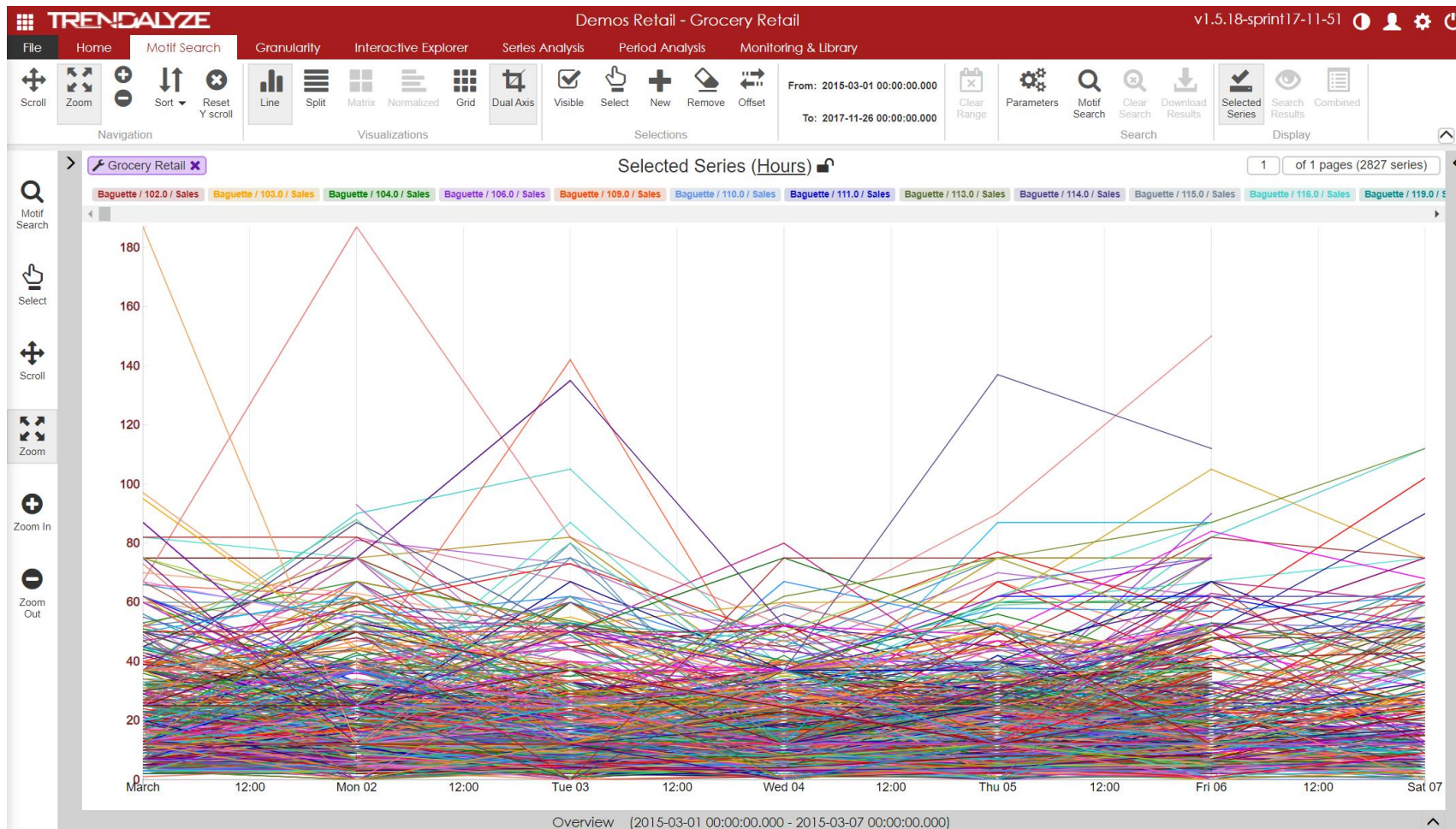# Mining Sales Patterns and Micro Trends to Improve Sales and In-Store Promotions

## TRENDALYZE

Micro Trends Intelligence™

# SKU Performance Drives Retail
## Finding trends at an SKU-level at scale remains elusive to retailers.



**How Micro Trends Drive Sales Performance:**

**Periodic Trends:** Weekly, bi-weekly, and monthly trends such as spikes, dips, risers and valleys,  reveal opportunities for SKU profit/margin improvement.
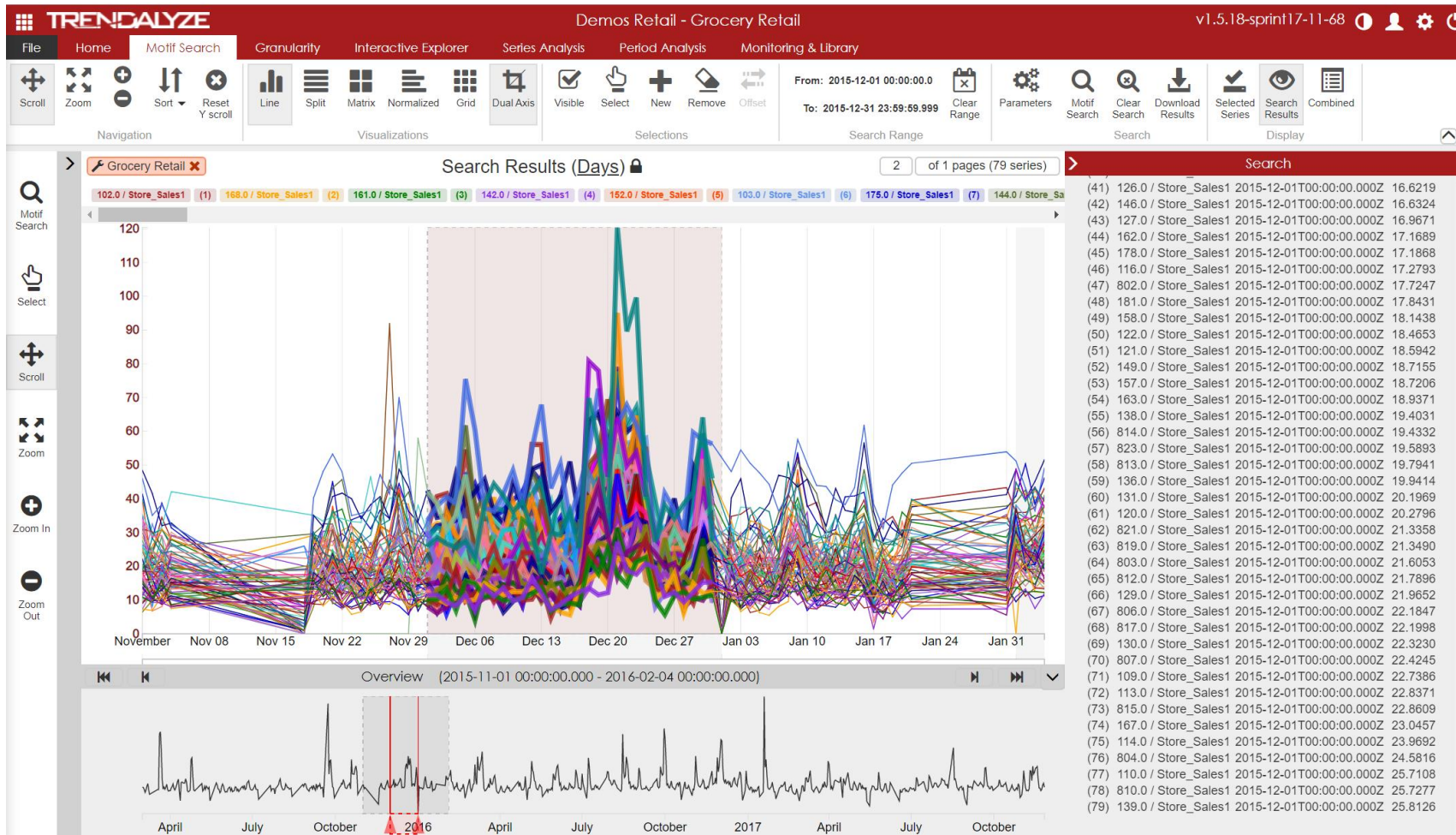
**Correlated Periodic Trends:** Correlated week-on-week trends reveal opportunities to predict and stimulate demand.

**Correlated  Product Trends:** Reveal cannibalization or complementarities to coordinate product placements and promotions.

- Visualizing the weekly store transactions of only 33 SKUs sold in just 86 stores.
- How would a retail analyst find valuable trends in this haystack of data?
- How would retailers automate micro trends detection for 10,000 stores and 10,000 SKUs?

# Trends Mining Drives Revenue Optimization
## Analyzing store/SKU sales patterns at scale is a challenge for retailers.



- Analyzing the December sales patterns of just 86 stores is a daunting task.
- Sales patters comparisons help analysts pinpoint what works and does not work.
- Traditional BI tools cannot be used as summarizations obfuscate the micro trends.

## Sales Patterns Insights Drive Tactical Decisions:

**Intelligent trend clustering** of stores (or SKUs) by monthly sales patterns allows to identify outperforming, declining and other interesting store segments. The patterns reveal causes and provide insights about trend-based actions.
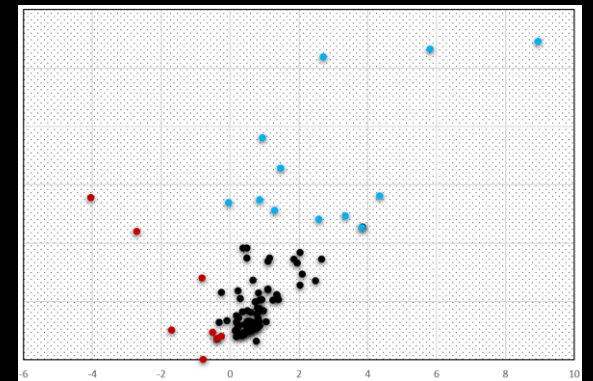


**Example:** Underperforming (red) and overperforming (blue) stores have very different patterns. Outperformers have multiple sales streaks, while underperformers have no spikes and a downward sales trend indicating potential store management issues.
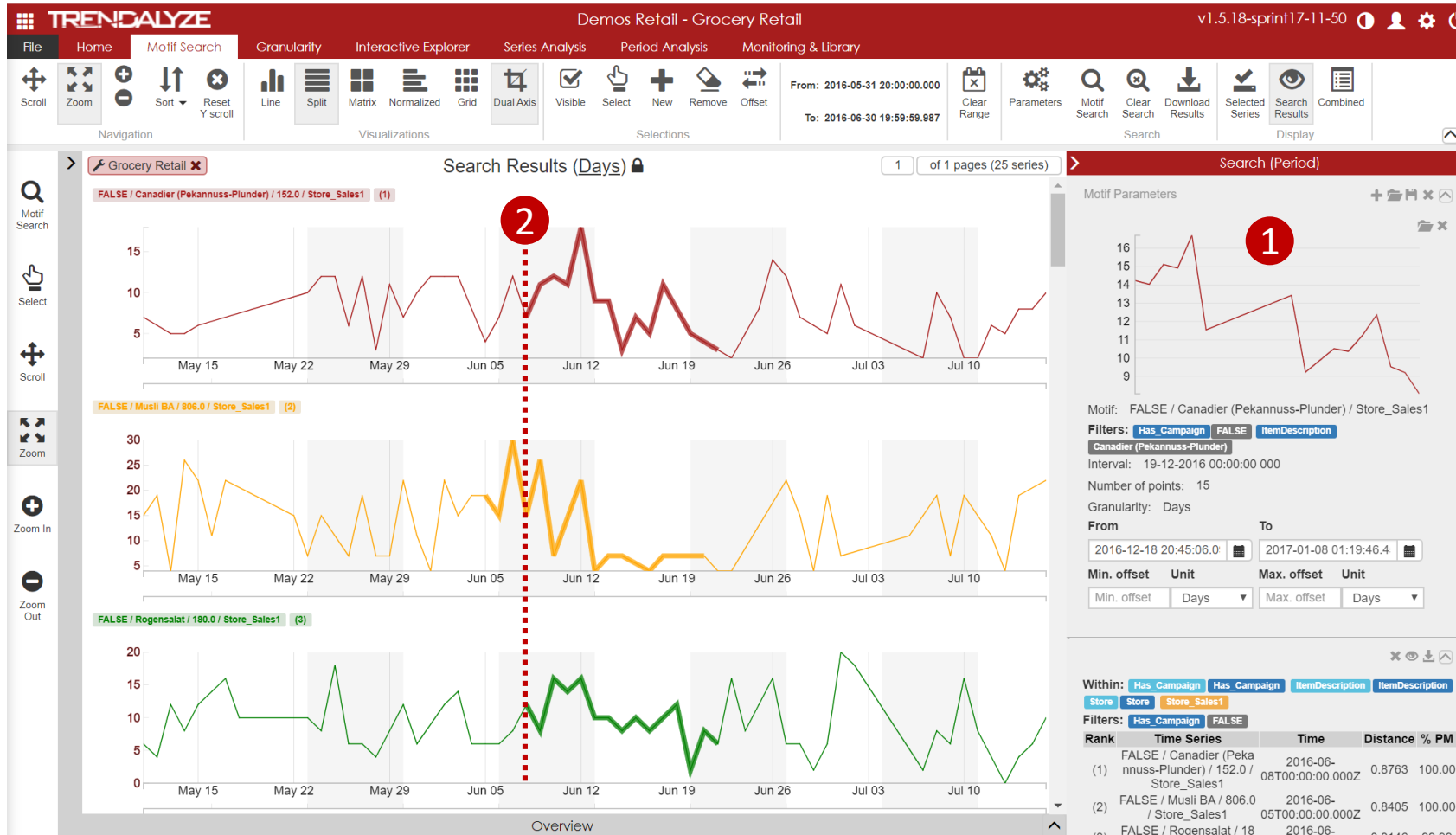
# Specific Micro Trends Facilitate Promotions
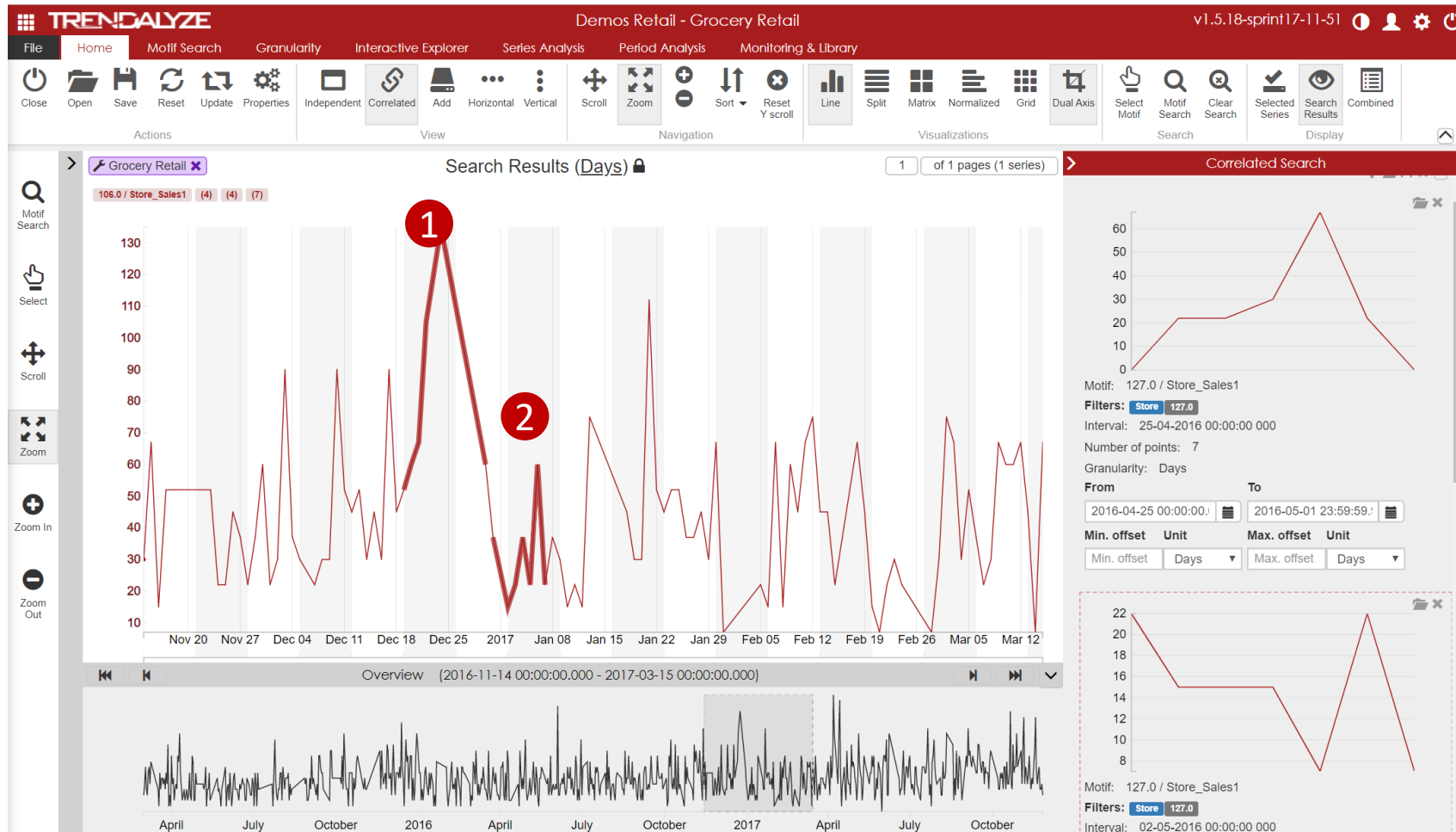## Identifying micro segments across SKU assortments at scale is very hard in retail.

Why is it so difficult to extract micro-trends using traditional tools (Excel and BI)?
- <u>Geometry:</u> Declines never occur in a straight-line as shown in (1).
- <u>Time:</u> Declines occur on different days within the month as shown in (2).

# Correlated Micro Trends Facilitate Prediction
## Knowing events sequences is power; but detecting them without algorithms is pain.

- TRND also finds patterns with sequential relationships, i.e., motifs that happen in tandem or over time.
- Sequential correlations are important in predicting the follow up event and us it as trigger for action, i.e. trigger a campaign to combat a downward trend that is expected to follow a high peak trend.
- Explore the week-on-week patterns to identify SKUs within stores with different trends across two consecutive weeks. For example:
  - Week 1 = strong sales peak
  - Week 2 = average.
  - This information is useful for predicting sales across multiple weeks.
- The same sequentially correlated can be used as a search motif to find correlations within any number of stores and SKUs.
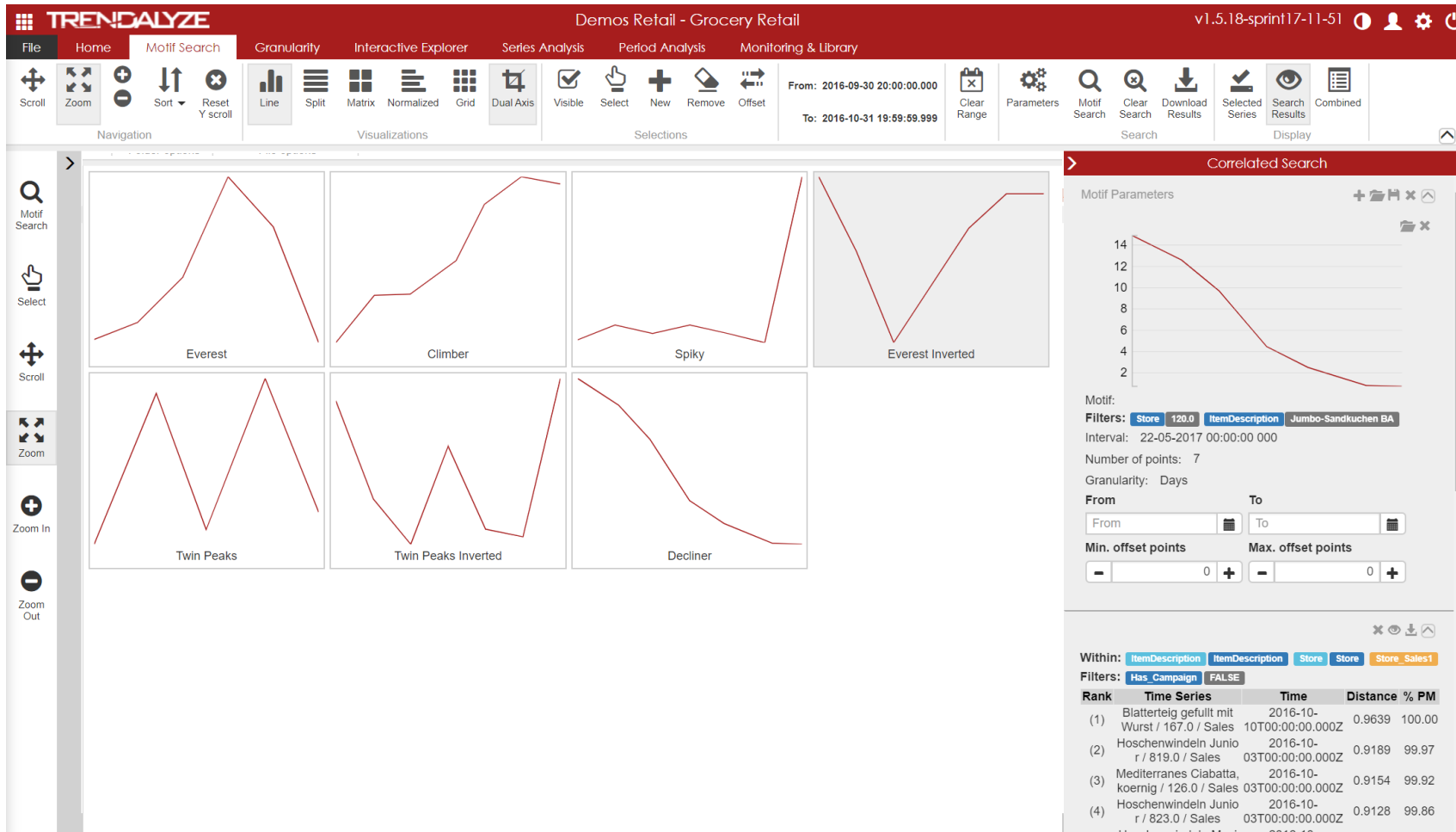
- Sequentially correlations are hard to spot and pull out in large volumes of data.
- Traditionally such correlation are discovered with complex statistical algorithms.
- Motif search enables self-service discovery thus giving the power to domain experts.

# Motifs Create Analysis Advantage
## Trends are coveted but monitoring and learning new trends at scale is complicated.



## Data Driven Decisions with Motif Intelligence:

### Benefits of Motif Intelligence:

- Motifs accelerate the routine work of marketing analysts
- The Motif Library automates monitoring and response (e.g. triggering a promotional campaign)
- Trendalyze eliminates lead time for "making learning", as it can search and monitor data sets for new patterns and add them to the Motif Library.

### Monetary Value of Motifs:



- The downward trend total is $252, while the normal is $454.
- The 80% lower sales would not be revealed by the monthly averages/KPIs.
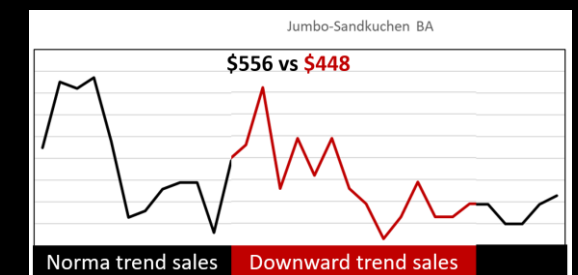
- Motif Libraries and automated learning allows companies to act on opportunities instantly.
- TRND patent pending artificial logical networks predict and learn in real time.
- Marketers can share knowledge and updates the predictive models themselves.

Beating Retail Averages with Micro Trends Intelligence and Real-Time Monitoring

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Micro Trends Intelligence™