Spotlight On:

Supply Chain

Increase Visibility and Drive
Greater Profitability

1010DATA

Improving your supply chain
is crucial to competing in a changing market and driving greater profitability for your business

Supply chain management is an essential element of any good business operation. Optimizing supply chain can mean the difference between exponential growth and debilitating stagnation given its direct impact on profitability. However supply chain management is only growing more complex as consumer demand rapidly evolves, globalization increases, more data is produced, and new network risks arise. By effectively navigating through a complex network of retail and supplier data, companies can build strong supply chains to get products to market faster, improve customer service, and reduce overhead costs.

Modern Supply Chain Leaders Face a Unique Set of Challenges

Supply chain leaders are tasked with a number of business objectives ranging from globalizing manufacturing operations to ensuring the quality and successful distribution of products. Without proper technology, companies can face challenges such as:

Low Data Visibility

Retailer and suppliers require visibility into inventory, receipts, sales, adjustments, forecasts, and order projections at all levels of the supply chain to be able to avoid stock outs, minimize inventory costs, and respond quickly to unexpected disruptions. Many companies are hindered by legacy technology where analysts need to pull data from various siloed systems and manually line it up to understand what's going on. When new stock is produced from a supplier, a number of business decisions across Marketing, Store Operations, Warehouse, Accounting, and Transportation must be made to maximize business performance, especially in an environment of uncertainty.

Challenges in capturing, storing, and analyzing data can impede a supplier's ability to proactively identify problem areas and adjust their shipments before a problem materializes. This includes managing the rundown of inventory when doing a product conversion to minimize lost sales and avoid waste. Data visibility directly impacts key performance metrics such as:

Days of Supply	Transit Time
Service Level	Inventory Velocity
Gross Margin	Inventory Adjustments
Sales $	Return on Invested Capital/Return on Assets
Planning Cycle Time	Labor Costs
Lead Time	Operations Costs

Late or Absent Notification of Disruptions at Stores or Distribution Centers

Planning for variability in consumer demand is a necessary aspect of effective supply chain management. A certain level of out of stocks are expected due to unexpected and uncommon spikes in sales. These tend to be easily detected and short term as an item is replenished when the next truck arrives. However, many out of stocks go undetected by replenishment systems because the inventory numbers are inaccurate, and many go undetected by store personnel because other products have taken over space on the shelf, been misplaced or are in a secondary location where the shopper doesn't know to look. Without early identification of changes in demand caused by product misplacement or inaccurate data, retailers cannot employ effective replenishment strategies or adjust sales forecasts and order projections.

Inaccurate Forecasting

Additionally, most traditional forecasting models focus on aggregated item movements to forecast future inventory needs, ignoring a wealth of data that is available to measure true consumer demand. Many companies take a "top down" approach to forecasting by creating forecasts based on national numbers and then distributing these forecasts to stores versus producing forecasts at the store and shopper level. Without utilizing granular store and shopper data, retailers are often forced to generate chain level forecasts or forgo accuracy in their predictions.

Finally, retailers and suppliers compound inaccurate forecasts by not analyzing internal sales data in conjunction with relevant external data sets. This means that they are measuring demand and adjusting merchandising decisions using sales data and no other external data sources such as weather or government data, which can leave a business unprepared during shifts in weather patterns or economic conditions.

> Without utilizing granular store and shopper data, retailers are often forced to generate chain level forecasts or forgo accuracy in their predictions.

Supplier Mismanagement

The complexity of having a wide range of suppliers can often result in supplier mismanagement that aggravates managers, increases risk, and reduces a company's ability to get product to its customers. Mismanagement can take the form of data management issues where retailers and suppliers operate on different versions of the truth or, can be in the form of supplier noncompliance where products are simply not making it to the store in a timely fashion. Key metrics such as product shipping time, outstanding % of stock, or overages and shortages are crucial to know as retailers engage in product launch activities and seasonal events. Without creating an analytical framework for data collaboration, companies cannot gain line of sight visibility into supplier management issues and course-correct the business when the supply chain is suboptimal.

Without Sufficient Investment, Companies Risk Reduced Operational Effectiveness

Companies that do not invest in improving the visibility and predictability of their supply chains run the risk of undermining future opportunities for growing revenue. Effective supply chain management is essential to the operational success of a retailer and supplier. Without it, companies risk the following:

Lower efficiency	Inability to forecast/plan inventory during promotions
Lower profitability	Increased transportation and shipping risk
Lower analytical visibility	Longer lead times
Inability to meet customer demands	

Improved Data Management = Improved Supply Chain Management

Those companies invested in developing strong supply chain management processes must first invest in the analytical infrastructure of their organizations. Following industry best practices can set companies up for success by improving analytical depth, flexibility and visibility.

Develop an Enterprise-wide Analytics Strategy

Successful supply chain execution is underpinned by an effective data management strategy and technology infrastructure. Because improved visibility into product shipments affects many retailer departments, but is not necessarily "owned" by any department or is not shared beyond stakeholders who do own it, improving data visibility is a dispersed need that requires strong top-down leadership. Changing a company's approach to supply chain visibility requires the involvement of individuals across the executive level in addition to strong project leads. Greater collaboration across different functional roles can help ensure that the technology implemented within a company and executed across the supply chain are in line with greater business objectives and meeting the needs of line-of-business users.

Integrate Disparate Data

For a comprehensive view of supply chain operations, companies must be able to integrate across different systems (ERP, Warehouse, Transportation, etc.) and different data sets. Mashing disparate historical sales, inventory, promotions, and shopper loyalty data can help retailers conduct effective inventory analysis and plan for future promotions. In the same vein, combining purchase order data, weather data and GPS location data can help improve the accuracy of delivery schedules and reduce shipment time. Blending data from disparate operational systems enables companies to identify weaknesses in the supply chain, grow predictive capabilities, and ensure higher rates of responsiveness.

> Following industry best practices can set companies up for success by improving analytical depth, flexibility and visibility.

Increase Inventory Transparency

Optimizing inventory involves ensuring that there is enough product available to meet various levels of consumer demand but not so much that it affects a company's bottom line. Increasing visibility into day to day operations through granular reporting can help retailers optimize promotions and inventory. Such transparency is crucial in providing retailers and suppliers a comprehensive view of what exactly is selling and at what velocity it is moving through the supply chain. For new items, greater transparency enables retailers to compare sales and inventory levels to benchmark new item performance and assess where additional merchandising may be necessary while improving the inventory rundown of older SKU's. For unproductive inventory, greater transparency can help identify where inventory can be decreased at stores or distribution centers to free up cash or be diverted to higher-need areas. Centralizing inventory data within a single platform

> Optimizing inventory involves ensuring that there is enough product available to meet various levels of consumer demand but not so much that it affects a company's bottom line.

Develop An Integrated Alert System

Building in an alert system that identifies changes in demand early on can significantly improve replenishment strategies and forecasting accuracy. An increase in out of stock alerts could suggest that sales are limited to supply on hand and that replenishment parameters should be adjusted to correct for it. Alerts that signal a decrease in sales velocity consistent across stores suggests that sales forecasts, order projections, or assortment should be adjusted. Improved alerting can further help retailers detect everything from phantom inventory that is preventing an item from being replenished to the performance of new products and their speed to shelf. Building an integrated alert system will enable retailers and suppliers to gain a fuller awareness of in store conditions and take corrective action when needed.

1010data Provides the Buidling Blocks for Superior Supply Chain Management

1010data's core architecture, analytical applications, and suite of pre-built reports have enabled our clients to gain timely, accurate insight in order to improve supply chain performance. This includes:

Clear Supply Chain Visibility

With 1010data's integrated platform, retailers and suppliers have visibility to inventory, receipts, sales, adjustments, forecasts, and order projections to be able to better manage on-shelf availability, lower costs and respond quickly to unexpected disruptions without dealing with the problems of siloed data systems. By combining a data warehouse with an analytical platform, 1010data is able to support any level of granularity needed at each level of an organization and give each set of users a personally relevant interface. 1010data gives retailers the ability to load & leverage more historical sales data to provide visibility and expanded granularity into daily item movement, shelf stock, and inventory levels so retailers and their supplier partners can diagnose supply chain problems and proactively find solutions.

Targeted Supply Chain Reporting

Reporting on the Collaborative Analytics Hub provides daily item-level inventory tracking and trending so retailers know what is selling at each store location and can decide which transfers and warehouse inventory allocations are required at the store level. Through 1010data's platform, suppliers and retailers can operate on a single version of the truth through standardized reporting and accurate data visibility. Such reporting includes:

- **Store Group Reports:** Allows users to report on stores that meet certain criteria (ex. Top 2500 stores by comp sales, all stores with negative comp sales, etc.)

- **Zero Scan Reports:** Allows users to report on store and item combinations that did not have a sale during the time period selected.

- **Receipts Reports:** Allows users to slice and dice receipts data to understand timing and volume of deliveries to stores through direct-store-delivery (DSD) and distribution centers. This is particularly valuable to retailers who do not have access to DSD vendor data.

> 1010data supports any level of granularity needed at each level of an organization and gives each set of users a customized interface.

Notifications of Supply Chain Disruptions

1010data helps companies identify early changes in demand that may impact days of supply or out of stocks. Through 1010data, companies can statistically analyze POS and inventory data to assess on-shelf availability and investigate any store execution issues that might impact product availability. Our on-shelf availability capabilities help businesses identify discrepancies in sales patterns caused by potential on-shelf availability problems or phantom inventory so retailers can recover lost sales and better satisfy shoppers. Both DSD and Non-DSD vendors are able to get accurate insight into inventory conditions without requiring inventory data.

Drillable Executive Scorecarding

Having supply chain data available on 1010data's integrated platform greatly reduces the time required to create new scorecards and deliver up to date data at any point in time. Utilizing 1010data's drill down capabilities, you can instantly find out which items, brands, and regions are underperforming on any given metric to determine what's driving sales declines or shipments gaps. This improves retailers and supplier decision making during executive meetings since users can quickly identify focus areas for improvement by drilling down to the Region --> Store --> SKU level. Access to accurate and timely information through scorecarding enables retailers and suppliers to easily measure their success at reaching financial and service level goals. 1010data can support common scorecard items such as Days of Supply, Service Levels, Inventory Cost, Fill Rates, On Time delivery, Quality orders and more.

Advanced Forecasting

1010data Segment of One for Forecasting is a multi- source data forecasting method that injects the customer need into the item movement equation using a broad range of data sources including POS & loyalty card data. This "bottom up" approach to forecasting focuses on actual customer demand rather than aggregated item movements. The forecast is generated at store-SKU or customer- SKU level which allows for any level of aggregation needed by the business.

End-to-End Data Integration

1010data's platform enables supply chain users to mash data sets that affect the supply chain. In forecasting, users are able to blend data such as weather and building permit data to help inform merchandising decisions and promotion allocation. Business users can combine perpetual inventory, receipts, sales, and promotional data to get a complete view of the supply chain health. 1010data's core architecture enables users to harmonize data from any data source and ERP system.

Platform Built for Ad-Hoc Analysis

1010data enables companies to go beyond straightforward reporting through ad-hoc analysis. Most companies require highly technical coders in order to pull the data that is necessary to conduct ad-hoc analyses but 1010data makes these features available to any analyst through a straightforward user interface. Users have immediate, direct, unfettered access to all relevant data to conduct supply chain analysis on the fly, analyzing billions of rows of purchase order and warehouse receipt data within a matter of seconds. For manufacturers, key metrics across the supply chain like quantity, availability status, location and company can be tracked and flexibly analyzed from whatever angle is needed. For retailers, ad-hoc analysis capabilities enable analysts to conduct "off the road" analyses and to interactively explore data and take corrective action when needed, such as identifying stores with a high level of shrink and limiting shipments or increasing staff at those locations.

> By effectively navigating through a complex network of retail and supplier data, companies can build strong supply chains to get products to market faster.

1010DATA

1010data transforms Big Data into smart insights to create the high-definition enterprise that can anticipate and respond to change. Our modern cloud-based analytical intelligence and alternative data solutions enable over 850 clients to achieve improved business outcomes quicker, with less risk. The world's foremost companies, including Rite Aid, Dollar General, Procter & Gamble, Coca Cola, GSK, 3M, Bank of America and JP Morgan, consider 1010data the partner of choice for mastering customer touchpoints, optimizing product portfolio health and digitally renovating operations. We've been recognized as a Challenger in the Gartner Magic Quadrant for Data Analytics Solutions, named a Leader in the Forrester Wave for Cloud Business Intelligence Platforms and honored as a Big Data Analytics Player by Information Week.1010data is delivering on the promise of Big Data, and we're just getting started.