaboration, service-level compliance and other exceptions impacting business performance.

- **Integrated workflows:** Alerts are surfaced in reports, emails, SMS texts, API calls and/or handheld mobile devices used in stores in order to integrate seamlessly with existing workflows to maximize store associate productivity.

- **Embedded metrics:** Embedded data science provides turnkey sales forecasting, predictive out-of-stocks and overstocks and a variety of other key performance indicators.

- **Improved collaboration:** Includes capabilities to help vendors and suppliers partner more effectively within the solution.

- **Descriptive and predictive:** Provides complete end-to-end view of historical performance, along with a predictive future outlook for stores and distribution centers.
About IRI
IRI is a leading provider of big data, predictive analytics and forward-looking insights that help CPG, OTC health care organizations, retailers and media companies to grow their businesses. With the largest repository of purchase, media, social, causal and loyalty data, all integrated on an on-demand, cloud-based technology platform, IRI helps to guide its more than 5,000 clients around the world in their quests to remain relentlessly relevant, capture market share, connect with consumers and deliver market-leading growth. A confluence of major external events—a revolution in consumer buying, big data coming into its own, advanced analytics and automated consumer activation—is leading to a seismic shift in drivers of success in all industries. Ensure your business can leverage data at www.iriworldwide.com.

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