RETAIL ANALYTICS
FOR BUYERS, PLANNERS AND MERCHANDISING PROFESSIONALS

Issues and Challenges

Increased competition, stagnant demand, fleeting customer loyalty and low product differentiation are just a few challenges that retailers face today. Getting ahead of competition and meeting fiscal goals is becoming increasingly more difficult. This situation calls for new, innovative approaches that optimize core retail areas:

- Assortment Planning
- Merchandise and Demand Planning
- Budgeting & Financial Analysis
- Sales Analysis & Planning
- Open to Buy and Inventory Analytics
- Replenishment & Allocation
- Markdowns & Promotions Optimization
- Store Operations Analytics
- Supply Chain Analytics
- Customer & Marketing Insight
- Workforce Planning & Analysis
- Scorecards & Dashboards
- Performance Reporting

Historically, retailers relied on intuition and experience to make analysis and planning decisions. From a technical standpoint, planners have relied heavily on Excel spreadsheets and in-house, custom systems.

In recent years, many factors such as variable customer demand, low product differentiation, rapid online expansion, decreased brick and mortar sales, etc. have made it difficult for buyers and planners to rely on guess work and Excel-supported processes to perform analysis and planning.

Current Tools May Not Be Enough

Retailers began to overhaul and automate retail planning and analysis processes using mainstream retail packages. The outcome was, at best, satisfactory, providing only modest productivity and analysis improvements.

Key shortcomings are still prevalent these days:

- **UNUSED DATA AND POOR DATA QUALITY** – Many retailers remain oblivious to the wealth of data being captured by their operational systems. Retailers that have invested in data stewardship initiatives and built out operational data stores or warehouses have managed to reap some benefits.

- **HARD-TO-USE SYSTEMS** – Mainstream retail packages are often complex and not developed with the end-user in mind. Complex systems provide a steep learning curve for junior buyers and merchandisers, which impacts overall user acceptance and satisfaction. Quite simply put, if the user finds that the system is too difficult to operate, they will not use it.

- **PRE-PACKAGED SYSTEMS** – Retail packages that have dominated retail planning and analysis never seem to give retailers exactly what they need. It has been very difficult for retailers to respond quickly to changing needs, to automate their unique processes within the rigid confines of hard coded software, or to integrate with other operational and performance management systems.

In conclusion, even after introducing automated tools, proliferation of Excel and home grown systems remains high and many processes remain manual and non-integrated causing inefficiencies, inaccuracy and fallout.

> **"** It's been a pleasure our organization and myself had been able to partner and work with Neubrain resources to delivering effective business solutions into our environment over the last several years.
>
> — COO, Charlotte Russe

Neubrain's Solution

Neubrain deploys a programming-free, sophisticated retail planning, analysis, and reporting system tailored to each retailer's unique processes.

Our solution is ideal for mid-market retailers looking to replace MS Excel, Access, SQL databases, and other custom built systems commonly used by their analysts, buyers, and planners with a powerful retail analytics capability. Our solution augments existing investments into ERPs and merchandising systems by providing valuable "bandages" to manual planning and analysis processes that are not fully integrated with the rest of the technology environment.

What are the Benefits?

Tailored Solution

- Every retailer has its own unique processes and activities. Trying to generalize and adapt internal processing to fit universal software parameters would be fundamentally flawed. Neubrain works with retailers to develop a system tailored to their unique processes without sacrificing ease-of-use.

Integrated Environment

- All-in-One technology combines all features and functionality necessary to create sophisticated applications for demanding management, merchandise planning, allocations, assortment management, markdowns and promotions optimization, budgeting, financial planning, what-if scenarios, KPI, dashboards, ad-hoc reporting, etc.

Easy-to-Use

- The easy-to-use, programming-free environment provides the opportunity for retailers to quickly learn the software and to become self-sufficient, relying on internal resources vs. outside consulting firms for future development and maintenance of the application.

Flexibility

- Merchandising is a continuous process that involves endless modifications and refinements to the analysis and planning models. Our solution architecture is flexible and simple enough to support updates to the required components without the overhaul of the overall system.

Rapid Deployment

- Sophisticated applications can be developed in a matter of days. Analysis and planning are dynamic areas that require a solution that can be easily changed and modified to meet new requirements. Changes to the analytical models are implemented in a matter of hours.

Able to Handle Large Amounts of Heterogeneous Data

- Our solution can interface and access data in real-time from various data sources: Big Data Support, Data Warehouses, Operational Data Stores, POS Systems, Inventory Systems, Accounting & Financial Applications, etc. A powerful ETL function can clean, normalize and load data into a powerful in-RAM database for fast processing and modeling.
- In cases of smaller mid-market retailers, the aforementioned features eliminate the need for operational data stores or data warehouses that are often a prerequisite to implementing mainstream retail analytics packages.

High Return on Investment (ROI)

- The ability to leverage one application to meet analytical and planning needs of many functional areas yields a very high ROI and represents an attractive option for dynamic and fast growing mid-market retailers that often times cannot afford the same level of IT spend as their larger counterparts.

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RETAIL ANALYTICS

SOLUTION BROCHURE

PREBUILT RETAIL ANALYTICS MODELS

While we recognize that configuring models specific to each retailer's needs is the key, sometimes it's possible and recommended to leverage pre-built model to serve as a foundation or best practice in configuring your application. Some examples of Neubrain's pre-built Retail Analytics Models include:

FINANCIAL PLANNING AND BUDGETING

DEPARTMENT G&A BUDGETING

The Department G&A Budgeting Model creates the department-level budgets. In this model, access is given to individual department heads to prepare the budget directly within the model.

This model is comprised of 5 sub-models:

- G&A Detail
- Payroll
- Temp Labor
- Travel
- And other services

Most sub-models are driver-based. For example, the Payroll Model reads employee data from HR. Management simply indicates employee merit increase, promo increase and/or term date to automatically calculate the payroll budget.
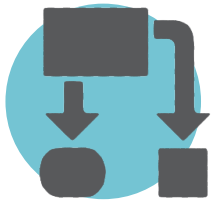
SCENARIO MANAGEMENT

With the Scenario Management Model multiple "what-if" budget scenarios can be created based on different assumptions of any driver within the model.

For example:

- Comp Store Sales increase=10%
- Comp Store Sales increase=0%
- Comp Store Sales increase=5%

Once the budget scenario is finalized, it is automatically uploaded into ERP system.

STORE-LEVEL P&L BUDGETING

The Store-level P&L Budgeting Model includes an extensive set of driver-based sub-models used to calculate P&L budgets by store (monthly level of detail). Data is integrated with ERP finance, merchandise management and real estate management applications.

Sub-models include: Sales Forecasting, Margin and COGS, Payroll & Benefits, Rent & Occupancy, Supplies and Bank Charges & other.

FINANCIAL STATEMENTS AND REPORTS

Financial Statements and Reports includes a series of reports for operating budget, G&A budget, DC budget and e-commerce budget. This model creates a pro-forma financial for income statements, balance sheets and cash flow at the store, unit, class, channel, and company level.

COMPARABLE STORE STATUS FORECASTING

The Comparable Store Status Forecasting Model calculates the status of comparable (comp) stores each month, showing both past and future periods. The comp status is a key driver used to calculate store-level P&L accounts. This model calculates the status based on the tailored comp rules (i.e. store open date, remodel date(s), and close date).

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MERCHANDISE ANALYTICS

STYLE ANALYSIS

The Style Analysis Model provides a standard mix of performance measures (e.g. Sales Units, Receipt Units, OO Units, and Weeks Inv On-hand) by style.

This model is an interactive query engine where buyers or planners can visually define their search criteria through a selection tree. The selection tree includes over 20 different fields that can be used to filter the results (i.e. price range, class, dept., vendor, product age, store type, prod status). This model is very easy to use and provides fast results.

The New Styles Sub-model calculates and graphs the number of new styles by department as a % of total styles over time.

MIX ANALYSIS

The Mix Analysis Model analysizes sales performance and profitability of a product mix at various levels within the product hierarchy. This interactive and drillable analysis contains over 30 measures (including: OH MMU%, OO IMU%, Sales and MD by MD type, GM$, GM%) showing performance over differing time ranges (TW, MTD, QTD, YTD).

Comparison to the equivalent time period from the prior year is also available (% Var TW, % Var MTD LY, % Var QTD LY) as well as the dynamic calculation of avg. store values and LY variance for all measures, time ranges and drill levels (Avg. Store Sales, Avg. Store Inv., Avg. Store GM$, Avg. Store Sales $ Var LY, Avg. Store GM$ Var LY).

ATTRIBUTE ANALYSIS

The Attribute Analysis Model is very similar to the Style Analysis Model but focuses on user-defined attributes instead of styles. Users can retrieve the same performance measures and filters as the Style Analysis Model, but with the added ability to select any combination of attributes defined in the Merchandise Management system. The user-defined attributes in Merchandise Management system have historically been favored by buyers as a means to 'tag' a style with a specific product feature (like 'glitter', 'red velvet' or 'shiny buttons').

This model provides reporting capabilities for each of the aforementioned attributes. Generally, attribute performance reporting can be difficult because of the ever changing nature of the attributes as well as the many-to-many relationship between styles and attributes. However, attribute-level analysis is a highly favored feature among buyers.
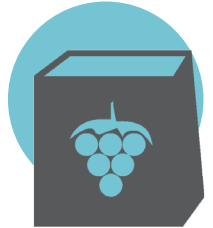
PLANNING ANALYTICS

PROMOTIONS

The Promotions Model allows planners to quickly define promotions using a user-friendly interface. This model can replace the manual promotion definition process in a Merchandise Management system, which can be cumbersome and error prone. Users can define '% off', '$ off' or 'pricepoint' promotions for styles in any phase of MD status. Once approved, promotions are processed into Merchandise Management system.

MARKDOWNS

The Markdowns Model allows planners to define their markdowns. Similar to the Promotions Model, this model provides better visibility into scope/cost of markdowns as well as reduces user errors that may occur when defined in a Merchandise Management system.

Users can select style candidates for markdown based on performance metrics (e.g. Weeks OH, Weeks Selling, Sell Through) and style attributes. Once approved, markdowns can be processed into a Merchandise Management system.

STORE CONTRIBUTION

The Store Contribution Model defines the allocation mix for stores based on store sales history by using user-defined search parameters.

TOP SELLERS

The Top Sellers Model provides structured reporting for the same attributes used in the Markdown Model.

The buying team can also create a static list of attributes to track performance week-to-week using various product-specific attributes of their own design (e.g. Pricing, Body, Fabrication, and Assortment).

ASSORTMENT PLAN

The Assortment Plan Model creates a buy plan (#styles, #units) by trend and occasion.

Possible inputs include:

- Trend ratios by store cluster (e.g. Affluent cluster: Trend A 50%, Trend B 25%, Trend C 25%)
- Trend Occasion ratio by cluster (e.g. Affluent cluster: Trend A: Casual 75%, Trend A: Dressy 25%)
- Inventory Plan: Avg # of styles and Inventory depth by store volume group
- Assortment Plan: Units to assort, Avg # styles, Assort depth

STYLE PLANNING

The Style-level Planning Model is used with specific styles that are planned at a lower level of detail (e.g.: denim jeans, knitted bottoms, etc.).

INVENTORY AND SUPPLY CHAIN ANALYTICS
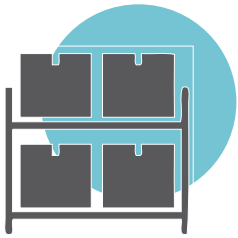
INVENTORY ANALYSIS

The Inventory Analysis Model provides reporting/visualization capabilities to illustrate the relationship between sales performance, inventory policy and markdown/promo policy. The primary purpose of this analysis is to identify existing overstock/understock situations as well as prevent future inventory imbalances. This model provides a comprehensive view into the accuracy of the inventory and assortment plans. It is also a tool to assist planners with markdown and re-order decisions.

SUPPLY CHAIN

The Supply Chain Model includes a series of DC-related performance reports/analyses, most of which focus on streamlining flow in inventory through warehouse, minimizing bottlenecks and leveling workload.

Sub-models include:

- On Order Receipt Flow
- Capacity Planning
- Workload Balancer
- Weekly Performance
- Audit Analysis
- KPI Performance
- Logistics Scorecard

OPEN-TO-BUY (OTB)

The OTB Model can help the retailer be sure to stock the right amount of the right products at the right time by using an Open-To-Buy (OTB) budget plan.

PRODUCTIVITY ANALYSIS

The Productivity Analysis Model allows planners to identify lost sales opportunities at the style-level due to premature stockout (hot sellers) as well as isolate less popular styles with excessive inventory.

This model provides a high-degree of predictive accuracy after just two weeks of sales history.

RETAIL ALLOCATIONS

- **SALES RANK MODEL**
  The Sales Ranking Model creates rankings by store through the use of sales data and current trends calculated from the trend file used in the allocation module.

- **SALES RANK COMPARISON**
  The Sales Rank Comparison Model allows users to view and analyze multiply rankings to identify possible errors or consolidation of ranks.

- **TRENDING MODEL**
  The Trending Model is used to calculate overall trending to apply to the sales rank that will be created. This model provides a predictive performance adjustment to the allocations based on the current performance of a department.

- **ALLOCATION MODEL**
  The Allocation Model calculates the quantity of merchandise to a store and sends data to warehouse management to execute the allocation.

STORE OPERATIONS

STORE ATTRIBUTE ANALYSIS

The Store Attribute Analysis Model reports store performance using demographic attributes and/or survey results.

Such categories include: ethnicity, mall foot traffic, store cluster, competitor proximity, local economic health, store location in mall, store age, etc.

Analysis measures include: # Stores, Avg Economic Profit, Avg Gross Margin, Avg sales per sq/ft, Avg Sales $ and Units, AUR.

TRICKLE SALES

The Trickle Sales Model reports daily sales performance metrics on an hourly basis.

REGISTER USAGE

The Register Usage Model is used to analyze needs for additional registers in stores. Transaction history is recorded at the day, hour, store, register, transaction type level of detail and modeled to predict stores what stores would likely miss sales opportunities due to register shortages.

This analysis typically reveals fewer stores than anticipated with register shortages during peak shoppping periods. It's common for stores to request additional registers in anticipation of high traffic volumes, but analysis typicall indicates additional registers may not be necessary, saving retailers from unneccesary register purchases.

ABOUT NEUBRAIN

Neubrain delivers advanced budgeting, business analytics, performance management and business intelligence solutions to mid-market companies, government organizations and Global 5000 enterprises.

Neubrain accommodates every client not only with the best in class solutions, but with full support, training, and use of best practices to fulfill all needs to analyze, budget, forecast, measure and report. Neubrain's industry-specific business analytics solutions include:

- Retailers (fashion, multi-chain, cross channel, on-line, etc.)
- Hospitality (restaurant and hotel chains, travel and transportation)
- Manufacturing companies
- Supply chain and distribution
- Federal government and Department of Defense
- State & local government
- Government contractors
- Education institutions and non-for-profit organizations