IBM Product Analyzer

## Users' Guide



## Contents

Chapter 1. Product Analyzer overview . ..... 1
Benefits of using Product Analyzer ..... 2
Translations. ..... 2
Chapter 2. Price Response Analysis ..... 3
Modeling data used ..... 3
Selecting the analysis levels ..... 4
Division menu ..... 4
Category menu ..... 4
Product menu ..... 4
Browse features ..... 4
Graph menus ..... 4
Interpreting the Price Response Analysis graphs ..... 5
Base Price Lift Segmentation Chart ..... 5
Price Response - Non-Cannibalistic Graph ..... 5
Price Response - Cannibalistic Graph ..... 6
Price Image Item ..... 6
Understanding the Price Curves ..... 6
Chapter 3. Promotion Response
9
9
Analysis
Analysis ..... 9
Product Information Metrics . ..... 10
Selecting the Analysis Levels ..... 11
Division Menu ..... 11
Category menu ..... 11
Product menu ..... 12
Browse features ..... 12
Graph menus. ..... 12
Interpreting the Promotion Response Analysis Graphs ..... 12
Promotion Segmentation chart ..... 13
SKU Lift graph ..... 13

Demand Group Lift (after Cannibalization) graph 13
Chapter 4. Product relationships ..... 15
Chapter 5. Price Change By Rule ..... 17
Rule processing ..... 17
Chapter 6. Glossary ..... 19
A. ..... 19
B. ..... 20
C. ..... 21
D. ..... 24
E. ..... 24
F. ..... 25
G. ..... 26
H. ..... 26
I ..... 27
K ..... 27
L ..... 27
M ..... 28
N. ..... 29
O. ..... 29
P. ..... 30
R ..... 32
S ..... 32
T. ..... 33
U. ..... 34
V. ..... 34
W ..... 35
Z. ..... 35
Notices ..... 37

## Chapter 1. Product Analyzer overview

The Product Analyzer utility presents consumer response analysis information on a product, Demand Group, Line Group, and category basis by division. It can be used as a tool to explore relationships among products, Demand Groups, and categories, and to quickly view demand response curves for a product selected in IBM ${ }^{\circledR}$ Omni-Channel Merchandising.

Product Analyzer graphically illustrates sensitivity to regular base and promotion price changes, as well as other promotion lift factors such as ads and displays. It also diagrams how a product's price changes as rules in a scenario's rule hierarchy are processed.

The Product Analyzer opens in a separate browser window so that you can browse products and insights while creating promotions, analyzing results, or comparing scenarios.

Note: The Online Help, which has the same contents as this user guide, is only available from within the Product Analyzer utility. It is not available from other applications.

The Product Analyzer is divided into separate tabs: Relationships, Price Response Analysis, Promotion Response Analysis, and Price Change By Rule:

- The Relationships panel displays detailed information about the product selected such as various costs, competitive data, and members of the same Brand, Size, or Line Groups.
- For the Price Response Analysis and Promotion Response Analysis, a set of curves represents potential lift as a result of certain marketing actions and a segmentation chart shows each product's performance relative to others in its category.
- The Price Change By Rule tab graphically illustrates how a product's price in a Rules Based Pricing scenario or a Price Update changes as rules in the scenario's rule hierarchy are processed.

The Product Analyzer utility can be accessed from within various IBM Omni-Channel Merchandising applications or from the Tools drop-down menu. The Relationships and Price Change By Rule panels are only visible when the Product Analyzer is accessed from within IBM Omni-Channel Merchandising Price Management and Price Optimization. Both the Price Response Analysis and Promotion Response Analysis panels are populated with data when a separate process is run in the IBM Omni-Channel Merchandising system. Contact your IBM Omni-Channel Merchandising Representative if data needs to be generated.

Note: You must have the Price Response Analysis, Promotion Response Analysis, and View Rule Bounds and Price Changespermissions set to access these panels in the Product Analyzer.

## Benefits of using Product Analyzer

Use the Product Analyzer to confirm price recommendations, gain insight into optimized prices, and see the impacts of price changes and discounts.

The Product Analyzer can help you in the following cases:

- Build user confidence in the IBM Omni-Channel Merchandising models - By interacting with the Product Analyzer, you will see that the IBM Omni-Channel Merchandising models accurately reflect what you may already know about your categories. This leads to confidence in the price recommendations and forecasts.
- Understand recommended prices in pricing scenarios - When a particular price is moved in a way that you may not understand, you can view the Price Response Analysis curves to gain insight into the optimized prices.
- Quick what-if of price change and discount requests - Price Response Analysis and Promotion Response Analysis cannibalistic curves indicate the impacts of significant price changes and discounts for a product.


## Translations

The Product Analyzer is available in several national language versions.
The Product Analyzer application interface is available in the following national languages:

- Brazilian Portuguese
- English
- French
- German
- Japanese
- Simplified Chinese
- Russian
- Spanish


## Chapter 2. Price Response Analysis

The IBM Omni-Channel Merchandising Price Response Analysis graphically illustrates sensitivity to base price changes for products, Demand Groups, Line Groups, and categories by division. You can view the lift effects relative to the other products, Demand Groups, or Line Groups in the same category.

Price Response Analysis is viewed in a separate browser window so you can browse products and merchandising behaviors while comparing scenarios and analyzing scenario results, for example. You can access Price Response Analysis from these locations: Tools drop-down menu at the top of a IBM Omni-Channel Merchandising page,Price tab drop-down menu, the Scenario Results, Scenario Price Approval, and Production Price Approvalreports, and many of the Data Maintenance Price and shared reports (at the SKU levels).

Users of the Promotion application who are experimenting with different EDLP or current price/list cost override performance detail types should reference the price elasticity and other values in the Price Response Analysis rather than the Promotion Response Analysis. The Promotion Response Analysis shows volume response from temporary price reductions whereas the Price Response Analysis shows volume responses based on longer term prices.

Note: \# Price Changes in the Selection Details area represents the volume weighted average number of price changes across all stores during the calculation period. For the number of price changes for a Demand Group, the product in the Demand Group with the largest number of price changes is used for the calculation.

## Modeling data used

The IBM Omni-Channel Merchandising product leverages proven scientific models to isolate the price sensitivity at the different levels of the Price Response Analysis (SKU, Line, Demand Group, Category, Division).

By implementing individual price changes across a range of $-50 \%$ to $50 \%$ change in $10 \%$ increments, the models predict the percent changes for the Unit Volume, Revenue, and Gross Margin metrics. These sensitivity calculations or elasticities are presented in the graphs of the Price Response Analysis tool.

Price Response Analysis requires data inputs that are calculated using the IBM Omni-Channel Merchandising category level models. As a result, you can only view category information in Price Response Analysis that have existing models. Price Response Analysis is a unique part of the modeling system and must be run separately. The cadence of these runs may need to be more frequent than your actual remodels to take model changes into account that occur due to changes in assortment. However, the default is to run the Price Response Analysis over the same time horizon as the most recent modeling run, so the data displayed that gives an indication of model quality, such as the number of price changes, would match what is being leveraged by the model.

## Selecting the analysis levels

Divisions, Categories, Demand Groups, and products that you select drive the information in the chart and graphs. They can be selected directly or accessed using next and previous buttons.

You can also select the type of average volume (Unit Volume, Revenue, Gross Margin) and percentage of price change for the Base Price Lift Segmentation chart.

## Division menu

The division that you select drives the Base Price Lift Segmentation chart and available choices for the Category and Product drop-down menus.

The first drop-down menu in the upper left-hand corner of Price Response Analysis is the Division drop-down menu. This drop-down is available if data exists for one or more divisions.

## Category menu

The category or demand group that you select drives the Base Price Lift Segmentation chart and available choices for the Product drop-down menu.

The second drop-down menu in the upper left-hand corner of Price Response Analysis is the Category drop-down menu.

You can select one of the following from the Category drop-down menu:

- DGP - Category (category, Demand Group level)
- Line Group - Category (category, Line Group level)
- UPC - Category (category, product level)


## Product menu

Your product menu selections drive the details displayed in all of the Product Analyzer graphs.

The third drop-down menu in the upper-left hand corner of the Price Response Analysis window is the Product drop-down menu. This drop-down menu contains product descriptions, or Line Groups/Demand Groups (if you selected the Line Group/Demand Group, category level in the previous drop-down menu). You can also select the All UPCs/DGPs/Line Groups Category Average for an average of all products/Demand Groups/Line Groups in the category. Your selection in this drop-down drives the selection details in all of the graphs.

## Browse features

To help find products within larger categories, use the browse features for the drop-down menus.

You can select next or previous buttons $(-,+)$ to browse through the lists in the drop-down menus.

## Graph menus

Make selections in the graph menu to display information in the Base Price Lift Segmentation chart.

You can change the Response Metric (Unit Volume, Revenue, Profit) and Base Price Change percentage for the selected product. These values drive the information displayed in the Base Price Lift Segmentation chart. The drop-down menus are located at the bottom of the Price Response Analysis window.

## Interpreting the Price Response Analysis graphs

The Price Response Analysis graphs are a graphical depiction of the IBM Omni-Channel Merchandising econometric models. They communicate how a product, Demand Group, or Line Group is expected to respond to changes in base price.

- Base Price Lift Segmentation chart - Points on the scatter plot show how an individual product, Demand Group, or Line Group compares to others in the category for the selected base price change and response metric.
- Price Response - Non-Cannibalistic graph - Elasticity curves show how the selected product's volume responds to base price changes.
- Price Response Cannibalistic graph - Elasticity curves show how the selected product's volume responds to base price changes and the cannibalistic effects on the other products in the same Demand Group.


## Base Price Lift Segmentation Chart

The Base Price Lift Segmentation chart highlights the specified item's response to price change, as well as the response to price change for the other items in the same category, Demand Group, or Line Group.

The horizontal axis represents average weekly volume (Unit, Revenue, or Profit). Higher volume items are on the right and lower volume items are on the left. The vertical axis represents price elasticity (lift). Items near the top respond greatly to pricing action, while items near the bottom have very little response.

The light blue dot represents the currently selected item from the drop-down menu. The other dots represent the other items in the same category, Demand Group, or Line Group. The color of the dots reflects the chosen response metric, either Unit Volume (blue), Revenue (green), or Profit (red).

When you mouse over an item's dot, the item's information displays in a tool-tip. When you click a dot, the item that the dot represents becomes the specified item in the graphs.

## Price Response - Non-Cannibalistic Graph

The Price Response - Non-Cannibalistic graph displays the elasticity for the selected analysis level for the selected item across the dimensions of Unit Volume, Revenue, and Profit. Each curve displays the lift across the range of price changes (typically -50\% to $+50 \%$ ).

The elasticity curves include the effects of gap-elasticity (changing the price gap between other products in the same Demand Group) as well as sales-elasticity (how consumers will change their behavior based on the absolute price of the item).

The elasticities are non-linear. Price-increases may have different responses than price decreases, and different levels of price changes may have different response magnitudes.

The measurements are based on historical price changes. If an item has never seen a $50 \%$ price increase, the $+50 \%$ point is a projection based on the information that the models had available.

You can use this graph together with the Base Price Lift Segmentation chart to predict the effects of changing the base price percentage for the selected item.

## Price Response - Cannibalistic Graph

The Price Response - Cannibalistic graph shows price responses at the category level (changes in Unit Volume, Revenue, or Profit of the category) divided by the average unit volume of the item currently selected.

The price responses of the category are calculated using a cannibalistic model. For example, a price increase of one product, causing a volume decrease of 1,000 units of that product, would lead to a volume increase in other products within the same Demand Group (cannibalization effect). The net volume loss within the category would be less than 1,000 items because of this cannibalization effect. The Cannibalistic graph is intended to provide a qualitative understanding of how price changes of a given product affect the overall category.

Note: This graph is only visible if you select the category, UPC level in the Category drop-down menu.

## Price Image Item

The Price Image Item report identifies and displays image items within a category and division or across categories in a division.

The Price Image Item report identifies and displays image items within a category and division or across categories in a division. Select the desired category in the Category dropdown menu. Select the desired division in the Division dropdown menu. The table shows information about individual items in a category and the plot graph shows the distribution of these items based on relative volume and relative elasticity.

Note: The application utilizes both Elasticity index and Volume index for Image Item Analysis. Elasticity is calculated by modeling job and for category level Image Item Analysis, the application will use elasticity at the category level. Each modeled category will have an elasticity per price change range.The Elasticity index will calculate based on the average value. Volume index is calculated based on the average volume. Please contact your IBM representative for more information about enabling this feature.

## Understanding the Price Curves

The price curves display information about unit volume, profit, and revenue in response to pricing changes.

- The Blue curve in the graph represents how a product's unit volume will respond to various pricing actions.
- The Red line on the graph represents how a product's profit (Gross Margin \$) will respond to various pricing actions. This is based on the product's cost at the time of the last model.
- The Green line on the graph represents how a product's revenue will respond to various pricing actions. This is based on the product's average scan price at the time of the last model.


## Examples

These examples show how price changes impact the depiction of profit, revenue, and unit volume in the Price Analyzer graphs.

All three curves in the graphs must be considered together. In the following example, a $20 \%$ price increase will drive a $+40 \%$ increase in profit (red curve), no change in revenue (green curve), and a - $20 \%$ decrease in unit volume (blue curve) for the selected product (all values are approximations).


In this example, the Price Response - Non-Cannibalistic graph was used to view the effects of a base price change on the selected product and other products in the category before adjusting the Base Price Lift Segmentation chart.

8 IBM Product Analyzer: Users' Guide

## Chapter 3. Promotion Response Analysis

IBM Omni-Channel Merchandising Promotion Response Analysis gives you insight into the effects of different discounts and promotions for products, Demand Groups, Line Groups, and categories by division. You can view the lift effects relative to the other products, Demand Groups, or Line Groups in the same category.

Promotion Response Analysis is viewed in a separate browser window so you can browse products and merchandising behaviors while creating promotions and analyzing the results, for example. You can access Promotion Response Analysis from these locations: Tools drop-down menu at the top of a IBM Omni-Channel Merchandising page, Promotion tab drop-down menu, and the All Products by Promotionreport in the Category Plan Detailspage.

Users of the Promotion application who are experimenting with different EDLP or current price/list cost override performance detail types should reference the price elasticity and other values in the Price Response Analysis rather than the Promotion Response Analysis. The Promotion Response Analysis shows volume response from temporary price reductions whereas the Price Response Analysis shows volume response based on longer term prices.

Note: The product metrics and the promotion types that you choose can be customized for your individual needs. Contact your IBM Omni-Channel Merchandising Representative for more information.

## Modeling data used

IBM Omni-Channel Merchandising leverages proven scientific models to isolate the promotion sensitivity at the different levels of the Promotion Response Analysis (SKU, Line, Demand Group, Category, Division) and by different promotion lever, such as TPR, Ad, or Display.

These sensitivity calculations or elasticities are presented in the graphs of the Promotion Response Analysis tool.

Promotion Response Analysis requires data inputs that are calculated using the IBM Omni-Channel Merchandising category level models. As a result, you can only view category information in Promotion Response Analysis that have existing models. Promotion Response Analysis is a unique part of the modeling system and must be run separately. The cadence of these runs may need to be more frequent than your actual remodels to take model changes into account that occur due to changes in assortment. However, the default is to run the Promotion Response Analysis over the same time horizon as the most recent modeling run, so the data displayed that gives an indication of model quality, such as TPR count, would match what is being leveraged by the model.

## Product Information Metrics

The Product Information Area contains the following set of metrics to assist in understanding the promotional impacts of each product.

| Metric | Description | Purpose |
| :---: | :---: | :---: |
| TPR Elasticity | The elasticity response for a TPR at a $10 \%$ reduction in price. <br> An elasticity of $-2=$ an expected $20 \%$ volume increase at a $10 \%$ discount. | Highlights how sensitive a particular product is to a temporary price reduction. |
| Ad Lift | The percent lift due to a product being placed on Ad. This lift is estimated without other merchandising activity even though typical observations include other such activity. | Highlights how sensitive a particular product is to an advertising support. |
| Display Lift | The percent lift due to a product being placed on Display. This lift is estimated without other merchandising activity. | Highlights how sensitive a particular product is to being placed on display. |
| Multiple Lift | The percent lift due to a product being placed on Multiple. This lift is estimated without other merchandising activity. <br> Note: This assumes $100 \%$ display ACV or compliance, so be careful when making assumptions that this lift percentage could be a multiplier factor without first adjusting it for more realistic ACV or compliance considerations. | Highlights how sensitive a particular product is when it is run on multiple. |
| TPR Count | Number of occurrences of a TPR for a given product averaged across stores in which the product is active. | Provides a level of confidence in a particular type of promotion lever based on how often it |
| Ad Count | Number of occurrences of an Ad for a given product averaged across stores in which the product is active. | occurred historically in the data during the model period. |
| Display Count | Number of occurrences of a Display for a given product averaged across stores in which the product is active. |  |
| Multiple Count | Number of occurrences of a Multiple Price (such as 2 for $\$ 1)$ for a given product averaged across stores in which the product is active. |  |


| Metric | Description | Purpose |
| :--- | :--- | :--- |
| Weekly Volume | Average weekly volume for <br> the product over the last 52 <br> weeks of scan history in the <br> period over which the <br> Promotion Response was <br> run. The average includes <br> any missing weeks as zero's. <br> If the product has <52 weeks <br> of scan history, the average is <br> from the first week of scan <br> history. | Provides an understanding <br> of volume and importance of <br> product. |
| Weekly Revenue | Calculated the same way as <br> volume but based on the <br> average POS scan price and <br> unit volume. | Provides an understanding <br> of revenue and importance <br> of product. |
| Weekly Profit | Average weekly Gross Profit <br> based on Scan Price and <br> retailer provided "net" cost. <br> "Net" cost usually has <br> factored in some of the <br> retailer-received promotional <br> allowances. | Provides an understanding <br> of profitability and <br> importance of product. |

## Selecting the Analysis Levels

Divisions, Categories, Demand Groups, Line Groups, and products that you select drive the information in the chart and graphs. They can be selected directly or accessed using next and previous buttons.

You can also select the type of average weekly volume (Unit Volume, Revenue, Profit) and discount percentage for the Promotion Segmentation chart.

## Division Menu

The division that you select drives the Promotion Segmentation chart and available choices for the Category and Product drop-down menus.

The first drop-down menu in the upper left-hand corner of Promotion Response Analysis is the Division drop-down menu. This drop-down is available if data exists for one or more divisions.

Note: If Promotion Response Analysis is accessed from a multi-division promotion within the Promotion application, only the first available division will display in the Division drop-down menu.

## Category menu

The category, Demand Group, or Line Group that you select drives the Promotion Segmentation chart and available choices for the Product drop-down menu.

The second drop-down menu in the upper left-hand corner of Promotion Response Analysis is the Category drop-down menu. The category, Demand Group, or Line Group that you select drives the Promotion Segmentation chart and available choices for the Product drop-down menu.

You can select one of the following from the Category drop-down menu:

- DGP - Category (category, Demand Group level)
- Line Group - Category (category, Line Group level)
- UPC - Category (category, product level)


## Product menu

Your selection in this drop-down drives the selection details in all of the graphs.
The third drop-down menu in the upper-left hand corner of the Promotion Response Analysis window is the Product drop-down menu. This drop-down menu contains product descriptions, or Line Groups/Demand Groups (if you selected the Line Group/Demand Group, category level in the previous drop-down menu). You can also select the All UPCs/DGPs/Line Groups Category Average for an average of all products/Demand Groups/Line Groups in the category.

## Browse features

To help find products within larger categories, there are browse features for the drop-down menus.

You can select next or previous buttons $(-,+)$ to browse through the lists in the drop-down menus.

## Graph menus

The selections in the graph menus drive the information displayed in the graphs.
Note: You can provide promotion causals other than these, or re-label the promotional levers differently based on how you typically refer to them. Similarly, if no data exists for a particular level, they can be turned off within System Settings.

- Promotion Lever - The promotion lever (Multiple, Ad, Display, TPR) that displays in the Promotion Segmentation chart. The vertical axis of the segmentation chart will change to reflect this selection. The types of levers can be configured.
- Multiple (" 2 for a $\$ 1.00$ ") is a unique lever, even though it is a type of TPR. Because it is very commonly used, it is modeled separately than the other types of TPRs.
- Metric - Selects Unit Volume, Revenue, or Profit lift effects to be displayed in all three graphs. The horizontal axis of the segmentation chart and the vertical axis of the lift charts will change to reflect this selection.
- Discount - Selects the discount level to display in the segmentation chart.
- SKU / Cannibalistic - Updates the segmentation chart with the selected data from either the SKU Lift or Demand Group Lift graph.


## Interpreting the Promotion Response Analysis Graphs

The Promotion Response Analysis graphs are a graphical depiction of the IBM Omni-Channel Merchandising econometric models. They communicate how a product, Demand Group, Line Group, or category is expected to respond to changes in promotion lever and discounts.

- Promotion Segmentation chart - Points on the scatter plot show how the lift for the selected product, Demand Group, Line Group, or category compares to the other items for the selected promotion lever and discount level.
- SKU Lift graph - Elasticity curves show how the selected product's volume responds to different promotion levers and discount changes.
- Demand Group Lift (after Cannibalization) graph - Elasticity curves show the cannibalistic effects on the other products in the same Demand Group for the different promotion levers and discount changes.


## Promotion Segmentation chart

The Promotion Segmentation chart displays the selected metric lift for a selected lever at a selected discount level for all products in the selected category/aggregation against the average weekly metric.

The horizontal axis represents average weekly volume (Unit, Revenue, or Profit). Higher volume items are on the right and lower volume items are on the left. The vertical axis represents price elasticity (lift) for the selected lever. Items near the top respond greatly to pricing action, while items near the bottom have very little response.

The light blue dot represents the currently selected product from the drop-down menu. The other dots represent the other products in the category or Demand Group. The color of the dots reflects the chosen response metric, either Unit Volume (blue), Revenue (green), or Profit (red).

When you mouse over a product dot, the product's data displays in a tool-tip. When you click a dot, the product that the dot represents becomes the specified product in the graphs.

## SKU Lift graph

The SKU Lift graph shows the lift effects on the selected metric for each discount level and promotional lever. Each curve displays the lift across the range of discount changes (typically $0 \%$ to $+50 \%$ ).

The elasticity curves include the effects of gap-elasticity (changing the price gap between other products in the same Demand Group) as well as sales-elasticity (how consumers will change their behavior based on the absolute price of the item).

The measurements are based on historical discounts. If a product has never seen a $50 \%$ price decrease, the $+50 \%$ point is a projection based on the information that the models had available.

You can use this graph together with the Promotion Segmentation chart to predict the effects of changing the discount percentage for the selected product.

## Demand Group Lift (after Cannibalization) graph

The Demand Group Lift (after Cannibalization) graph shows cannibalization effects on the category for the selected metric for each discount level and promotional lever or demand causal indicator.

For example, a smaller discount applied to one product, causing a sales volume decrease of 1,000 units of that product, would lead to a volume increase in other products within the same Demand Group (cannibalization effect). The net volume loss within the category would be less than 1,000 items because of this
cannibalization effect. The Cannibalistic graph is intended to provide a qualitative understanding of how discount changes of a given product affect the overall category.

Effects from cannibalization can produce negative curves for unit volume, revenue, or profit in the graph. The following are some examples in which these negative curves may occur:

- Unit Volume lift due to promotion: This could be negative in the rare occasion that you promote a very large item (such as 24 -pack water) with low promotional lift, which is in the same Demand Group as a small item (such as singles), and there is high cannibalization between the two items. An extreme example could be that a promotion increases the volume of cases by 100 physical units ( 2400 equivalent units) and decreases singles by 2400 physical units ( 2400 equivalent units). Therefore, the total Demand Group effect would be -2300 units for promoting this item. In reality, this should happen rarely, and if found, you should evaluate whether the 24-pack of water should be in the same Demand Group as the single servings.
- Revenue lift due to promotion: This could be negative due to the example from the unit volume lift above, or when a very high priced item has a low promotional lift and is in the same Demand Group as a low-priced item, and there is a high level of cannibalization between the two. For example, a $\$ 10$ printer cable is in the same Demand Group as a $\$ 100$ printer cable. They are completely cannibalistic. You promote the $\$ 10$ item (display only - no TPR) and get 100 units of lift ( $+\$ 1000$ ), but 20 of the items are cannibalized from the $\$ 100$ cable ( $-\$ 2000$ ). The net effect would be a loss of $-\$ 1000$. The effect can be more pronounced when TPRs are involved since the promoted item's revenue becomes lower.
- Profit lift due to promotion: This could be negative due to the above two effects, or could occur when a very high margin item is in a highly cannibalistic relationship with a low margin item. For example, a store brand disposable camera is in the same Demand Group as a branded camera. The branded item is $\$ 10$, while the private label is $\$ 9$. However, the branded item has a $\$ 1$ markup while the private label has a $\$ 5$ markup. If you promote the branded item by putting it on display (no TPR), you may get an increase of 1000 items ( $+\$ 1,000$ in profit), but 500 come from the private label item ( $-\$ 2500$ ), resulting in a net loss of profit. This effect is more pronounced in the presence of TPRs since a TPR lowers profitability of the target item.


## Chapter 4. Product relationships

When reviewing an pricing scenario's results, you can easily access the Relationships panel of the Product Analyzer to research a selected product.

For example, you may be interested in the product's attributes, cost data, competitor data, or other items in the same Brand or Size Family. Select and right-click on a product in the Scenario Results, Scenario Price Approval, and Production Price Approval pages of the Price application (at the SKU levels) to open the Relationships panel directly.

The left-side of the panel lists the product attributes, such as the category, UPC, Demand Group, brand name, new and current prices, and cost.

Expand the following panels to see detailed information. In these panels, you can rearrange columns by dragging and dropping the column heading to a new position.

- Product Group - Shows all the product groups (both static and dynamic) that are used in the scenario and contain the currently selected product.
- Competitive Information - Lists the competitor names, latest competitive prices, current to competitive price differences, and effective dates.
- Line Members, Brand Family Members, Size Family Members, Other1/Other2 Family \& Class - Shows all the products that belong to that family or line, unit price (volume-weighted average of the new price at the SKU/Store level), and the equivalent price calculated as unit price divided by size at the SKU/Store level.
- Product or Line Relationship Information - If the Product or Line Relationship rule was defined with the currently selected product, the Relationship Driver column will show the driver product for each driven product or line group in the report, the Relationship Value column will show the coefficient between the driver and the driven product/line group, and the Relationship Type column will indicate if the coefficient is a multiplier or relative value. The Product or Line Relationship rule sets the price $\triangle$ of the second product or line group in a pair based on a multiplier or relative value applied to the last optimized price of the first product or line group (the "driver"), as shown in these equations:

$$
\begin{aligned}
& \text { Price of } \mathrm{UPC}(2)=\text { Price of } \mathrm{UPC}(1) \times \text { Multiplier Value } \\
& \text { Price of } \mathrm{UPC}(2)=\text { Price of } \mathrm{UPC}(1)+\text { Relative Value } \\
& \text { Prices in Line }(2)=\text { Prices in Line }(1) \times \text { Multiplier Value } \\
& \text { Prices in Line }(2)=\text { Prices in Line }(1)+\text { Relative Value }
\end{aligned}
$$

Note: You can also view Product Relationships at the Zone level.

## Chapter 5. Price Change By Rule

For optimized scenarios, you can view a high-level graph in the Price Change By Rule tab that illustrates how the initial price changed as each rule in the scenario's rule hierarchy was applied.

The graph shows each rule and its description, the low and high bounds in the rule definition, and the gap between the low and high bounds. You select and right-click on a product in the Scenario Results, Scenario Price Approval, and Production Price Approval pages of the Price application (at the Store and Zone levels) to open the Price Change By Rule panel directly.

The right-click option to open the Price Change By Rule panel will not be available for pre-priced or locked products, or products in the scenario results that were not selected by the user when the scenario was first created. The View Rule Bounds and Price Changes permission must be set to open the Price Change By Rule panel.

The graph shows the product's initial Zone price at the top of the list in the Price column, and the price as each rule is applied to arrive at the ending price displayed at the bottom.

A blue vertical line in the middle of the graph represents the original price, and a red line represents the new price. The red line will shift to the right when the relevant rule causes the price to increase from the original price, and will shift to the left when the relevant rule causes the price to decrease from the original price. The gap between the red and blue lines is the spread between the initial and intermediate prices.

The bounds in the rule definition are also shown. A gray shaded box represents the gap between the bounds of the rule, but will only display if it can fit within the column of the graph.

Note: To use Price Change by Rule, the proper science settings must be enabled. Contact your IBM representative for more information.

## Rule processing

The price is calculated from the initial Zone price and related rules. Each time a rule from the rule hierarchy is added to do a calculation, the price is updated to a new intermediate price. When the last rule is added, all rules come into calculation.

The intermediate price might not change. For example, suppose one product is given a large number of rules and its initial Zone price is $\$ 10$. The rule highest in the hierarchy is the SKU Limits Rule ( $-10 \%,+0 \%$ ), and the second highest rule is the Competitive Rule ( $\$ 12, \$ 13$ ), both of which make the intermediate price into $\$ 10$. The intermediate price will stay as $\$ 10$ all along to the final price. Whether the value of intermediate price will change or not mainly depends on the comparison between the previous price and added rule bounds.

Note: Rules in the rule hierarchy will be processed but not displayed if they are applied at the group level (such as Price Rule- Demand Group), or if the rules
were already satisfied by preceding rules in the hierarchy. Rules that are processed internally in the system will also not display. Rules that are applied post-optimization will display at the bottom of the list, noted by a "P".

Also, by default, only unary rules (such as the Volume rule, Profit rule, or the Price Rule - SKU Limit) will display in the list. You can enable a system setting so that both unary and binary rules (such as the Brand or Size rules) will display. Gross Margin-related binary rules will not display, as an exception. Contact IBM Omni-Channel Merchandising Customer Support to enable this system setting.

## Chapter 6. Glossary

This glossary provides terms and definitions for the IBM Omni-Channel Merchandising software and products.

The following cross-references are used in this glossary:

- See refers you from a nonpreferred term to the preferred term or from an abbreviation to the spelled-out form.
- See also refers you to a related or contrasting term.

For other terms and definitions, see the IBM Terminology website (opens in new window).
" A " " B " on page 20 " C " on page 21 " D " on page 24 " E " on page 24 " F " on page 25 " G " on page 26 " H " on page 26 " I " on page 27 " K " on page 27 " L " on page 27 " M " on page 28 " N " on page 29 " O " on page 29 " P " on page 30 " R " on page 32 " S " on page 32 " T " on page $33^{\prime} \mathrm{U}$ " on page 34 " V " on page 34 " W " on page 35 "Z" on page 35

A
ABC See activity based costing.

## accrual fund

A method of funding which is used to allocate trade funds between a manufacturer and a retailer.
activity based costing (ABC)
An accounting method used to measure the cost and performance of activities, resources, and cost objects.

## ACV percentage

See historical store participation.

## ad allowance

A sum of money paid to a retailer from running a series of advertisements for the manufacturer. The allowance is determined by the quantity of product purchased from a manufacturer.

## ad zone

A collection of stores that offer the same advertised promotion.

## allowance

A discount given to a retailer by a manufacturer in the form or monies, product discounts, shipping discounts, and so on.

## allow backhaul

A Boolean field that indicates if a product can be returned to the supplier on the supplier's truck in the case of an unsold or broken product.

## anchor class

A collection of products with similar anchor prices.
anchor price
A pre-established price point around which price fluctuations are determined.

## application service provider (ASP)

A vendor that provides an outsourced function to leverage scale economies, for example, hosting services.

ASP See application service provider.

## assortment

The variety of products within a merchandise category, group or department.

## assortment optimization

A marketing strategy tool that determines the best assortment in order to maximize effectiveness of a scenario.

## at-large rule

A constraint that applies to an entire scenario.

## attribute

A characteristic or trait of an entity that describes the entity; for example, the telephone number of an employee is one of the employee attributes.

B

## backhaul

An additional pickup and delivery in the reverse direction made while a vehicle is returning to the starting site after it has made a delivery.

## backhaul allowance

A sum of money paid to a retailer that is determined by the quantity of product moved from the manufacturer's location to a retailer's location by the use of contracted trucks.

## base price

The manufacturer's suggested retail price.

## base support

The total baseline volume exposed to a promotion.

## basis point

The smallest measure used to quote financial return. One basis point equals one one-hundredth of a percent. For example, the difference between a net profit margin of $2.25 \%$ and $2.50 \%$ percent is 25 basis points.

## Bayesian inference

A statistical inference in which probabilities are interpreted as degrees of belief.

## Bayesian shrinkage

A Bayesian methodology whereby information is borrowed across products and stores in order to intelligently reduce model estimates and moderate extreme values.
block See store zone.
BOGO
See buy-one-get-one free.
brand The source of a relevant, distinctive and enduring "promise of value" to a specific set of customers. The promise should be relevant to those customers and be differentiated from those of competitors. A powerful brand influences a marketplace, demonstrates leadership and quality, and is familiar and trusted.

## brand class

A collection of brands based of set of similar traits or attributes. For example, generic sodas can be placed in a private label brand class and Coke in a national label brand class.

## brand class rule

A constraint imposed on members of a brand class that determines the price relationship among members.

## brand family

A subset of a brand class.

## brand manager

A person who charts the strategy and tactics surrounding the brand plan. For example, the brand manager tracks which new products get developed and which marketing mix events will occur.

## brand rule

A constraint imposed on members of a brand that determines the price relationship among members.

## breadcrumb trail

A navigation technique used in a user interface to give users a way to keep track of their location within the program or documents.

## business rule

A constraint on optimization that allows rules to describe strategies or policies that are important in guiding the outcome of the optimization to suit the customer's needs.

## buying allowance

A sum of money paid to a retailer that is determined by the quantity of product cases purchased by the retailer.
buy-one-get-one free (BOGO)
A promotion tactic often used to give consumers an incentive to buy and stock up on a product.

## C

## calculation context

A configuration setting that forecasts a promotion in a specific context in order to account for historical levels of promotion on non-promoted products.

## cannibalization

The negative effect on the sale of a product when a consumer purchases one product instead of another. For example, when a new flavor of yogurt is introduced the increased sales of the new flavor affect the sales of the other flavors of yogurt.

## case allowance

A discount of a fixed dollar amount on the price of a case of a product. For example, the manufacturer offers a reduction in the price per case of product in order to offload inventory quickly.

## case cube

The volume of a product when packed in a case form.

## case list cost

The manufacturer's cost of a product in case form.

## case pack

The number of units of a product when packed in case form.

## case volume lift percentage

The percentage of cases that will be sold as a result of a promotion.

## category

A group within a system of classification whose contents share similar properties.

## category management

The process of determining the price, promotions, assortment, and the shelving of a product category.

## category manager

A person responsible for all merchandising activities for a category of products, including price, promotion, placement, and assortment.

## category plan

All promotions for one category that intersect in time with a specified date range.
chain A branded collection of stores with a single owner.
client The user interface application installed at the customer site.

## client product key

The customer's unique SKU identifier for this product.
club card
See loyalty card program.
coefficient
A number representing the relationship between a dependent variable (for example, sales volume or share) and an independent variable (for example, base price or discount).

COGS See cost of goods sold.

## comparative shopping (comp shop)

The act of verifying the price of a product or service of a competitor.
competitive price
A product price that is perceived to be a good value compared to what the competition is charging for the same product.

## competitive product

A product that is sold profitably and is able to maintain its place within a market of similar products.

## competitor

A retailer who is identified when price matching an item, and who may be offering the item at a lower price than that offered by the corresponding enterprise.

## competitor price rule

A constraint imposed on the price of a product or service in order to stay within the price range of a retail competitor.

## complementary product

An item that a consumer buys because it is related to another product. For example, consumers who buy hot dogs will usually buy hot dog buns.
comp shop
See comparative shopping.

## consideration set

The set of brands that a consumer considers when making a product purchase decision.

## constraint

See business rule.

## consumer

An individual who purchases products or services from an enterprise.

## consumer demand model

A system of equations that predicts how much consumers will buy depending on factors such as price, seasonality, and promotions.

## consumer loyalty

The affinity that a consumer has for a product or a retailer that makes them more likely to purchase a specific product, or shop at a specific store.

## consumer response model

See consumer demand model.

## consumer unit

An abstracted sales unit that can aggregate multiple unique UPCs into what a consumer considers a single item. For example, different UPCs for the various brandings of the same product can be linked by a consumer unit.

## contribution margin

The remaining dollar amount in an adjusted gross margin after variable costs are subtracted.

## cost The amount of money paid to a manufacturer for a product.

## cost class

A collection of products with similar or related costs.

## cost family

A subset of a cost class.

## cost of capital

The amount of money associated with carrying merchandising inventory.

## cost of goods sold (COGS)

The amount of money that a retailer pays a manufacturer for a product.

## cost type

The highest-level category to which costs are assigned in budgeting and accounting, for example, hardware, software, people, accommodation, external and transfer.

CQD See cumulative quantity discount.

## cross elasticity

A measure of relatedness among the purchase of products that is expressed in terms of a numeric value. The relationship is expressed by a positive value if the products are related and a negative value if they are unrelated.

## cross elasticity of demand

 See cross elasticity.
## cumulative quantity discount (CQD)

An allowance that varies with volume. For example, the retailer will receive a payment of $\$ 1.00$ per case for the first 1000 cases, or $\$ 2.00$ per case for the next 1000 cases.

## customer

A person or organization, internal or external to the producing organization, who takes financial responsibility for the system. In a large system this may not be the user. The customer is the ultimate recipient of the developed product and its artifacts.

D

## deal period

A period of time in which a retailer qualifies for the manufacturer's discounted price.

## deal term

Stated conditions, restrictions, and exclusions on a deal.

## demand curve

The demand for a product over a price range across time.

## demand group

A collection of products with a high cross elasticity. The price and promotion of one item in the group directly affects that demand for the other items.

## direct store delivery (DSD)

The shipment of a product from the manufacturer to the retailer bypassing distributors and wholesalers.

## display media

Various methods for attracting consumer attention to a particular product.

## drop ship method

A method of product shipment used to reduce inventory costs by having the manufacturer ship an order directly to the consumer on behalf of the retailer.

DSD See direct store delivery.

## dynamic product group

A collection of products with similar or related costs to which new products are automatically added or removed based on a criteria filter.

## dynamic store group

A set of stores that are treated as one unit to which stores are added or removed automatically based on criteria filter.

E
EDLP See everyday low pricing.

## elasticity

A measure of consumer responsiveness in terms of quantity of a product purchased in relation to the increase or decrease of the product's price.
elasticity of demand
The rate at which demand changes for a change in price. Change in demand divided by change in price.
end cap
A display at the end of an aisle.

## end-of-life date

The date in which the normal demand for a product falls to a value very close to zero.

## equivalent price difference

A measure of the difference between the initial equivalent price and the optimal equivalent price.

## equivalent price percentage change

A measure of the difference between the initial equivalent price and the optimal equivalent price in terms of percentage change.
equivalent retail price
The shelf price of a product divided by the standardized unit of measure.

## equivalent unit

A standardized measure of volume based on a process of equivalization. See also equivalization.
equivalent volume
The relative number of equivalent units sold. For example, if two 12-packs of Coke are equal to one equivalent case, and two equivalent cases are sold, then the equivalent volume is two.
equivalent volume difference
The difference between the initial equivalent volume and the optimal equivalent volume in absolute terms.
equivalent volume percent change
The difference between the initial equivalent volume and the optimal equivalent volume in terms of percentage.

## equivalization

The assignment of a standardized unit of measure to a product based on the product's description and the spread of sizes or counts that apply to that description. For example, both one case of Coke and two 12-packs of Coke are equal to one equivalent case. See also equivalent unit.
event A group of promotions arranged in a particular theme.
everyday low pricing (EDLP)
A performance detail type which is used when a price change lasts more than eight weeks or significantly longer than a temporary price change.

## F

facing The number of items on a shelf that are facing the customer. Facing provides a measure of store space allocated to a single product.

## facing optimization

A process that is used to determine the most effective product facing.

## feature

Part of a product that is either included with the product or can be ordered separately.

## financial modeling

See activity based costing.

## fixed cost

An expenditure that does not vary with the production volume, such as rent, equipment, buildings, property tax, and some salaries.

## fixed trade fund

Monies that the manufacturer pays to the retailer to secure a display or an advertisement.

## forecast

A function that can provide a prediction of future performance of a managed system using past data collected on that managed system.

## form class

A group of products that share the same form, such as a liquid or a solid.

## forward buy

A purchase of an amount of product that exceeds immediate needs in order to take advantage of favorable pricing offered for promotions.

## franchise pricing

A set of functionality which allows users of Price Management and Price Optimization to set transfer prices.

## freight allowance

A sum of money paid to a retailer that is determined by the quantity of product moved from the manufacturer's location to a retailer's location by manufacturer owned trucks.

## G

## gross margin

See gross profit.

## gross margin rule

A constraint imposed on the optimization to stay within a particular gross margin range.

## gross profit

Revenue minus cost.

## group ID

A system-generated grouping identifier for ad slots that should appear together.

H

## historical accrual fund

The amount of trade funds spent by a particular account. The amount spent is determined by the number of cases a retailer buys from the manufacturer in the previous year.

## historical store participation

A metric that is used to estimate the proportion of stores that will execute a promotional activity.

## hurdle rate

The minimum rate of return for a new product investment.
hurdle rate rule
A constraint imposed on the minimum rate of return on a new product investment.

## incremental case

The number of cases that the retailer will sell from the promotion.

## incremental manufacturer profit

Any additional manufacturer profit generated from a promotion.

## incremental manufacturer revenue

Any additional manufacturer revenue generated from a promotion.
incremental unit
The number of units that a retailer sells throughout a promotion period.

## incremental value

A measure of incremental profit change.

## incremental volume

The cumulative growth of a product group in terms of volume as a result of adding additional products to the group.

## K

key performance indicator (KPI)
A quantifiable measure that is designed to track one of the critical success factors of a business process.

KPI See key performance indicator.

## labor rate

An hourly labor cost including wages and benefits.

## last suggested price (LSP)

The recommended price from the last pricing action, such as an optimization, rules pricing, price update, or reforecast.
LG See location group.
LGC See location group class.

## license

A legal agreement that authorizes the use of proprietary information including, but not limited to, copyrighted or patented information.
lift Statistical measure that is the ratio between the joint probability of two variables with respect to their expected probabilities under the independence assumption.
line A company's related products that are marketed individually.

## line group

A collection of related products within a product line.

## line price class

A group of related products that share a fixed price.
line price group
See line price class.
line pricing
The assignment of a fixed price across similar products.

## live accrual fund

The amount of trade funds spent by a particular account. The amount spent is determined by the number of cases a retailer buys from the manufacturer in the current year.

## location group (LG)

A hierarchical group of locations that can be selected for a promotion.

## location group class (LGC)

A hierarchical group of location groups.

## location key

A number assigned to a store that is assigned a particular SKU number.

## logistical unit

A source of information that indicates how a product is to be shipped to a retailer.

## loyalty card program

A program that consumers sign up for to enjoy discount or reward programs in return for tracking of consumer behavior patterns.

LSP See last suggested price.

## M

## magic price

A price point at which the demand for a product increases dramatically.

## manufacturer contribution margin

The manufacturer's gross profit minus trade spending.

## manufacturer cost change

A manufacturer-driven change in the purchase price of a product.

## manufacturer post-trade cost

The weighted manufacturer's product cost after factoring in trade spending for one unit volume.

## manufacturer pre-trade cost

The weighted manufacturer's product cost prior to factoring in trade spending for one unit volume.

## manufacturer trade fund ROI

The change in the manufacturer's gross profit due to the promotion divided by the trade spending.

## markdown

The amount by which the price is reduced to increase the sales of a product.

## market

A set of potential purchasers/customers having common requirements who are willing and able to spend money to satisfy their wants and needs.

## master calendar

A merchandising activity calendar.

## measurement point

A point along the supply chain where a movement allowance is calculated.

## merchandising

The various aspects related to the promotion of a product. This includes coordinating production and marketing, developing advertising, managing product displays, and sales strategies.

## modeling

A technique that is used to predict the future behavior of customers based on historical consumer data and historical store promotions.

## multibuy

A TPR that allows the consumer to purchase several items for the equivalent price of fewer items. For example, three for the price of two. See also multiple.

```
multiple
```

A price statement in which multiple products are offered at a particular price. For example, two products are offered for $\$ 1.00$. See also multibuy.

## N

## net margin

See net profit.

```
net profit
```

Gross sales minus cost of goods sold, cost of operations, taxes, interest, and depreciation.

## non-performance allowance

Additional funding from the manufacturer to the retailer that is not tied to a promotion. Some examples are freight allowance, backhaul allowance, spoilage allowance, and buying allowance.

## 0

offer The price of a product, in one or more currencies, along with a set of conditions such as an effective time range or an acceptable quantity range, which must be satisfied in order to use the price.

## off-invoice

The amount of money that the retailer has earned from the manufacturer as a result of running a promotion.

## optimization

The process of finding the best formula for achieving a given merchandising objective.
optimization scope
The aspects of a promotion that the optimization was allowed to change, such as a TPR, any products on display, and so on.

## overhead

Costs incurred in the operation of a business that cannot be directly related to the individual products or services produced. These costs such as light, heat, supervision and maintenance may be grouped into multiple pools (department, factory, general overhead) and distributed to units of product, or service, by some standard method such as direct labor hours, direct labor cost, and so on.

## overhead allocation

The amount of overhead costs attributed to a particular product.

## package

A group of products sold for a single price term that is different than if the products were purchased separately.
panel data
A collection of data about an individual that is the result of monitoring their consumption patterns, the impact of promotions on their consumer behavior, and changes to their consumer behavior.

## pantry loading

The act of stocking up on a product because it is on sale or it is promoted.
pass-through threshold
The maximum percentage of an allowance that can be passed on to retail customers.

## percent funding

An allowance basis that calculates the allowance amount as a percentage of the promotion's TPR amount.
performance allowance
A discount for which a retailer qualifies after performing a promotion on behalf of the manufacturer.

## performance detail

A merchandising strategy. This includes product displays, temporary price reduction, or everyday low pricing.
performance detail group
A combination of performance details that apply to the same product and the same location.

## performance period

A period of time in which a promotion is performing. For example, the amount of time a product will appear on display or be advertised.

## planogram

A visual virtual representation of product layout within a store. A planogram is used to optimize product displays and maximize the effectiveness of product placement.

## point-of-sale data (POS data)

Information that is collected by scanning products at the check-out. The data include the items purchased, the volume of sales, and the purchase price for all items sold.

## POS data

 See point-of-sale data.
## potential average quantity

The average of the minimum and maximum quantity values for a package.
PPG See promoted product group.
pre-price class
A group of products that share the same pre-price.
price elasticity
See price elasticity of demand.

## price elasticity of demand

The rate at which product demand changes due to a change in product price. Elasticity is represented as a change in demand divided by change in price.
price gap
The difference in price between two related products.
price image
The consumer perception of a retailer's prices and value.
price lock
An optimization function that holds the unit price of a line item constant.

## price rule

See business rule.

## price zone

A group of stores that always have the same prices across products.

## product cost

The amount of monies paid to a manufacturer or wholesaler by a retailer in order to carry a specific product.

## product cube

The volume of space occupied by a product, expressed in cubic feet.

## product elasticity

Price elasticity of demand for a particular product.

## product pair

A set of two products that have a promotional constraint established between them.

## product relationship

The established connection between two products.

## product share

The ratio of the revenue of an individual product to the total revenue in one store.

## product storage type

The location in the store that houses a product.
product velocity
The rate of sales of a product over a defined time period. For example, the number of units of a product that are sold in one month.
profit Revenue minus variable costs, fixed costs, and activity-based costing costs.
promoted product group (PPG)
A group of products from the same product line that are promoted together.

## promotion

A temporary product price adjustment, consumer benefit, or both, tied directly to the purchase of a product. See also scenario.
promotion validation
A process that automatically detects errors in a promotion.

R

## reference cost

The cost used to determine the triggers in the price update process.

## release

A distribution of a new product or new function and authorized program analysis report (APAR) fixes for an existing product. The first version of a product is announced as release 1 modification level 0 .

## replenishment frequency

The number of times that store or distribution centre inventory is replaced in a given time period.
retail price
The price that a consumer pays for a product.
return on investment (ROI)
The amount of profit or cost saving that is realized for a given expenditure.

## revenue

The monies that are received for products or services rendered to customers.

ROI See return on investment.
S
sale impact
A measure of the effect of a sale or promotion on the demand of a product.
sales See revenue.
sales volume
The number of units of products sold in consumer or business-to-business transactions.

## same-store comparison

A measure of sales growth across stores excluding the impact of newly opened stores.
scan allowance
A discount offered to the retailer from the manufacturer for a specific product that is sold during a promotion period.

## scanner data

See point-of-sale data.

## scenario

A set of constraints and rules applied to product, store, price, and cost data that is optimized to achieve a particular business objective in terms of profit, revenue, and volume. See also promotion.
scope The full extent of the aspects of a project.

## seasonality

A trend in consumer behavior that is determined by the time of year.

## single product rule

A constraint imposed on the optimization of a single product.

## size class

A group of products that is determined by their size, volume, and weight.

## size class set

A group of size classes that is populated with similar size classes comprised of related product categories.

## size family

A subset of a size class. Size families are created in order to exclude some members of the same size class.

## size group

See size class.

## size rule

A constraint imposed on similar products that are related in volume, weight, and count.

SKU See stock keeping unit.

## slotting fee

A fee charged to a manufacturer for introducing a new product onto a retailer's shelf.

## spoilage allowance

A discount offered to the retailer to compensate for the spoilage of goods.

## static product group

A collection of products with similar or related costs to which new products are manually added or removed.

## stock keeping unit (SKU)

An alphanumeric identifier for each item of merchandise, or catalog entry. The smallest unit available for keeping inventory control. It can include variables for department, class, vendor, style, color, size, and location.

## stockpiling

See pantry loading.

## store-for-store sales

See same-store comparison.

## store group

A set of stores that are treated as one unit to achieve a business goal. For example, stores in a given region are treated as a unit.

## store traffic

The number of shoppers per unit of time.

## store zone

A group of stores that share a set of prices.

## strategy

The overall plan of action (such as for a brand unit, business unit, channel, or company) to achieve a stated goal.

## substitute product

A product that a consumer would purchase instead of another product with the same or similar utility without the loss of a significant amount of perceived value.

## temporary price reduction (TPR)

A temporary reduction in the consumer price of a product.

## term license

See license.
time cannibalization
See pantry loading.
time horizon
The duration of a product promotion or product scenario.
time series
A set of values of a variable at periodic points in time.
TPR See temporary price reduction.
trade fund
Monies offered to a retailer by a manufacturer for the promotion of a set of products. This fund is usually allocated to pay for promotional activities on the part of the retailer, including ads, displays, and temporary price reductions.
trade spend
See trade fund.
transfer price
See franchise pricing.
trend A series of related measurements that indicates a defined direction or a predictable future result.

## two product rule

 A constraint imposed on two products.
## u

UEF See user-entered forecast.
unit cost
The per unit vendor cost associated with the SKU.
unit sales
See sales volume.
unit volume lift percentage
The percentage of units that will be sold as a result of a promotion.
universal product code (UPC)
A standard bar code, commonly used to mark the price of items in stores, that can be read and interpreted by a computer.

UPC See universal product code.
user-entered forecast (UEF)
A tool that allows the user to override the system-generated forecast.

V

## value-added tax (VAT)

A transactional consumption tax charged on most public and private consumption.

## variable cost

An operating cost that varies directly with production volume; for example materials consumed, direct labor, sales commissions.

## variable trade fund

The sum of performance allowances and forward buy allowances.
VAT See value-added tax.

## vendor

A person or company that supplies materials or services to another person or company.

## vendor cost change

See manufacturer cost change.

## vendor days credit

The number of days extended to the customer before payment is due.

## vertical service provider

An industry-focused application service provider.

## vignette tax

A fixed-fee tax on a product that does not represent a proportional amount of the product price.

## volume

The number of units sold for a particular SKU.

## volume difference

The difference between the initial and the optimal volume or predicted number of units sold.

## volume of measure

The size of the SKU in absolute terms.

## volume percent change

The difference between the initial and the optimal volume or predicted number of units sold in terms of percentage.

## volume rule

A constraint imposed on products within a given volume range.

## w

## warehouse allowance

A discount offered to the retailer on all products shipped to the retailer from the manufacturer.

## what if statement

Varying key assumptions to determine how the end results of an analysis differ.

## whitelist

A list of approved websites which are ignored by the software to block pop-up ad windows and allowed to function without interference.

## workflow status

A category type used for tracking the status of a promotion or category plan.

## Z

zone A logical section within an area. A zone can overlap areas but belongs only to the area where it was created. Zones are the units on which rules can be defined and run.

## zone group

A group of stores that share an established price for a given product. zone price

An established product price for a group of stores in a given zone.

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