



Top 10 retail dashboards for better performance

By Jeff Huckaby, Retail and Consumer Goods Global Market Segment Director

Introduction

It's no secret that business intelligence is having a massive impact on retail and consumer goods organizations. Retailers are rapidly turning to analytics to scale and develop competitive advantages, and they're using data visualization and interactive dashboards to create massive business value. Here are 10 types of dashboards leading retailers are using to do more with data.

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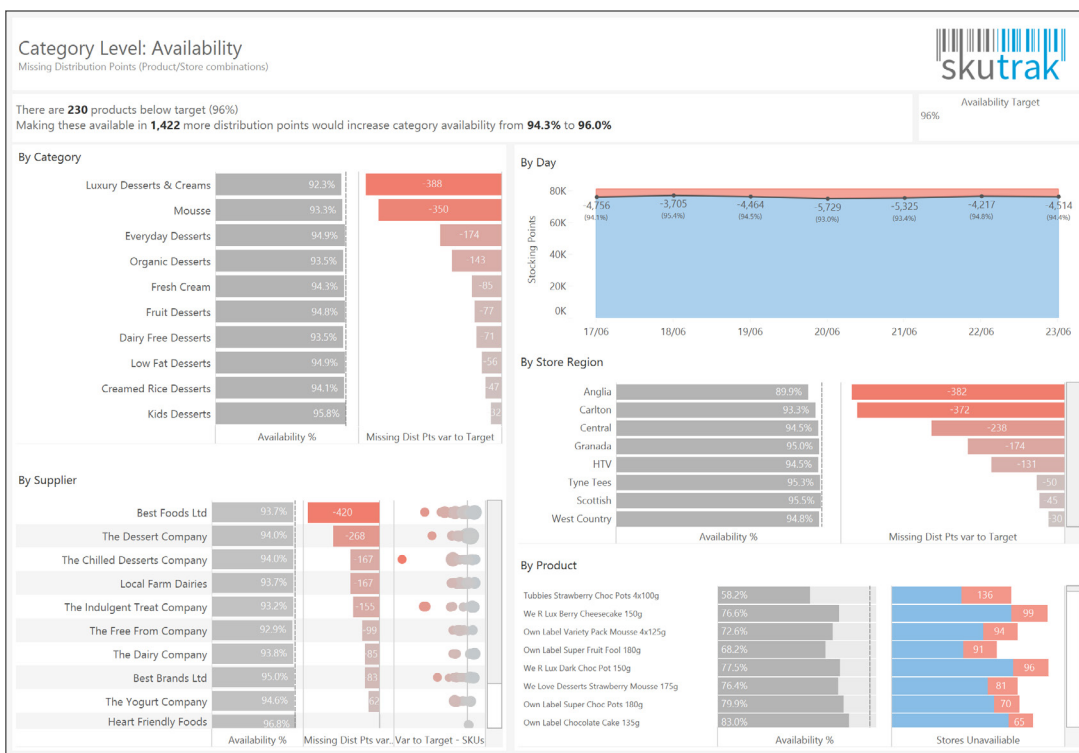
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1. Product Availability

Having the correct product, at the correct inventory levels, in the correct stores is one of the biggest challenges retailers face today. If a customer can't purchase the product they want due to it being out-of-stock (OOS), it is measured as Lost Sales. Supermarket customers typically want to complete their grocery shop in one store—so in addition to the lost sales from OOS products, the retailer risks losing the entire basket, as well as future baskets.

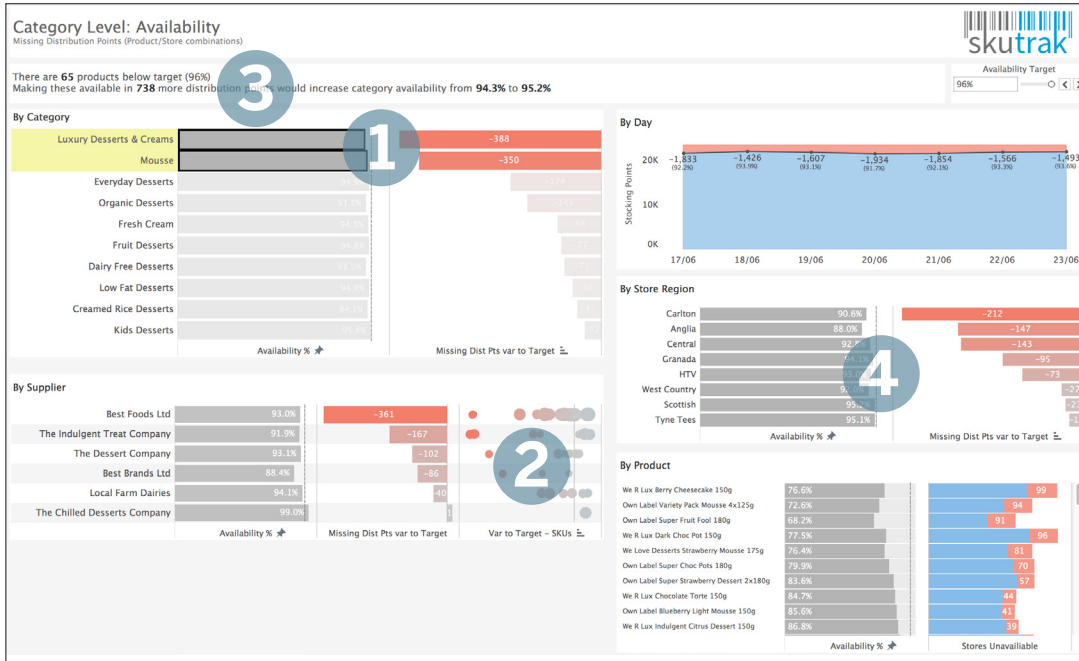
The grocery and supermarket sector averages around 95% for product availability, so 5% of distribution points (product x store combinations) are missed. In the UK alone, these totals are worth nearly £10bn in lost sales. Retailers tend to measure and analyze availability as percentages, but this doesn't accurately highlight the size of the problem—as measured by missing distribution points. As a result, resources are wasted fixing low distribution/low sales products with a low percentage availability, rather than finding the stores and products which offer the largest positive impact.



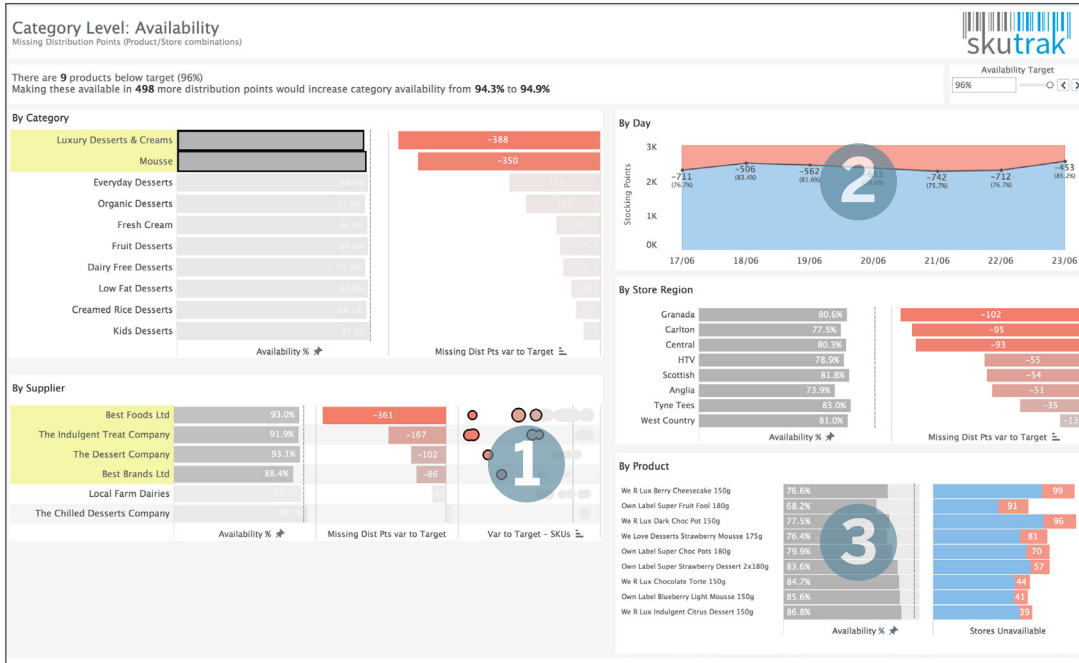
These visualizations and dashboard are provided by Atheon, a Tableau partner. You can also learn more about SkuTrak [here](#).

This dashboard, used by a leading grocery store retailer, aims to solve this problem by analyzing product availability by category, supplier, day, and store region. Retailers can also use the availability target tracker to make decisions about raising inventory to meet demand.

It shows us that the Target for this product Category is 97%, and current availability is 94.3%. This means that 2,235 distribution points (Products x Stores) need to be corrected to raise availability from 94.3% to 97% and achieve target. Data visualization and dashboards make it easier and faster to see that around half of this gap comes from **2 Categories**, or **4 Suppliers**, or **3 Regions**. Also, the color palette quickly draws the user's attention to the biggest problems. The user can interact to drill into the detail.



If you start by selecting the two worst categories in the upper left hand bar chart (1), you'll see the dashboard filter the rest of the visuals to only show the data for those two categories. You'll see the scatter plot (2) show the worst problems by Product, and the marks are sized on Lost Sales in Euros. In the scatter plot, you can select the worst offenders in red to filter the store regions and product to take action with. Additionally, the store region (4) visual shows which store will need more stock. [Click here](#) to try it for yourself!



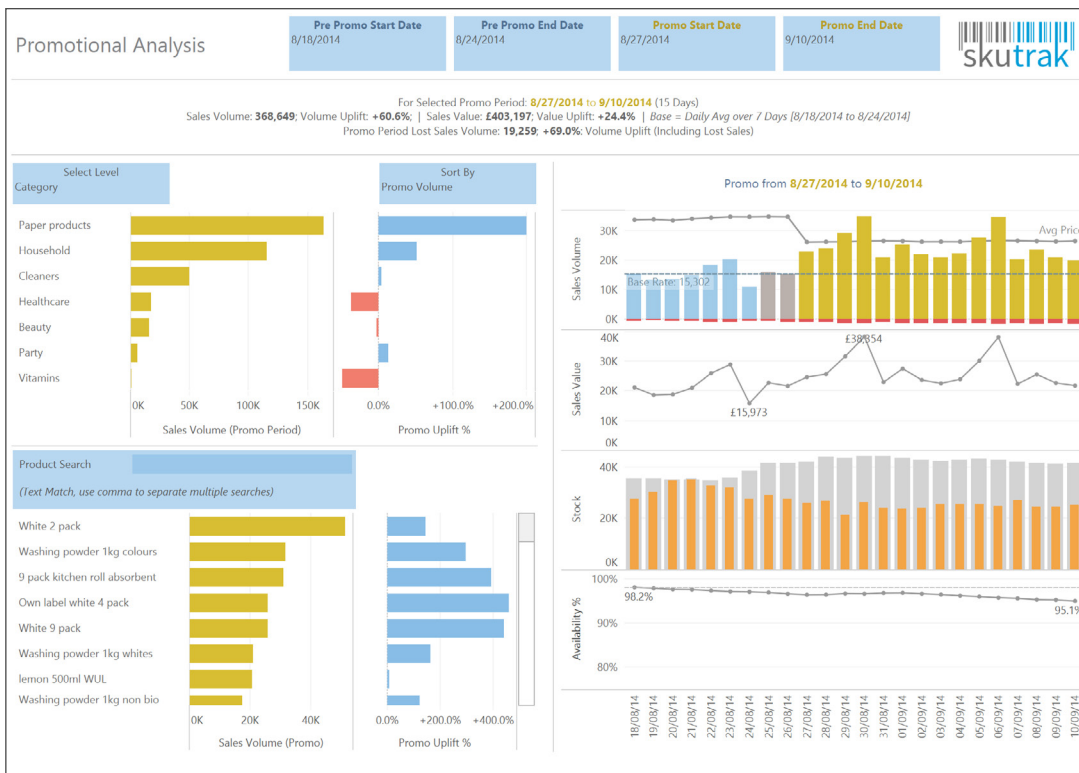
By interacting with the exception products and selecting those that are red and larger circles (1), you can instantly see the last seven days of availability (2), and the product details that have low availability (3). This can be instantly communicated to various teams using Tableau Server and the incredible new collaboration features, or the products can be exported to a .csv and sent to any relevant teams for action.

2. Promotional Optimization

More than half of all grocery sales are made on promotions, so planning and executing them is mission critical for both retailers and their consumer goods suppliers. Because promotional analysis takes place in three phases—pre-promotion planning, during the promotion period, and post-promotion—it's important to be able to visualize the data during each phase.

Traditionally, promotional analysis has come pre-canned, where there is little flexibility to account for the different phases for the analysis, or it is time consuming analysis performed in spreadsheets. Even if a retailer is running hundreds of promotions at any one time, each buyer or consumer goods account manager will only be looking after a small number of products based on their responsibility. It is best practice to provide a live promotions dashboard that anyone can access and use for their own purposes. This allows many account managers or buyers to ask and answer their own questions about their own promotions, and find the actionable insights that pertain to them.

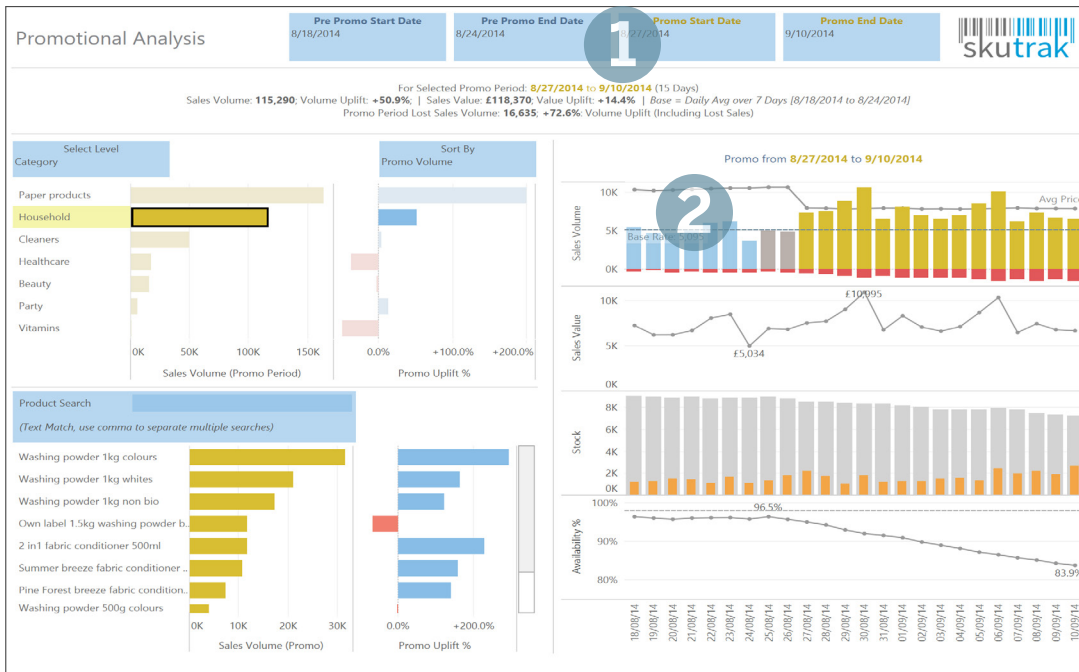
This dashboard allows retailers to know exactly what is happening leading up to a promotion, during the promotion, and will highlight potential inventory stock and availability issues early on in the promotion cycle.



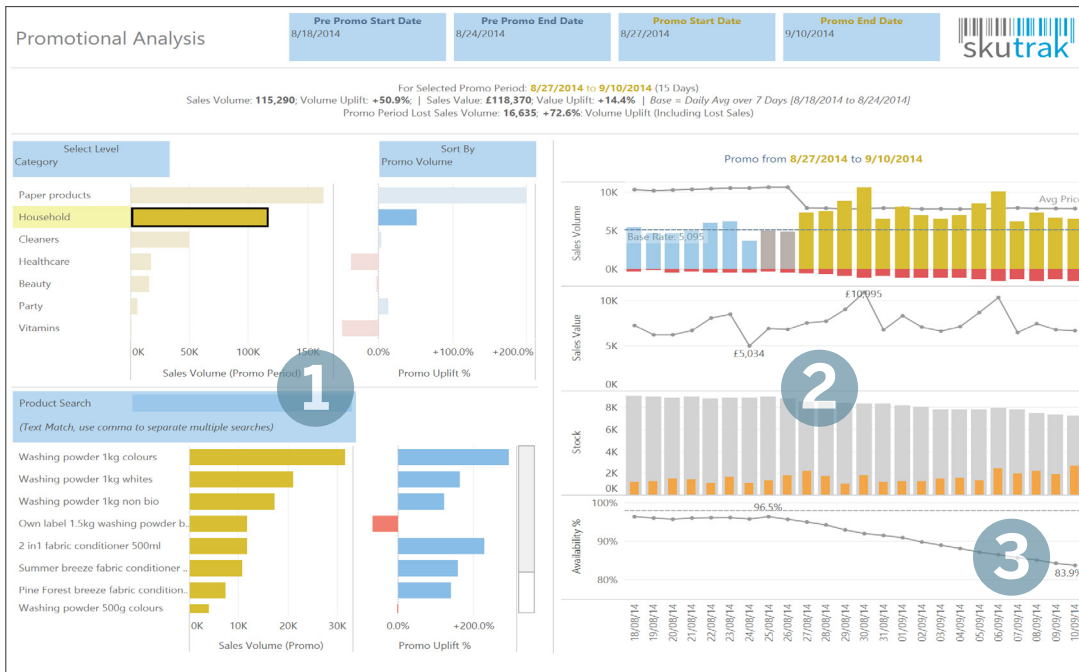
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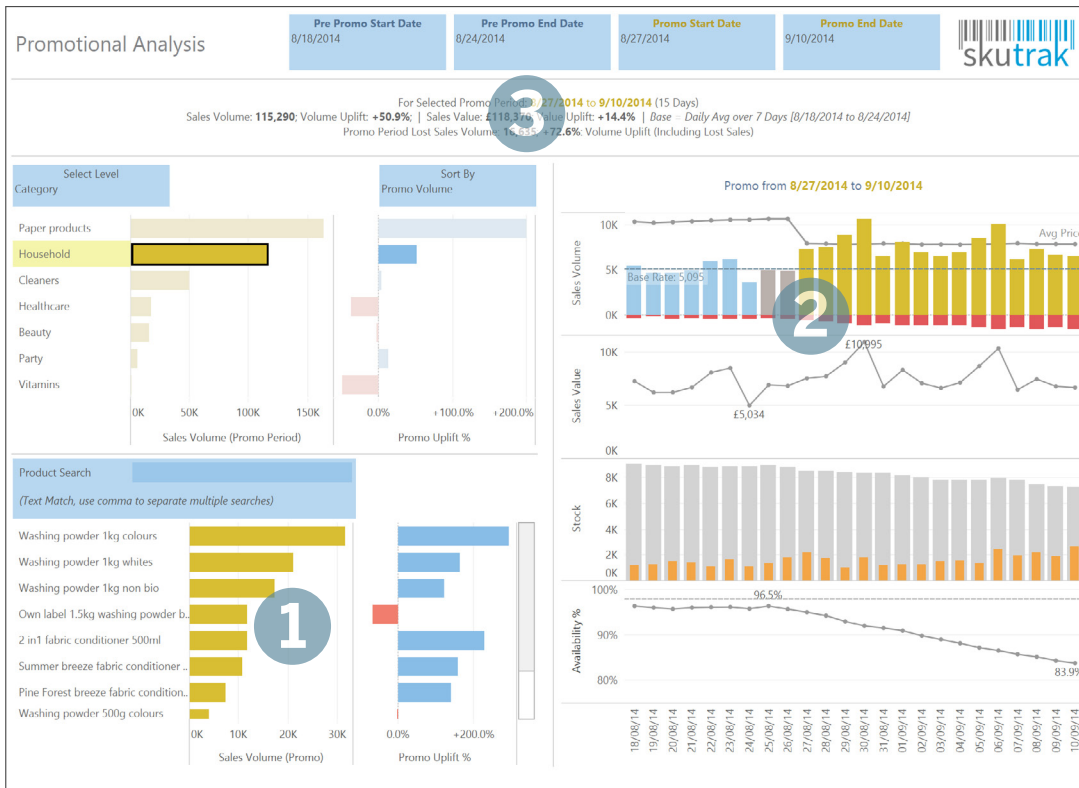
Here's a quick run through of how this dashboard works:



First the user chooses dates for any promotional and comparison period (which can be different lengths) in the top right hand selector (1). Because it can sometimes be difficult to find a “clean” period to use as a base, the user has full flexibility in this menu. Once the dates are selected, the visuals quickly show if the base period was “clean” by showing the Average Selling price (2). [Click here](#) to try it for yourself!



Additionally, users can choose Product Levels from a drop-down menu to select the products on Promotion (1), they can view stock build (both Store and Depot) in build-up to Promotion and during Promotion (2). Users can instantly see how these promotions affected product inventory levels (3).

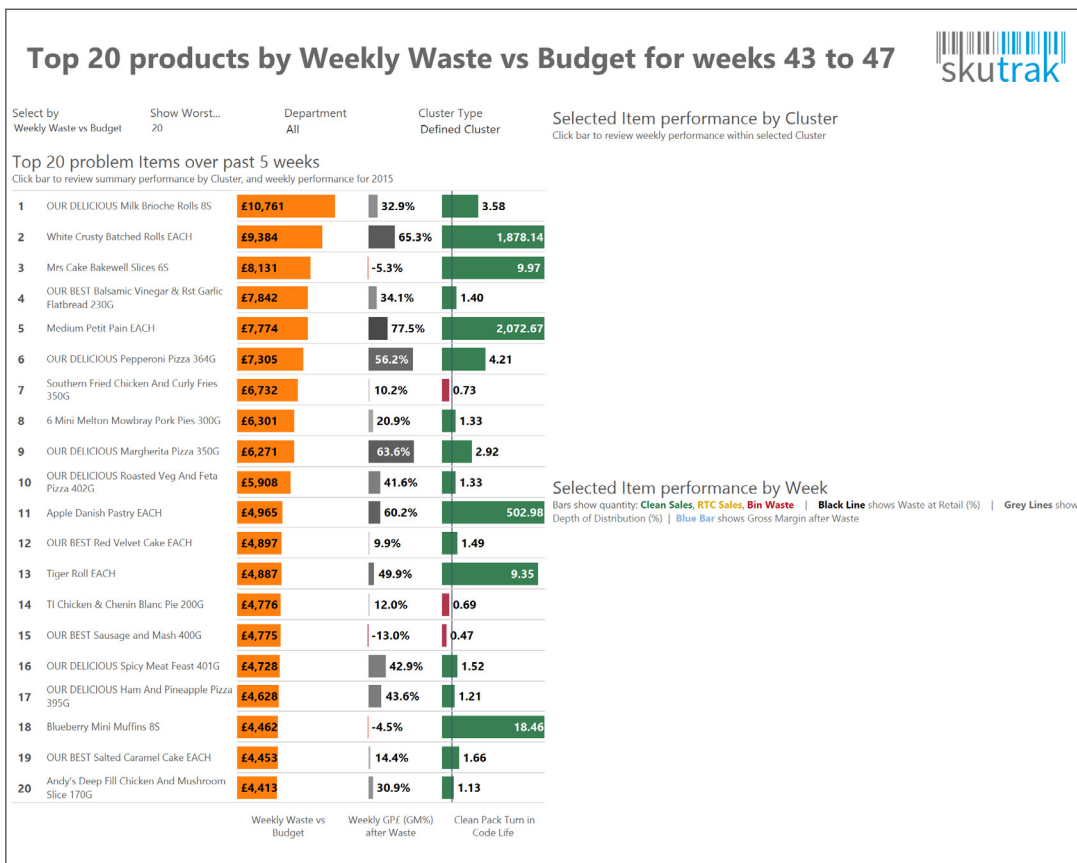


Lastly, this dashboard can also show cannibalization (victim) products very easily, which in this case by promoting 1KG washing powder, the promotion has had negative effect on the 1.5KG washing powder (1). Lost Sales, in red, are also easily visible, and can be used to see growing problems (2). The summary narrative shows achieved uplift (Post Promotion Analysis) and also shows uplift including Lost Sales (3). This is very useful for Pre-Promotional planning as future promotions can be planned on “what should have happened.”

3. Waste Optimization

Waste on fresh goods is where products are either thrown away, or reduced in price due to the expiration. This costs the retailer money, and any savings on waste directly impacts profitability. There is also corporate responsibility pressure on food waste around the world, so identifying waste products and the cause of waste is a big problem for retailers. Historically, waste analysis has been assessed in terms of percentage of sales. While this is a useful measure, it doesn't capture the magnitude of the problem in lost profitability.

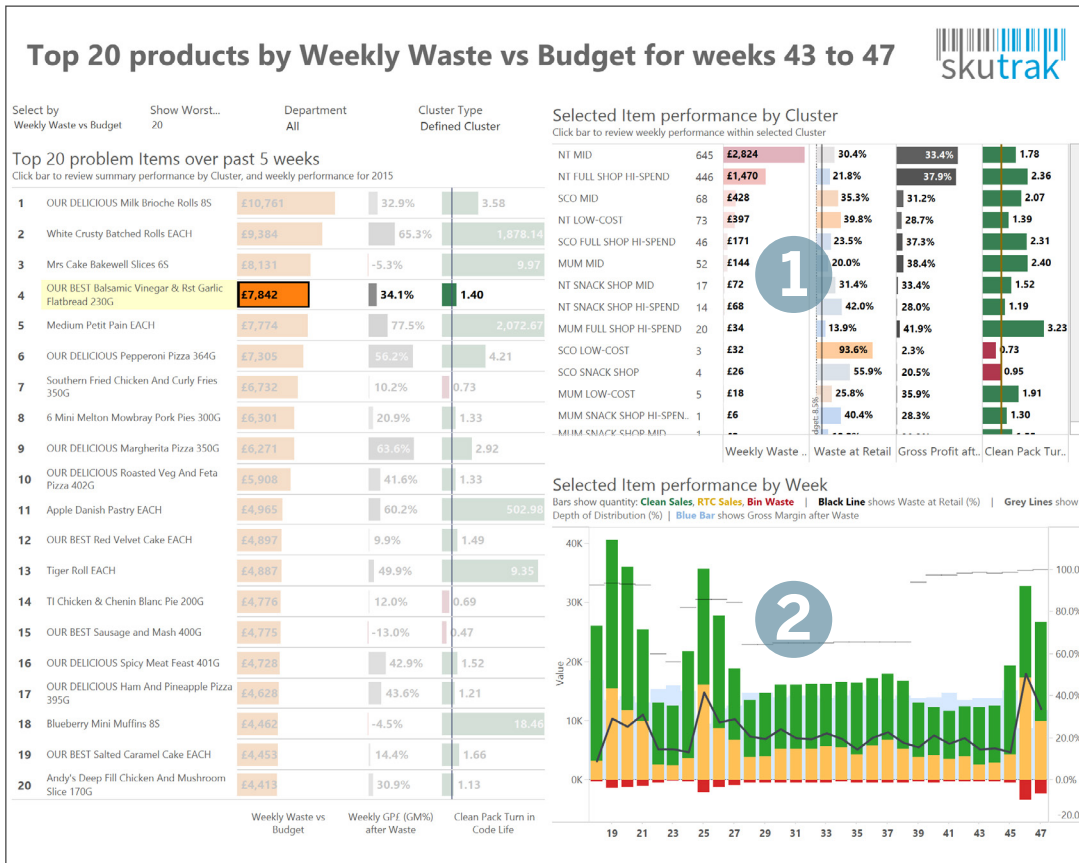
This waste management dashboard aims to solve this problem. This visualization shows the top twenty products by weekly waste, correlating with budget for a specific period of time. Users can click on problem items to dig down into the details and make better decisions.



These visualizations and dashboard are provided by Atheon, a Tableau partner. You can also learn more about SkuTrak [here](#).

The visualization also shows Achieved Margin % (after waste), and Pack Turn (number of packs sold within product life). Pack Turn is if a Product with a 7-day shelf life is purchased in packs of 12 (the minimum order quantity for a store), and achieves average weekly sales of 8 units, then 3 units are thrown away every week. If the product can be purchased in packs of 4 or 8, then waste could be reduced substantially (depending on rate of sale variation across stores).

Here's the step-by-step on how to use this dashboard:

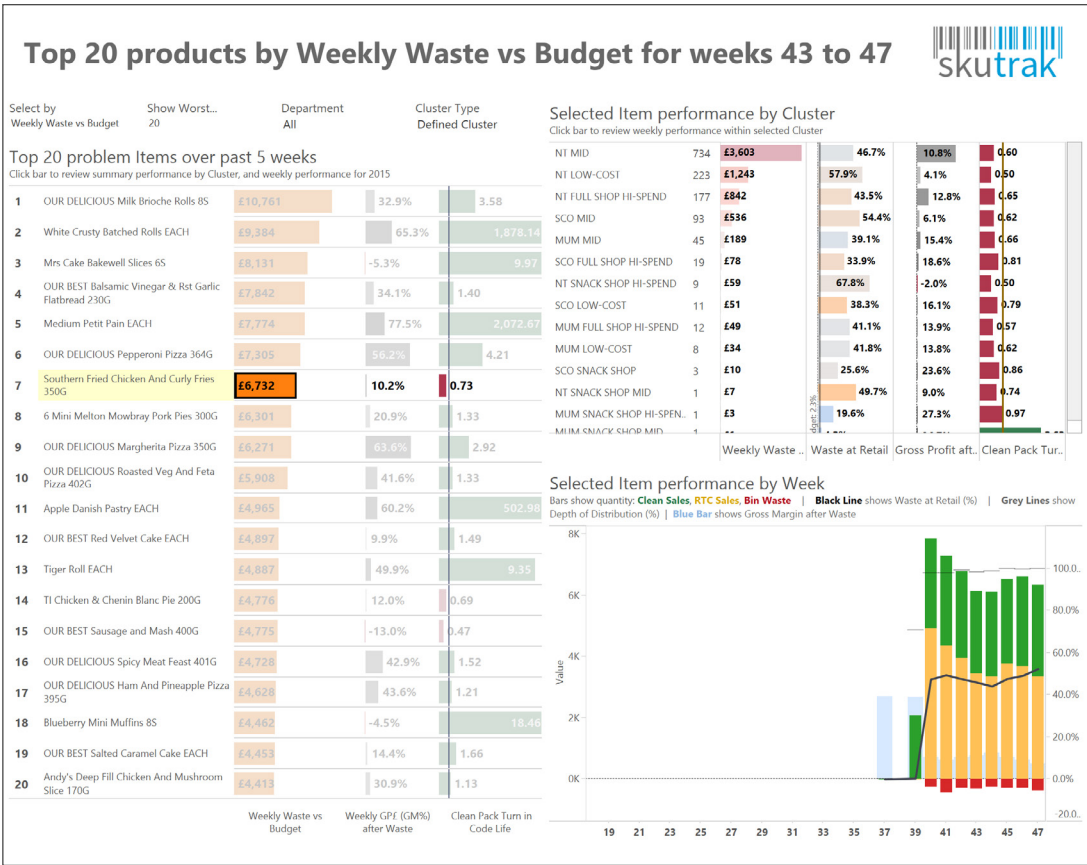


Users can start by choosing from the worst twenty products, in terms of Waste vs. Budget (orange bar mark on the left hand side).

The visualization then updates to so show performance by Store Group (1). It is easy to see that the problem comes from Low Affluence stores, which struggle to sell one pack within the product life.

The bottom visualization updates to show the sales performance by week with Full Price Sales (green), Reduced Price Sales (orange) and Bin Waste (red) (2). The selected (high end) product has periodic increases in waste due to being distributed to all stores while on promotion (thin grey line).

The solution is simple; don't increase supply to Low Affluence stores while on promotion! Click here to try using this visualization yourself.



Restaurants retailers can also use this type of visual analysis for waste management. For example, if you click on the product “Southern Fried Chicken and Curley Fries,” you can see that very little is thrown away when the food is prepped, so the cause of waste occurs sales do not occur.

What is actually happening is customers are reacting to price elasticities—if the price is too high (for the perceived value), greater waste is occurring due to lack of sales. The restaurant retailer can choose to lower price (if it can afford to), engineer costs down (to reduce the retail price, but maintain margin), or reduce the pack/case quantity (for this item, at Packsize of 4, packsize changes are not an option).

4. Store Operations

Even in a mobile world, brick and mortar still accounts for almost 83% of retail sales, so store operations are critical for success. Store operations dashboards can provide rich insights to the corporate office, and region/store managers about performance and execution. With store operations dashboards, managers are able to better benchmark the performance of stores in a region against metrics like Sales, Year Over Year growth, Traffic, Average Transaction Value and Units Per Transaction. They can also drill down to unique store level operations data like weekday vs weekend sales, product department performance, compare space productivity within the store and evaluate top selling brands.

This dashboard shows an operations overview for a leading fashion retailer. They use this dashboard get a quick view trends in sales, sales growth, customer traffic, customer conversion rates, and average transaction sizes. They can also compare stores within the region to quickly identify underperforming stores.



These visualizations and dashboard are provided by [Manthan](#), a Tableau partner.

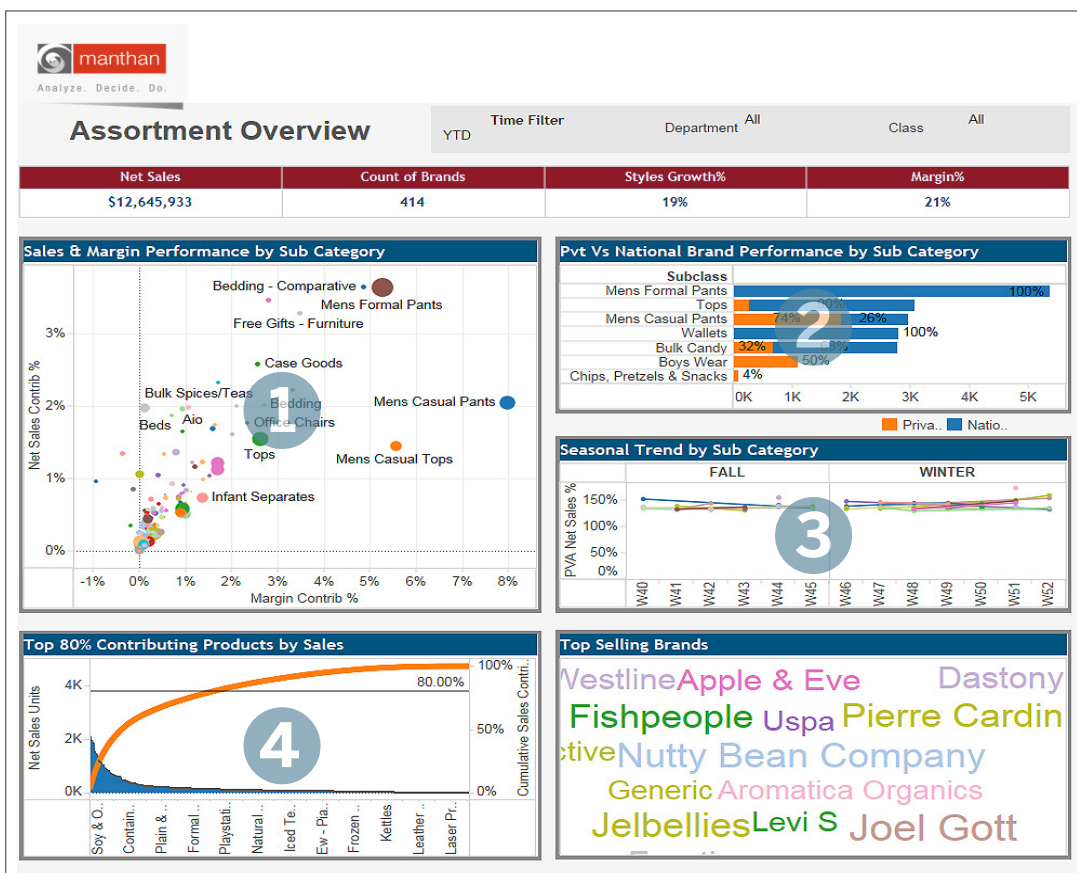
The geographic map is a great visualization type to help region managers to easily see how their region is performing vs their peers (1). The KPI data grid can give current values of key retail metrics for the stores in the region (2). The conversion rate graphically shows all three stores over time and how they are doing in regards to conversion (3). Region managers can quickly view daily sales for all three stores to compare sales effectiveness around key holidays, weekdays, weekends, or area events (4). Comparing distribution of sales for weekday vs weekend can ensure that the correct mix of labor is used for peak demand (5).

5. Merchandising Assortment

Category managers need to make profitable decisions around products that customers are demanding. In order to do that, merchandisers need to quickly analyze demand data by sales and profit margin performance by departments, sub-categories and brands.

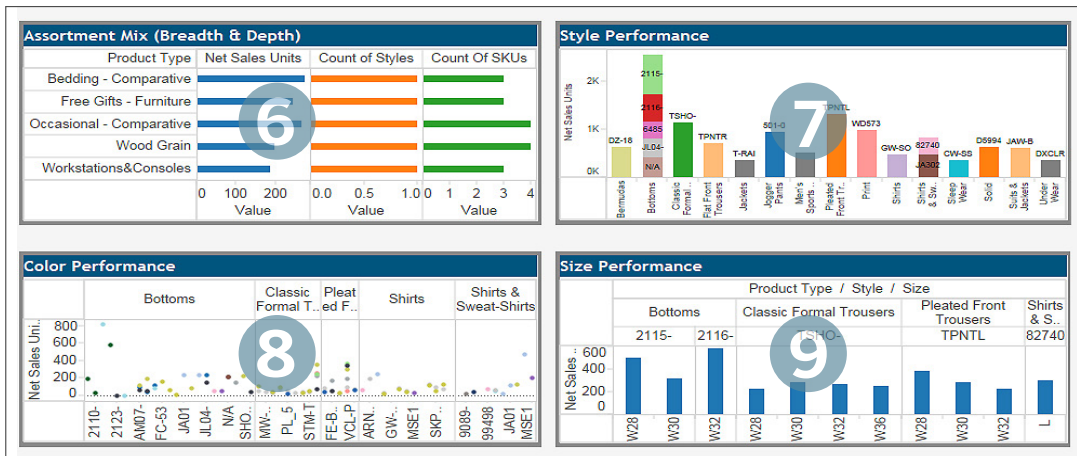
With merchandising assortment dashboards, managers can gain a quick overview of relative sales performance of sub-categories, share of private label and national brands, and categories that can contribute up to 80% of sales. They can also get richer insights on the attributes that lead to higher conversion such as product type, colors, shape, and styles.

This merchandising dashboard shows an assortment overview that helps merchandising managers do all of the aforementioned.



These visualizations and dashboard are provided by [Manthan](#), a Tableau partner.

In the upper left-hand quadrant, managers can use the scatterplot to evaluate sub-categories for sales and profit margin performance to ensure a store or online product allocation is profitable (1). Merchants can easily see outliers and large volume sales items that may need to have vendor costs re-negotiated. Under performing items can be shifted to other areas of the store marked down for clearance. Private brands vs national brand mix can be evaluated (2). Merchants can quickly see seasonality trends (3). Merchants can quickly identify and focus on the top products that create the most revenue (4).

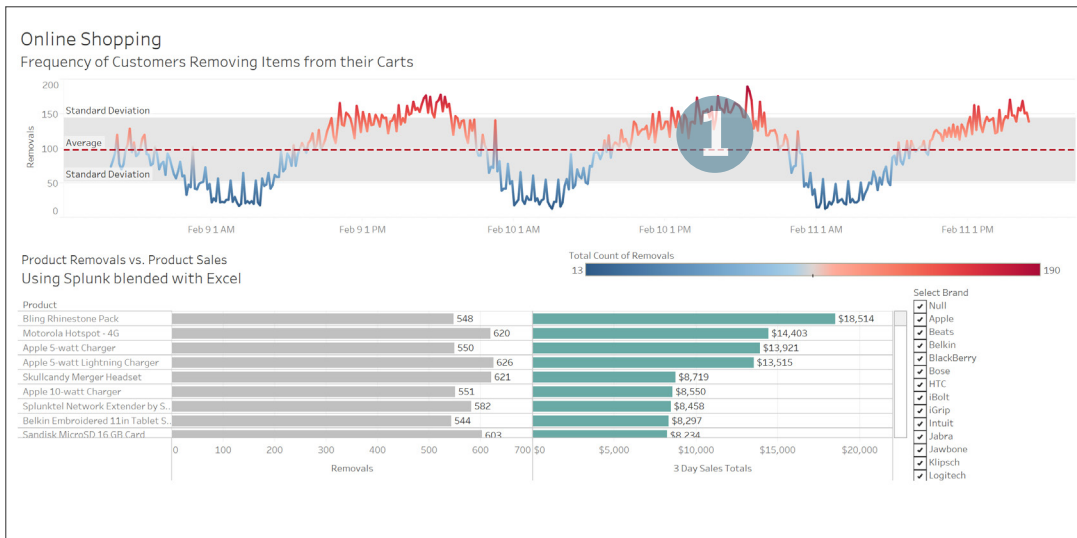


These visualizations show assortment mix (6), style performance (7), color performance (8) and size performance (9), all of which merchandising managers can use in real-time to make decisions.

6. Online Shopping Cart Analysis

In today's digital marketplace, companies need to know the frequency that products are removed from shopping carts and the reasons why—so understanding online shopping cart behavior is critical. Online shopping cart analysis dashboards can help retailers answer questions like, “Do certain traffic sources lead to more removals?” “What marketing campaigns reduce or increase the number of cart removals?” “Do certain customer segments remove more items from their cart?” Or, “Do different shipping options lead to higher cart removal?”

This online shopping cart analysis shows the frequency of customers removing items from their cart.



The data for this visualization is provided by [Splunk](#), a Tableau partner.

The visualization demonstrates effective use of advanced analytics where one can quickly see the average shopping cart removals coupled with a standard deviation visual band, so end users can focus on the true outliers, the red portion of the line chart (1).



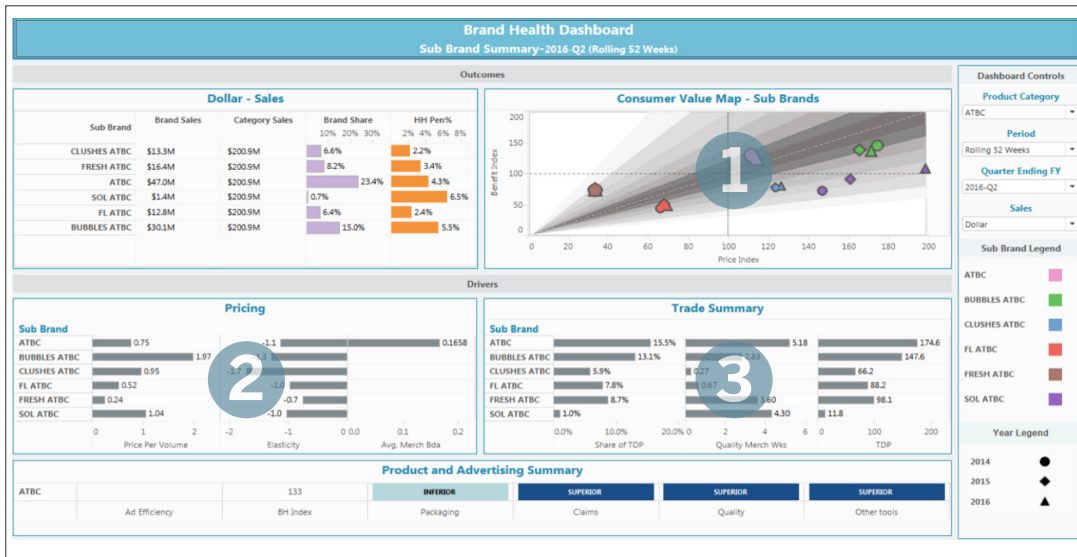
By scrolling through the products, users can see that Plantronics M25 Bluetooth Headset has a high rate of shopping cart removals (1) and a low amount of sales (2). The visualization shows that there is an upward trend of removals starting around February 10 at 1pm.

This dashboard helps to identify potential issues and can lead to strategic price discussions and analysis if competitors lowered the price for the same product. Or, maybe the warehouse inventory is low, and the product will be drop shipped from the vendor, adding to the number of days of delivery (3). Customers could be deciding that it will take too long to get the product, and they opt for different alternatives.

[Click here](#) to try using this visualization yourself!

7. Brand Health

For most consumer product goods companies, brand perception is critical to the success of their business. Executives at large CPG companies need insights into how consumers perceive the company brand, for the benefit of derived utility and price.



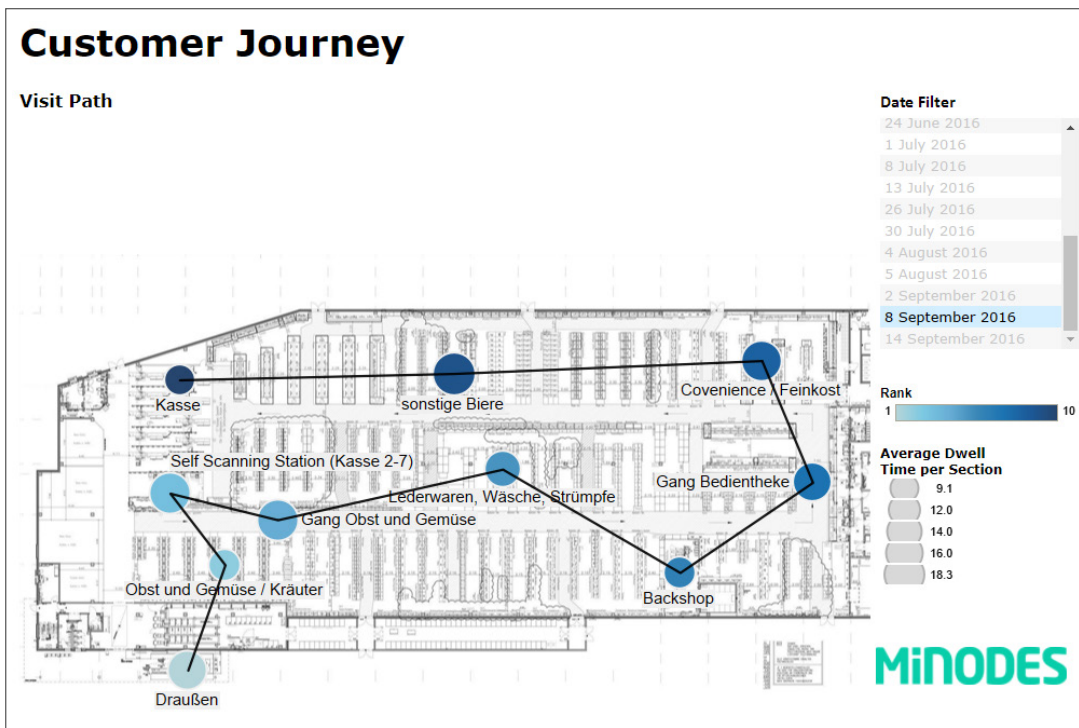
This dashboard is provided by [Tredence](#), a Tableau partner.

This brand health dashboard shows the benefit vs price effect by deep diving at the sub brand level (1). Combining this with profitability and price elasticity of the brand (2), executives are able to decide on allocation of additional marketing dollars to gain Category leadership for these brands and push the benefit perception higher for higher profitability brands. The trade summary details out the total distribution points and total share of the distribution (3).

8. Customer Journey

Where customers go in brick and mortar stores, and where they spend time, is important information to know for improving customer service, associate placement, merchandising, and marketing efforts. Retailers that rely on transactional data alone are not getting the entire picture of their customer journey, through the eyes of their customer. IoT sensor data can help retailers create customer journey dashboards that will help track customer movement throughout their brick and mortar stores.

This dashboard shows the visitor paths in a brick and mortar store based on date, rank and time in each section. One can quickly see how the areas of the store that are visited more frequently (color) and the size of the mark shows the higher customer dwell time.

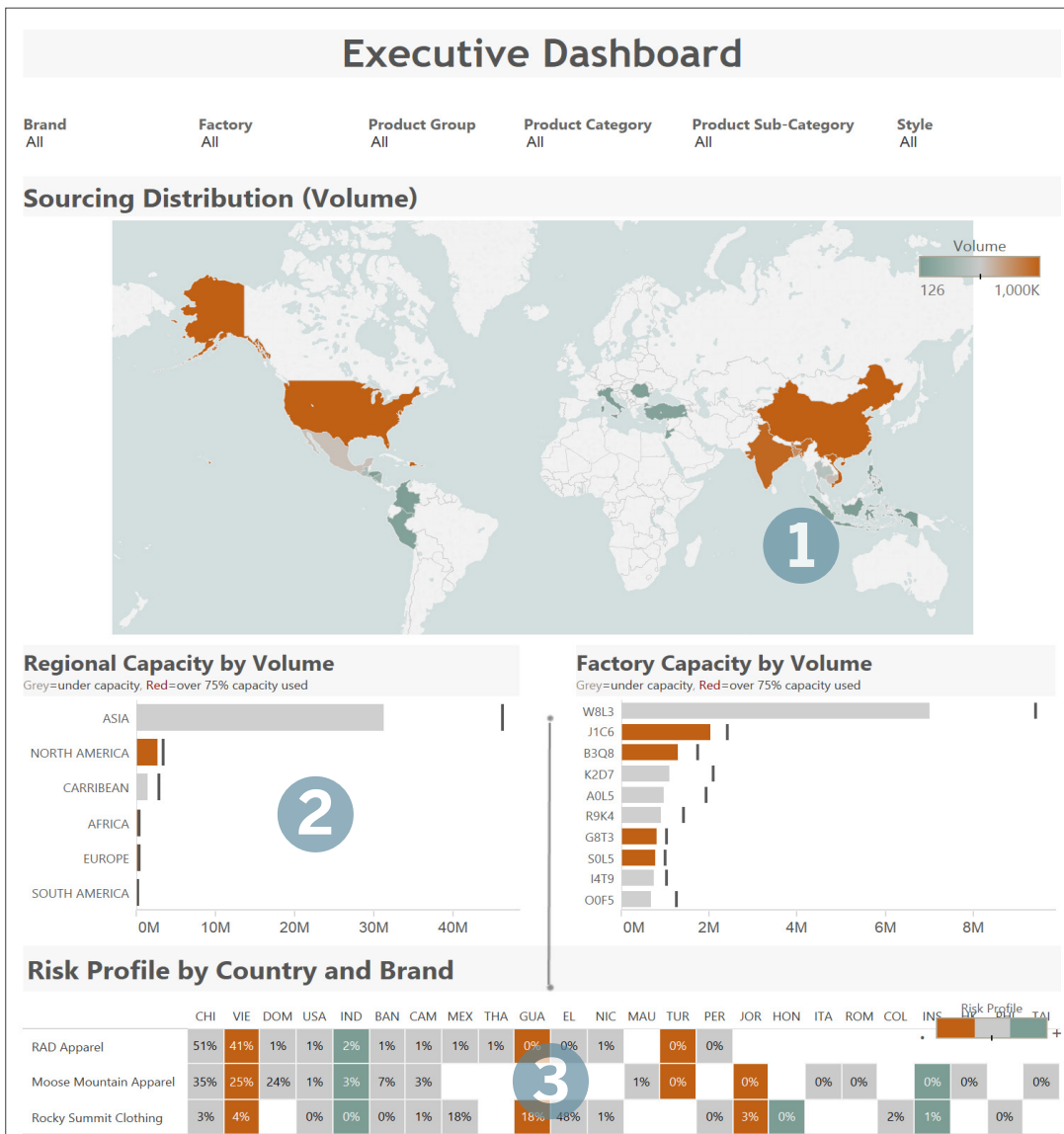


The dashboard above is provided by [MiNODES](#), a Tableau customer.

9. Supply Chain Apparel Sourcing and Risk Management

Customer preference for fast shipping times coupled with increased geo-political tensions has put a lot of stress on supply chain organizations. Supply chain managers are in desperate need of new ways to visualize the entire ecosystem.

This supply chain executive dashboard highlights key volume and risk drivers. This analysis is helpful to executives to integrate global customer orders, global sourcing, and geopolitical risk data to provide holistic visibility across the supply chain.



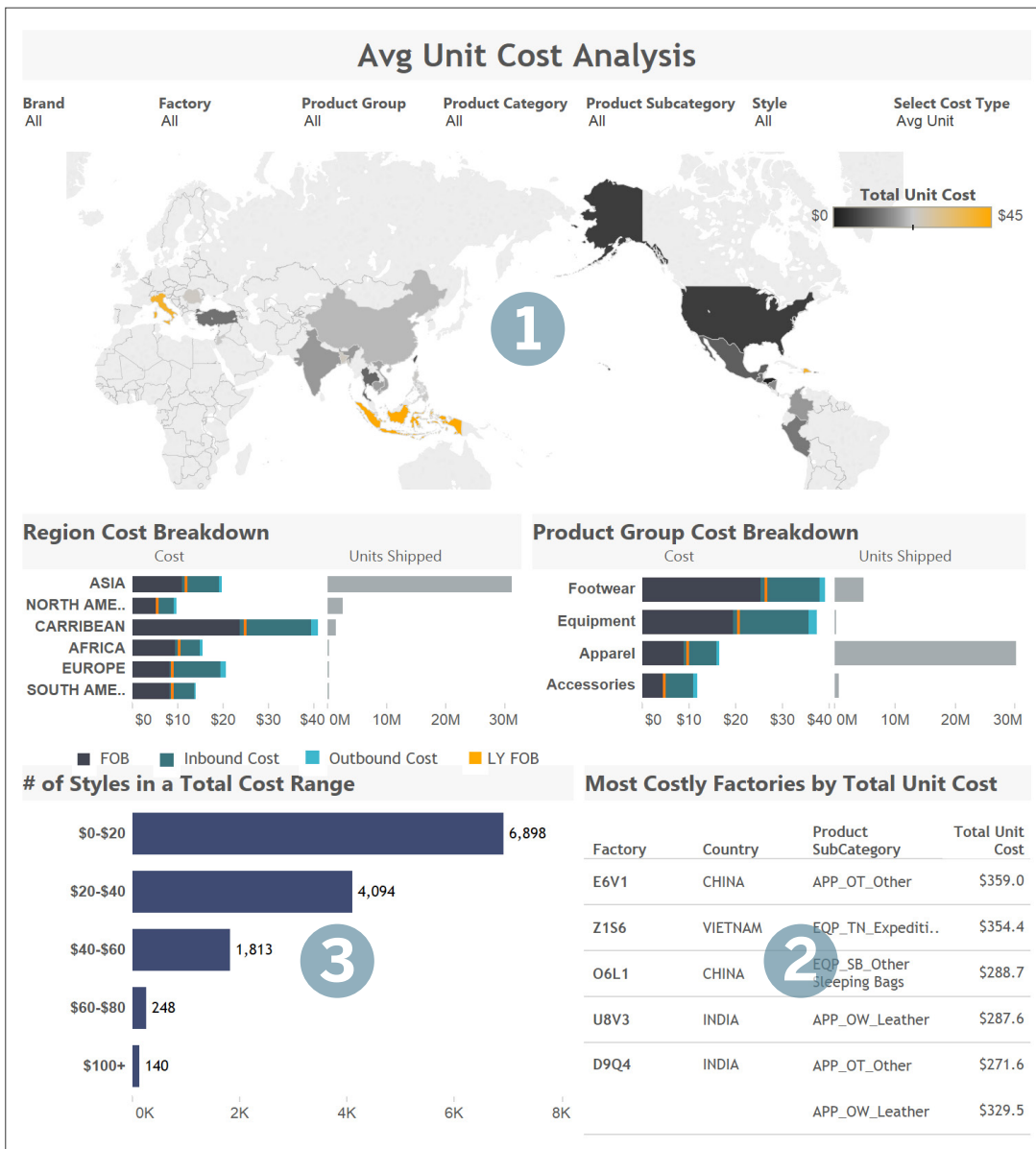
This dashboard is provided by [Infosys](#), a Tableau partner.

In the top map visualization, executives can identify factory capacity by country (1), and take advantage of underutilized capacity (2). They can also move production to countries with less geo-political risk (3). In this example, an executive may want to shift some of the production from Vietnam to China, where the risk profile is less. China also has some excess factory capacity. [Click here](#) to use the dashboard yourself.

10. Supply Chain Cost Analysis

Supply chain costs can cripple product profitability if not captured and measured. Maintaining or increasing profitability is more important in today's retail landscape due to massive technology investments within the supply chain systems.

Retailers can use a Supply Chain Cost analysis dashboard to visualize cost reduction associated with Product, Freight on board, Inbound and Outbound costs, Duties and Warehouse costs.



This dashboard is provided by [Infosys](#), a Tableau partner.

In this dashboard, users can filter factory performance by country (1), allowing them to better manage exceptions, and potentially fulfill orders from more efficient and less costly factories (2). Merchants and supply chain executives can jointly examine costs by product styles and reduce or change styles based on costs (3). [Click here](#) to use the dashboard yourself.

Conclusion

Leading retailers are using hundreds of different kinds of data visualizations to see and understand key insights across all departments—these are just 10. They're also combining and using data from multiple sources to create massive business value faster than their competitors.

At Tableau, we're working with partners in the retail ecosystem and customers from around the world to create the most powerful, business-impacting visualizations to date. In fact, 73% percent of the National Retail Federation (NRF) Top 100 retailers are using Tableau to scale and improve their analytics. We hope these dashboards inspire you to achieve even greater business value through interactive visual analytics.

About Tableau

Tableau helps people see and understand their retail data no matter how big it is, or how many systems it is stored in. Quickly connect, analyze, and share insights to reveal hidden opportunities that impact each sale, and your entire organization. With a seamless experience across PC, tablet, and smartphone, ask and answer deeper operational questions with expressive, interactive dashboards—no programming skills required.

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[Six Trends in Retail Analytics](#)

[How PepsiCo Cuts Analysis Time By Ninety Percent](#)

