Oracle® Retail Analytics

User Guide

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Preface

The *Oracle Retail Analytics User Guide* helps Retail Analytics users to build, use, and modify reports using the Retail Analytics repository in Oracle Business Intelligence (Oracle BI). It includes a user reference to the dimensions, attributes, metrics, and terminology of the Retail Analytics metadata. The guide also provides minimal introduction to the Oracle BI user interface.

This guide does not include:

- End user documentation for Oracle BI. This is provided through the Oracle BI documentation library and user training.
- Details of the Retail Analytics data model. The *Oracle Retail Analytics Data Model* contains this information.
- Information about tasks and responsibilities of system administrators, systems analysts, operators, and programmers who install, configure, and support the Retail Analytics software. This information is provided in the *Oracle Retail Analytics Implementation Guide*, *Oracle Retail Analytics Installation Guide*, and *Oracle Retail Analytics Operations Guide*.

Audience

This user guide is for use by business analysts, the primary end users of Retail Analytics, as well as for merchandising and finance executives who rely on those reports on a daily basis. The principal users of this guide are those who have responsibility to create and modify Retail Analytics reports. They may study these reports themselves, and they may also prepare reports for distribution to other users such as managers, buyers, and other analysts who study and plan business activities. The particular user group for Retail Analytics depends on each retailer's unique organization structure and individual job assignments.

This guide assumes that the user knows how to use the Oracle BI user interface. End user documentation is provided in the Oracle BI documentation library, and this guide provides references to pertinent documents.

End users need the following prerequisite skills:

- An understanding of data warehousing
- Knowledge of business intelligence concepts
- Oracle Business Intelligence training

Related Documents

For more information, see the following documents in the Oracle Retail Analytics Release 13.2.3 documentation set:

- *Oracle Retail Analytics Data Model*
- *Oracle Retail Analytics Implementation Guide*
- *Oracle Retail Analytics Installation Guide*
- *Oracle Retail Analytics Operations Guide*
- *Oracle Retail Analytics Release Notes*

For information about Oracle BI administration and end use, see the documentation library for Oracle Business Intelligence Enterprise Edition, particularly the following documents:

- *Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*
- *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*
- *Oracle Fusion Middleware System User's Guide for Oracle Business Intelligence Enterprise Edition*

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- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 13.2) or a later patch release (for example, 13.2.3). If you are installing the base release, additional patch, and bundled hot fix releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch and bundled hot fix releases can contain critical information related to the base release, as well as information about code changes since the base release.

Oracle Retail Documentation on the Oracle Technology Network

Documentation is packaged with each Oracle Retail product release. Oracle Retail product documentation is also available on the following Web site:

http://www.oracle.com/technology/documentation/oracle_retail.html

(Data Model documents are not available through Oracle Technology Network. These documents are packaged with released code, or you can obtain them through My Oracle Support.)

Documentation should be available on this Web site within a month after a product release.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Introduction to Oracle Retail Analytics

This chapter introduces the role of business intelligence and data warehousing in a retail environment. It briefly describes the implementation of Oracle Retail Analytics and its data sources, and the Retail Analytics user interface through Oracle Business Intelligence Enterprise Edition (Oracle BI EE).

Business Intelligence in the Retail Environment

Business intelligence includes the processes, methods, and technologies adopted by organizations to answer complex business questions and build comprehensive decision support systems. Business intelligence enables all users in a retail organization to answer questions about the business, for example:

- How do actual sales this period compare to the current plan?
- What is the retail value of inventory on hand, and how does it compare to the same period last year?
- What are the best-selling items in a division or department?
- How effective was the last promotion?

The answers to these questions and others are embedded in the enormous volume of sales and returns, price changes, receipts, and other transactions generated by your retail organization. These transactions are the raw material for business intelligence. Transaction-level data must be converted to information to support decisions in a retail enterprise.

These systems help organizations in maintaining secure, conformed, and highly available data for all levels of users, from top-level executives who make decisions based on corporate-level information to managers and analysts who analyze their areas and take actions based on their findings. Business intelligence is built using several processes, and applications that maintain these processes, using the latest tools and technologies. One of the main components of business intelligence is a data warehouse. A data warehouse is the repository that stores data extracted from multiple source systems, modeled to perform for both data loading, reporting, and ad hoc analysis needs.

Data Warehousing and Business Intelligence

The data warehouse is the central repository for the data that is required for business intelligence in a retail environment. The applications and components that make up the data warehouse perform these functions:

- They organize and standardize data so that it can be stored in a consistent format in the data warehouse.
- They load data to a relational database management system that is specially constructed for business intelligence.
- They provide analytical tools and interfaces necessary to deliver information throughout the retail organization.

Online transaction processing (OLTP) applications, such as Oracle Retail Merchandising System (RMS), are designed for efficient record-keeping. They generally hold only a small amount of historical information. The data warehouse, on the other hand, consists entirely of historical data organized by business area. (Collections of data organized to support particular business areas are sometimes called data marts.) These business areas consist of a relatively small number of very large tables.

This type of organization is optimal in the business intelligence environment, where large quantities of historical data must be stored and made available to users in summary form. The tables that make up the data warehouse contain the information that is needed to create a picture of the organization at any point during the period for which data is kept.

Oracle Retail Analytics

Oracle Retail Analytics offers a rich business intelligence solution to retail industry users. Retail Analytics is built using latest Oracle technologies and uses Oracle Data Integrator (ODI) for extracting, transforming, and loading (ETL) the data to Oracle Business Intelligence Enterprise Edition for end user reporting and analysis.

These are some characteristics of Oracle Retail Analytics:

- Rich reporting capabilities

  Retail Analytics offers report creation capabilities using three different analysis methods in the same environment:

  - Historical (as-was)
  - Current (as-is)
  - Point in time

  See Chapter 4, "Creating and Modifying Reports" for more information about these analysis methods.

  Packaged reports are provided as a reference for creating customized reports and serve as the baseline reports for Retail Analytics.

- Comprehensive Solution

  Oracle Retail Analytics is an end-to-end solution for reporting and retail business intelligence needs through the following:

  - Data integration with source applications
  - Loading and transforming the fact and dimension data

  - Rolling up the data for improved query performance
  - The Web-based Oracle BI user interface for report creation
  - Shell scripts for setting up the batch schedule
  - An automated installer
- High-performance extract, transform, and load (ETL) code

  Using Oracle Data Integrator, Retail Analytics offers high performance for the Oracle Database batch processes.
- Extensibility

  Retail Analytics ETL code can be customized and extended for customer-specific needs.
- Flexibility

  Oracle Data Integrator and Oracle BI EE code promote flexibility during implementation based on customer-specific needs and help in improving batch and report performance.
- High-performance reporting

  Retail Analytics metadata is built using Oracle BI EE and designed to perform in complex reporting scenarios.
- Robust data model

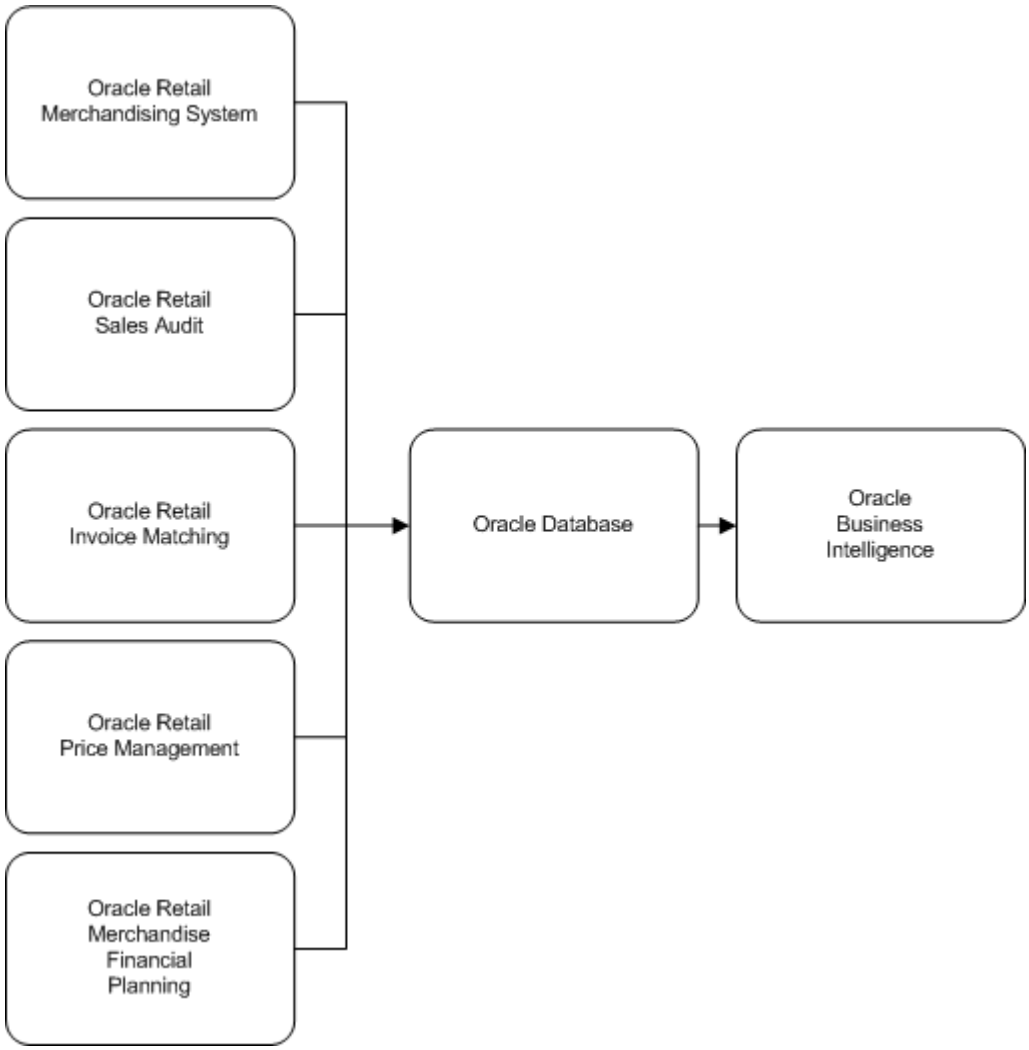
  The Retail Analytics data model is designed to support a retailer's data needs in a business intelligence environment. Data model elements are designed to perform with Oracle BI EE architecture.

Retail Analytics Data Sources

Retail Analytics uses several data sources including Oracle Retail Merchandising System (RMS) and Oracle Retail Price Management System (RPM). Data is extracted, loaded, and transformed into the Retail Analytics data model to support reporting requirements. The first step after installing Retail Analytics is to load the data into data warehouse tables using packaged Oracle Data Integrator ETL programs.

Figure 1–1 illustrates the data sources for Oracle Retail Analytics. The data sources can be Oracle Retail applications or other data sources specific to each retailer's systems environment.

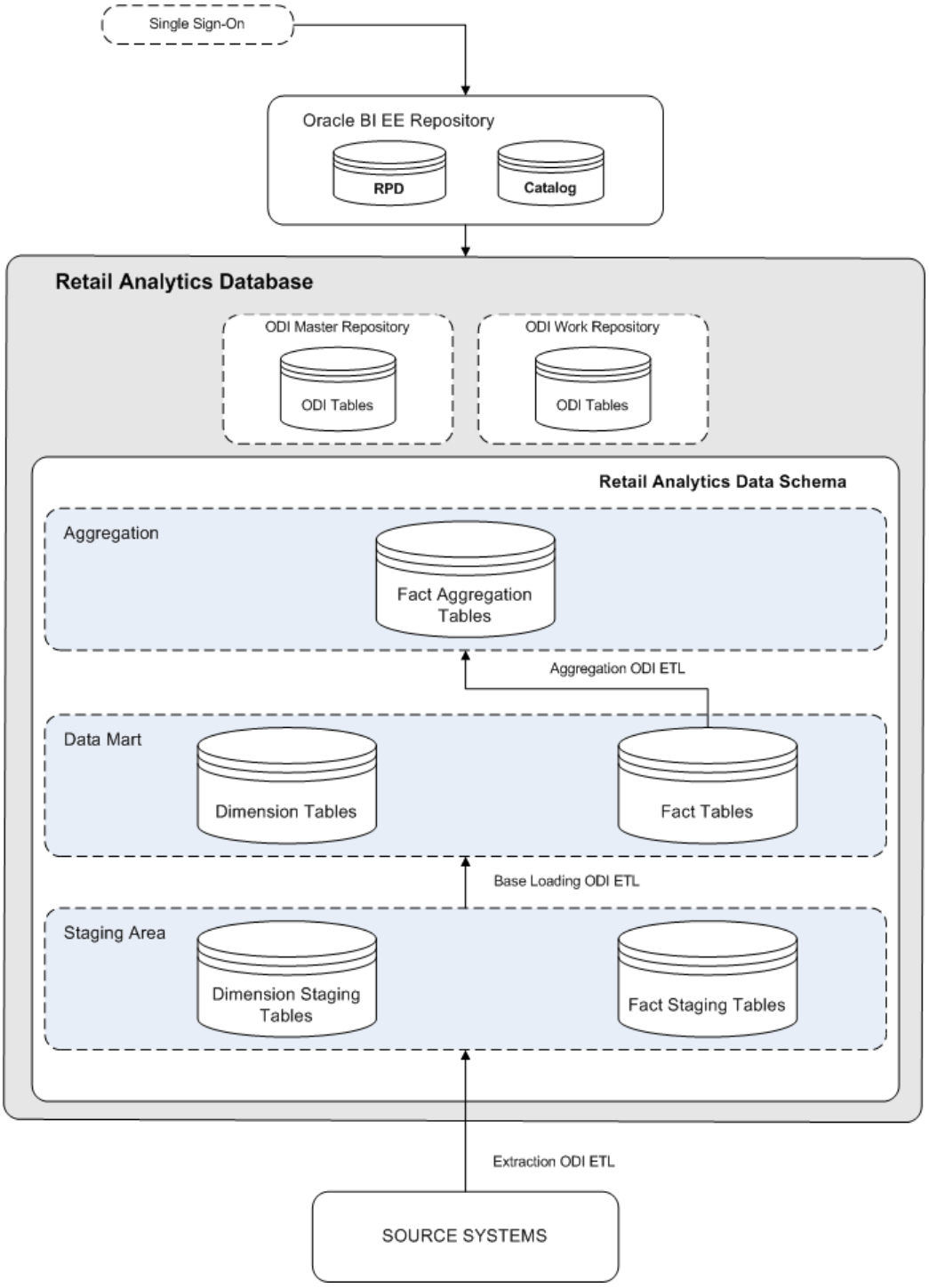
Figure 1–1 Data Sources for Oracle Retail Analytics



Oracle Retail Analytics Architecture

Figure 1–2 represents how the Oracle Retail Analytics data model interfaces with other Oracle Retail Applications, and how an Oracle BI user accesses the Retail Analytics metadata. See the *Oracle Retail Analytics Implementation Guide* and *Oracle Retail Analytics Data Model* for more details about the data model.

Figure 1–2 Retail Analytics Architecture



Oracle Retail Solutions

Oracle Retail Analytics is integrated with the following Oracle Retail applications:

- Oracle Retail Merchandising System (RMS)
- Oracle Retail Sales Audit (ReSA)
- Oracle Retail Invoice Matching (ReIM)
- Oracle Retail Price Management (RPM)
- Oracle Retail Merchandise Financial Planning (MFP)

See the *Oracle Retail Analytics Installation Guide* for information about the release levels of Oracle Retail products that integrate with Oracle Retail Analytics.

An online transaction processing (OLTP) application such as Oracle Retail Merchandising System (RMS) is the principal source of data for Retail Analytics. The OLTP application provides the majority of attribute data for most dimensions, including organization, product, and time calendar dimensions. The OLTP application supplies facts for many data marts including inventory, pricing, cost, and supplier compliance. For more details, see the *Oracle Retail Analytics Operations Guide*, which maps source data to its corresponding target table in Retail Analytics.

Oracle Retail Sales Audit (ReSA) provides the tools to evaluate point-of-sale data, to ensure the accuracy and completeness of information exported to downstream systems used in optimization processes, financial reporting, and analysis

Oracle Retail Invoice Matching (ReIM) is a solution that provides the data necessary to support invoice verification, minimizing interface development and maintenance costs. ReIM can serve as the source of invoice cost data. This information must be extracted from another application if you do not use ReIM.

Oracle Retail Price Management (RPM) is a solution that assists with pricing decisions. RPM can serve as the source of promotion data. This information must be extracted from another application if you do not use RPM.

Oracle Retail Merchandise Financial Planning (MFP) provides strategic and financial product planning functions. These functions support industry planning standards for preseason and in-season processes. MFP facilitates the creation of financial plans in a structured method.

Data Granularity

Data granularity is decided for fact tables based on reporting requirements. Currently, data granularities are set for generic report requirements. Data may be available at lower levels in source systems and may not be available in Retail Analytics because of requirements. Dimension data exists at the lowest hierarchy levels.

The data from transaction systems is transformed to accommodate the Retail Analytics database structure. This data serves as the foundation for business measurements, but by itself it is not sufficient to answer many business questions.

Typically, data is held at a low granular level in Retail Analytics. For example, sales data is held by location, item, and day attributes. There is one row in the sales fact table for every combination of these attributes. In most cases, however, the analyst wants to view data at higher levels in the product and organization hierarchies, and for a longer span of time than a single day.

Effective business intelligence requires facts to be held at a low granular level, while allowing measurements at any level in the organization where they are needed. For example, a location manager making an assessment of monthly sales at the department level wants a report showing total sales for each department. When the location manager spots a potential problem at the department level, the manager may want to focus analysis on the subclass, or even the specific items, for which problems exist. Retail Analytics permits analysis at any level by storing information at a low granular level, while allowing reporting at higher summary levels.

In some cases, Retail Analytics holds data at multiple levels, to facilitate analysis and improve performance. For example, sales facts are held by subclass and week, as well as by item and day (the location attribute is present in both tables). The result is that the same data exists in more than one fact table in the database. While redundant data improves performance by reducing the number of queries that must be serviced, it also requires more maintenance. Retail Analytics uses redundant data in a few cases in which all customers benefit in terms of performance; in most cases, however, retailers must determine where redundancy is needed, based on their own requirements.

Metadata Organization

The Oracle Retail Analytics presentation model is implemented in the form of three subject areas. (A subject area is also called a presentation catalog in the repository.) The subject areas are as follows:

- Retail As-Was
- Retail As-Is
- Retail Point in Time

See Appendix B, "Reporting on Oracle BI Repository Objects," for information about how to produce documentation about repository objects.

Retail As-Was

The supporting attributes and metrics for as-was reporting are available in this subject area. On the reports on this subject area, the historical data is associated with the hierarchy of an attribute before a reclassification. For example, if an item is reclassified from the Snacks Department to a new Grocery Department, the previous history of the item stays with the old department (Snacks), which shows how the SKU performed in that department. Future transactions for the item will belong to its new department (Grocery).

Retail As-Is

The supporting attributes and metrics for as-is reporting are available in this subject area. On the reports on this subject area, historical data is associated with the new hierarchy of an attribute before a reclassification. For example, if an item is reclassified from the Snacks Department to a new Grocery Department, the previous history of the item moves to the new department (Grocery).

Retail Point in Time

The supporting attributes and metrics for point-in-time reporting are available in this subject area. On the reports on this subject area, historical data is associated with the hierarchy of an attribute as of a user-supplied date. For example, if an item is reclassified from the Snacks Department to a new Grocery Department on January 15, 2011, and a report is run for February 16, 2011, the previous history of the item before January 15, 2011 is reported in its new department (Grocery).

Oracle BI User Interface

Oracle BI is the interface that provides the OLAP tools for Oracle Retail Analytics. Oracle BI is a comprehensive solution that you can use to create, modify, schedule, and distribute reports to end users throughout your retail enterprise. You access Oracle BI through your Web browser. Oracle BI is the metadata built on top of the Retail Analytics data model, and it can be used for executing and scheduling existing reports or creating ad hoc reports.

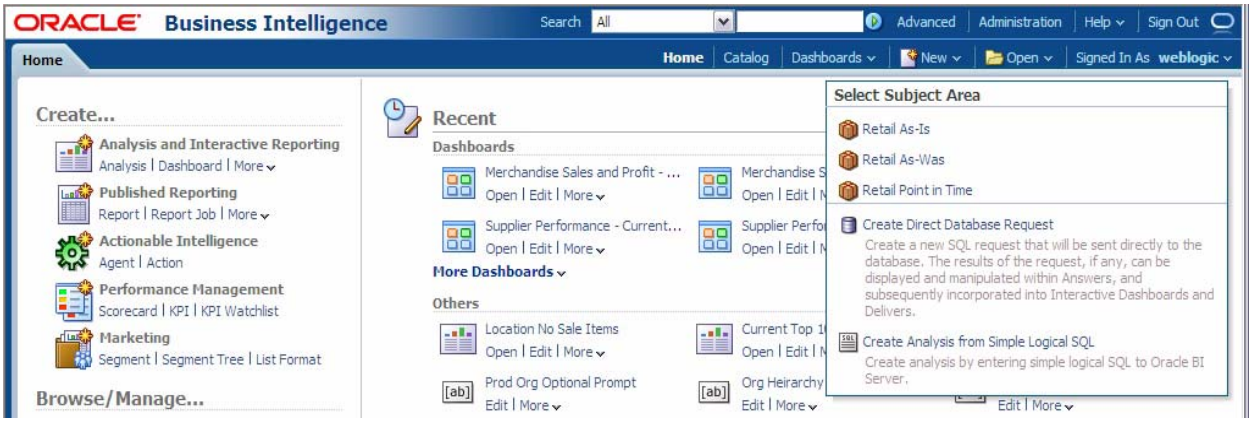
For information about creating reports with Oracle BI, the primary reference is the *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition*.

The Oracle BI interface can be customized in many ways for your enterprise. The illustrations in this guide show the default installation of Retail Analytics dashboards and reports. You can create your own dashboards to organize your reports and other objects you create. You can also develop report schedules and automated distribution mechanisms, to direct reports to the people who need them.

Note: The specific URL and login requirements for Oracle BI depend on how Oracle BI is configured in your enterprise. Your system administrator can supply the information you need to access Oracle BI and Retail Analytics.

Figure 1–3 shows an example of the interface you use to create and modify reports.

Figure 1–3 Oracle BI Presentation Interface



Use the Oracle BI Presentation interface for tasks such as the following:

- To create and modify reports, prompts, and filters
- To perform ad hoc analyses and experiment with metrics and filters
- To experiment with different report presentations, including tables and charts of many types
- To schedule and distribute finished reports to the end users who need them
- To administer presentation layer security, which limits the reports, dashboards, and report elements users can access

The Oracle BI interface displays attributes, facts, and metrics as logical columns. When a report is executed, the results (rows of data) are grouped by the attribute columns on the report, such as 'Sales $ by Year, Department.' You can include any of the logical columns in your reports. You can modify your report columns with your own metrics, filters, and prompts.

Numerous predefined reports are packaged with Retail Analytics and can be used without modifications. You can also enhance these reports for your specific requirements and use them to create your own custom reports. For more information about predefined reports, see Chapter 3, "Predefined Retail Analytics Reports."

Supported Languages

Oracle BI provides numerous language options for users; however, not all languages supported by Oracle BI are supported by Oracle Retail Analytics. The following languages are supported for Retail Analytics users:

- Chinese (Simplified)
- Chinese (Traditional)
- Croatian
- Dutch
- English
- French
- German
- Greek
- Hungarian
- Italian
- Japanese
- Korean
- Polish
- Portuguese (Brazilian)
- Russian
- Spanish
- Swedish
- Turkish

Oracle BI Administration Interface

Use the Oracle BI Administration interface for tasks such as the following:

- Create and modify metrics, attributes, and dimensions
- Create and modify subject areas (presentation catalogs)
- Create and modify users and their privileges
- Add new tables to the physical layer or modify the existing relations

These tasks should be performed by Oracle BI developers and administrators, because they require coding and testing. For more information about Oracle BI administration, see the *Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

User Roles and Responsibilities

To support numerous business decision-making processes, Retail Analytics reports are designed for different categories of users such as:

- Merchandising executives and analysts
- Buyers
- Pricing executives and analysts
- Planning executives and analysts
- Inventory control managers

In the standard Retail Analytics installation, the predefined reports are organized in multiple dashboards to facilitate role-based implementation.

See the *Oracle Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition* to learn about authentication and user role configurations for an enterprise.

Note: Retail Analytics does not provide role-level security. Security can be implemented to meet the requirements of your organization.

More Information

For each dashboard, additional measures can be inserted into the existing reports or used to create custom reports based on specific business requirements. These additional measures are available in each application's subject area in Oracle BI Answers. For more information on creating custom reports, see the following:

- *Oracle Retail Analytics Implementation Guide*
- *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition*
- *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*

2

Report Components

A report is primarily constructed of logical columns. Logical columns include:

- Facts
- Attributes
- Metrics

You can constrain (limit) the data to be included in a report with filters and prompts:

- A filter constrains the data in the report so that the report shows only the information that the user of the report wants to see. For example, you can use filters to limit reports to show information only about certain locations, items, and time periods. See "Filters" later in this chapter.
- A prompt allows the user of a report to select how to filter data in the report. For example, a prompt can ask the user to select a time period or location. See "Prompts" later in this chapter.

Facts

A fact is a column that contains numeric data in one or more database tables. For example, the Sales fact SLS_AMT_LCL (sale amount) allows access to the corresponding column in the sales tables in the Retail Analytics database.

Facts are the basis for the formulas used to construct business metrics. For example, the formula SUM(SLS_AMT_LCL) is the basis for the calculation of gross sales amount.

By themselves, facts have no meaning. The statement “inventory on hand was 10” only has meaning when given the context of time and place. Attributes place facts in context and make them meaningful. An attribute is the general description of some aspect of the business, such as location, day, or item. Examples are Minneapolis (location), April 16, 2011 (day), and scarves (item). Facts become useful only when qualified by one or more attributes. Facts are most often qualified by multiple attributes (see "Attributes and Dimensions" later in this chapter).

Additive Facts

The majority of facts are additive, meaning that two facts of the same type can be added to create a meaningful number. For example, the sum of total sales for each of the days in a week gives the total sales for that week, and the sum of total sales for each month can give the total sales for a quarter or year.

Semi-Additive Facts

Some facts are semi-additive, meaning that facts of the same type cannot be added in all circumstances. For example, adding receipts of an item to existing inventory produces a meaningful result, a new count of inventory on hand. On the other hand, adding the number of units on hand for every day during a week does not result in a meaningful weekly total; rather, the amount of inventory is expressed as a position for some time period such as day or week.

Positional Facts

The data in positional fact tables reports the state of an entity at a certain point in time, rather than the total activity of an entity, these facts cannot be simply summed over time.

For example, you could ask the question: “What was my total unit retail for this week?” This is not the correct question. Aggregations of positional facts along the axis of time take end-of-period snapshots that answer the question: “What was my unit retail at the end of this week?”

For all aggregations along the time axis, aggregation programs run daily. For aggregations of positional facts within a period, this results in a period-to-date position, rather than an end-of-period position. After the period is complete, the last run for that period results in the desired end-of-period position.

Attributes and Dimensions

An attribute describes some characteristic of an entity such as a product, a time period, or a store location. Attributes are used to aggregate data and constrain data in a report.

Attributes that are not part of the same dimension are related when they exist in the same fact table. The attributes item, location, and week are not formally related in a hierarchy; however, all of these attributes exist in the sales fact table. This means that questions can be answered by one or more of these attributes.

For example, you might ask first to see sales data by location and week. Because the fact table contains the attribute Item as well, the data can be reorganized using the Item attribute. As a general rule, information can be referenced by any attribute, or combination of attributes, present in the fact table.

Dimensions are collections of related attributes. These are some examples of Retail Analytics dimensions:

- Organization
- Product
- Promotion
- Business Calendar

See Chapter 5, "Dimensions and Attributes" for more information.

Dimensions and Drilling

Attributes can be related to each other through parent-child relationships. In a relationship of this type, the child attribute belongs to only one parent attribute. For example, the Location attribute in the Organization hierarchy is defined as the child of the Region attribute. All elements of the Location attribute exist in only one region. Because the Region attribute is also defined as the child of another attribute, the relationship of the Location attribute to all other attributes in the hierarchy can be predicted.

Through these relationships, you can drill into data. Investigation of a business problem often begins at a summary level and moves to a detailed level as analysis progresses. Drilling allows you to focus on parts of the data set where problems are identified.

Metrics

Oracle Retail Analytics contains an extensive set of metrics (measures) and key performance indicators (KPIs) designed for business intelligence in a retail environment.

Metrics are performance measurements, typically numeric, that allow you to analyze business performance. Metrics range in complexity, from a simple metric that sums the values in a single fact column, to highly complex calculations that contain mathematical operators.

A metric can be viewed as a statement that specifies how a performance measure is calculated. The basic component of a metric is a formula that specifies the calculation to be made. A metric can contain other components that specify additional criteria for calculating the metric.

See Chapter 6, "Metrics" for more information.

Formulas

Each metric has a formula that specifies how the metric is calculated. The formula for a simple metric specifies a fact and a function for the fact. For example, the following formula calculates a sum of values in the sales fact column:

```
SUM(SLS_AMT_LCL)
```

where SLS_AMT_LCL is the fact and SUM is the function to be performed.

In a compound metric, the formula contains two or more metrics and a formula for calculation. For example, a formula for a compound metric might calculate the average sales value by dividing the net sales metric by another metric that calculates the number of units sold.

As another example, the following compound metric formula calculates average sales value per unit using two simple metrics:

```
Sales Value / Sales Units
```

Compound metrics can also be used to create other compound metrics. For example, the formula for the stock turn metric employs a simple metric (Sales Value) and a compound metric (Avg Stock Retail Value):

```
Sales Value / Avg Stock Retail Value
```

Avg Stock Retail Value in the preceding formula is itself a compound metric, constructed from three simple metrics that access base formulas for the facts used in the calculation:

```
(SUM(BOH Retail Value + EOH Retail Value ) / (No of Weeks with Stock + 1))
```

Variance metrics are common compound metrics in Retail Analytics. Variance metrics compare the change or difference in two different data points.

"Percent change" and "percent variance" metrics in Retail Analytics are defined as:

```
(A-B)/B
```

The following are some examples of percent change and percent variance metrics.

Metric	Formula
Gross Sales Amt Var LY	(Gross Sales Value - Gross Sales Value (Last Year))/Gross Sales Value (Last Year)
Gross Sales Qty Var LY	(Gross Sales Qty / Gross Sales Qty LY) - 1
Gross Profit Var LY	(Gross Profit / Gross Profit LY) - 1
Net Sales Amt WTD Var LY	(Net Sales Amt WTD / Net Sales Amt LY WTD) - 1
Net Reg Sales Qty MTD Var LY	(Net Reg Sales Qty MTD / Net Reg Sales Qty LY MTD) - 1

Level Metrics

The level component of a metric specifies the attribute level to which a metric aggregates. By default, a metric aggregates to the level of the attributes on the report.

Some complex metrics require more than one level of aggregation in formulas. For example, you might want a report that shows the percent contribution sales value of each location to its region. You must know the sales value for each location and the total sales value for region to which it belongs to create the formula for this metric:

```
Sales Value (Location) / Sales Value (Region)
```

A metric that specifies a level of aggregation other than the default level for the report is called a level metric. Retail Analytics includes many level metrics for sales and profit for attributes in the Organization and Product dimensions. In Retail Analytics, when a metric has a predefined dimension level, the name of the attribute level appears in parentheses after the metric name. The following are some example level metrics for sales value in the Product hierarchy.

- Sales Value (Company)
- Sales Value (Group)
- Sales Value (Department)
- Sales Value (Class)

You can use level metrics to build compound metrics that measure the contribution of lower-level elements to higher or parent levels. The following are some examples of these contribution metrics.

Metric	Formula
Sales Amt Item Contribution to Department	Sales Value /Sales Value (Department)
Sales Amt Contribution to Location	Sales Value/Sales Value (Location)
Sales Amt Division Contribution to Tot	Sales Value/Sales Value (Division)
Profit Item Contribution to Department	Profit Value/Profit Value (Department)
Profit Division Contribution to Tot	Profit Value(Division)/Profit Value (Company)

Time Series Conversion Functions

Time-based comparisons are an essential part of analysis at almost every level in a retail environment. Typical examples are the comparison of sales value for the current season-to-date to the same period last year, or the retail value of inventory compared to the previous week.

Retail Analytics time conversion functions use the following Oracle BI time series aggregation functions:

- Ago()

  This function calculates the aggregated value from the current time back to a specified time period.

- ToDate()

  This function aggregates a measure attribute from the beginning of a specified time period to the currently displayed time.

The Ago() and ToDate() functions are described in the following documents:

- *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*
- *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition*

See Appendix A, "Time Series Conversion Functions," for information about the time series conversion functions.

Filters

A filter constrains the data that is retrieved from the database. The filter attached to a report limits the data that is retrieved for the metrics in the report. For example, a filter can limit the information in a report to a particular month, department, and location.

Filters generally constrain all of the metrics in a report. In some cases, however, it is necessary to place additional constraints on individual metrics in a report. When a condition is applied to a single metric, it does not affect the other metrics in the report. A metric condition plays the same role in a metric that a filter plays in a report, limiting the data that is retrieved based on one or more conditions.

In Retail Analytics, sales and return amounts are segmented by price type according to the retail price type: regular, promotion, or clearance. Sales fact tables hold sales and return amounts in two fact columns, SLS_AMT_LCL and RET_AMT_LCL. The retail price type is indicated by a code for each row in the table. A sales metric retrieves all values, regardless of type, unless a price type is specified. To specify the price type, a filter is attached to the metric. For example, regular price type is indicated in the fact table by a value of 1. A filter stating that price type must equal 1 is attached to a metric. Queries for this metric limit the data to rows in the fact table that have a retail type of 1.

You can build your own filters with Oracle BI. Retail Analytics does not include any packaged filters.

Prompts

Prompts allow any end user of a report to select the data used in the content of a report. Using prompts, you can customize filter criteria and other parts of a report, allowing multiple users to use the same report to answer different business questions.

In Oracle BI, there are two kinds of prompts:

- Dashboard prompts

  A dashboard prompt filters all reports on a dashboard page. A dashboard prompt can prompt the end user for multiple filter criteria.

- Inline prompts

  An inline prompt applies to only one report. You can use an inline prompt to prompt the user about the content of an individual report column.

An inline prompt can prompt only for the dimensions that exist in the report. A dashboard prompt can prompt about any dimension, even if it does not exist in a particular report.

3

Predefined Retail Analytics Reports

Predefined reports are packaged with Retail Analytics and available on four sample Oracle BI dashboards. You can use these packaged reports without modifications to begin reporting on your retail measures. You can also use these reports as foundations or examples for building your own custom reports. Each packaged report includes dashboard prompts, to allow a user to refine and focus the data in the report for the subset of the retailer's business measures that you need to investigate.

In addition to the predefined reports, Retail Analytics includes a variety of predefined, fundamental metrics that are common throughout the retailing industry. Some of these are used in the packaged reports, and you can use any of the metrics in your own custom reports. See Chapter 6, "Metrics" for more information.

Notes: Before viewing reports, ensure that the Retail Analytics nightly batch runs have completed successfully for the report subject area, so that you can analyze the most up-to-date data.

Retail Analytics Reporting Areas

Retail Analytics offers extensive reporting in the following areas:

- Merchandising and Marketing
- Supply Chain Management
- Corporate Planning and Performance Management

Merchandising and Marketing

Merchandise Planning

The merchandising reports provide a high-level, organization-wide perspective for analyzing the effectiveness of merchandising strategies. The utilization of key performance indicators (KPIs) provides detailed analysis of various merchandising techniques to maximize profit, increase sales opportunities, and enhance product performance. The merchandising reports under the Merchandising Analysis dashboard analyze merchandise performance, profits, sales, and trends. These reports use metrics created for sales, cost, and pricing facts.

Evaluating Promotion Effectiveness

Reports under the Markdowns dashboard analyze the efficiency of merchandising promotions. The reports also compare the sales generated through promotion mechanisms, and break down markdown amount by various retail types.

Supply Chain Management

Tracking Supplier Performance

Reports under the Supplier Scorecard dashboard concentrate on supplier compliance measures of timeliness, order fulfillment, and delivery accuracy. These reports enable comparison and evaluation of supplier performance.

Monitoring Inventory Status and Reducing Out-of-Stocks

Reports under the Out of Stock Analysis and Inventory Alerts dashboards provide quantitative analysis of inventory flow at the store level. These scorecard reports enable store managers to identify potential or actual out-of-stock or overstock situations. These reports also monitor products that are not selling well.

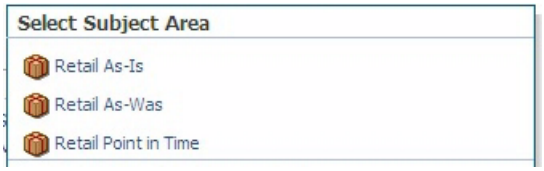
Corporate Planning and Performance Management

Evaluating Comparable Store Performance and New Store Locations

The reports under the Merchandising Performance dashboard provide comparable store analysis information. These reports provide a measure of a retailer's sales strength by comparing this year's sales against last year's sales, using both total sales and comparable store sales.

As-Is, As-Was, and Point in Time Reporting

The packaged Retail Analytics reports are found under the Retail As-Is, Retail As-Was, and Retail Point In Time subject areas.



See Chapter 4, "Creating and Modifying Reports" for more information about as-is, as-was, and point in time analysis methods.

See the *Oracle Retail Analytics Implementation Guide* for information about adding reports in different subject areas.

Merchandising Analytics Predefined Reports

The rest of this chapter describes the reports that are packaged with Oracle Retail Analytics, and the Retail Analytics dashboards in the Oracle BI interface where you can find these reports. The report descriptions are organized according to the dashboards where you find them.

Report Formats

The Retail Analytics dashboards contain a variety of report formats, each suited to the various roles in the retail organization, as well as the different areas of retailing business analysis.

Productivity Reports

Productivity reports focus on the overall monetary and meaningful contribution of a particular level of the merchandise or organization hierarchy. Productivity measures are frequently based on time or monetary considerations. For example, sales productivity measures focus on questions such as these:

- How much does a particular store, employee, or process contribute to sales or profit?
- How much profit does one particular item contribute as part of a department?

Trend Reports

Trend reports highlights distinct patterns or progressions in the retailer's data over time. These are typically presented to the user as bar or line graphs charting a measure over a selected time period.

Ranking Reports

Ranking reports sort or arrange information in a particular order at a given point in time, or over a selected time period (top sales, bottom performers, fast movers, and so on). Reports can be ranked either by sorting on one of the metrics (such as top 10 sellers based on sales amount), or through a filter on the report (such as weeks of supply greater than 5 or less than 2).

To Date Reports

These reports provide running totals for information up to and including the date selected. For example, the Current MTD Sales and Inventory Scorecard report provides a variety of metrics, by location, for the current month to date when the report is run.

Dashboards and Reports

Retail Analytics consists of a Retail Merchandising Analytics Overview dashboard (see Figure 3–1). The dashboard is divided into these sections:

- Inventory Scorecard
- Merchandising Scorecard
- Supplier Scorecard
- Merchandising Analysis

Each section provides links to dashboards that contain reports.

Figure 3–1 Retail Merchandising Analytics Overview Dashboard

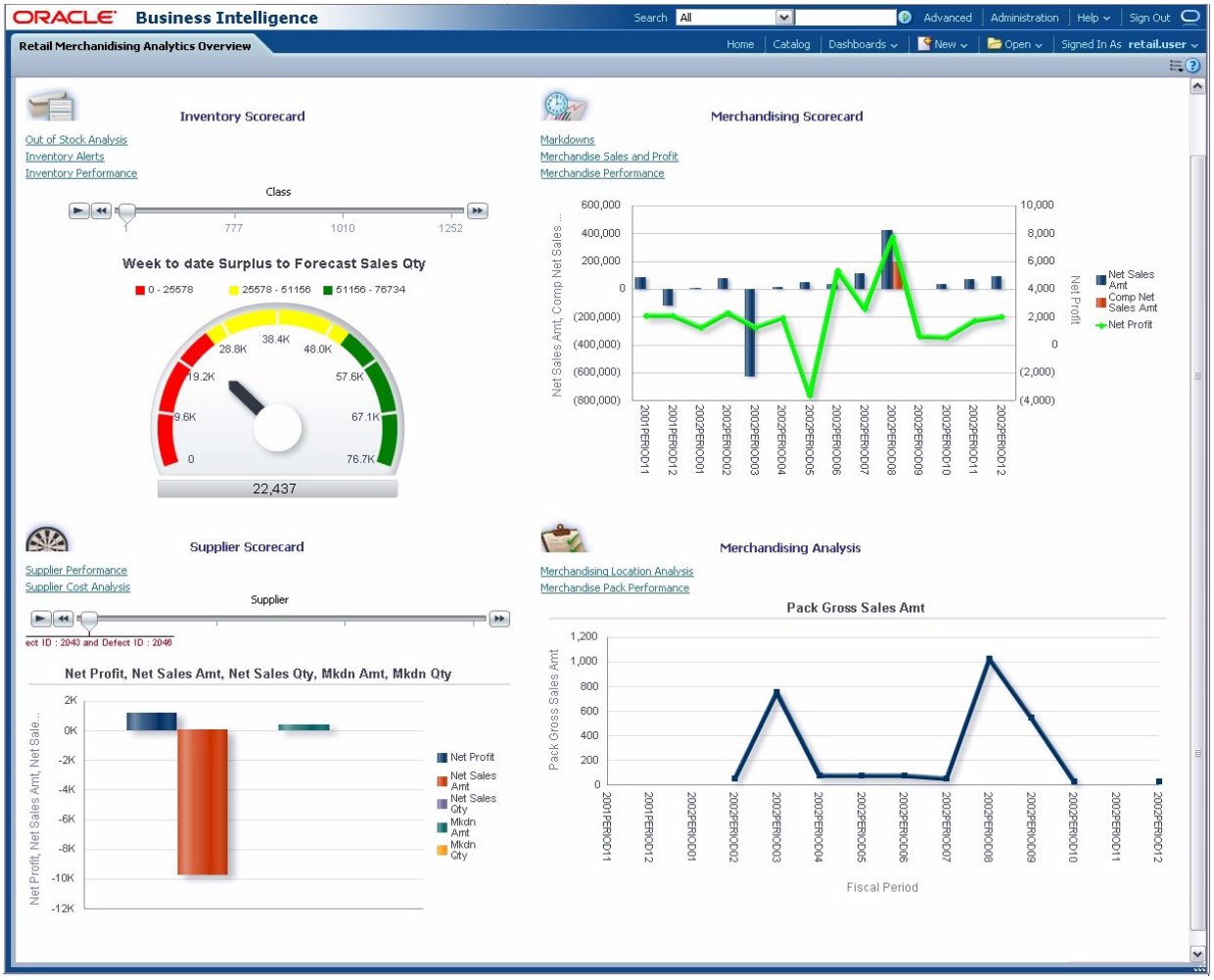


Table 3–1 lists all of the Retail Analytics predefined reports. The table identifies the sections of the overview dashboard through which you access the reports, and the dashboards on which the reports appear. The table also indicates the types of analysis used in the reports.

Table 3–1 Predefined Retail Analytics Reports - Sections, Dashboards, and Analysis Methods

Section	Dashboard	Report Name	As-Is	As-Was	Point in Time
Inventory Scorecard	Out of Stock Analysis	Current Location Out of Stock Risk		X	
		Current Location Out of Stock %		X	
		Current Location Out of Stock Flag		X	
	Inventory Alerts	Current Location WOS Warning		X	
		Location No Sale Items		X	
	Inventory Performance	Current Sales to GMROI Relationship		X	
		Current Stock Turnover Ranking	X		
Supplier Scorecard	Supplier Performance	Current Supplier Scorecard		X	
		Supplier Compliance Performance ■ Order Count ■ ASN Count ■ Timeliness		X	
	Supplier Cost Analysis	Current Location Cost and Profit		X	
		Invoice Cost Details		X	
Merchandising Scorecard	Markdowns	Current Markdown Scorecards:			
		■ Current Markdown Scorecard - Variance WTD	X		
		■ Current Markdown Scorecard - Variance Time		X	
		■ Current Markdown Scorecard - Markdown to Sales Ratio		X	
		Current Markdown Scorecard Trend		X	
		Current Promotion Scorecard		X	
	Merchandise Sales and Profit	Current Top 10 Sale Items	X	X	
		Current WF Sales Trend		X	
		Current Sales and Profit Contribution ■ Sales LY ■ Profit LY ■ Total		X	
		Daily Sales and Profit Trends		X	

Table 3–1 (Cont.) Predefined Retail Analytics Reports - Sections, Dashboards, and Analysis Methods

Section	Dashboard	Report Name	As-Is	As-Was	Point in Time
Merchandising Scorecard (cont.)	Merchandise Performance	Current Comp Stores Scorecard		X	
		Season Performance		X	
		Current Sales Scorecard		X	
		Current Sales Scorecard - As-Is	X		
		Current Sales Scorecard - Monthly Trend	X	X	X
		Current Price Trend		X	
		Current Location Price Trend		X	
Merchandising Analysis	Merchandising Location Analysis	Current Sales by Location Scorecard ▪ Amount ▪ Quantity	X		
		Current Sales Projection		X	
		Current MTD Sales and Inventory Scorecard		X	
		Daily Sales and Profit		X	
	Merchandising Pack Performance	Sales Pack Performance ▪ Amount ▪ Trend		X	

Inventory Scorecard

The Inventory Scorecard helps you to assess critical metrics that track inventory performance and levels over time, including complex measures such as Gross Margin Return on Investment (GMROI), Weeks of Supply, Stock Turnover, Sell Through, and Out of Stock situations. This section contains the following dashboards:

- Out of Stock Analysis
- Inventory Alerts
- Inventory Performance

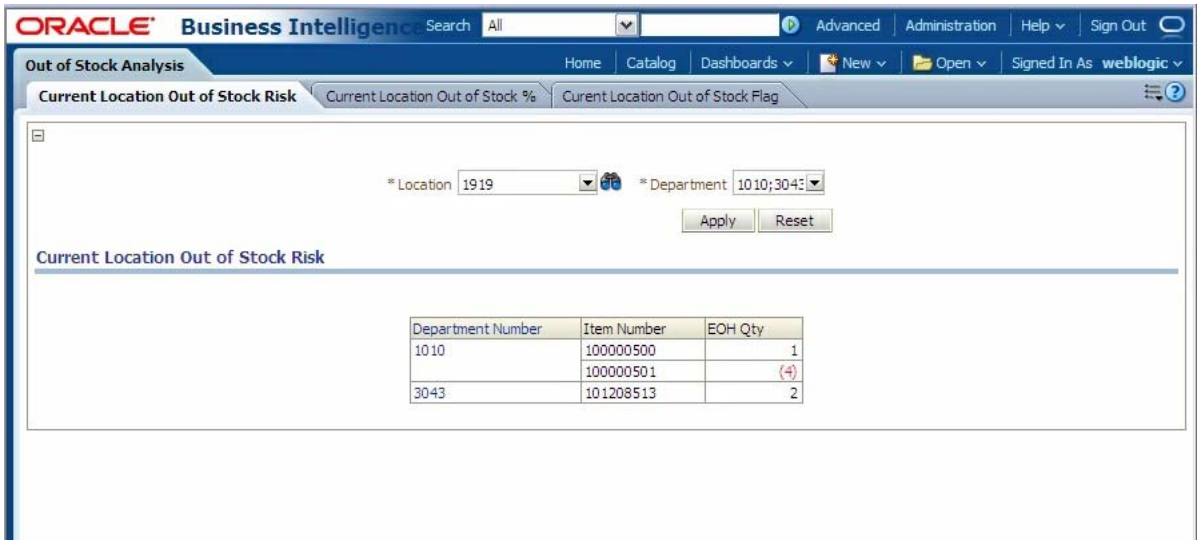
Out of Stock Analysis

The Out of Stock Analysis dashboard includes the following reports.

Current Location Out of Stock Risk

This report displays the percentage of items within one or more departments that will potentially be out of stock soon at the selected locations. This report can be run on a daily basis by inventory control managers to initiate the movement of the out-of-stock risk inventory from other locations through warehouse and store transfers. This report helps retailers mitigate losses that result from running out of one or more inventory items.

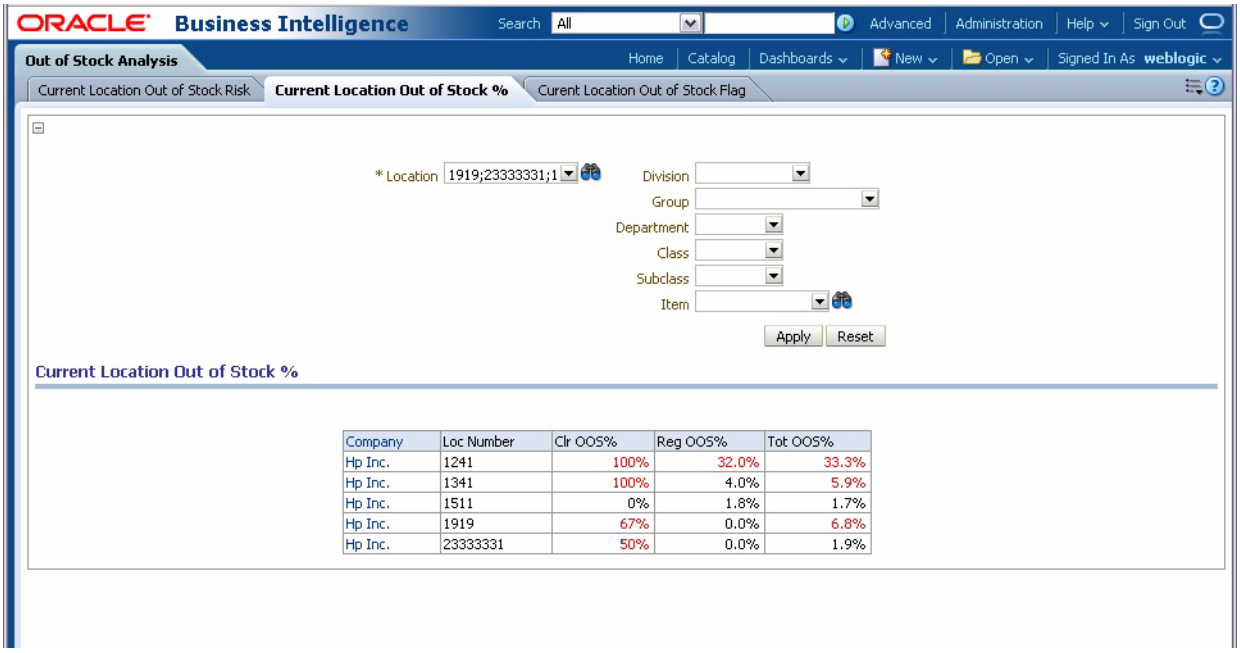
Figure 3–2 Current Location Out of Stock Risk Report



Current Location Out of Stock %

This report displays the percentage of items within a product level that are currently out of stock at the selected locations. This report can be run on a daily basis by buyers, who can then generate purchase orders to buy additional stock. Merchandising analysts can also review the sales trends of out-of-stock items and work with pricing administrators to adjust the pricing strategies for fast-selling items. For items that are frequently out of stock, merchandising analysts can also work with assortment planners and inventory control analysts to reallocate and optimize inventory levels.

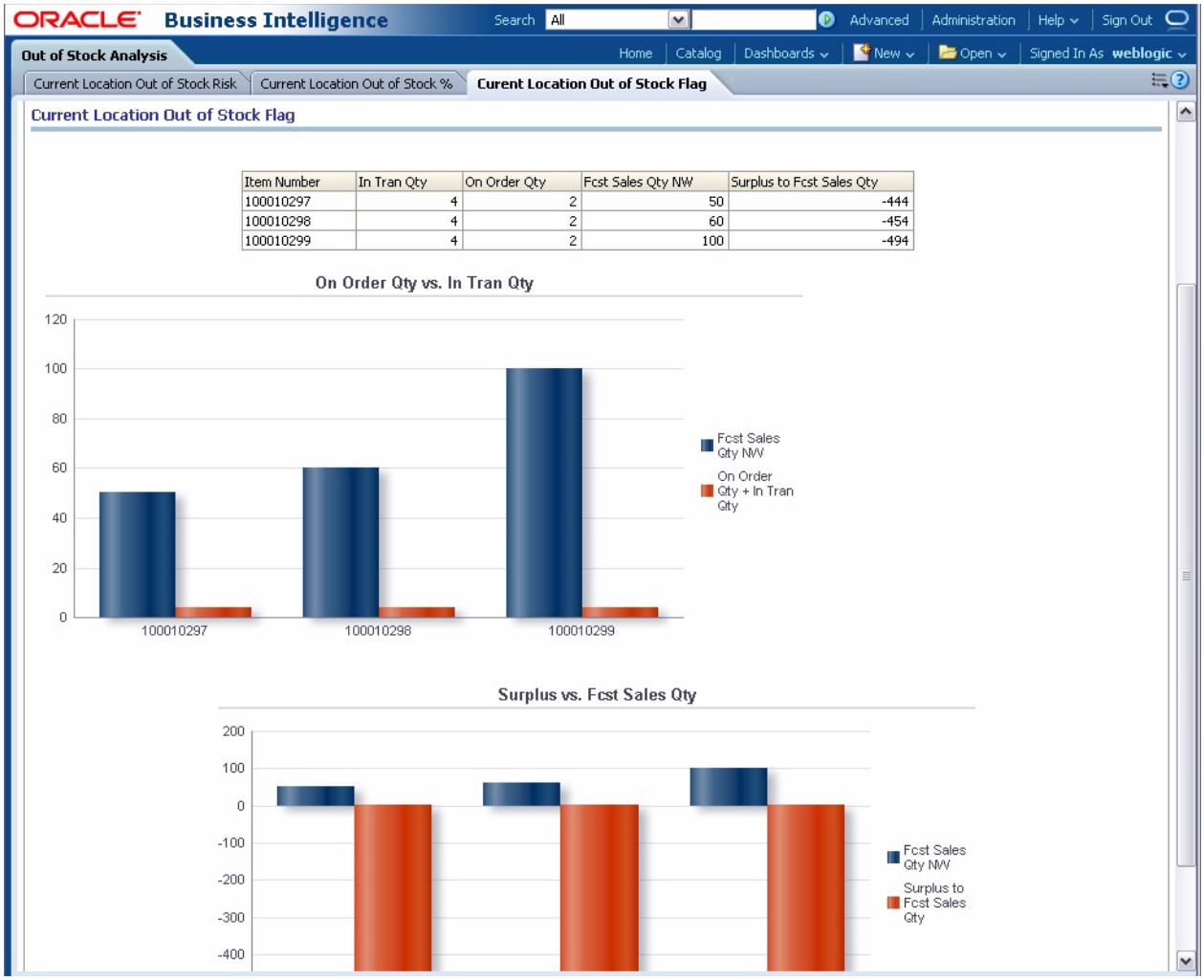
Figure 3–3 Current Location Out of Stock % Report



Current Location Out of Stock Flag

This report can help an inventory control manager to identify out-of-stock items at a specific location. In addition, a forecast analyst could use this report to assess forecasting parameters, to optimize replenishment levels for the future. This report can be run during the week, in time to adjust allocations from the warehouse or store transfers for critical out-of-stock items. For items unavailable from the supplier or at end of life, a planner could use this report to initiate strategies for alternative selling of the out-of-stock items.

Figure 3–4 Current Location Out of Stock Flag Report



Inventory Alerts

The Inventory Alerts dashboard includes the following reports.

Current Location WOS Warning

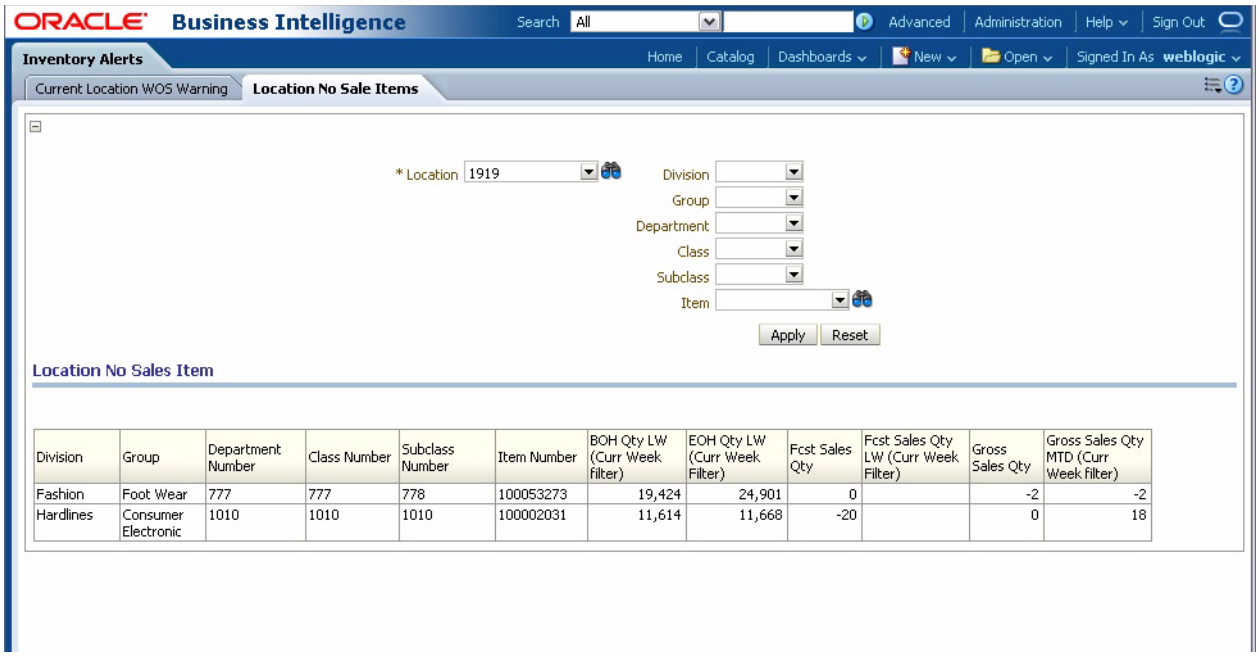
This report displays items that have high or low weeks of supply at a specified location. Inventory control managers and replenishment analysts can review this report weekly to monitor optimal stock levels for critical subclasses. With overstock items identified, a pricing analyst could use this report to navigate to Current Location Price Trend reports, to determine optimal promotion price levels for increasing sales of overstock items.

Figure 3–5 Current Location WOS Warning Report

Location No Sale Items

This report displays items for which there have been no sales in the last week at a specified location. This report can be run at the beginning of the week by buyers and inventory control managers to make inventory movement decisions. Possible actions could include moving slow-selling stock to locations that are out of stock for these items, by navigating to the Current Location Out of Stock Flag report. Planners and pricing analysts can initiate new promotions or clearance events to ensure inventory flow. This report can also be used by a forecast analyst to adjust forecast parameters for more accurate predictions.

Figure 3–6 Location No Sale Items Report



Division	Group	Department Number	Class Number	Subclass Number	Item Number	BOH Qty LW (Curr Week filter)	EOH Qty LW (Curr Week Filter)	Fcst Sales Qty	Fcst Sales Qty LW (Curr Week Filter)	Gross Sales Qty	Gross Sales Qty MTD (Curr Week filter)
Fashion	Foot Wear	777	777	778	100053273	19,424	24,901	0		-2	-2
Hardlines	Consumer Electronic	1010	1010	1010	100002031	11,614	11,668	-20		0	18

Inventory Performance

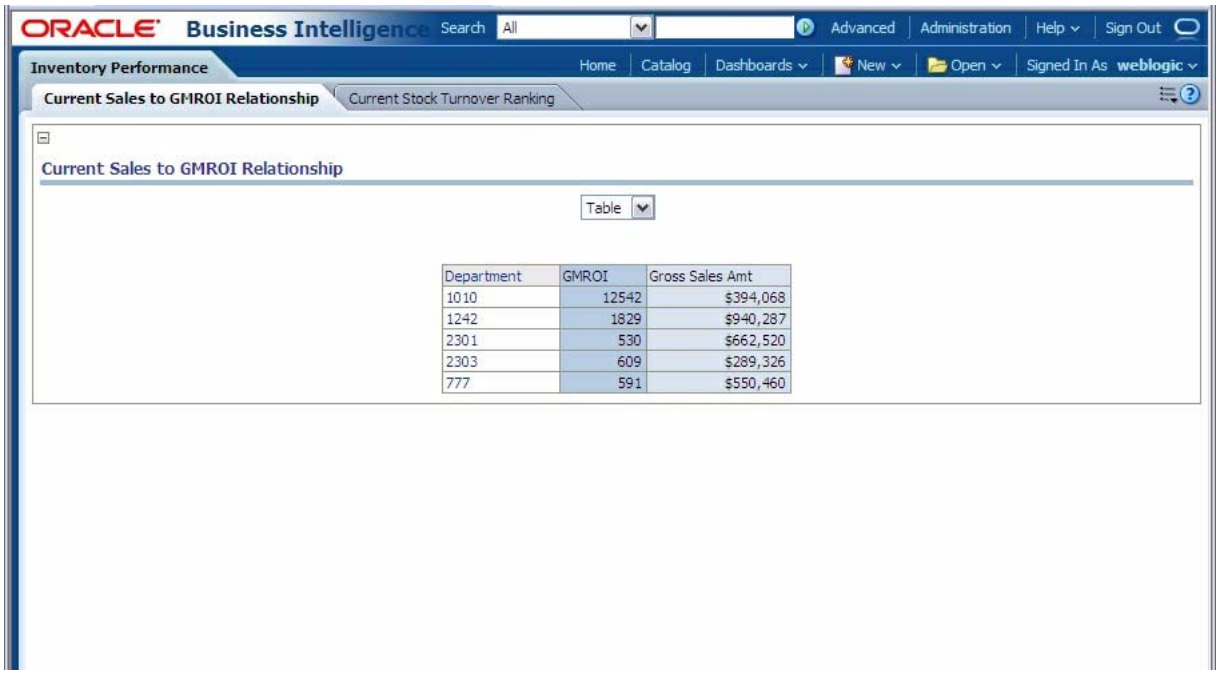
The Inventory Performance dashboard includes the following reports.

Current Sales to GMROI Relationship

This report displays the relationship between sales amount and gross margin return on investment (GMROI) for various levels of the merchandise hierarchy. The report can be run weekly by merchandising and finance executives to evaluate the relationship between inventory profitability and sales revenue. Data points falling in the upper right-hand of this report are high-value merchandise. This quadrant should motivate the inventory control managers to ensure that the merchandise does not have low inventories or out-of-stock conditions. The lower left-hand quadrant depicts low-value inventory, with low sales ability and low margin. This inventory needs a possible adjustment to pricing and promotions and a review of assortment to stimulate movement.

The user can select display of this report in either graph or table format.

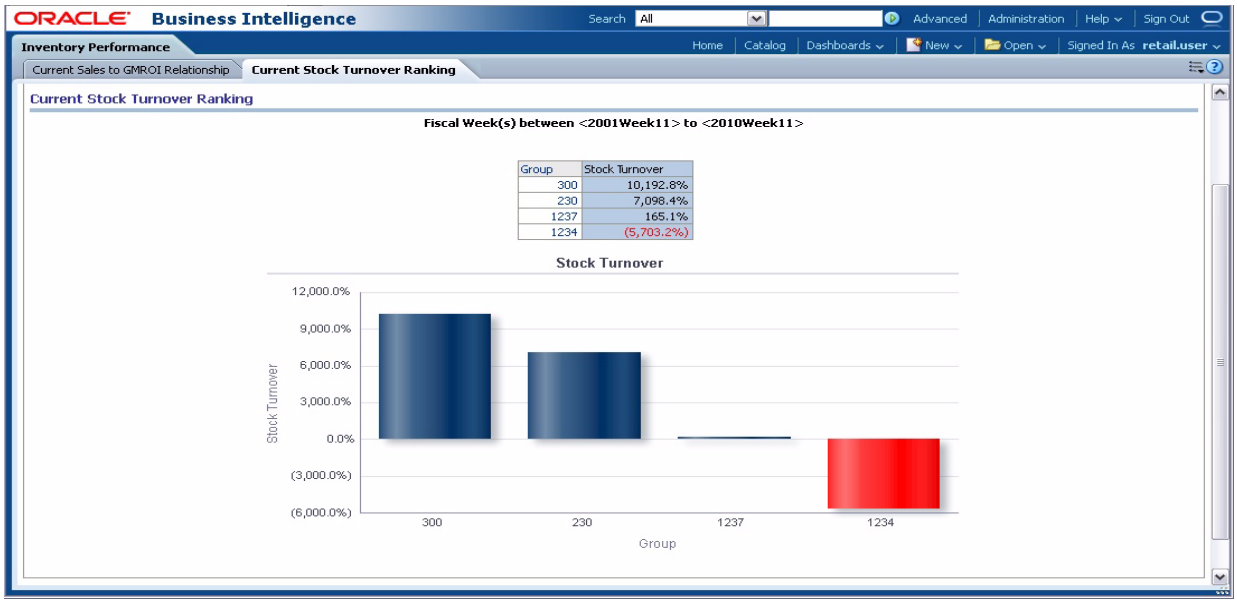
Figure 3–7 Current Sales to GMROI Relationship Report



Current Stock Turnover Ranking

This report displays the groups in the merchandise hierarchy and their average stock turnovers. This report indicates whether the stock has been efficiently used or not, to check whether only the required minimum has been locked up in stocks. Merchandising analysts can run this report weekly to identify low stock turnover inventory, and they can review the stocking strategies of these items with inventory control managers. For any seasonal inventory that shows low turnover because of the approaching end of the season, pricing analysts can initiate markdowns to get the inventory moving again. Similarly, for items with decreased sales velocity, buyers can negotiate with their suppliers for possible return of low-turnover merchandise.

Figure 3–8 Current Stock Turnover Ranking Report



Supplier Scorecard

The Supplier Scorecard provides buyers and merchandising executives with analysis that can be used to negotiate with suppliers. The reports present scorecards and performance of a supplier's delivery accuracy and timeliness, invoice matching summaries for disputed item-level invoices, and net cost and profit analysis based on supplier costing. A buyer can drill into these reports while developing cost strategies and margin planning, as well as considering charge-back programs to fine suppliers that do not meet minimum standards. Retailers that collaborate with their suppliers on improving their scorecards improve the efficiency of the supply chain.

The Supplier Scorecard section contains the following dashboards of reports:

- Supplier Performance
- Supplier Cost Analysis

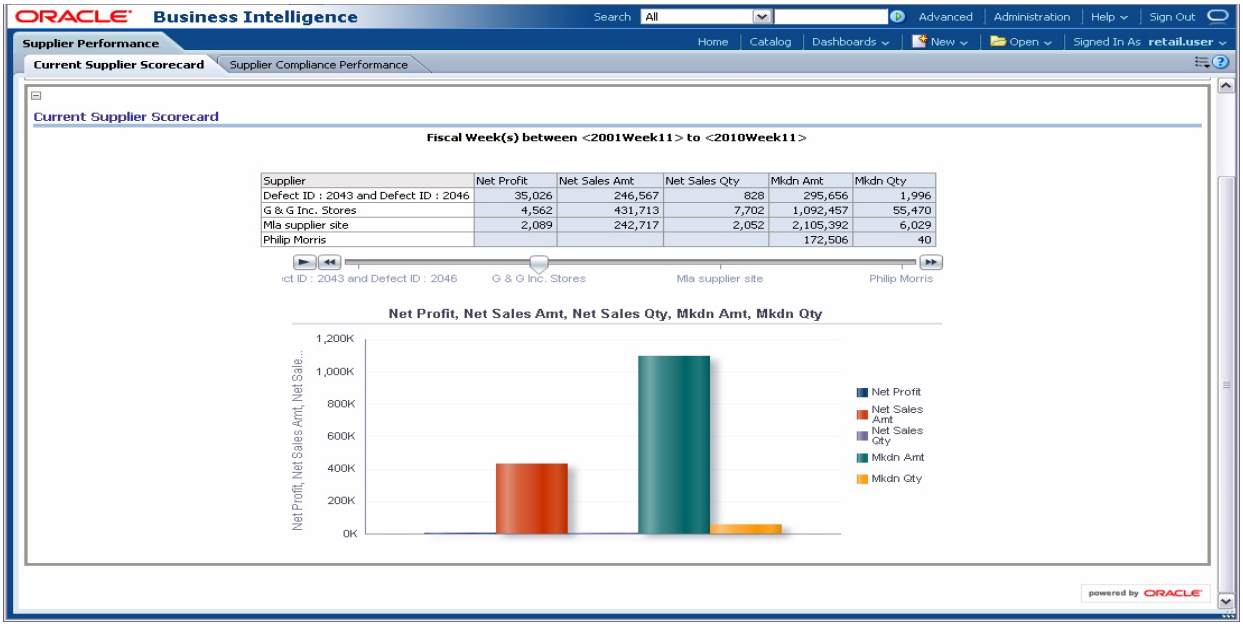
Supplier Performance

The Supplier Performance dashboard includes the following reports.

Current Supplier Scorecard

This report can be run monthly by the buyer to compare the performance of various primary suppliers for goods at a department level. The report allows analysis of profit, net sales, markdown values, and other factors for the suppliers that the user chooses. This report enables buyers and merchandising executives to evaluate sales and profitability performance of goods from different suppliers. Depending on whether performance is poor or favorable, inventory or assortment levels can be adjusted accordingly. For low-profitability suppliers, pricing analysts can also use this report to initiate strategies for supplier-funded promotions or promotional markdowns to boost overall sales.

Figure 3–9 Current Supplier Scorecard Report



Supplier Compliance Performance

The supplier compliance reports enable a buyer to assess the strengths and weaknesses of new and existing suppliers and their performance over time. These reports focus on analysis of on-time purchase orders (counts of early and late versus on-time), timeliness of advance shipping notices (early and late versus on-time), and purchase order fulfillment rates (counts of under-received, over-received, and fully met purchase orders).

Buyers and merchandising executives can run this report, along with primary supplier sales and profitability reports, in preparation for semiannual meetings with suppliers to plan next season's purchases. The buyer can also navigate to the Invoice Cost Details report to assess a supplier's invoice matching performance.

The Supplier Compliance Performance report has three subsections:

- Supplier Compliance Performance - Order Count

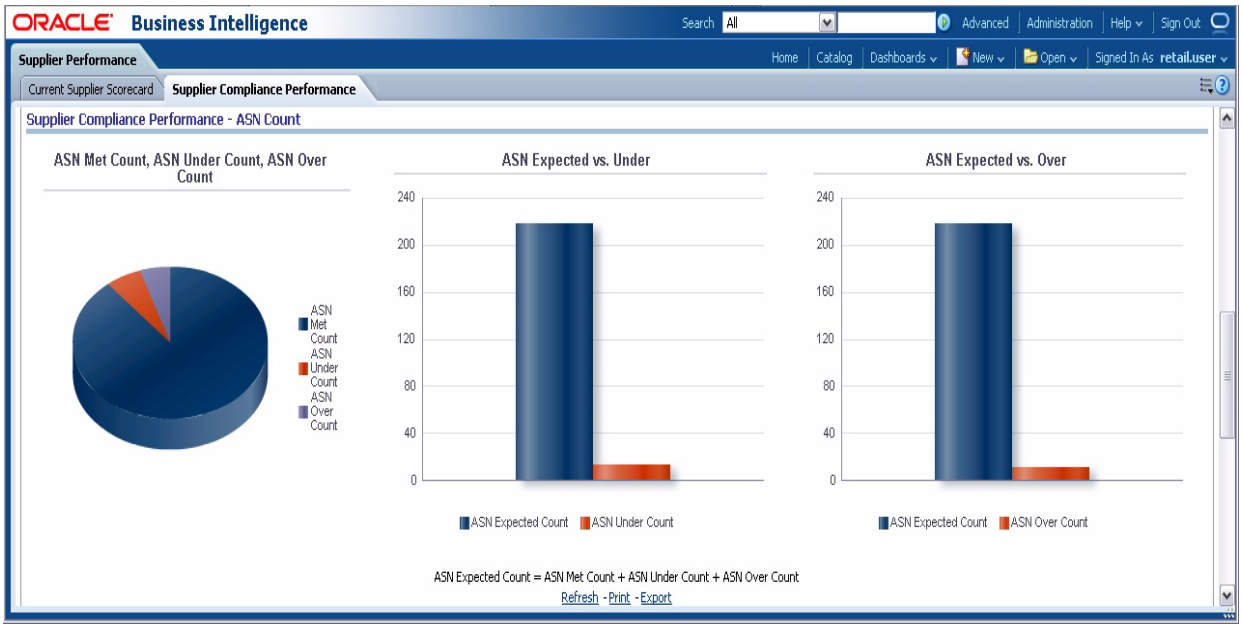
  This report provides supplier order fulfillment information.

Figure 3–10 Supplier Compliance Performance - Order Count Report

- Supplier Compliance Performance - ASN Count

  This report provides information about a supplier's compliance with advance shipping notices (ASN).

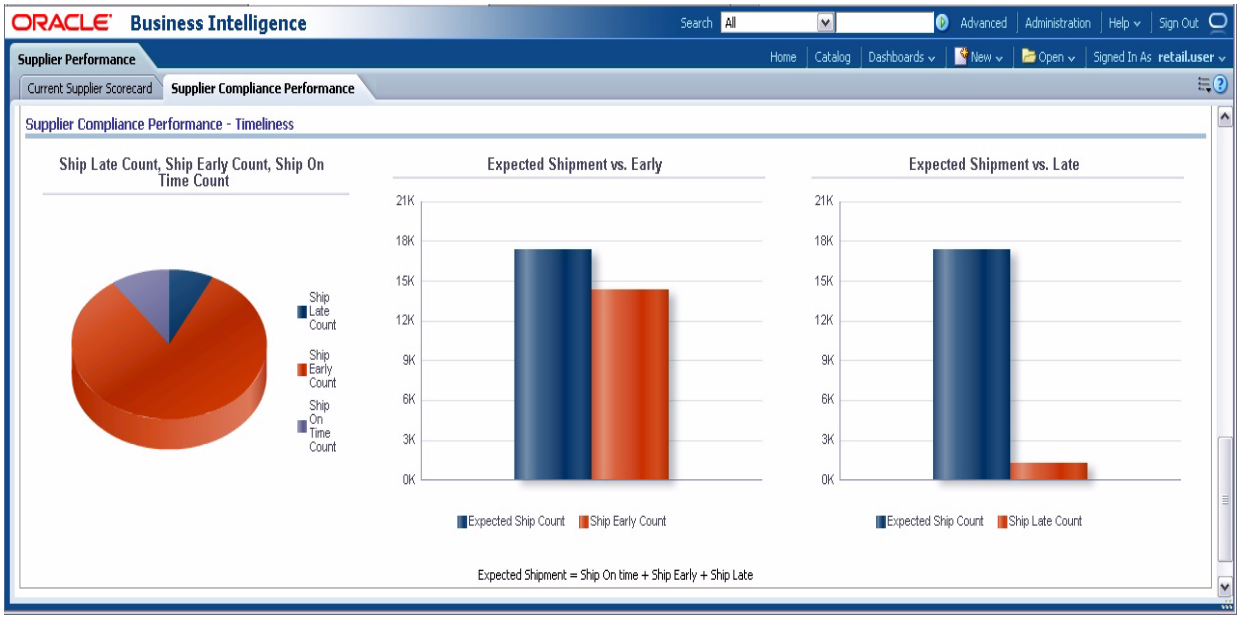
Figure 3–11 Supplier Compliance Performance - ASN Count Report



- Supplier Compliance Performance - Timeliness

  This report provides supplier timeliness information such as on-time, early, and late deliveries. This enables evaluation of supplier punctuality for deliveries.

Figure 3–12 Supplier Compliance Performance - Timeliness Report



Supplier Cost Analysis

The Supplier Cost Analysis dashboard includes the following reports.

Current Location Cost and Profit

This report is designed to give the buyer the current snapshot of an item's cost at a specific location: net cost, dead net cost, and related net profit/dead net profit. The report can be run regularly by buyers to monitor high-profitability items and review the cost and profit for those items from the point of view of net costs, dead net costs, and so on.

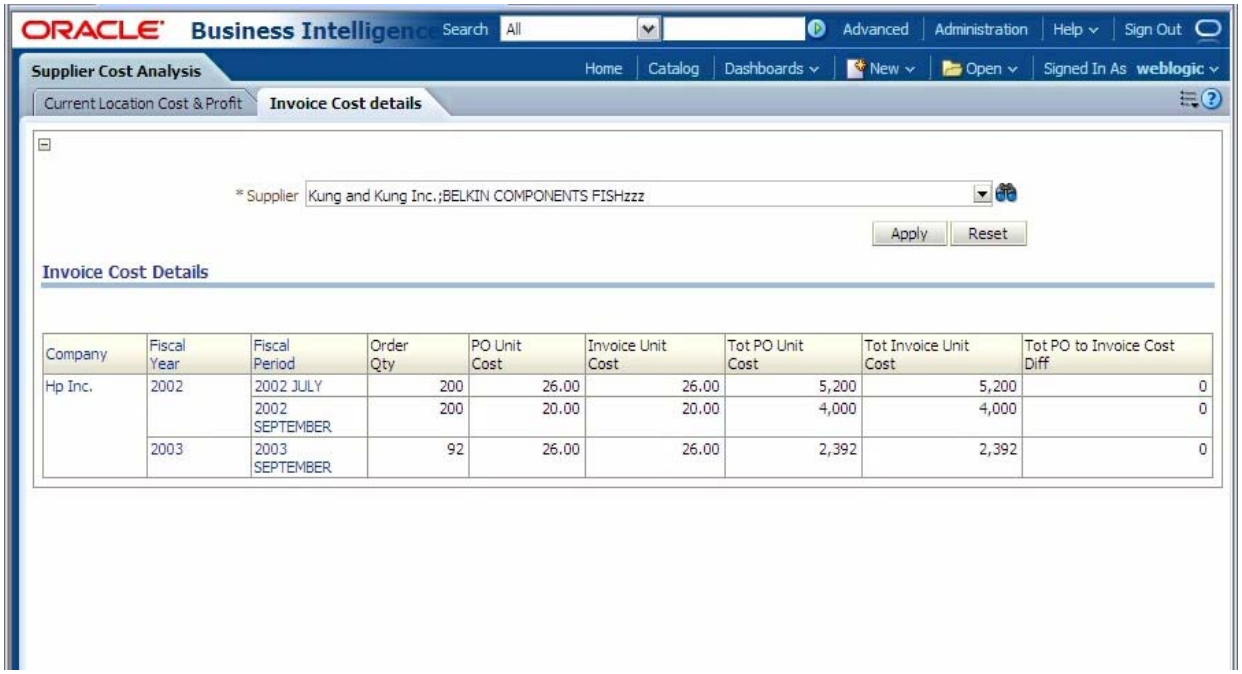
The buyer can navigate to the Current MTD Sales and Inventory Scorecard report to track current trends of sales volumes and inventory levels. For low-profitability items, actions available to the buyer include negotiating with suppliers for better supplier deals, supplier-funded promotions, or possibly reduced permanent cost prices for the items. For high-profitability items, actions could include optimizing stock levels and weeks of supply to ensure consistent product availability and predictable sales revenue.

Invoice Cost Details

This report enables a buyer to assess a supplier's invoice matching performance over a specified time period. This report allows the buyer to compare invoice costs with purchase order costs, for invoices that have been matched at detail (item) level in the source invoice matching system. Unit costs and extended costs can be compared, rolled up across all items for that supplier's invoices, or drilled down to the item level.

Buyers can run this report weekly or monthly to report to merchandising and finance executives about the discrepancies for this supplier, whether the discrepancies favored the supplier or the retailer, and so on. The supplier's invoice matching history could be discussed on a semi-annual basis during the supplier's compliance review.

Figure 3–13 Invoice Cost Details Report



Merchandising Scorecard

The Merchandising Scorecard provides a high-level, organization-wide perspective for analyzing the effectiveness of merchandising strategies, allowing detailed analysis of various merchandising techniques to maximize profit, increase sales opportunities, and enhance product performance. The Merchandising Scorecard section contains the following dashboards of reports:

- Markdowns
- Merchandise Sales and Profit
- Merchandise Performance

Markdowns

The Markdowns dashboard includes the following reports.

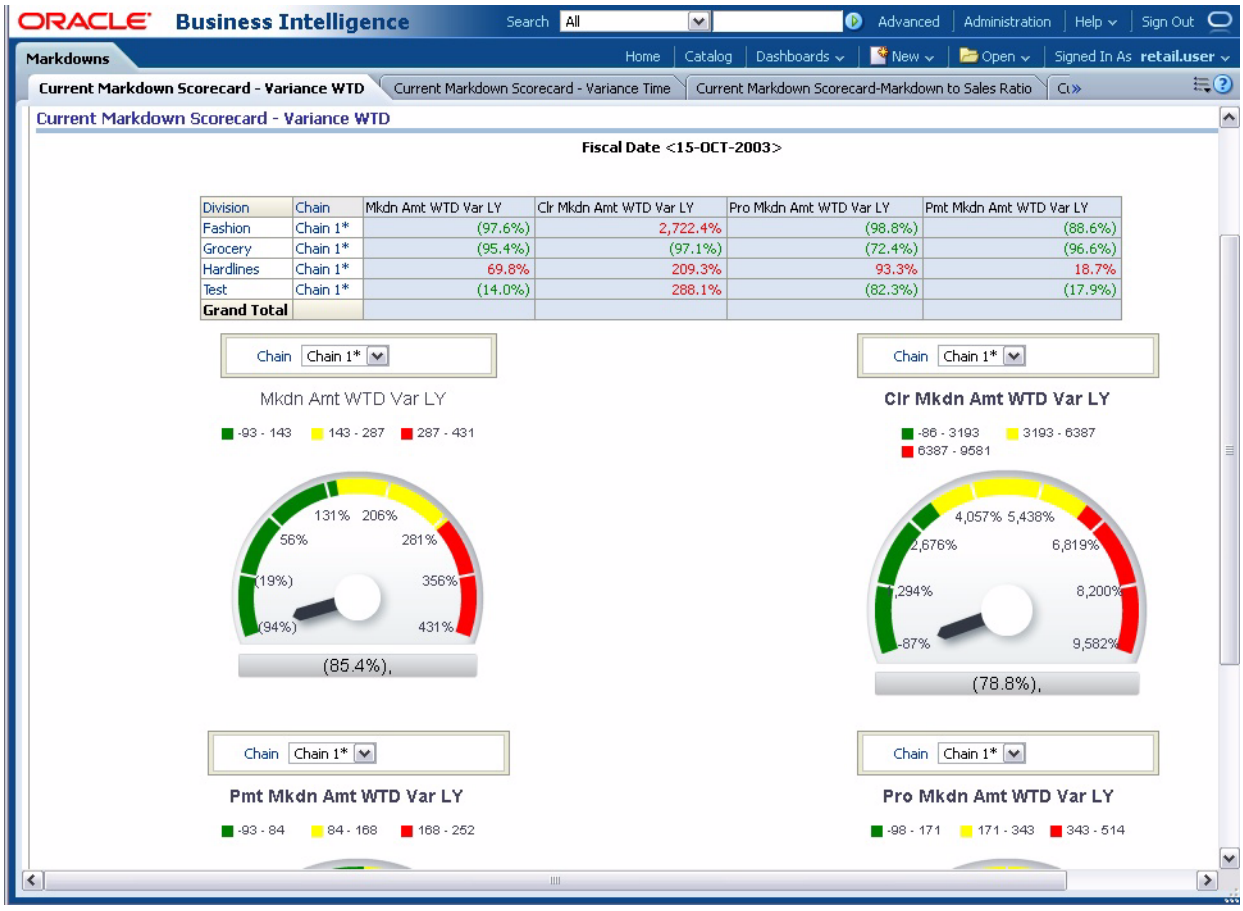
Current Markdown Scorecards

These reports provide markdown information, based on regular, promotion, and clearance retail types, compared to last year. Merchandising and finance executives can use this report to determine the effectiveness of markdown strategies. Buyers can identify items that have high variances of markdowns compared to last year, and possibly negotiate and evaluate the prices of such items with suppliers.

The following are the Current Markdown Scorecard reports.

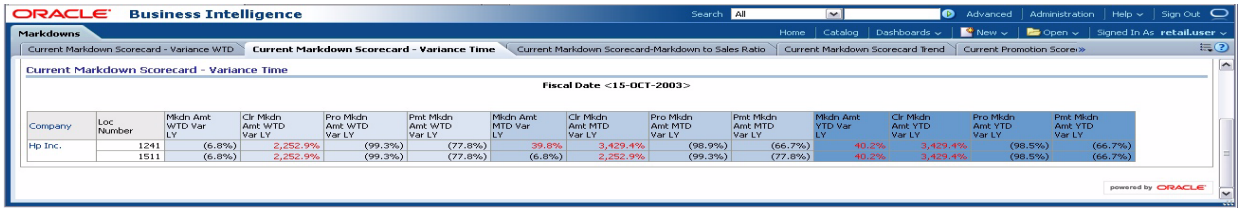
Current Markdown Scorecard - Variance WTD The report displays week-to-date retail markdown variances compared to last year.

Figure 3–14 Current Markdown Scorecard - Variance WTD



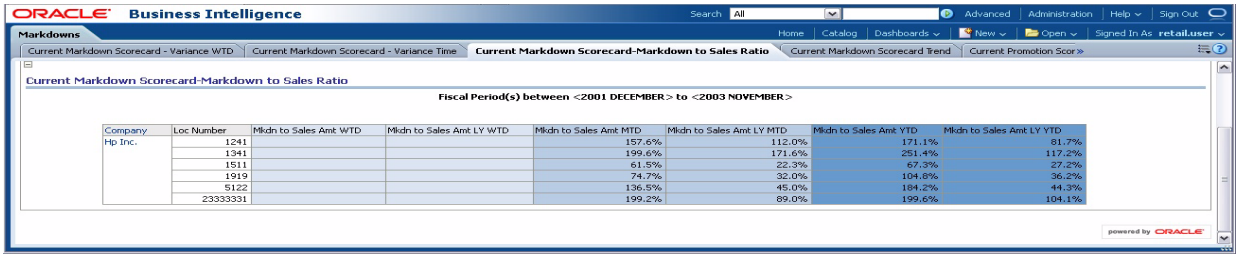
Current Markdown Scorecard - Variance Time The report displays week-to-date, month-to-date, and year-to-date retail markdown variances compared to last year.

Figure 3–15 Current Markdown Scorecard - Variance Time Report



Current Markdown Scorecard - Markdown to Sales Ratio The report displays week-to-date, month-to-date, and year-to-date retail markdown to sales ratios for this year and last year.

Figure 3–16 Current Markdown Scorecard - Markdown to Sales Ratio Report



Current Markdown Scorecard Trend

This report provides markdown information based on regular, promotion, and clearance retail types, compared to last year. Merchandising and finance executives can use this report to determine the effectiveness of markdown strategies. Buyers can identify items that have high variances of markdowns compared to last year, and possibly negotiate and evaluate the prices of such items with suppliers.

Current Promotion Scorecard

This report is meant to be run at the beginning of the week, to measure the success of merchandise promotions across locations. The report shows promotional sales revenue for last week, compared to the same week the previous year, as well as promotion discounts taken during those time periods. The report can be run at a high level of the merchandise hierarchy by merchandising and marketing executives. Buyers and pricing analysts can drill down to specific departments to monitor the performance of promotional sales to plans. The report allows a pricing analyst to navigate to the Current MTD Sales and Inventory Scorecard to refine the promotion strategies for items with excess inventory or poor sell-through.

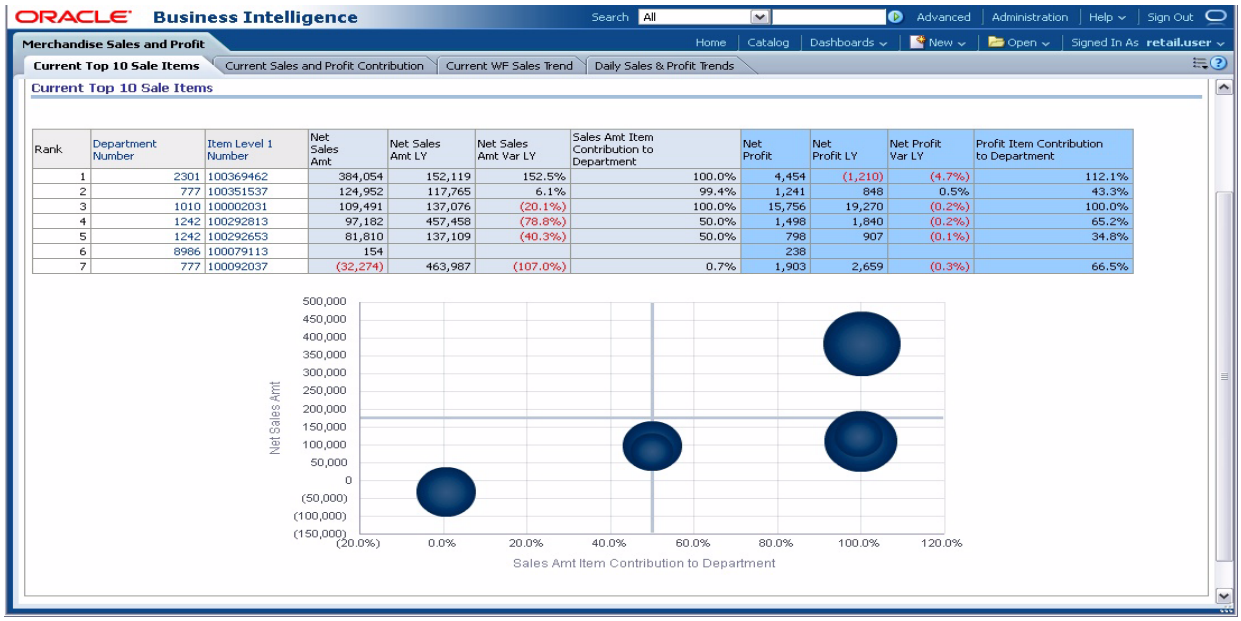
Merchandise Sales and Profit

The Merchandising Sales and Profit dashboard includes the following reports.

Current Top 10 Sale Items

This report shows the top ten selling items, ranked by sales amount, for a time period specified by the user. This report can be run periodically to review the merchandising strategies for a selected range of departments. The results of the report can be used by buyers to evaluate pricing and promotion strategies for key items. The inventory control manager can navigate to the Current MTD Sales and Inventory Scorecard to review the inventory positions of top selling items and have an inventory analyst review whether additional inventory needs to be ordered.

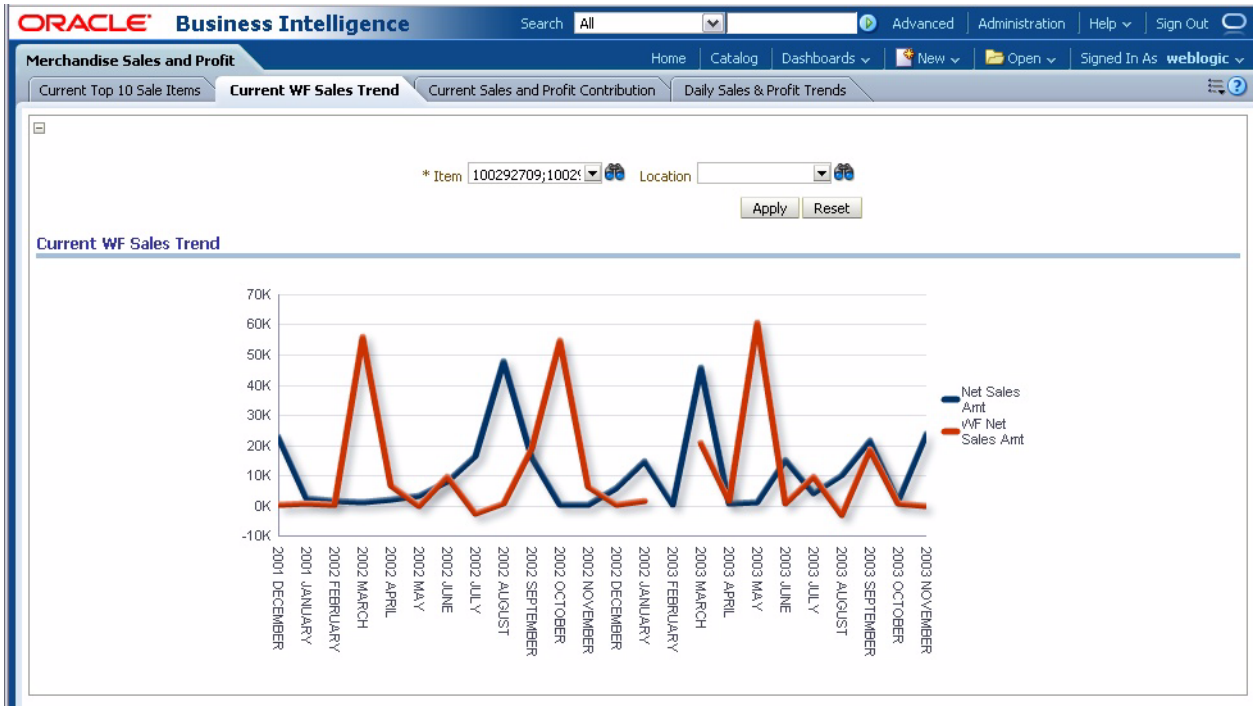
Figure 3–17 Current Top 10 Sale Items Report



Current WF Sales Trend

This report displays the monthly trend of sales amounts and wholesale/franchise sales amounts for an item. This report can be run weekly by merchandising and finance executives to assess the relative contributions to sales by the wholesale/franchise locations for the key items. This report can also enable buyers to negotiate for better deal pass-through terms for wholesale/franchise locations that show high sales. A buyer can also reduce order quantities for items that show low sales, or even substitute such merchandise with high sales merchandise.

Figure 3–18 Current WF Sales Trend Report



Current Sales and Profit Contribution

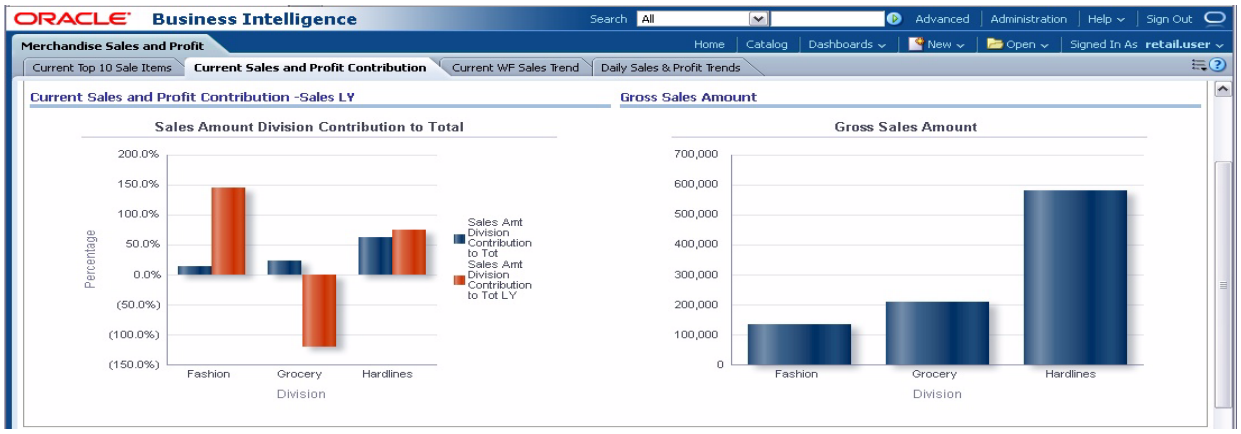
This report provides a view of sales and profit contribution across the organization by merchandising division. The report can be run monthly to compare the merchandising mix this year to last year by sales value. For the underperforming divisions in this report, merchandising executives can navigate to the Current Location Scorecard report to analyze division performance and profitability by location.

There are three subreports in this report:

- Current Sales and Profit Contribution - Sales LY

  This report displays the gross sales amounts for various divisions of a company. It also displays the sales contribution of each division this year and last year.

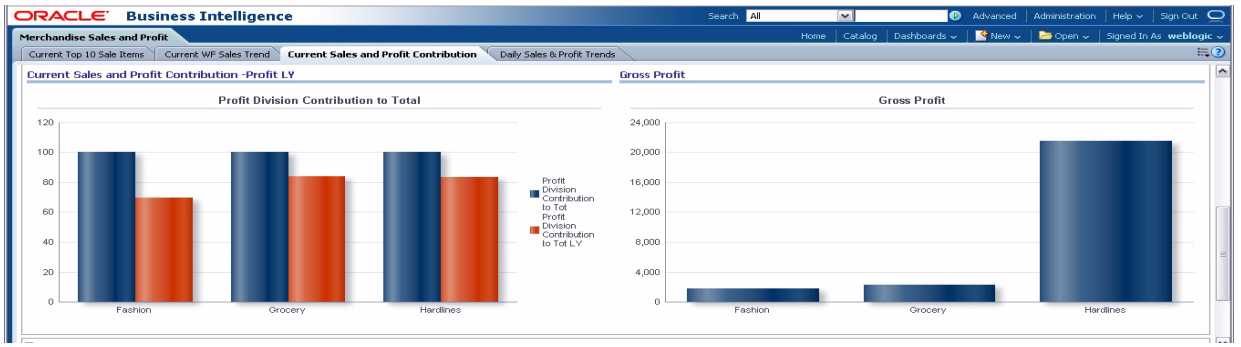
Figure 3–19 Current Sales and Profit Contribution - Sales LY Report



- Current Sales and Profit Contribution - Profit LY

  This report displays profit amounts for various divisions of a company. It also displays the profit contribution of each division this year and last year.

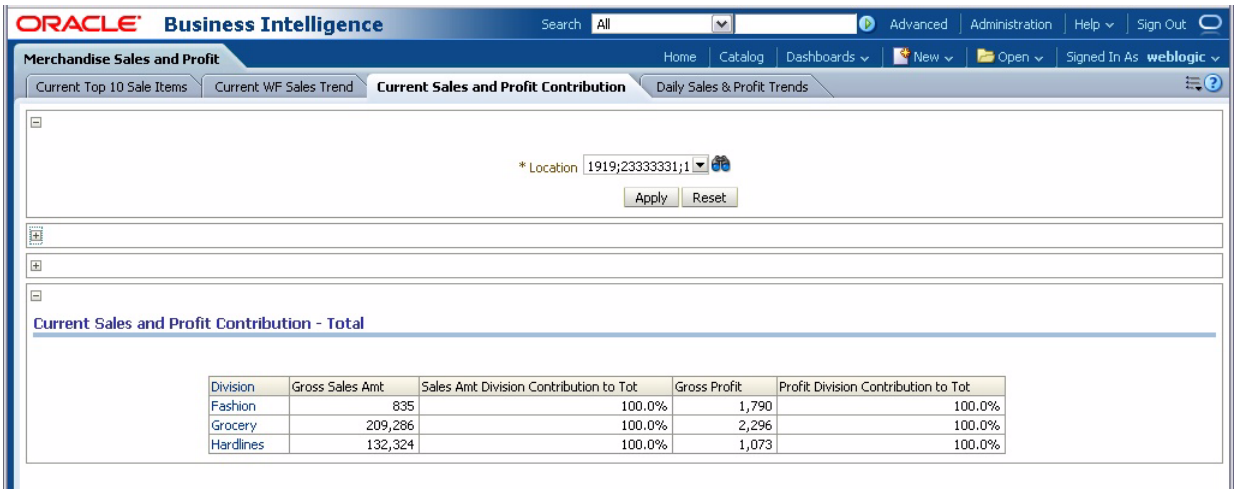
Figure 3–20 Current Sales and Profit Contribution - Profit LY Report



- Current Sales and Profit Contribution - Total

  This report displays gross sales, sales contribution percentages, gross profit, and profit contribution percentages for various divisions of a company.

Figure 3–21 Current Sales and Profit Contribution - Total Report

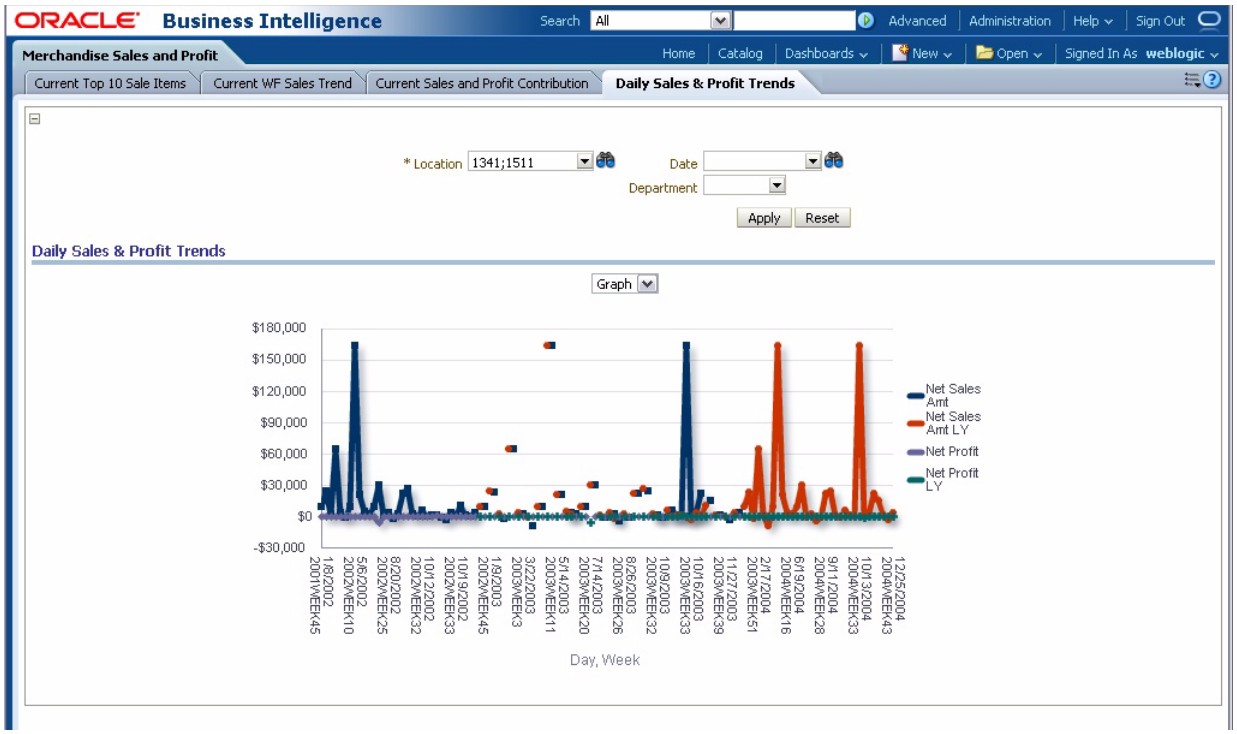


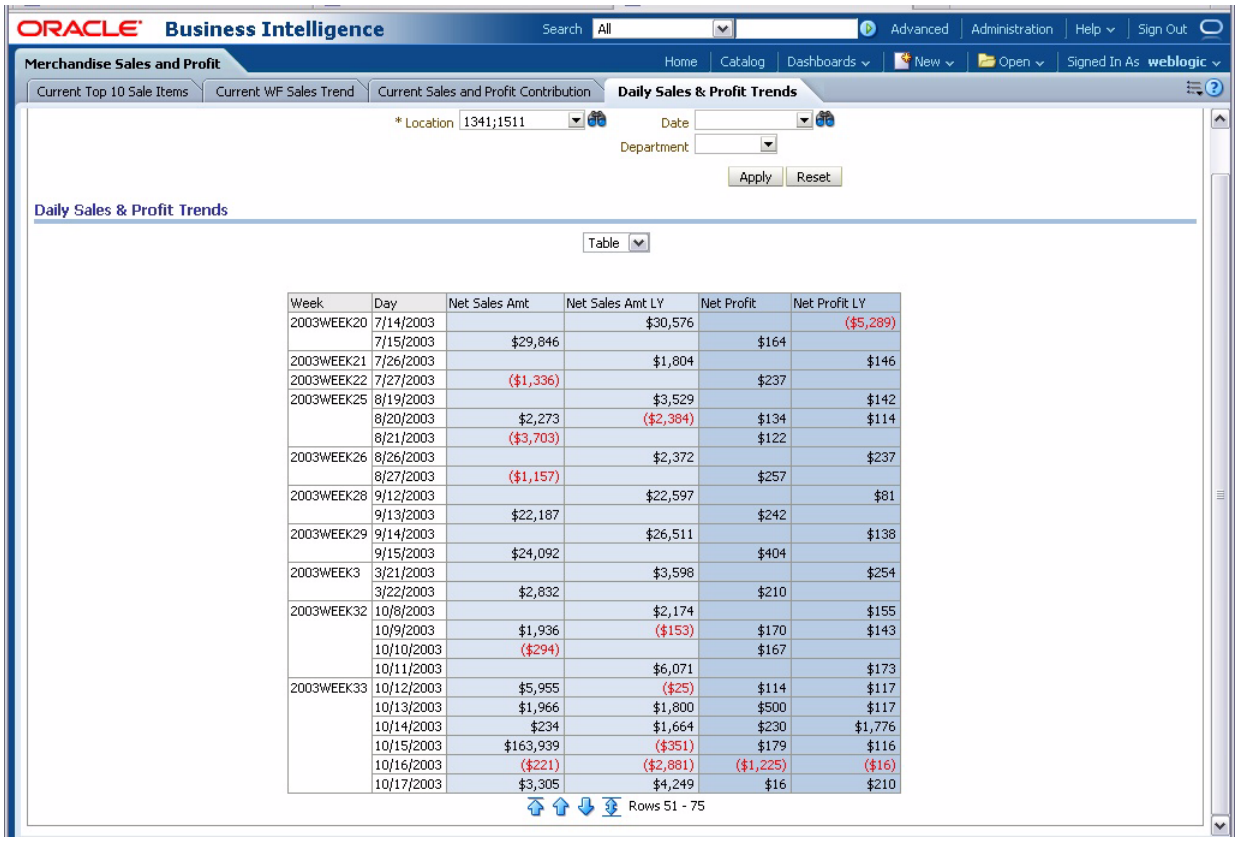
Daily Sales and Profit Trends

This report provides a high-level snapshot of the overall performance of the company compared to the same time period last year. Merchandising executives can review this report daily to monitor sales and profit revenue trends, especially taking note of high traffic days such as weekends and holidays. Marketing executives interested in the performance of a nationwide promotion that began last week can navigate from this report to the Current Promotion Scorecard report to compare location performance. Marketing executives, planners, and pricing administrators can confer to consider further markdown strategies, including candidates for clearance. In addition, the merchandising executive can navigate from this trend view to the Daily Sales and Profit report to identify problematic or high-performance locations, and possibly reconsider regional and location-specific pricing strategies.

The user can choose to view this report in graph or table format.

Figure 3–22 Daily Sales and Profit Trends Report





Week	Day	Net Sales Amt	Net Sales Amt LY	Net Profit	Net Profit LY
2003WEEK20	7/14/2003		$30,576		($5,289)
	7/15/2003	$29,846		$164	
2003WEEK21	7/26/2003		$1,804		$146
2003WEEK22	7/27/2003	($1,336)		$237	
2003WEEK25	8/19/2003		$3,529		$142
	8/20/2003	$2,273	($2,384)	$134	$114
	8/21/2003	($3,703)		$122	
2003WEEK26	8/26/2003		$2,372		$237
	8/27/2003	($1,157)		$257	
2003WEEK28	9/12/2003		$22,597		$81
	9/13/2003	$22,187		$242	
2003WEEK29	9/14/2003		$26,511		$138
	9/15/2003	$24,092		$404	
2003WEEK3	3/21/2003		$3,598		$254
	3/22/2003	$2,832		$210	
2003WEEK32	10/8/2003		$2,174		$155
	10/9/2003	$1,936	($153)	$170	$143
	10/10/2003	($294)		$167	
	10/11/2003		$6,071		$173
2003WEEK33	10/12/2003	$5,955	($25)	$114	$117
	10/13/2003	$1,966	$1,800	$500	$117
	10/14/2003	$234	$1,664	$230	$1,776
	10/15/2003	$163,939	($351)	$179	$116
	10/16/2003	($221)	($2,881)	($1,225)	($16)
	10/17/2003	$3,305	$4,249	$16	$210

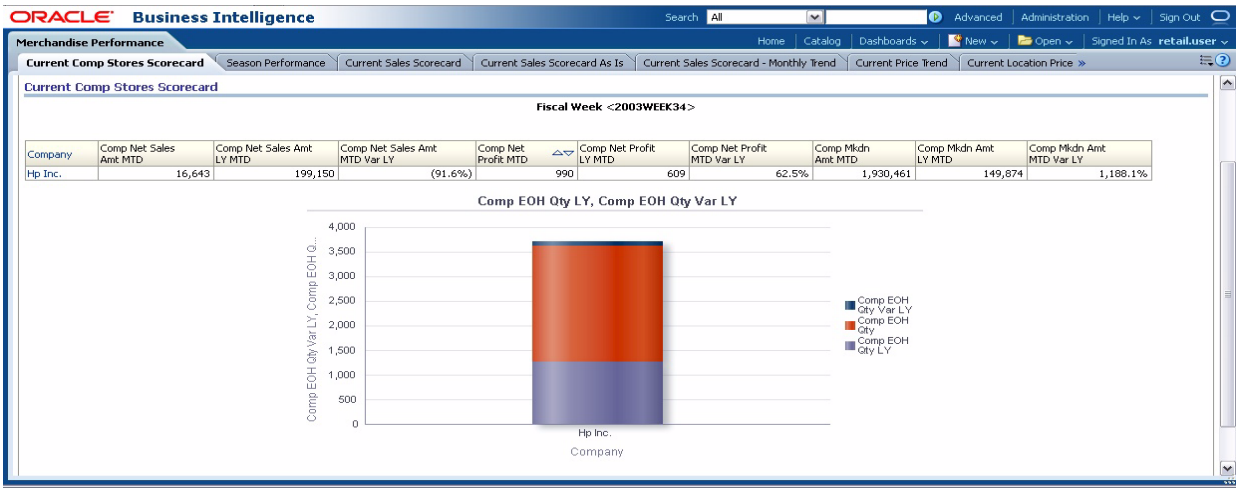
Merchandise Performance

The Merchandise Performance dashboard includes the following reports.

Current Comp Stores Scorecard

This report provides to merchandising and finance executives a daily snapshot of month-to-date comparable stores performance. At a high level, the user can compare sales revenue, profitability, markdown values, and Inventory positions across all comparable stores for the current month compared to last year. For measures that appear to be lagging, the user can drill into the merchandise hierarchy to compare performance between divisions, departments, and so on.

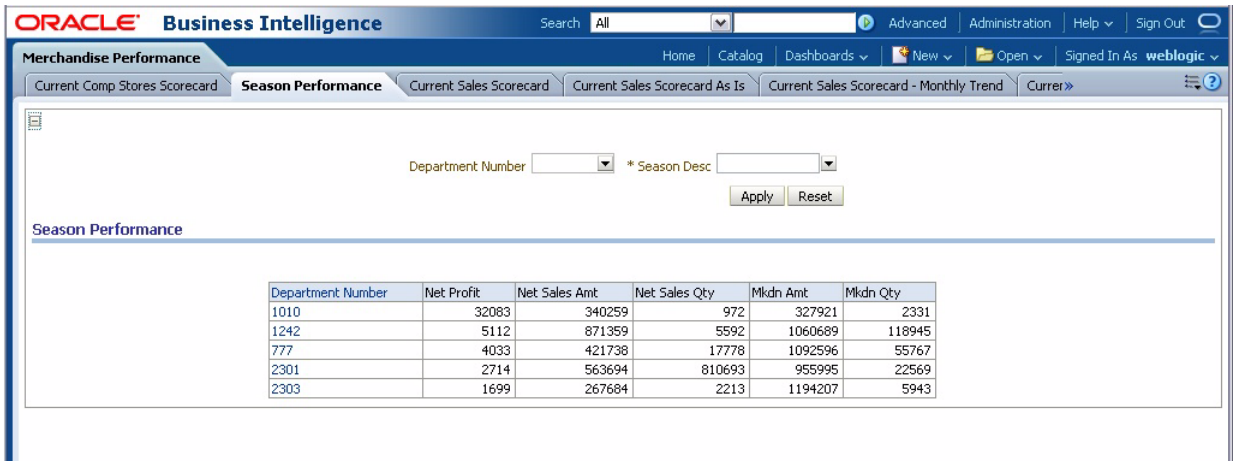
Figure 3–23 Current Comp Stores Scorecard Report



Season Performance

This report displays performance across departments for a specified product season. Planners and buyers evaluating seasonal merchandise assortments can compare sales and profitability of items attached to specific seasons. Because product seasons do not have to align with the business calendar, this report offers an alternative view of performance of merchandise over time.

Figure 3–24 Season Performance Report



Current Sales Scorecard

There are two reports under the dashboards Current Sales Scorecard and Current Sales Scorecard, Monthly Trends. These reports provide finance and merchandising executives with a high-level view of sales and profit trends across the company. The financial executive can look for sales and profit trends for all locations across months, and compare them to the comparable store trends for the same time period.

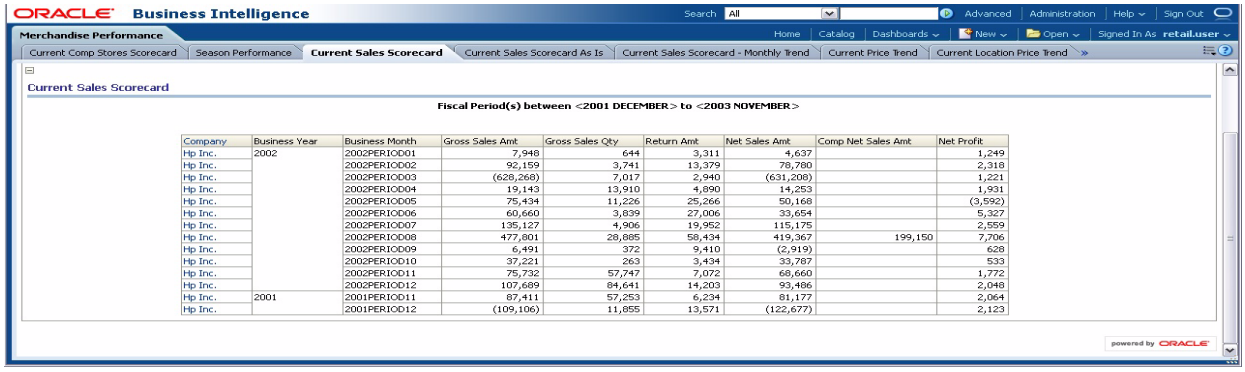
This report can be run at the beginning of the week, and the merchandise executive can drill down through the merchandise hierarchy to monitor the performance of critical divisions and departments. If revenue and profit trends appear to be missing financial targets, the buyer and inventory control manager can navigate to inventory reports, such as Current Out of Stock Location or Location No Sale Items, to assess whether stock levels are affecting revenue trends. The merchandising executive can direct planners to navigate to the Current Location Sales Scorecard to compare sales broken down by retail type, to adjust merchandise plans accordingly.

There are two reports for this analysis:

- Current Sales Scorecard

  This report displays sales amounts, return amounts, and profit for business year and business month.

Figure 3–25 Current Sales Scorecard Report

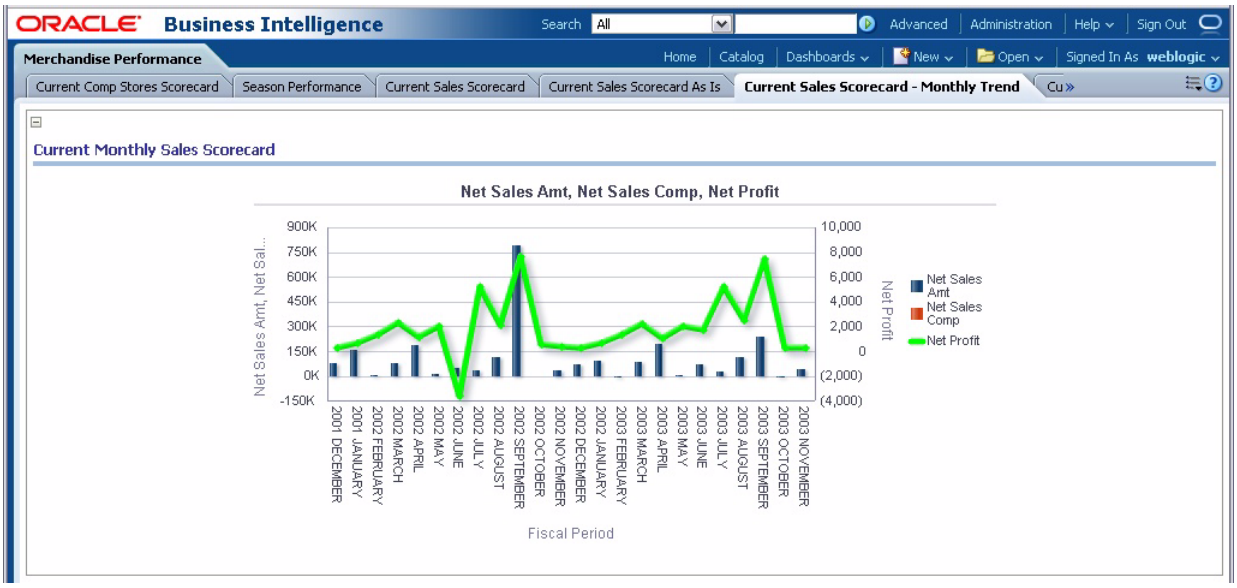


Company	Business Year	Business Month	Gross Sales Amt	Gross Sales Qty	Return Amt	Net Sales Amt	Comp Net Sales Amt	Net Profit
Hp Inc.	2002	2002PERIOD01	7,948	644	3,311	4,637		1,249
Hp Inc.		2002PERIOD02	92,159	3,741	13,379	78,780		2,318
Hp Inc.		2002PERIOD03	(628,268)	7,017	2,940	(631,208)		1,221
Hp Inc.		2002PERIOD04	19,143	13,910	4,890	14,253		1,931
Hp Inc.		2002PERIOD05	75,434	11,226	25,266	50,168		(3,592)
Hp Inc.		2002PERIOD06	60,660	3,839	27,006	33,654		5,327
Hp Inc.		2002PERIOD07	135,127	4,906	19,952	115,175		2,559
Hp Inc.		2002PERIOD08	477,801	28,885	58,434	419,367	199,150	7,706
Hp Inc.		2002PERIOD09	6,491	372	9,410	(2,919)		628
Hp Inc.		2002PERIOD10	37,221	263	3,434	33,787		533
Hp Inc.		2002PERIOD11	75,732	57,747	7,072	68,660		1,772
Hp Inc.		2002PERIOD12	107,689	84,641	14,203	93,486		2,048
Hp Inc.	2001	2001PERIOD11	87,411	57,253	6,234	81,177		2,064
Hp Inc.		2001PERIOD12	(109,106)	11,855	13,571	(122,677)		2,123

- Current Sales Scorecard-Monthly Trend

  The graph on this report displays the monthly trend of net sales amount, net profit, and net comp sales.

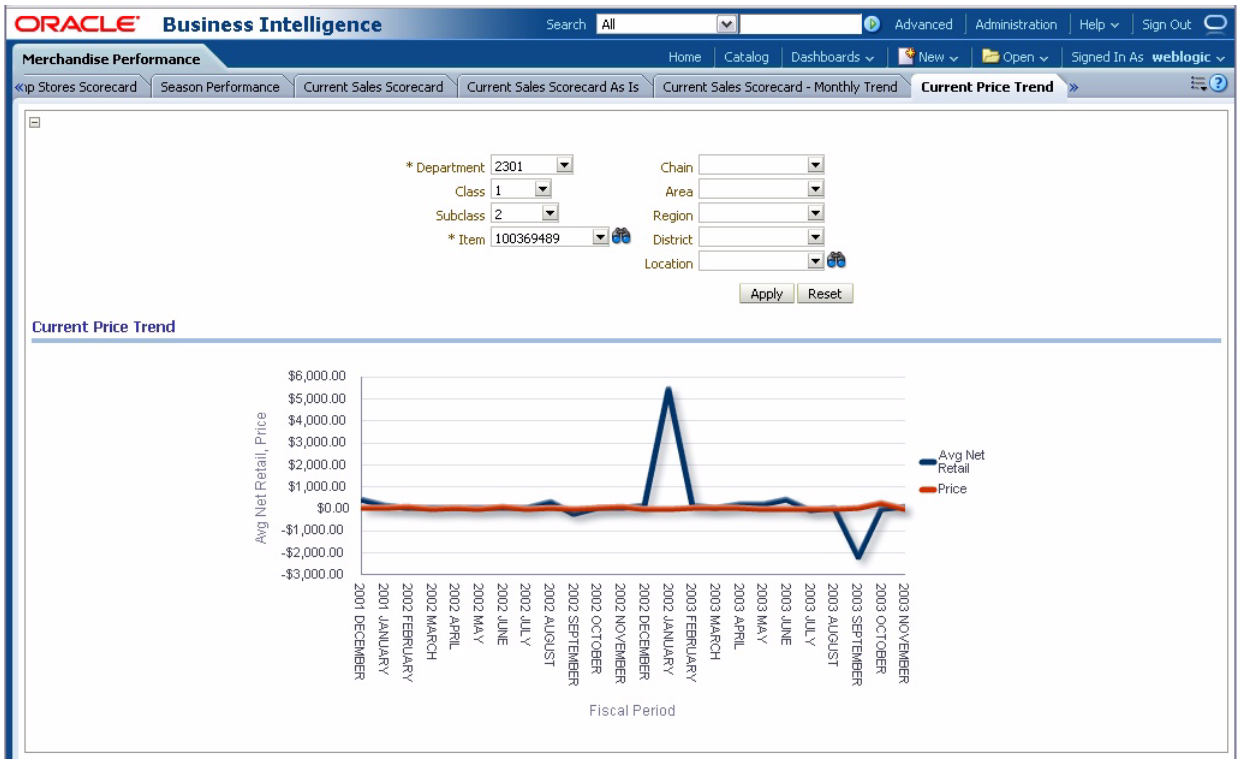
Figure 3–26 Current Sales Scorecard - Monthly Trend Report



Current Price Trend

This report allows evaluation of an item's retail price over time, compared to average unit retail price (selling price). This report can be run monthly by buyers and pricing administrators when evaluating markdown and clearance strategies for key items. A buyer can review the Current Location Sales Scorecard to view sales revenue for the item across all locations by retail type. The Current Location Sales Card report also provides insight into the performance of items by retail type compared to last year, so that a buyer can analyze the pricing trend in the context of sales revenue produced by the item. A buyer can compare pricing trends to current pricing guides set by a merchandising executive, and initiate clearance or promotion events accordingly.

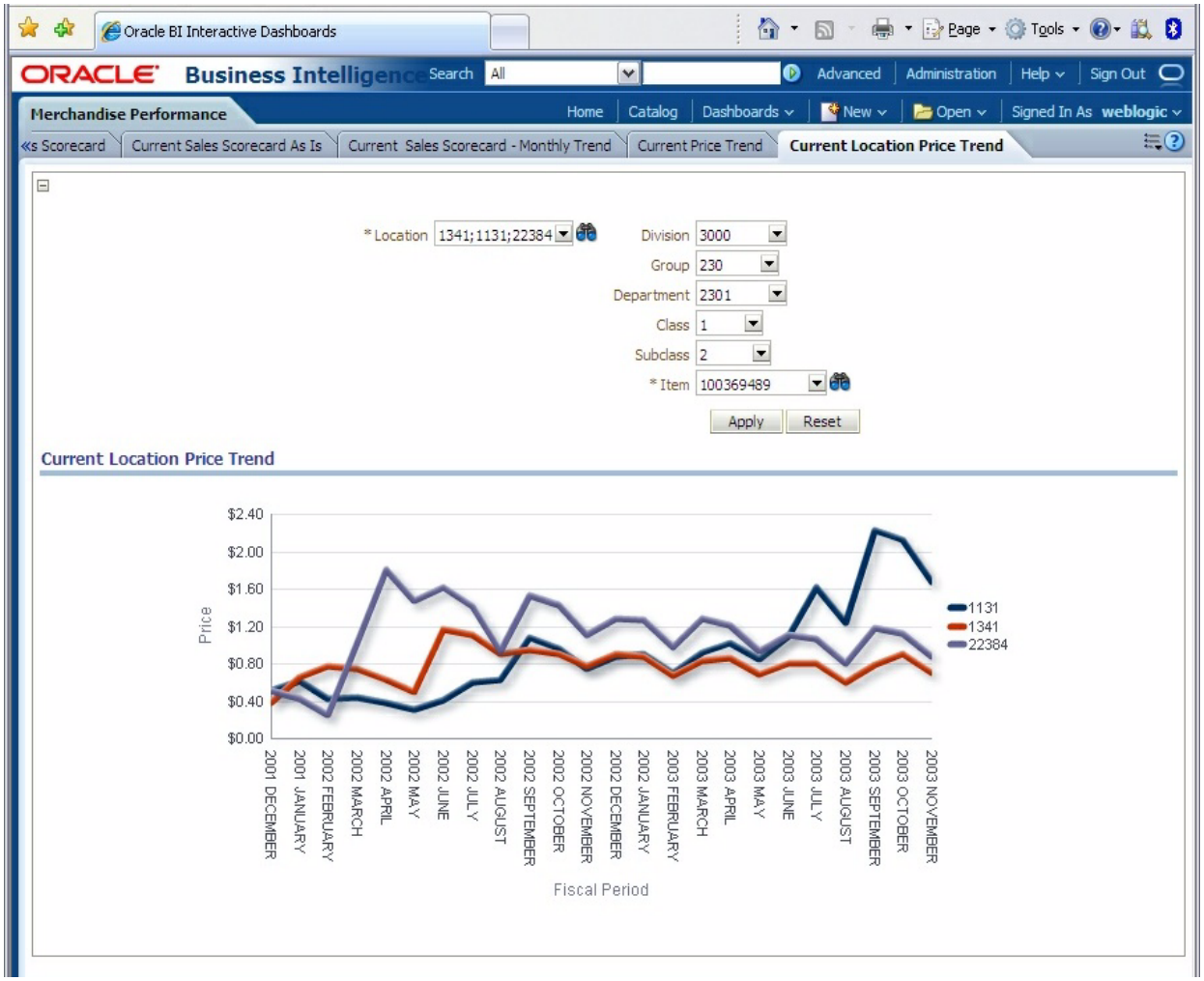
Figure 3–27 Current Price Trend Report



Current Location Price Trend

These reports display monthly trends of average prices by location. The measures in the reports include average item prices compared to average selling prices. This report can be used by pricing administrators and analysts when reviewing merchandising pricing thresholds, and when discussing promotional plans and product pricing plans with planners. A pricing analyst can reference the Current Location Cost and Profit report to review with a buyer the performance and profit of an item across locations, to adjust promotional pricing plans.

Figure 3–28 Current Location Price Trend Report



Merchandising Analysis

Merchandising Analysis provides a deeper level of analysis compared to the merchandising scorecards. Buyers and planners can use these reports to drill down to low-level analysis to understand trends in profit, variances from sales forecasts, and the effectiveness of merchandising strategies. The Merchandising Scorecard section contains the following dashboards of reports:

- Merchandising Location Analysis
- Merchandising Pack Performance

Merchandising Location Analysis

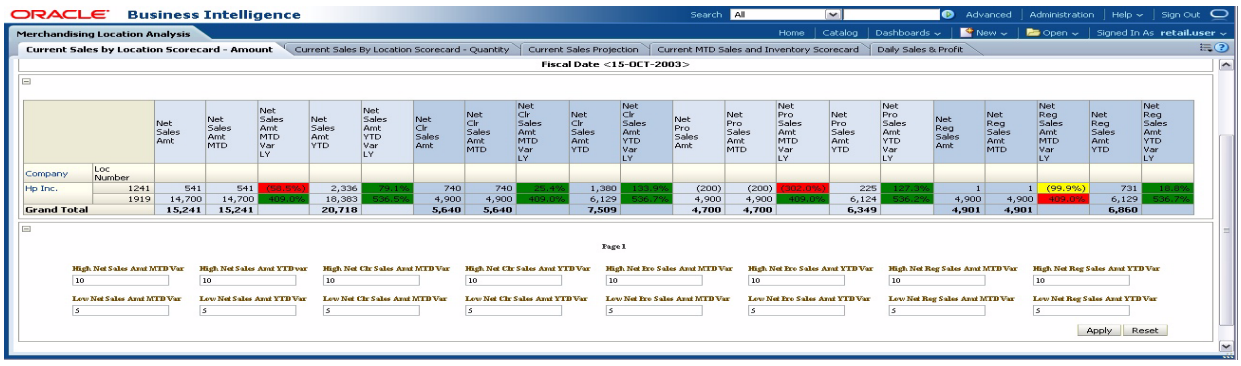
The Merchandising Location Analysis dashboard includes the following reports.

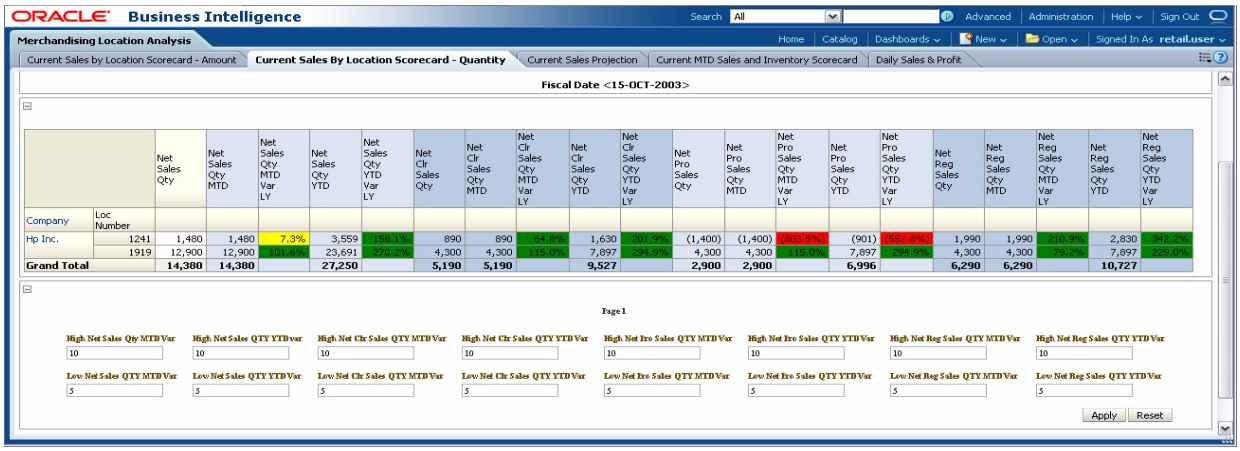
Current Sales by Location Scorecard

This report can be run at the beginning of each week, and can provide merchandising executives and regional managers a breakdown of sales revenues, by locations, for each retail type (regular, promotion, and clearance). This is a key historical analytical report, because it provides month-to-date and year-to-date net sales revenue compared to the same periods in the previous year.

This report can help regional and store managers to analyze yearly sales performance at locations of interest. For high sales performance locations, the buyer and inventory control analyst can drill through the merchandise hierarchy to subclasses and item levels, then navigate to the Current Location WOS Warning report to ensure that items are properly stocked or on order. For low-selling locations, marketing managers and merchandising and planning executives can use this report to plan regional advertising and promotional events to increase sales revenues.

Figure 3–29 Current Sales by Location Scorecard Report

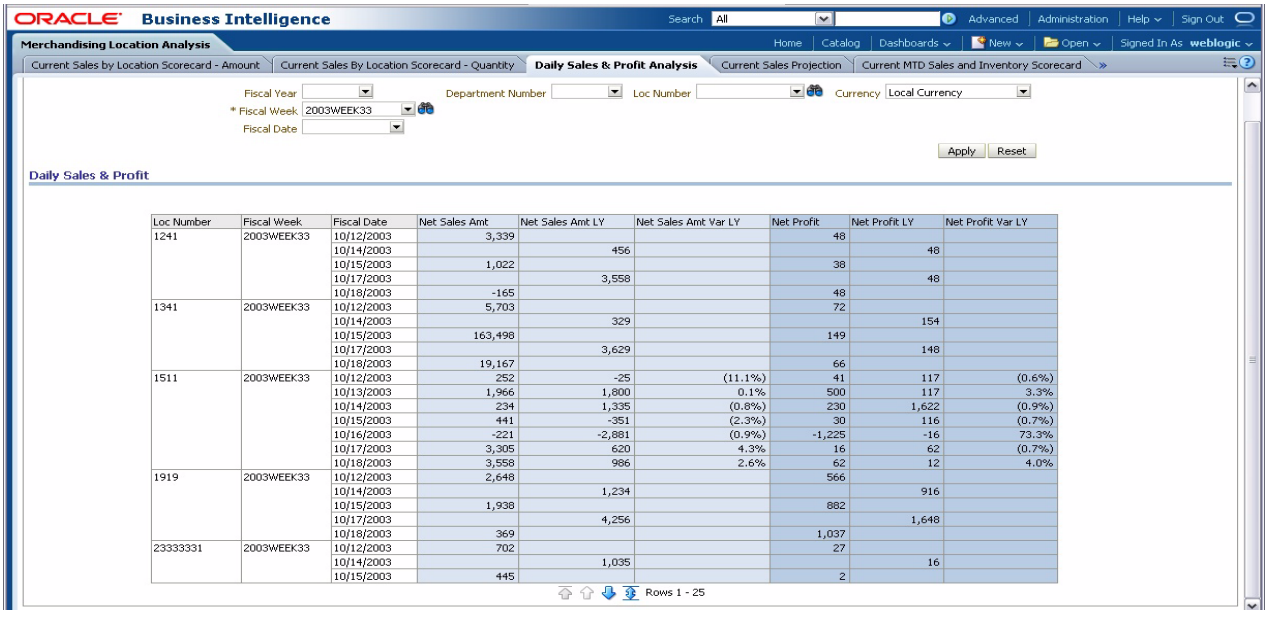




Daily Sales and Profit

This report provides an organizational comparison of sales and profit trends compared to the same time period last year. Regional and store Managers can review this report daily to ensure that daily projections for their regions and locations are being met on high-traffic days. Planners and pricing administrators can navigate from this report to the Current Promotion Scorecard report when planning the next clearance and markdown events.

Figure 3–30 Daily Sales and Profit Report



Current Sales Projection

This report displays actual sales quantities compared to forecast for the current week, broken down by location. This report can be run midweek by merchandising and planning executives who assess progress against forecast. For locations where variance from forecast is negative, an inventory control manager can navigate to the Current Location WOS Warning report to see whether low inventory levels are affecting the performance compared to forecast.

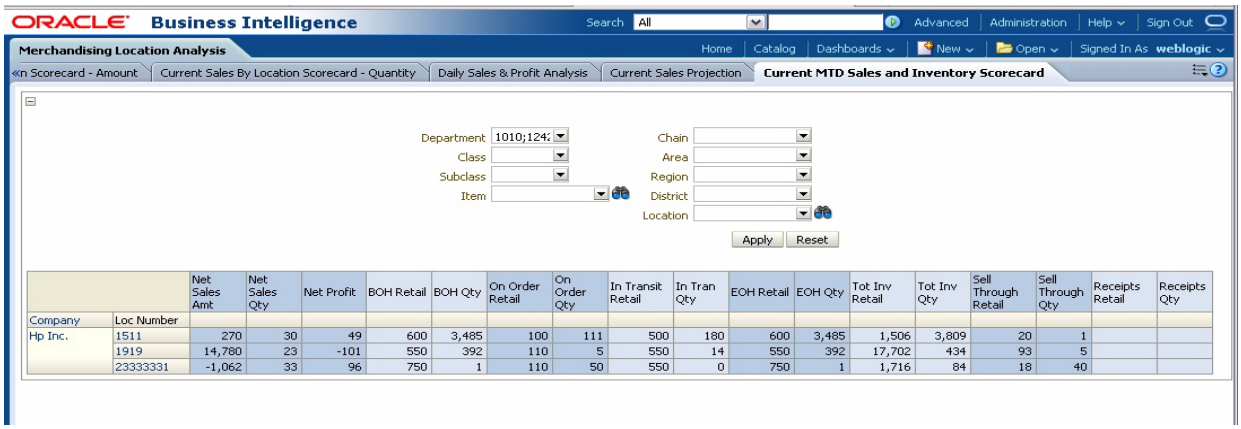
If inventory control managers see no issues with merchandise supply, the planning executive can navigate to the Current Sales Scorecard to review actual gross sales and returns, to validate those values against the forecast gross quantities. A possible action might be to have an inventory analyst drill into forecasts for an underperforming location at a low level to see whether forecasting parameters can be optimized for slow-moving goods. Alternatively, the planning executive could have a buyer and planner review near-term pricing strategies for the slow-moving goods.

Current MTD Sales and Inventory Scorecard

This report provides a view of the financial performance of merchandise across locations month-to-date, and helps to measure the effectiveness of merchandising strategies. This report can be run weekly by planners and inventory control managers to determine the optimum inventory levels for locations across a region.

The planner can react to underperforming locations on this report by drilling down through the merchandise hierarchy to focus in on target departments or subclasses. When a key subclass is identified, planners and buyers can navigate to the Current Location Price Trend reports to assess the effectiveness of pricing performance for the target items. Alternatively, for subclasses that are performing at or above plan, the inventory control analyst can navigate to the Current Loc WOS Warning report to assess weeks of supply levels for the related inventory.

Figure 3–31 Current MTD Sales and Inventory Scorecard Report



		Net Sales Amt	Net Sales Qty	Net Profit	BOH Retail	BOH Qty	On Order Retail	On Order Qty	In Transit Retail	In Tran Qty	EOH Retail	EOH Qty	Tot Inv Retail	Tot Inv Qty	Sell Through Retail	Sell Through Qty	Receipts Retail	Receipts Qty
Company	Loc Number																	
Hp Inc.	1511	270	30	49	600	3,485	100	111	500	180	600	3,485	1,506	3,809	20	1		
	1919	14,780	23	-101	550	392	110	5	550	14	550	392	17,702	434	93	5		
	23333331	-1,062	33	96	750	1	110	50	550	0	750	1	1,716	84	18	40		

Merchandising Pack Performance

The Merchandising Pack Performance dashboard includes the following reports.

Sales Pack Performance

These reports provide buyers and assortment planners the ability to evaluate their pack merchandising strategy through the analysis of pack sales. The report enables merchants to compare pack effectiveness based on sales of the items when sold individually, compared to when they are sold as parts of packs. If the pack sales strategy is ineffective for a key item, the assortment planner can work with the buyer to adjust future purchases of the pack in place of the individual items. To identify and assess excess inventory for slow-selling packs, the assortment planner can navigate to the Current Location WOS Warning report and consider with the pricing analyst whether the inventory can be further marked down to sell.

There are two reports for sales pack performance:

- Sales Pack Performance – Amount
- Sales Pack Performance –Trend

4

Creating and Modifying Reports

This chapter describes some of the reporting features of Oracle BI and Oracle Retail Analytics. It also describes a number of considerations for creating Oracle Retail Analytics reports.

The primary reference for Oracle BI users is the *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition*. For more information, see that guide, particularly chapters about creating and formatting analyses, views, and dashboard pages.

Analysis Methods

The Retail Analytics presentation model is designed in three different subject areas based on the reporting scenarios and analysis methods that Retail Analytics supports:

- Retail As-Is
- Retail As-Was
- Retail Point in Time

A single instance of Retail Analytics offers as-is, as-was, and point in time analysis for the slowly changing dimensions Product and Organization. *Slowly changing dimensions* are dimensions with data that changes slowly, rather than changing on a time-based, regular schedule.

Although facts and dimensions appear similar across these three subject areas, they are modeled differently in the Oracle BI repository. For example, Item or Subclass or Class might appear similar in all three subject areas, but their sources and join conditions are different to support the appropriate method of reporting.

As-Is Reporting

This type of reporting reflects the current nature of facts and dimensions as they are known to be true today. The performance of a dimension is tracked according to the current state of the dimension in a hierarchy without regard to time period.

If hierarchies have changed or items have been reclassified, as-is reporting shows history as if it had occurred under the current hierarchy or parent. Performance of the previous hierarchy or parent cannot be seen in as-is reporting.

See "Reclassification" in Chapter 4, "Creating and Modifying Reports" for more information.

As-Was Reporting

As-was reporting reflects the current values of transactions tied to a dimension value that was applicable at a former point in time. The performance of a dimension is tracked along the changes it has undergone in a hierarchy over a period of time. One of the effects of reclassification is that the presence of two hierarchies or parents makes it possible to compare an entity's performance before and after it undergoes this change.

In fact tables, all history is kept under the former hierarchy or parent, while all data after a reclassification is under the current hierarchy or parent.

Drilling allows you to see a particular report at a given level, and then view the same report at a lower level, to examine data at a finer level of granularity. This type of analysis makes well-defined hierarchies extremely important. Drill paths must be clear, and facts must add up between levels of aggregation. This requirement explains why changes to the position of an entity in the hierarchy are considered major.

Point In Time Reporting

Point in time reporting reflects a past value of a transaction tied to the applicable dimension value at a former point in time. Reports are created with transactions reported in the hierarchy that existed at a particular instant in time. The point in time hierarchy is like the as-was hierarchy, but the report user can apply the hierarchy at a particular time and see the results.

For positional facts, point in time reporting is not supported at the finest granular level (item-location-day); however, point in time reporting is available at the item-day level (corporate aggregates). This is because of performance implications.

Notes:

- Point in time reports also run against the base fact table, even for the higher levels in the hierarchy. The aggregate fact tables cannot be used for point in time reports, because the assignments within the hierarchy change and lose visibility when data is aggregated.
- If a dimension record does not exist for a day for which a point in time report is created, the corresponding fact records do not appear on the report.

Features of Retail Analytics Reports

Through Oracle Business Intelligence Enterprise Edition, Oracle Retail Analytics provides capabilities to deliver contextual and actionable insight to retail business users. These capabilities and features can result in improved decision-making, better-informed actions, and more efficient business processes. Reporting capabilities of Oracle BI are featured in Retail Analytics predefined (packaged) reports. You can also make use of these Oracle BI features in your own custom reports.

Interactive Dashboards

Retail Analytics provides a number of levels of prompts, charts, tables, pivot tables, and graphics for each of its reports. You can further drill through and interact with various levels of Organization, Product, and Time hierarchies on these business objects and refine their data analysis. Retail Analytics reports present intuitive access to information based on a user's role.

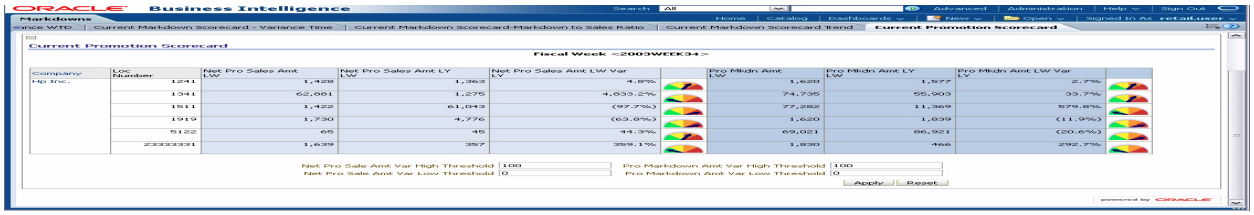
The following topics describe some interactive features used in Retail Analytics reports.

Charts

Various reports use interface features such as graphs and charts. For example, Supplier Compliance reports graphically represent various key performance indicators (KPI) related to purchase orders, which can help buyers to promptly assess the performance of a supplier.

Gauges

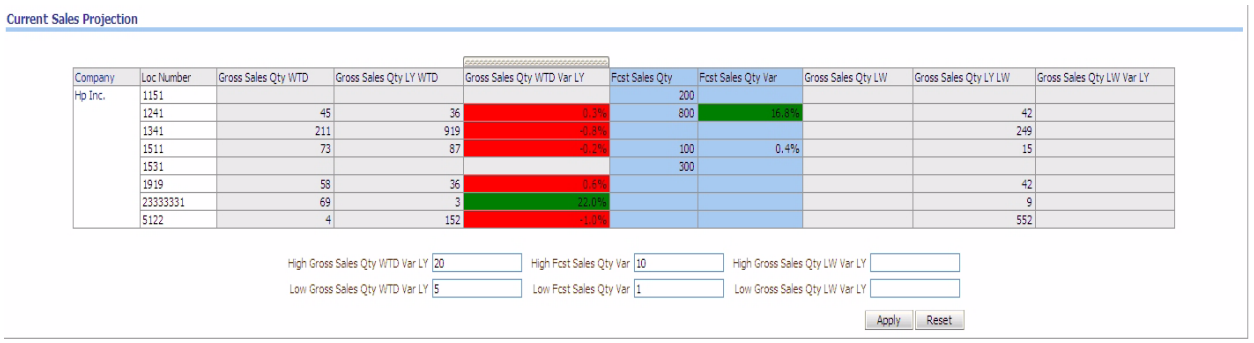
Reports such as Current Promotion Scorecard use gauges to represent the quality of KPI values. In the following example, profit and markdown variances are qualified with Oracle BI dial gauges, with an indicator that points to where the data falls within predefined limits.



Conditional Formatting

Some reports use conditional formatting to indicate the performance of predefined KPIs. For example, in the Current Sales Projection report, the thresholds are defined for the low and high gross sales quantity variances. The results are formatted based on these thresholds. Threshold amounts can be configured by users when executing these reports.

For example, when a user applies a high variance of 20 percent and a low variance of 5 percent for Gross Sales Qty WTF Var LY, the report cells for Metrics Gross Sales Qty WTD Var LY that have variances above 20 percent turn green in color, and those with variance less than 5 percent turn red.



Drilling

Retail Analytics reports permit drilling on various attribute hierarchies. By default, reports display the results at the summary level or a preconfigured attribute level. The user can further move to a detailed level of analysis by drilling to focus on parts of the data set where problems are identified.

The following example demonstrates the drilling capability on the Sales Pack Performance report.

Department Number	Item Number	Gross Sales Amt	Pack Gross Sales Amt	Tot Gross Sales Amt	Gross Sales Qty	Pack Gross Sales Qty	Tot Gross Sales Qty
777	100092037	550,460		901,124	(20,356)		(19,096)
1010	100002031	394,068		812,353	0		755
	101140491		25			1	
	101140521		25			1	
1100	100002314		25			1	
	100238059		25			1	
1102	100001043		50			1	
	100004009		25			1	
	100008000		25			1	
	100040026		25			1	
	100040181		25			1	
	100047295		25			1	
	100056513		50			1	
	100066211		25			1	
	101246464		25			1	
1105	100007648		25			1	
1106	100027067		50			1	
1110	100955496		25			1	
1114	100068281		25			1	
	100321936		25			1	
	100354501		521			34	
1117	100353364		25			1	
1238	100032093		25			1	
1242	100292768	289,326		629,038	(3,033)		(1,902)
	100292830	650,961		925,600	0		1,140

Rows 1 - 25

Department Number	Class Number	Item Number	Gross Sales Amt	Pack Gross Sales Amt	Tot Gross Sales Amt	Gross Sales Qty	Pack Gross Sales Qty	Tot Gross Sales Qty
1102	1	100001043		50			1	
		100004009		25			1	
		100008000		25			1	
		100040026		25			1	
		100040181		25			1	
		100047295		25			1	
		100056513		50			1	
		100066211		25			1	
		101246464		25			1	

Return

Department Number	Class Number	Subclass Number	Item Number	Gross Sales Amt	Pack Gross Sales Amt	Tot Gross Sales Amt	Gross Sales Qty	Pack Gross Sales Qty	Tot Gross Sales Qty
1102	1	1	100001043		50			1	
			100004009		25			1	
			100008000		25			1	
			100040026		25			1	
			100040181		25			1	
			100047295		25			1	
			100056513		50			1	
		2	101246464		25			1	
		4	100066211		25			1	

Return -Back

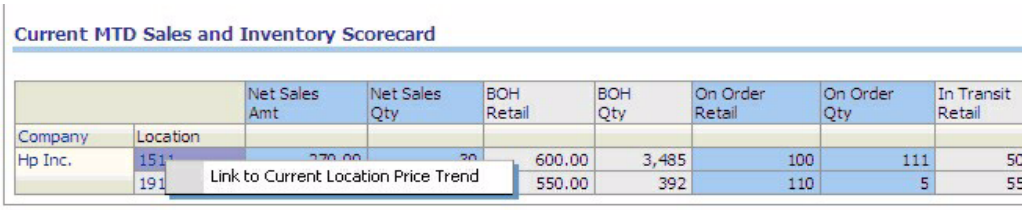
Guided Navigation

Some Retail Analytics reports use the guided navigation feature of Oracle BI, which allows you to navigate from one source report to other target reports, based on certain preconditions or data points on the source report. This helps a business user to inspect a complete logical workflow, and possibly determine the root causes of problematic key performance indicators.

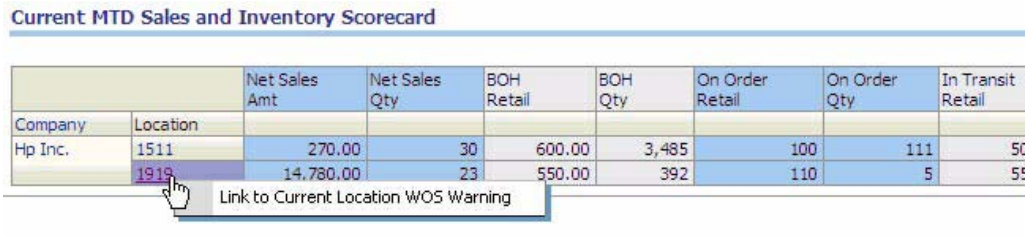
The following reports are linked through guided navigation.

Report Name	Navigate to Report
Current MTD Sales and Inventory Scorecard	Current Location Price Trend
	Current Loc WOS Warning

The Current MTD Sales and Inventory Scorecard report navigates to the Current Location Price Trend report based on user-configured net profit measures. For low profit yield items, a user can navigate to the Current Location Price Trend report.



For high profitability products, the user has the option to navigate to the Current Location WOS Warning report.



For more information about extending the use of Oracle BI guided navigation features, see the *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition*.

Map Viewer

Retail Analytics reports can be customized to render geographical maps, using spatial data managed by Oracle Spatial. These custom reports can help a user to visualize geographical data. For example, when analyzing comparable sales for a particular region, maps on such a report can provide additional topographic information about the location.

To use these features, you must load the topographic data about warehouses, stores, and other locations into Oracle Spatial, and then use Oracle MapViewer to create maps.

Support for Multiple Currencies

Retail Analytics supports five currencies:

- Local Currency
- Document Currency
- Global 1 Currency
- Global 2 Currency
- Global 3 Currency

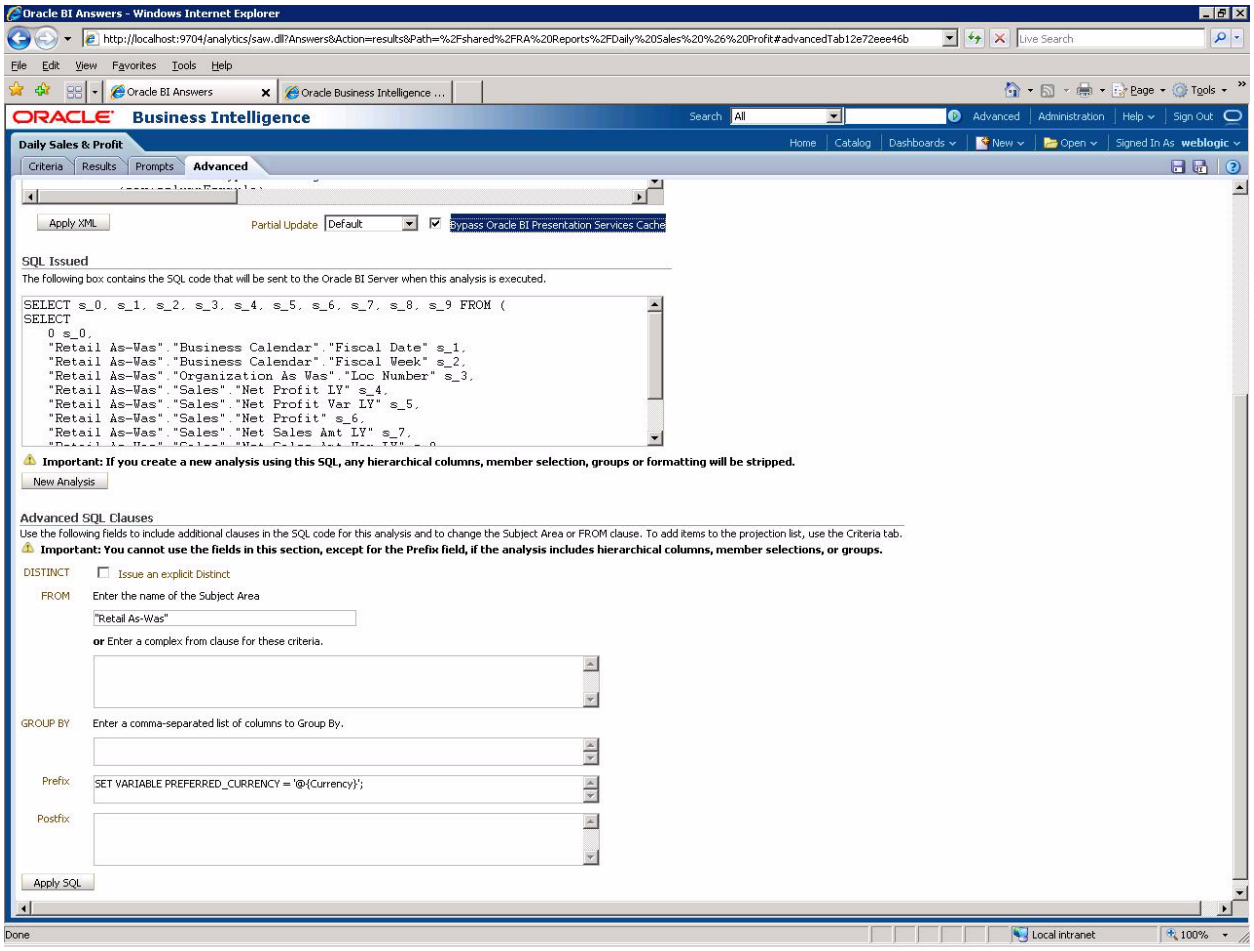
During installation, these currencies are defined for your organization. You need to know how these currency mappings are used when you design reports. For example, currencies could be defined as follows:

Currency Mapping	Currency
Document Currency	EURO
Global 1 Currency	US
Global 2 Currency	CAD
Global 3 Currency	AUD

Retail Analytics includes a prebuilt prompt and a report (Daily Sales and Profit Analysis) that enables support for multiple currencies. All the amount metrics are defined to support these five types of currencies.

To use this functionality, in a report, follow these steps:

1. Create the report with required amount metrics.
2. Select the **Advanced** tab.



3. Under **Advanced SQL Clauses**, in the **Prefix** text box, add the following:

   ```
   SET VARIABLE PREFERRED_CURRENCY = '@{Currency}';
   ```

4. At the top, select the check box **Bypass Oracle BI Presentation Services Cache**.
5. At the bottom, click **Apply SQL**.
6. Save the report.
7. Create a dashboard and add this report, along with the currency prompt.

The currency prompt has five currencies preloaded. Select the preferred currency, click **Apply**, and the metrics will be calculated accordingly to the currency selected.

Additional Notes for Creating or Modifying Reports

The following are additional considerations and suggestions for designing Oracle Retail Analytics reports.

- Planning and stock ledger reports cannot be created below subclass and week, because data for these fact areas have the lowest levels of subclass and week.
- Comp and BOH (beginning on-hand) metrics are only supported at week level. You must also use a prompt or filter on week or a higher level of the time dimension.
- For point in time reporting, you must have a prompt on an attribute of the time dimension.
- When reporting on any transformation metrics, you must have a prompt or filter on the time calendar.
- To compare as-is, as-was, and point in time results for the same report, create a single dashboard with these reports on three different pages. The same report cannot include both as-is and as-was results.
- Wherever there are many-to-many relationships, you must have prompts or filters on one value to avoid double-counting. For example, there can be overlapping seasons, and the same items can belong to both seasons. If there is no filter or prompt on season, the items common to both seasons can be double-counted. Another example of this is an item list, where the same item can be in multiple item lists. A filter or prompt on item list will ensure that correct data is displayed.
- Retail Analytics does not store attribute values that do not have associated facts. For example, Retail Analytics will not consume location lists that do not have any associated locations.

5

Dimensions and Attributes

Retail Analytics dimensions and attributes represent the structure and activities of a retail organization and make measurement possible. Data is stored at low levels to allow maximum flexibility in reporting. Dimensions and their attributes allow you to summarize this information at higher levels where it is needed to support business decision-making. For example, the Sales fact table holds data at the location, item, and day level. The time, product, and organization dimensions allow you to summarize this data at any level at which it is needed.

Note: This chapter contains selective lists of dimensions and attributes. See Appendix B, "Reporting on Oracle BI Repository Objects" for information about producing comprehensive listings of Oracle BI repository objects.

Business Calendar

The business calendar (fiscal calendar) is a dimension based on a retailer's calendar and is not aligned with the Gregorian/solar calendar. It is used in place of the Gregorian calendar to eliminate discrepancies in the number of days per month, as well as number of weekend days per month. The business calendar is sometimes just called the time calendar.

The business calendar can be based on a variation of the 4-5-4 calendar or the 13-period calendar. Both of these types of calendars allocate exactly seven days to every week, unlike the Gregorian calendar. Most facts are qualified by a calendar attribute.

The following is the hierarchy of the Business Calendar dimension.

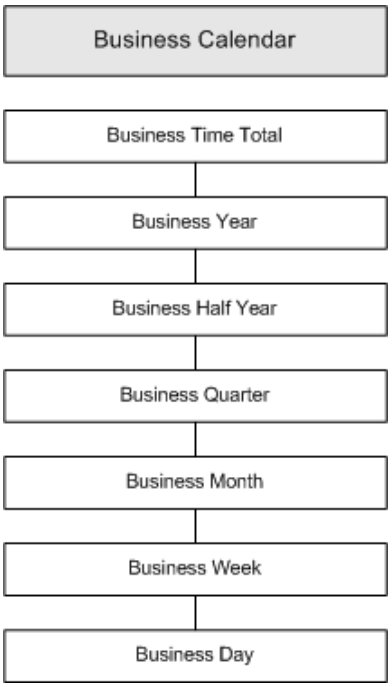


Table 5–1 lists the attributes of the Business Calendar dimension.

Table 5–1 Business Calendar Dimension Attributes

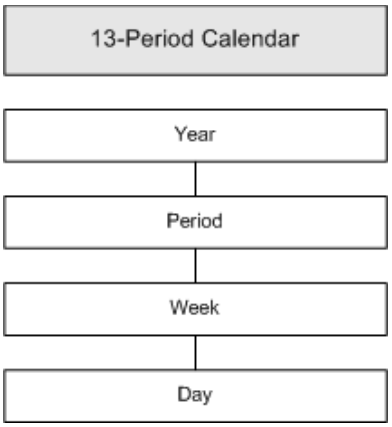
Attribute	Definition
Fiscal Half Year	Fiscal half-year period name.
Fiscal Week Day Desc	Name of the merchandising calendar day.

4-5-4 Calendar

The 4-5-4 calendar is the default calendar. The calendar can be implemented as 4-5-4, 4-4-5, or 5-4-4, depending upon your needs. In addition, you determine the day of the week on which each week begins and ends. Every quarter contains 13 full weeks. Quarters have two 4-week months and one 5-week month.

13-Period Calendar

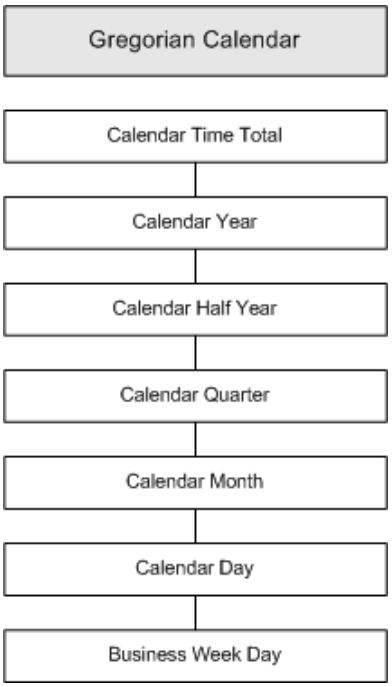
A 13-period calendar year is divided into 13 periods of four weeks (28 days). Every fifth or sixth year, there are 53 weeks. The calendar has a 28-year cycle of 6 years, 5 years, 6 years, 6 years, and 5 years. The 13-period calendar hierarchy is as follows.



Gregorian Calendar

The Gregorian calendar is a solar calendar that is based on the length of the earth's revolution around the sun. The Gregorian calendar is divided into 11 months of 30 or 31 days, plus February. February has 28 or 29 days, depending on whether the year is a leap year (occurring every four years). Thus, the Gregorian year is either 365 or 366 days.

The following is the hierarchy of the Gregorian calendar.



Note: Only one type of business calendar (4-5-4 or 13-period) can be installed for Retail Analytics, in addition to the Gregorian calendar.

Time of Day

The Time of Day dimension permits analysis in the areas of loss prevention and employee productivity, where identifying problems and trends requires the use of hourly or smaller time increments. In addition, the Time of Day dimension allows analysis of sales and return transactions on an hourly basis.

The following is the hierarchy for the Time of Day dimension.

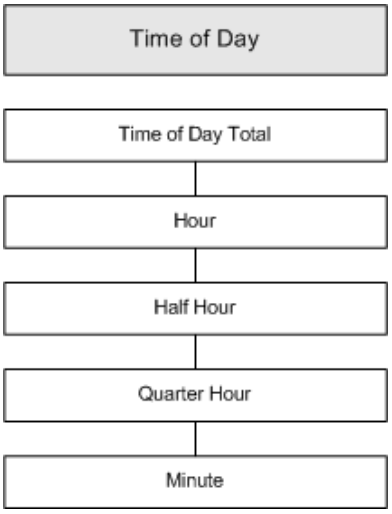


Table 5–2 lists the attributes of the Time of Day dimension.

Table 5–2 Time of Day Dimension Attributes

Attribute	Definition
Hour Number 24 Hour Format	Hour portion in 24-hour format.
Hour Number 12 Hour Format	Hour portion in 12-hour format.
Half Hour Interval	A half-hour time slice within the 24-hour period, starting at 0:00 - 0:29 to 23:30 - 23:59, numbered from 1 to 2 to indicate the half of that hour.
Quarter Hour Interval	A quarter-hour time slice within the 24-hour period, starting at 0:00 - 0:15to 23:45 - 23:59, numbered from 1 to 4 to indicate the quarter of that hour.
Minute Number	Minute portion in 24-hour or 12-hour format, numbered from 1 to 60 to indicate the minute of that hour.

Employee

The Employee dimension stores data about the employees who work for a retailer. The Employee dimension is attached to sales transactions and is used for productivity and loss prevention reporting.

The employee data that is supplied by Oracle Retail Merchandising System (RMS) relates only to stores and warehouses and does not include headquarters employees. Other types of employee data that do not exist in RMS, but are desirable for reporting, pertain to employee hours worked and compensation.

Table 5–3 lists the attributes of the Employee dimension.

Table 5–3 Employee Dimension Attributes

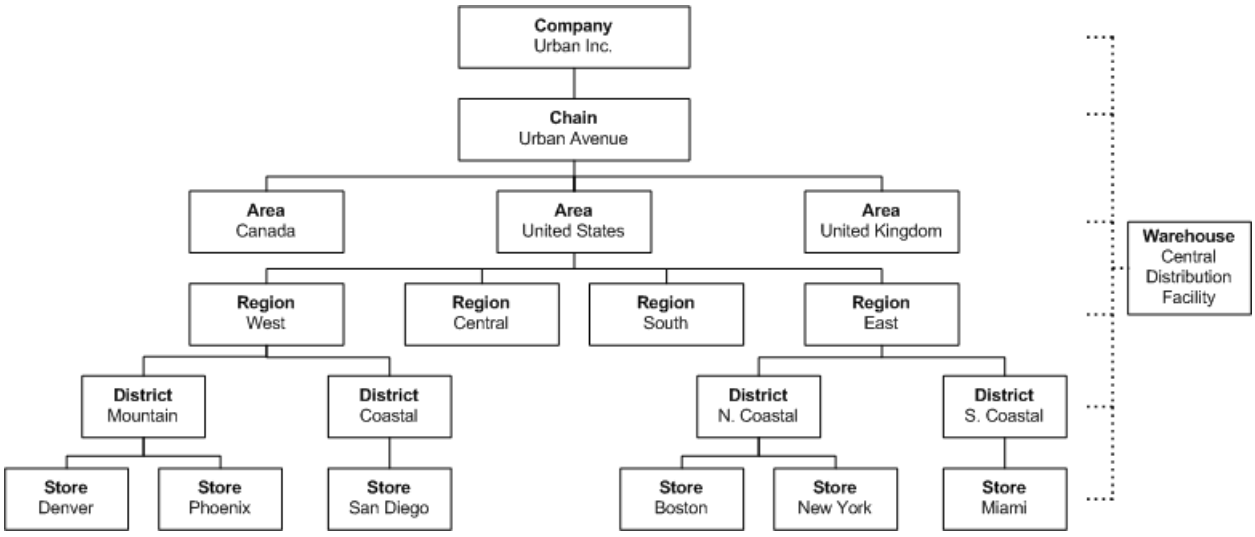
Cashier Flag	Indicator of whether if the employee is a cashier, with values of "Y" for yes and "N" for no. An employee can be both a cashier and a salesperson at the same time.
Sales Rep Flag	Indicator of whether the employee is a salesperson, with values of "Y" for yes and "N" for no. An employee can be both a cashier and a sales person at the same time.

Organization

The Organization dimension mirrors the structure of the retail company, allowing analysis at every level of the organization. Assessing the contribution of a child attribute to its parent attributes (for example, location to region or chain) allows an analyst to identify the segments of the larger organization that are performing as planned, and those where performance is below expectations. In addition, the Organization hierarchy makes it possible to analyze sales by channel and perform comparable stores analysis.

The majority of business measurements in Retail Analytics reference data by attributes of the Organization dimension. Sales and profit, markdowns, stock position, and most other data is held by location, the lowest-level attribute in the Organization dimension hierarchy.

The following diagram illustrates an example organization hierarchy.



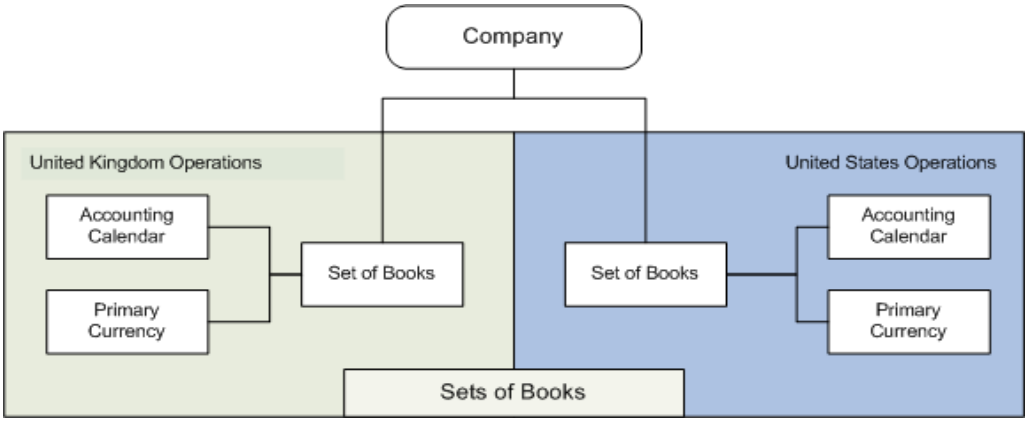
Organization starts at company level, with chain, area, region, district, and store at the lower levels of the hierarchy. A warehouse is a physical storage and distribution facility where inventory may be received, held, and transferred to other locations such as stores. A warehouse can be attached to any level of the organizational hierarchy for reporting purposes, but this is not a requirement.

Sets of Books

Multinational retailers need to maintain multiple sets of books in their financial systems. This need can be driven by a number of different factors such as the following:

- A company divided into different legal entities (such as brands)
- A company having operations in different countries (with different currencies and calendars)

When a company operates with multiple sets of books, they may have different physical instances of their business and accounting systems to support this segregation, or they may use a single physical instance of their systems to support the different sets of books. When operating with multiple sets of books in a single installation, a company partitions its general ledger according to the sets of books. Each set of books has its own chart of accounts and other identifying characteristics, such as the primary currency and accounting calendar. The company may also partition other data along these lines to help segregate data more efficiently. Sets of books can segregate structural data as well as the chart of accounts.



Wholesale/Franchise

Wholesale/franchise locations are locations that are not owned by the retailer.

Wholesale is the selling and distribution of products to independently owned customers.

A franchise is the selling and distribution of products to customers who license your trade name or services, or both, for a fee. Example services provided could include assortment planning, ordering, and store inventory management. The difference with a franchise is only in terms of how that customer operates. A franchise leases the name of the operating company but is not owned by the operating company.

In the Retail Analytics data model, wholesale and franchise customers are treated in the same way.

Organization Attributes

Table 5–4 lists the attributes of the Organization dimension.

Table 5–4 Organization Dimension Attributes

Attribute	Definition
Company	Name of a company. Company is the highest attribute within the Organization hierarchy. A company consists of one or more chains.
Company Number	Unique ID from the source system that identifies a company.
Chain	Name of a chain. A chain consists of one or more areas.
Chain Number	Unique ID from the source system that identifies a chain.
Chain Mgr	Name of a chain manager.
Area	Name of an area. An area consists of one or more regions.

Table 5–4 (Cont.) Organization Dimension Attributes

Attribute	Definition
Area Number	Unique ID from the source system that identifies an area.
Area Mgr	Name of an area manager.
Region	Name of a region.
Region Number	Unique ID from the source system that identifies a region.
Region Mgr	Name of a region manager.
District	Name of a district. A district consists of one or more locations.
District Number	Unique ID from the source system that identifies a district.
District Mgr	Name of a district manager.
Loc	Lowest attribute within the organization hierarchy. It identifies a warehouse, store, or partner within the company.
Loc Number	Unique ID from the source system that identifies a location.
Loc List	Name of a location list. A location list is an intentional grouping of locations for reporting purposes.
Loc List ID	Unique ID from the source system that identifies a location list. A location list is an intentional grouping of locations for reporting purposes.
Loc Trait	Name of a location trait. A location trait is an attribute of a location that is used to group locations with similar characteristics.
Loc Trait ID	Unique ID from the source system that identifies a location trait. A location trait is an attribute of a location that is used to group locations with similar characteristics.
Tsf Entity ID	Unique ID from the source system that identifies a transfer entity. A transfer entity is a group of locations that share legal requirements around product management. A location can belong to only one transfer entity, and a transfer entity can belong to multiple organization units.
Org Unit ID	Unique ID from the source system that identifies a financial organization unit. An organization unit can belong to only one set of books.
SOB ID	Unique ID from the source system that identifies a financial set of books. A set of books represents an organizational structure that groups locations based on how they are reported from an accounting perspective.
Tsf Entity Desc	Detailed description of a transfer entity. A transfer entity is a group of locations that share legal requirements around product management. A location can be associated with only one transfer entity, and a transfer entity can be associated with multiple organization units.
Comp Flag	Indicator of whether a location has been opened for configurable time, with values of “Y” for yes and “N” for no. Generally, comparable stores are locations that are in operation for at least 53 weeks.
Store Type	Indicator of the type of store, with values of “Company,” “Wholesale,” and “Franchise.”

Table 5–4 (Cont.) Organization Dimension Attributes

Attribute	Definition
Address Type	Type of address. Values are as follows: 01 – Business 02 – Postal 03 – Returns 04 – Order 05 – Invoice 06 – Remittance
Loc Name3	Three-character abbreviation of a location name.
Loc Name10	Ten-character abbreviation of a location name.
Loc Name Secondary	Secondary name of a location.
Address Line 1	First line of street address.
Address Line 2	Second line of street address.
Address Line 3	Third line of street address.
City	City of a location.
Postal Code	Postal code of a location.
Phone Number	Primary phone number of a location.
Loc Type	Type of location, with values of “Store,” “Warehouse,” and “External Finisher.”
Linear Distance	Total merchandisable space of a location. Feet is the unit of measure.
VAT Region ID	Unique ID from the source system that identifies the Value Added Tax (VAT) region in which a store is located.
VAT Included Flag	Indicator of whether Value Added Tax (VAT) is included in the retail price, with values of “Y” for yes and “N” for no.
Currency Code	Base currency code of the organization.
Break Pack Flag	Indicator of whether a warehouse is capable of distributing less than the supplier’s case quantity, with values of “Y” for yes and “N” for no.
Stockholding Flag	Indicator of whether a location can hold stock, with values of “Y” for yes and “N” for no. In a non-multichannel environment, the value is always "Y".
Loc Mgr	Name of the manager of the organization.
Mall	Name of the mall in which a store is located.
Loc Open Date	Open date of a location.
Loc Close Date	Close date of a location.
Selling Area	Total square footage of a store's selling area.
Remodel Date	Date that a location was last remodeled.
Tsf Zone ID	Unique ID from the source system that identifies a transfer zone. A transfer zone is an intentional grouping of locations for transferring owned inventory from one location to another. A location can belong to only one transfer zone.
Promo Zone ID	Unique ID from the source system that identifies a promotion zone. A promotion zone is an intentional grouping of locations for promotion activity. A location can belong to only one promotion zone.

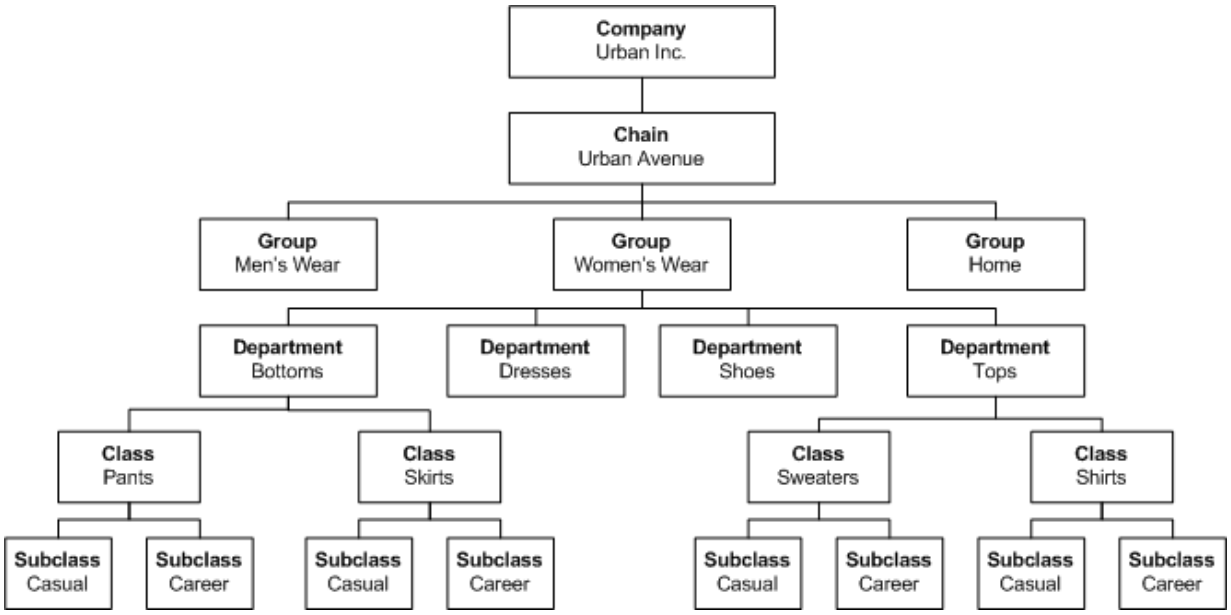
Table 5–4 (Cont.) Organization Dimension Attributes

Attribute	Definition
Total Area	Total square footage of a location.
Default WH ID	Warehouse that can be used as the default for creating cross-dock masks. This determines which stores may be sourced by a warehouse, and it only contains virtual warehouses in a multichannel environment.
Store Format Desc	Description of a store format. Examples are Conventional Store, Supermarket, Virtual Store, Catalog Store, and Hard Discount.
Store Format ID	Unique ID from the source system that identifies a store format.
State	State name of a location.
Country	Country name of a location.
Banner ID	Unique ID from the source system that identifies a banner. A banner is the name of a retailer's subsidiary.
Banner	Name of a banner. A banner is the name of a retailer's subsidiary.
Channel	Name of a channel. A channel is a method for a retailer to interact with a customer, and it is an outlet for sale and delivery of goods and services to the customer. A retailer can have multiple outlets, such as brick-and-mortar stores, Web sites, and catalogs.
Channel ID	Unique identifier associated with a channel.
Channel Type	Type of channel to interact with a customer. The values are "Brick and Mortar," "Webstore," and "Catalog."
Virtual WH Flag	Indicator of whether a location is a virtual warehouse, with values of "Y" for yes and "N" for no.
Physical WH ID	Unique ID from the source system that identifies a physical warehouse that is assigned to a virtual warehouse.
State Code	Code that identifies the state of the customer location.
Sister Store ID	Location that will be used to relate a current store to the historical data of an existing store.
Store Class	Type of store class, which retailers can use to group their stores. The best stores are typically considered "A" stores, the next-best "B" stores, and so on. Values can be "A," "B," "C," "D,""E," and "X".

Product

The Product dimension represents the product lines that the company sells. The Product dimension is essential to the department manager who needs to know which items turn the highest profit, or how an item performs within the market as a whole. Because of its importance for analysis in the retail environment, attributes from the Product dimension are present in nearly every data mart in Retail Analytics. In most cases, data is kept at the lowest level in the hierarchy (item), to allow maximum flexibility and detail in reporting.

The following diagram illustrates an example product hierarchy.



Product Differentiators

Differentiators are used to define the characteristics of an item. Characteristics such as size, color, flavor, scent, and pattern are attached to items as differentiators within Oracle Retail Merchandising System (RMS). Differentiators hold all item differentiator identifiers, along with their associated National Retail Federation (NRF) industry codes.

Product Attributes

Table 5–5 lists the attributes of the Product dimension.

Table 5–5 Product Dimension Attributes

Attribute	Definition
Company Number	Unique ID from the source system that identifies a company.
Company	Name of a company. A company consists of one or more divisions.
Division Number	Unique ID from the source system that identifies a division.
Division	Name of a division. A division is the highest category of merchandise within an organization. Typically a division is used to signify the overall category of merchandise, such as hardlines or apparel.
Division Buyer Number	Unique ID from the source system that identifies a division buyer.
Division Buyer	Name of a division buyer, an executive responsible for purchasing merchandise to be sold in a store or retail channel for a particular division.
Division Merchant Number	Unique ID from the source system that identifies a division merchant.
Division Merchant	Name of a division merchant.
Group Number	Unique ID from the source system that identifies a group.
Group	Name of a group. A group is the next level of merchandise in a hierarchy below division. A group consists of one or more departments. A group can belong to only one division.
Group Buyer Number	Unique ID from the source system that identifies a group buyer.
Group Buyer	Name of a group buyer. A group buyer is an executive responsible for purchasing merchandise to be sold in a store or retail channel for a particular group.
Group Merchant Number	Unique ID from the source system that identifies a group merchant.
Group Merchant	Name of a group merchant.
Department Number	Unique ID from the source system that identifies a department.
Department	Name of a department. A department is the next level below group in the merchandise hierarchy. A group can have multiple departments. Key information about how inventory is tracked and reported is stored at the department level.
Department Buyer Number	Unique ID from the source system that identifies a department buyer.
Department Buyer	Name of a department buyer, an executive responsible for purchasing merchandise to be sold in a store or retail channel for a particular department.
Department Merchant Number	Unique ID from the source system that identifies a department merchant.
Department Merchant	Name of a department merchant.
Profit Calc Type	Indicator of the profit calculation type, with values of “Direct Cost” and “Retail Inventory”.
Purchase Type	Indicator of the purchase type of merchandise, with values of “Owned”, “Consignment”, and “Concession.”

Table 5–5 (Cont.) Product Dimension Attributes

Attribute	Definition
OTB Calc Type	Indicator of the open–to-buy calculation type, with values of "Cost" and "Retail."
Class Number	ID within a department that uniquely identifies a class.
Class	Name of a class. A class is the next level below department in the merchandise hierarchy. A department can have multiple classes. A class provides the means to group products within a department. A class consists of one or more subclasses.
Class Buyer Number	Unique ID from the source system that identifies a class buyer.
Class Buyer	Name of a class buyer, an executive responsible for purchasing merchandise to be sold in a store or retail channel for a particular class.
Class Merchant Number	Unique ID from the source system that identifies a class merchant.
Class Merchant	Name of a class merchant.
Subclass Number	ID within a department number and class number that uniquely identifies a subclass. A class can have multiple subclasses.
Subclass	Name of a subclass. A subclass defines the type of merchandise sold in a department and class.
Subclass Buyer Number	Unique ID from the source system that identifies a subclass buyer.
Subclass Buyer	Name of a subclass buyer, an executive responsible for purchasing merchandise to be sold in a store or retail channel for a particular subclass.
Subclass Merchant Number	Unique ID from the source system that identifies a subclass merchant.
Subclass Merchant	Name of a subclass merchant.
Item Number	Unique ID from the source system that identifies an item.
Item	Detailed description of an item. Item is the lowest-level attribute within a product hierarchy. Sales and inventory facts are tracked at one of the predetermined levels within the Item attribute.
Pack Sellable Number	Unique code from the source system that identifies a sellable pack. A sellable pack is a collection of items that is sold as a single unit.
Pack Simple Number	Unique code from the source system that identifies a simple pack. A simple pack is a pack in which the component items are the same.
Pack Orderable Number	Unique code from the source system that identifies an orderable pack. An orderable pack is a collection of items that is ordered as a single unit.
Pack Flag	Indicator of whether an item is a pack. A pack item is a collection of items that can be ordered or sold as a single unit.
Package Size	Size of the product printed on packaging.
Package UOM	Unit of measurement in which a package size is measured.
Item Level	Indicator of the level within an item family, with values of 1, 2, and 3.
Transaction Level	Indicator of the level within an item family that inventory is tracked, with values of 1, 2, and 3.

Table 5–5 (Cont.) Product Dimension Attributes

Attribute	Definition
Item Level 1 Number	Item number of the highest level in an item family.
Item Level 1 Desc	Item description of the highest level in an item family.
Item Level 2 Number	Item number of the second level in an item family.
Item Level 2 Desc	Item description of the second level in an item family.
Item Level 3 Number	Item number of the lowest level in an item family.
Item Level 3 Desc	Item description of the lowest level in an item family.
Retail Zone Group ID	Unique ID from the source system that identifies the retail pricing strategy.
Original Retail	Original retail price of an item per unit and is stored in the primary currency.
Mfg Recommended Retail	Recommended manufacturer's retail price of an item per unit, stored in the primary currency.
Pack Number	Item number where PACK_FLG = Y. A pack item is a collection of items that can be ordered or sold as a single unit.
Pack Item Quantity	Quantity of a pack component item units that make up a pack.
Pack Desc	Item description where PACK_FLG = Y. A pack item is a collection of items that can be ordered or sold as a single unit.
Pack UOM	Standard unit of measurement for a pack item.
Item List ID	Unique ID from the source system that identifies an item list. An item list is an intentional grouping of items for operational purposes.
Item List Desc	Detailed description of an item list. An item list is an intentional grouping of items for operational purposes.
UDA Head ID	Unique ID from the source system that identifies a user-defined attribute of an item. A UDA head is a parent of a UDA detail.
UDA Head Desc	Detailed description of a user-defined attribute of an item. A UDA head is a parent of a UDA detail.
UDA Detail ID	Unique ID from the source system that identifies a user-defined attribute detail of an item. A UDA detail can be a child of only one UDA parent.
UDA Detail Desc	Detailed description of a user-defined attribute detail of an item. A UDA detail can be a child of only one UDA parent.
Diff Type	Indicator of the differentiator type, with example values of "Size," "Color," "Flavor," "Scent," and "Pattern." A differentiator type is a parent of a differentiator.
Diff ID	Unique ID from the source system that identifies an item differentiator. Differentiators define the characteristics of an item. A differentiator can be a child of only one differentiator type.
Diff Desc	Description of an item differentiator. A differentiator can be a child of only one differentiator type.
UOM	Standard unit of measurement for an item.

Table 5–5 (Cont.) Product Dimension Attributes

Attribute	Definition
Item Number Type Code	Indicator of the type of numbering system used to identify an item. Values are as follows: Oracle Retail Item Number UCC12 UCC12 with Supplement UCC8 UCC8 with Supplement EAN/UCC-8 EAN/UCC-13 EAN/UCC-13 with Supplement ISBN-10 ISBN-13 NDC/NHRIC – National Drug Code PLU Variable Weight PLU SSCC Shipper Carton EAN/UCC-14 Manual Custom Item Type
Item Input Flag	Indicator of whether an item holds inventory for an item transformation, with values of "Y" for yes and "N" for no.
Merchandise Flag	Indicator of whether an item is merchandise, with values of "Y" for yes and "N" for no.
Pack Retail Flag	Indicator of whether a pack has its own unique retail price, or if a pack retail price is the sum of its components' retail prices, with values of "Y" for yes and "N" for no.

Promotion

A promotion is an attempt to stimulate the sale of particular merchandise. This can be accomplished by temporarily reducing its price, advertising it, or linking its sale to offers of other merchandise at reduced prices or free. A promotion can take place for many different reasons, such as the desire to attract a certain type of customer, increase sales of a particular class of merchandise, introduce new items, or gain competitive advantage. Tracking of sales and demand by promotion allows retailers to assess the success in attracting customers to purchase items that are placed on promotion.

A single promotion can be part of a larger effort or event. Several promotions can be associated with an event. For example, a summer sale event might consist of multiple promotions.

There are a number of formats in which a promotion can be offered. Some common examples of these formats are as follows:

- Get a specific percent off the price of an item
- Buy a certain quantity of an item and get a certain amount off the total purchase value
- Buy a certain item and get a discount on another item
- Get free shipping and handling

Every promotion has one of the following promotion formats:

- General: Get a percent or amount discount on an item.
- Threshold: Buy a certain quantity or amount of an item and get a percent or amount discount on the item.
- Mix and Match: Buy a certain quantity or amount of item A and get a percent or amount discount on item B.
- Service: Get a percent or amount discount on service charges. (If the promotion format is Service, there is a service type. A service type could be monogramming, gift wrap, personalization, or shipping and handling.)

Typically, a promotion on an item is not applied universally. It might be triggered only for certain stores, for certain media, for certain customer types, or for certain offer coupons. The type of circumstance that triggers a promotion is called the promotion trigger type. In a brick-and-mortal market, a promotion is always triggered by the store. In a direct-to-consumer market, there can be different trigger types such as Source Code, Media Code, Selling Item Code, or Customer Type. One promotion can be triggered by only one promotion trigger type.

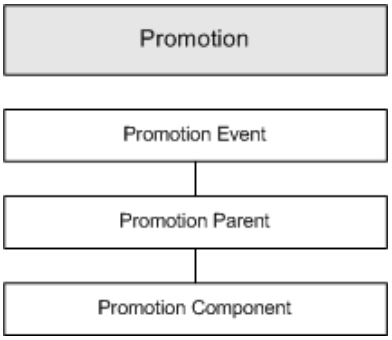


Table 5–6 lists the attributes of the Promotion dimension.

Table 5–6 Promotion Dimension Attributes

Attribute	Definition
Promo Event ID	Unique ID from the source system that identifies a promotion event, an event for which one or more promotions are offered.
Promo Event Desc	Description of a promotion event, an intentional grouping of promotion parents.
Promo Event Start Date	Date from which the source record (in the source system) is effective. This represents the start date of a promotion event.
Promo Event End Date	Date until which the source record (in the source system) is effective. This represents the end date of a promotion event.
Promo Event Theme Desc	Description of a promotion event theme that is used to further identify and describe the promotion event.
Promo Parent ID	Unique ID from the source system that identifies a promotion parent. A promotion parent is an intentional grouping of promotion components within a promotion event. A promotion parent is only a child of a single promotion event. Multiple promotion parents within a promotion event can have overlapping timeframes within the promotion event.
Promo Parent Name	Name of a promotion parent. A promotion parent is an intentional grouping of promotion components within a promotion event. A promotion parent is only a child of a single promotion event. Multiple parents within a promotion event can have overlapping timeframes within the promotion event.
Promo Parent Desc	Description of a promotion parent. A promotion parent is an intentional grouping of promotion components within a promotion event. A promotion parent can only be a child of a single promotion event. Multiple parents within a promotion event can have overlapping timeframes within the promotion event.
Promo Parent Start Date	Date from which the source record (in the source system) is effective. This represents the start date of a promotion parent.
Promo Parent End Date	Date until which the source record (in the source system) is effective. The value is extracted from the source system whenever available. This represents the end date of a promotion parent.
Promo Component ID	Unique ID from the source system that identifies a promotion component. A promotion component is an intentional grouping of promotion details within a promotion parent. A promotion component is always a child of a single promotion parent, which is only a child of a single promotion event. Multiple promotion components within a promotion parent can have overlapping timeframes within the promotion parent.
Promo Component Name	Name of a promotion component. A promotion component is an intentional grouping of promotion details within a promotion parent. A promotion component is always a child of a single promotion parent, which is only a child of a single promotion event. Multiple components within a promotion parent can have overlapping timeframes within the promotion parent.
Promo Component Start Date	Date from which the record in the source system is effective. Start date of a promotion component.
Promo Component End Date	Date until which the record in the source system is effective. This represents the end date of a promotion component.

Table 5–6 (Cont.) Promotion Dimension Attributes

Attribute	Definition
Promo Component Type	Promotion component type that is applied to a promotion component, with the following values: 0 - Multi-buy 1 – Simple 2 – Threshold 6 – Finance A promotion component type is the method to implement a price discount, reward, or credit/financing.

Supplier

A supplier is a company that supplies goods or a service to another company. In the retail industry, the supplier supplies the retailer with goods, and the retailer sells those goods to customers. The same item can be supplied by multiple suppliers. As a result, a primary supplier is assigned to an item. When reporting by supplier, all items that are sold are attributed to the primary supplier.

Retail Analytics supports multiple supplier sites for each supplier. A supplier site is the location from which the supplier ships merchandise. Terms and conditions can be defined at the supplier site level.

The attributes in the Supplier dimension allow the business analyst to rate supplier performance based on delivery history and the quality of products. This information can be used to identify suppliers whose performance is below standard, as well as those who are in compliance with expectations.

The following is the hierarchy of the Supplier dimension.

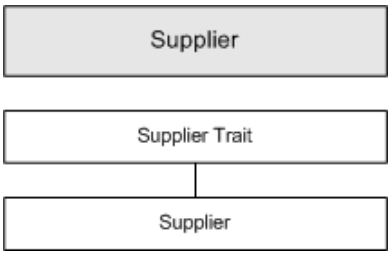


Table 5–7 lists the attributes of the Supplier dimension.

Table 5–7 Supplier Dimension Attributes

Attribute	Definition
Supplier Number	Unique ID from the source system that identifies a supplier.
Supplier	Trading name of a supplier.
Supplier Parent	Supplier level. For a supplier site, this value contains the parent supplier number. Sites represent physical locations from which suppliers ship. A null value indicates that this is a supplier.
QC Flag	Indicator of whether orders from a supplier require quality control, with values of "Y" for yes (unless overridden by the user when the order is created) and "N" for no, indicating that no quality control is required for this supplier unless indicated by the user during order creation. Quality control for suppliers involves checking the quality of the merchandise received (for example, damaged or over-ripened) and whether received shipments contain the quantity on the receiving label.
VMI Status	Status with which vendor-managed inventory (VMI) purchase orders are created, with values of "A" for approved and "W" for worksheet. A null value indicates that the supplier is not a VMI supplier. A VMI supplier does inventory planning for the retailer. A VMI supplier is also responsible for replenishing and reordering the retailer's supply.
Pre Mark Flag	Indicator of whether a supplier's premarked inventory is in separate containers for cross-dock shipping to stores, with values of "Y" for yes and "N" for no.
EDI Flag	Indicator of whether a supplier electronically sends advance shipping notices (ASN), with values of "Y" for yes and "N" for no.

Table 5–7 (Cont.) Supplier Dimension Attributes

Attribute	Definition
Intl Currency Flag	Indicator of whether a supplier operates in the same currency as the retailer's primary currency, with values of "Y" for yes and "N" for no.
Currency Code	Code of the currency that a supplier uses for business transactions.
Supplier Status	Indicator of whether supplier is currently active, with values of "A" for active and "I" for inactive.
Supplier Start Date	Date the supplier record was first inserted into the data warehouse.
Supplier End Date	Date the supplier was deleted from the source system.
Currency Description	Description of the currency that a supplier uses for business transactions.
Supplier Name 2	Secondary name of a supplier.
Primary Flag	Indicator of whether the supplier is the primary supplier for the item, with values of "Y" for yes and "N" for no. Each item has only one primary supplier. This field does not apply to sub-transaction-level items.
Pack Size	Number of items in a pack. Orders for the item must be placed in multiples of this quantity.
In Order Qty	Minimum quantity of the item that can be ordered at one time.
Max Order Qty	Maximum quantity of the item that can be ordered at one time.
Lead Time	Number of days needed between the date an order for an item is written and the delivery from the supplier to the store or warehouse.
Pickup Lead Time	Number of days needed between the date an item leaves a supplier and the delivery to an initial receiving location.
Inner Pack Size	Break pack size for an item. A break pack is a pack within a larger container.
Supplier Trait ID	Unique ID from the source system that identifies a supplier trait. A supplier trait is an attribute of a supplier, used to group suppliers with similar characteristics.
Supplier Trait Desc	Description of a supplier trait. A supplier trait is an attribute of a supplier, used to group suppliers with similar characteristics.
VPN	Vendor product number (VPN) associated with this item.

Retail Type

The Retail Type attribute represents the price type at which items were sold or held as inventory. There are four values for Retail Type:

- Regular
- Promotional
- Clearance
- Intercompany

This attribute segments a number of business measurements by price type, including sales and profit, stock position and value, markdowns, markups, and competitor pricing. This information is valuable when determining a pricing strategy, analyzing inventory value, or evaluating a competitor.

Table 5–8 describes the Retail Type attribute.

Table 5–8 Retail Type Attribute

Attribute	Definition
Retail Type	Price type of an item. Values are as follows: R - Regular P - Promotion C - Clearance I - Intercompany If an item is on promotion and clearance at the same time, the retail type is “C”.

Product Season

Product season functionality allows you to categorize each item according to different seasons, and phases within seasons. For example, you can assign a season of "Spring" to a group of items, according to the supplier's deliveries of fashion items. Those relationships can be further broken down into the phases, such as "Spring I" and "Spring II." These item-season relationships are then loaded into Retail Analytics. You can query sales and inventory data, for example, based on all items in the spring season.

Note: On a given day, an item can only belong to one product season. Product seasons can overlap, so they need to be used as filters for reporting to avoid double-counting.

The following is the hierarchy of the Product Season dimension.

Table 5–9 lists the attributes of the Product Season dimension.

Table 5–9 Product Season Dimension Attributes

Attribute	Definition
Season ID	Unique ID from the source system that identifies a season. A season is a designated timeframe that may or may not correspond with the Gregorian or business/fiscal calendars.
Season Desc	Description of a season. A season is a designated timeframe that may or may not correspond with the Gregorian or business/fiscal calendars.
Season Start Date	Date from which the source record (in the source system) is effective. This represents the start date of a season.
Season End Date	Date until which the source record (in the source system) is effective. This represents the end date of a season.
Phase ID	Unique ID from the source system that identifies a phase. A phase is a designated timeframe that may or may not correspond with the Gregorian or business/fiscal calendars; however, it falls within a season and is always a child of a single season. Multiple phases within a season may have overlapping timeframes within the season.

Table 5–9 Product Season Dimension Attributes

Attribute	Definition
Phase Desc	Description of a season phase. A phase is a designated timeframe that may or may not correspond with the Gregorian or business/fiscal calendars; however, it falls within a season and is always a child of a single season. Multiple phases within a season may have overlapping timeframes within the season.
Phase Start Date	Date from which the source record (in the source system) is effective. This represents the start date of a phase.
Phase End Date	Date until which the source record (in the source system) is effective. This represents the end date of a phase.

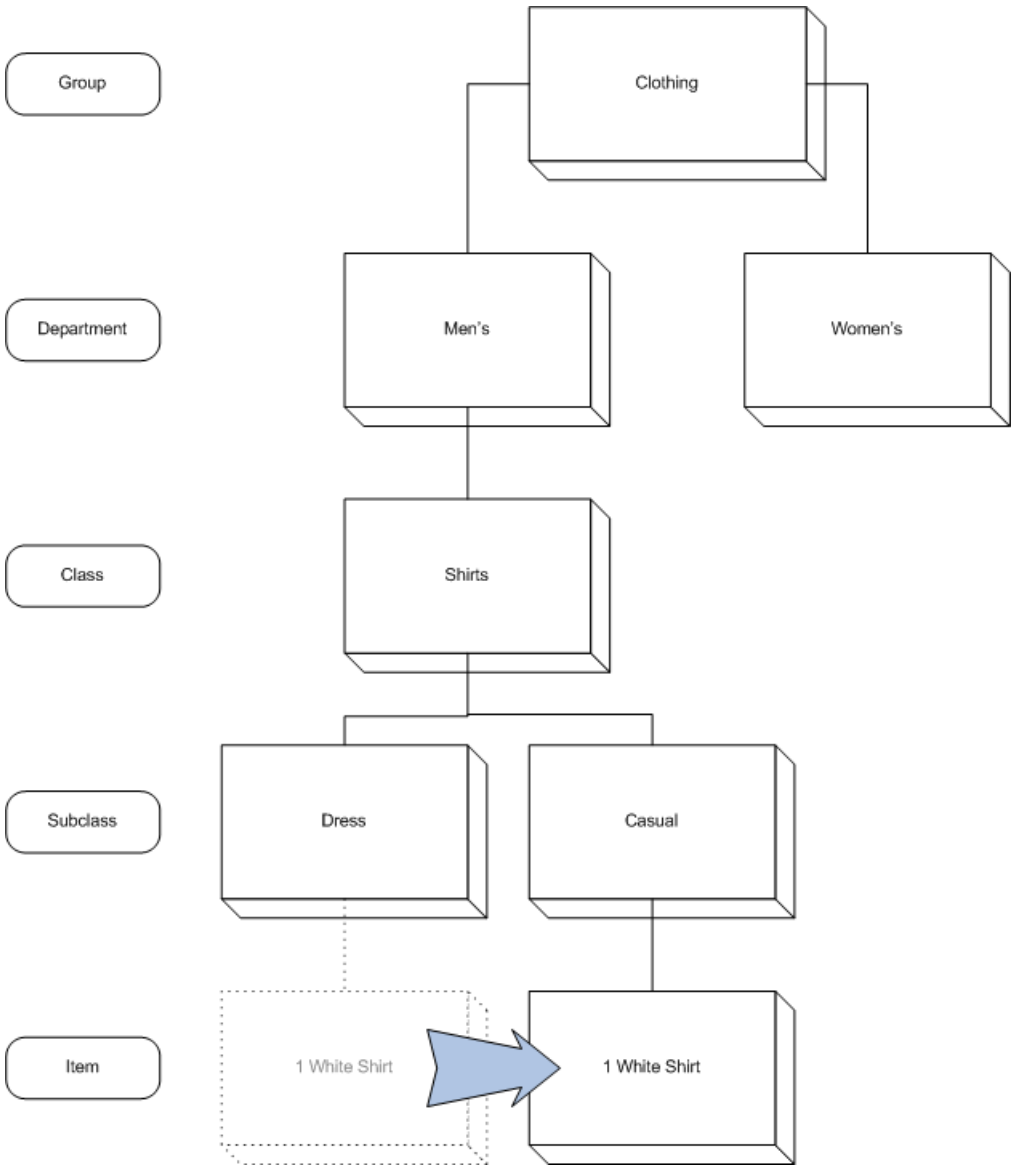
Reclassification

Reclassification occurs when any entity in a dimension changes its place in the dimension hierarchy, or when one or more attributes of an entity are changed. Reclassification affects Retail Analytics reporting, whether you are using as-is, as-was, or point in time analysis. See "Analysis Methods" in Chapter 4, "Creating and Modifying Reports" for more information.

Major Reclassification and Lower-Level Dimensions

A major change occurs whenever an entity changes its place in the product hierarchy (group, department, and item can be reclassified) or in the organization hierarchy (area, region, district, and location can be reclassified). This type of reclassification alters the relationship among entities in a hierarchy.

For example, a single item (white shirt) might be reclassified from the Dress to the Casual subclass.



Only the Product and Organization dimensions can undergo major changes, and they are referred to as lower-level dimensions. They are dimensions with major changeable lower levels. Because Product and Organization are aggregating dimensions, a major change results in an altered data aggregation within their hierarchies.

The history of an entity before and after the major change can be tracked and compared. For example, an item can be moved from one subclass to another within its product hierarchy of department and class. While there are many good reasons for a retailer to move, or reclassify, an item in this way, Retail Analytics still needs to track sales for that item from its new location in the product hierarchy, both before and after the change.

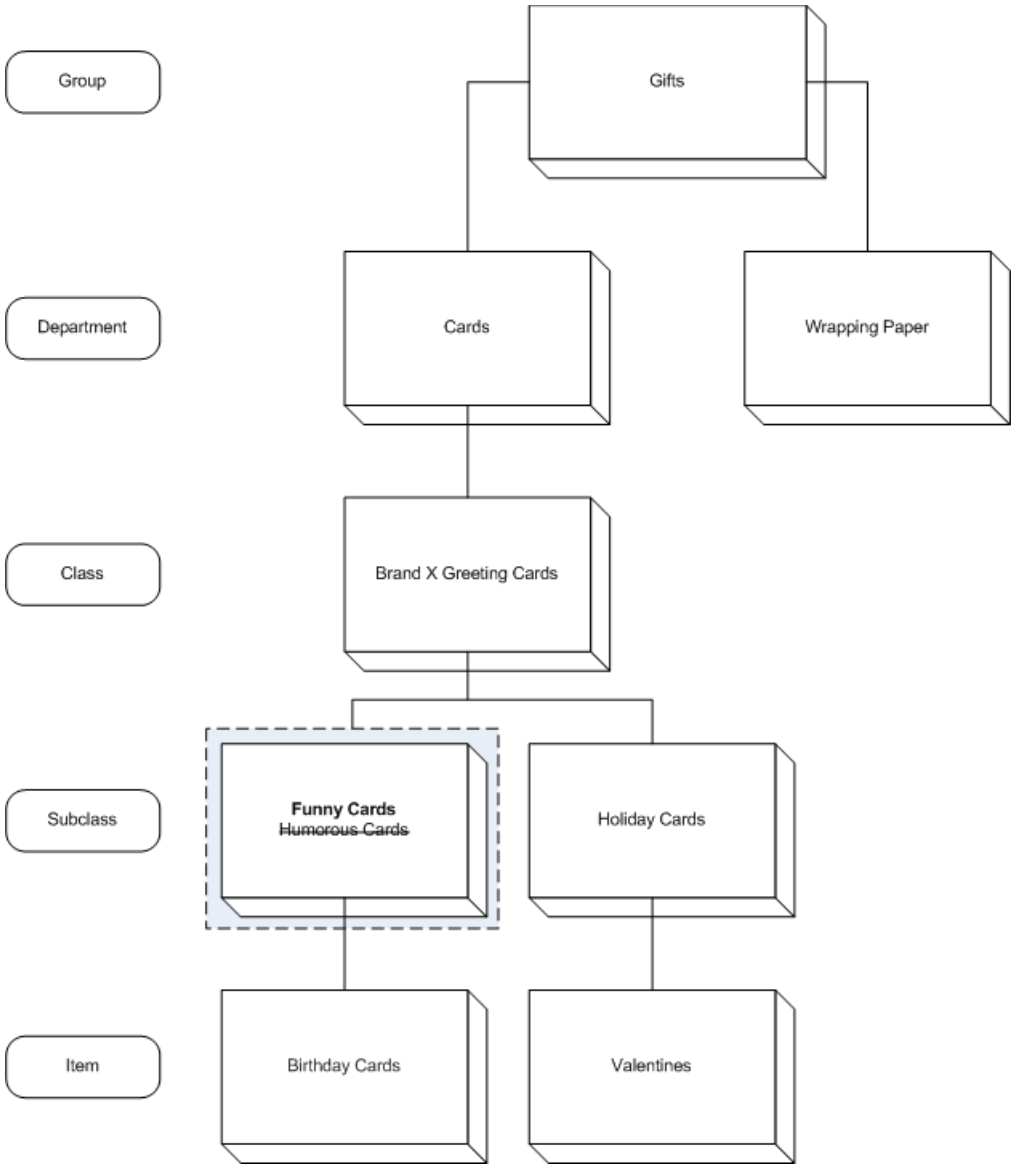
Retail Analytics handles major changes by assigning the reclassified item (to use the same example) a new surrogate key. The surrogate key, along with the dimension's identifier, allow a means to track the dimension, and all transactions related to it, at any point in time.

Minor Changes and Top-Level Dimensions

A minor change means that an attribute of an entity is changed, but its position in the hierarchy remains the same. The dimensions that can only undergo minor changes are known as top level dimensions and consist of every dimension except organization and product. The levels of the top level dimensions cannot be reclassified; they are static.

Product and organization dimensions can undergo minor changes, but minor changes are not significant enough to alter their hierarchies.

For example, a description of a subclass might be changed from "Humorous Cards" to "Funny Cards."



This type of change does not alter the relationship of a subclass to any other level of the hierarchy above or below it. The record is simply updated to reflect the description change; a new surrogate key does not need to be inserted. Minor change dimension processing in Retail Analytics is less complex than major change processing.

6

Metrics

Metrics (measures) are performance measurements that allow you to analyze business performance. They are usually numeric values. A metric can be as simple as the sum of the values in a fact column, or a highly complex calculation that contains mathematical operators.

A metric can be viewed as a statement that specifies how a performance measure is calculated. The basic component of a metric is a formula that specifies the calculation to be made. A metric can contain other components that specify additional criteria for calculating the metric.

Oracle Retail Analytics provides an extensive set of predefined business measures and key performance indicators for business intelligence in a retail environment. You can create your own metrics with the tools available in Oracle BI.

Retail Analytics metrics are stored in presentation tables. These tables contain table descriptions that include the level and nature of information provided and the functional area in which the metrics are used. For each metric, the presentation tables contain a description that includes the following:

- Metric type, such as count or system metric
- Functional area, such as net cost
- Definition (for example, base cost is defined as the initial cost before any discounts are applied)
- Constraints (for example, net profit data is only available by primary supplier)

In the Oracle BI interface, you can access a summary description of a metric as follows:

1. Right-click on the metric name.
2. Select **Properties**.

> **Note:** This chapter contains selective lists of base metrics, upon which many other metrics are built. See Appendix B, "Reporting on Oracle BI Repository Objects" for information about producing comprehensive listings of Oracle BI repository objects.

Cost and Profit

Cost and profit analysis helps a retailer to understand the financial impact of various business decisions such as:

- Stock levels for high-profitability items
- Deals negotiation for low-profitability items
- Promotions worthiness

Profit is calculated as the difference between sales amount and cost of the item in the transaction. The cost of the item in the sales transaction is based on the weighted average cost of that item in the merchandising system at the end of the day.

Net cost (sometimes called deal cost) measures are held at the supplier level.

Net cost is populated with data from Oracle Retail Merchandising System (RMS) or another source system. The data from RMS consists of cost values that represent different discounts on base cost that the supplier provides. These discounts can include the following:

- Deals with deal partners for items, or items at specific locations

  Deal partners can be suppliers, wholesalers, distributors, and manufacturers. Within a deal, you create deal components, specify the items for the deal component, and define thresholds.

- Fixed deals with suppliers

  Your organization receives payments from suppliers in return for mentioning their products in promotions, or for displaying their products on prime shelf space.

- Bracket costing deals with suppliers

  Your organization receives a certain deal price on an order, depending on the size of the order. Different types of brackets can be established based on mass, volume, pallet, case, each, or stat case.

Table 6–1 lists the Cost and Profit metrics.

Table 6–1 Cost and Profit Metrics

Metric	Definition
Base Cost	Initial cost without additional charges added, such as handling or shipping charges, sales tax, or deals or discounts for an item/location.
Net Cost	Initial base cost after any trade, cash, or off-invoice discounts for an item/location. This calculation can be used as an accurate idea of the real cost of a purchase.
Net Net Cost	Bottom line cost of an item after all discounts, fees, and charges have been calculated. It is net cost less any bill-back amounts for an item/location.
Dead Net Cost	Primary supplier's net net cost, less any rebate amounts for an item/location.
Base Profit	Difference between sales revenue generated by an item and its base cost.
Net Profit	Bottom line profit, calculated from money left over after paying all expenses and taxes. This is calculated from the primary supplier's net cost for an item/location.

Table 6–1 (Cont.) Cost and Profit Metrics

Metric	Definition
Net Net Profit	Profit calculated from the primary supplier's net net cost for an item/location.
Dead Net Profit	Net result of all revenues and costs from every business activity. It is profit calculated from the primary supplier's dead net cost for an item/location.
Supp Base Cost	Initial base cost prior to any deals or discounts.

Markdowns and Markups

Retailers plan markdown strategies carefully, as they make pricing decisions for their products with an eye toward keeping inventories at optimal levels, while driving gross margin revenue across key areas of the merchandise hierarchy.

Retail Analytics markdown analysis allows reporting on a range of data related to markdowns and markups. These include permanent and point-of-sale markdowns and markups, as well as markup and markdown cancellations, at granularities of item, location, day, and retail type (regular, promotion, and clearance).

A buyer planning a promotion strategy for a category of goods might be interested in promotional markdown totals in a certain department, year to date. On the other hand, a finance executive might want to analyze clearance markdown amounts compared to promotional markdown amounts at the corporate level, on the same report with profit comparisons from clearance versus promotional sales.

Table 6–2 lists the Markdowns and Markups metrics.

Table 6–2 Markdowns and Markups Metrics

Metric	Definition
Mkdn Amt	Amount by which a seller reduces the price for an item to make it desirable to customers. This is the difference between the original retail and selling price.
Clr Mkdn Amount	Amount of reduction to the original selling price for reasons such as decline in overall prices of goods, excessive competition, special sale, damaged merchandise, or excess supply.
Pro Mkdn Amt	Amount of temporary reduction to a selling price to boost sales. This markdown is normally for a specified period of time, at the end of which the product price is raised back to the normal selling price.
Pmt Mkdn Amt	Amount of permanent reduction to the selling price of inventory. This type of markdown is used to remove slow-selling merchandise or replace out-of-date merchandise.
Markup Amt	Extra amount a retailer charges a customer for an item, over and above what the retailer paid the supplier. This is the difference between the selling price and original retail price.
Mkdn Cancelled Amount	Value of a clearance markdown amount that has been cancelled.
Markup Cancelled Amount	Value of a markup amount that has been cancelled. A markup cancellation is used to correct an unintentional error in a previous markup.
Markup Cancelled Quantity	Quantity of units on which the clearance markup has been cancelled.
Mkdn to Sales Amount	Ratio of the markdown amount as a fraction of gross sales amount. The lower ratio depicts the efficiency of the marketing and pricing strategies of a retailer. This metric determines the sales driven by markdowns.
Clr Mkdn Amt MTD Var LY	Month-to-date clearance markdown amount variance compared to last year. This metric can be evaluated to optimize inventory levels to reduce clearances for the remaining weeks of the month.

Table 6–2 (Cont.) Markdowns and Markups Metrics

Metric	Definition
Clr Mkdn Amt WTD Var LY	Week-to-date clearance markdown amount variance compared to last year. This metric can be evaluated to optimize inventory levels to reduce clearances for the remaining days of the week.
Clr Mkdn Amt YTD Var LY	Year-to-date clearance markdown amount variance compared to last year. This metric can be evaluated to optimize inventory levels to reduce clearances for the remaining months of the year.
Comp Mkdn Amt MTD	Month-to-date value of the clearance, promotion, and permanent markdown for comparable store locations. This is the difference between the original retail price and the selling price.
Mkdn Amt MTD Var LY	Month-to-date total markdown amount variance compared to last year. This key performance indicator can be evaluated, along with other profitability metrics for a business month, to assess retailing decisions.
Mkdn Amt WTD Var LY	Week-to-date total markdown amount variance compared to last year. This key performance indicator can be evaluated, along with other profitability metrics for a business week, to assess retailing decisions.
Mkdn Amt YTD Var LY	Year-to-date total markdown amount variance compared to last year. This key performance indicator can be evaluated, along with other profitability metrics for a business year, to assess retail decisions.
Mkdn to Sales Amt YTD	Year-to-date markdown amount as a fraction of the gross sales amount. This metric indicates the sales driven by markdowns for the reporting year.
Pmt Mkdn Amt MTD Var LY	Month-to-date permanent markdown amount variance compared to last year. This metric helps in comparing the sales generated from permanent markdown strategies last year for a reporting month.
Pmt Mkdn Amt WTD Var LY	Week-to-date permanent markdown amount variance compared to last year. This metric helps in comparing the sales generated from permanent markdown strategies last year for a reporting week.

Sales Forecast

A sales forecast is a calculation of the potential sales of an item for a future period, based on past performance of the product. Sales forecast analysis helps a retailer to develop a marketing budget, allocate resources, and get a early sense of deviations from financial goals. Sales forecast analysis also helps the retailer to determine the effectiveness of forecasting techniques.

Retail Analytics stores sales forecast data at the item-location-week level. The sales forecast quantities exclude value-added tax (VAT).

Table 6–3 lists the Sales Forecast metrics.

Table 6–3 Sales Forecast Metrics

Metric	Definition
Forecast Sales Quantity	Number of sales units forecast for the given time period.
Forecast Sales Quantity Variance	Variance of gross sales quantity from forecast quantity. A positive variance is a trigger to optimize forecasting parameters. A negative variance can trigger promotions.
Fcst Sales Qty LW	Last week's number of sales units forecast for the given time period.

Inventory Receipts

Inventory receipts are units purchased and placed in inventory. Inventory receipts analysis provides visibility to and control of your accrued liabilities for inventory items. Inventory receipts transactions are recorded in the general ledger at the time of receipts.

Retail Analytics holds the number of units purchased at the day and week level, at both retail and cost value. Inventory receipts are held at item level for day and week and at subclass (segment) level for day and week.

Table 6–4 lists the Inventory Receipts metrics.

Table 6–4 Inventory Receipts Metrics

Metric	Definition
Receipts Quantity	Quantity of inventory units received.
Receipts Cost	Cost value of inventory units received.
Receipts Retail	Retail value of inventory units received.

Sales

Sales reporting helps the merchandising executive to identify sales key performance indicators and determine the operational effectiveness of sales, to evaluate whether sales achieve the results set during sales planning. This can help sales managers to take timely corrective actions when they see deviations from projected values.

Gross sales value is the total amount the retailer sells to consumers. Gross sales value is calculated by multiplying the unit price of an item by the number sold to consumers. *Returns* are the portion of sales that are returned to the store for a refund. *Sales value* is the net value after customer returns are subtracted from gross sales value.

Retail Analytics maintains gross sales and returns for amounts and numbers of units in separate fact columns. Separation of these values allows analysis of returns and the use of gross sales in calculations where this is desirable. Net sales value is required for most calculations.

In addition, the retailer may need to track sales according to price type to allow analysis of sales for promotional and clearance items. Retail Analytics holds sales amount and units by retail price type to allow analysis at this level.

Table 6–5 lists the Sales metrics.

Table 6–5 Sales Metrics

Metric	Definition
Gross Sales Amount	Retail value of units sold, calculated by adding sale invoices. It includes VAT but excludes discounts.
Return Amount	Retail value of units returned. It Indicates lost revenue that is credited back to customers. Retailers should find opportunities to convert this to new sales.
Net Sales Amount	Sales amount excluding returns. It indicates the actual money amount received from sales.
Net Clearance Sales Amount	Gross sales amount from clearance stock, excluding returns.
Net Promotional Sales Amount	Difference between the gross sales amount and returns amount for promotion priced items.
Net Regular Sales Amt	Difference between gross sales amount and returns amount for regularly priced items.
Gross Sales Quantity	Total units of merchandise sold.
Return Sales Quantity	Number of units returned.
Net Sales Quantity	Difference between gross sales quantity and returns quantity.
Net Clearance Sales Quantity	Difference between gross sales quantity and returns quantity for clearance priced items
Net Promotional Sales Quantity	Difference between gross sales quantity and returns quantity for promotion priced items.
Net Regular Sales Quantity	Difference between gross sales quantity and returns quantity for regularly priced items.
Gross Profit	Difference between sales revenue and the cost of units sold. It indicates the retailer's ability to mark up merchandise for sale.
Return Profit	Difference between the returns amount and the cost of units returned. The cost of units returned is the product of return quantity times average cost. It indicates the profit lost because of returns.

Table 6–5 (Cont.) Sales Metrics

Metric	Definition
Net Profit	Bottom line profit, calculated by subtracting returns profit from gross profit.
Net Profit LY	Bottom line profit last year, calculated by subtracting returns profit from gross profit.
Net Profit Var LY	Variance in profit compared to last year. This key performance indicator helps in measuring the growth or decline in profitability, and in making changes to pricing, promotions, and other business decisions for achieving a favorable variance in the future.
Net Profit LW	Bottom line profit last week, calculated by subtracting returns profit from gross profit.
Net Profit Var LW	Variance in profit compared to last week. This helps in testing the effectiveness of changes in marketing or strategic decisions affecting profits.
Net Clearance Profit	Difference between gross profit and returns profit for clearance priced items.
Net Promotional Profit	Difference between gross profit and returns profit for promotion priced items.
Net Regular Profit	Difference between gross profit and returns profit for regularly priced items.
Net Employee Discount	Difference between gross employee discount amount and returns employee discount amount.
Gross Tax	Tax applied on total sales revenue. Expenses are not deducted when calculating the tax amount.
Return Tax	Taxes that have been accounted on returned merchandise.
Net Tax	Taxes payable by a company at the end of the fiscal year. It is gross tax less returns tax.
Gross Manual Markdown Amount	Difference between the original retail, after official price adjustments, and the price that was actually charged to the customer. Manual markdowns are generally offered to specific customers at the time of purchase.
Return Manual Markdown Amount	Difference between the original retail, after official price adjustments, and the price that was actually returned to the customer.
Net Manual Markdown Amount	Difference between gross manual markdown amount and return manual markdown amount.
Gross Manual Markup Amount	Difference between the price that was actually charged to the customer and the original retail after official price adjustments. These generally are indicators of cashier mistakes or system discrepancies.
Return Manual Markup Amount	Difference between the price that was actually returned to the customer and the original retail price after official price adjustments.
Net Manual Markup Amount	Difference between gross manual markup amount and return manual markup amount. This is an indicator of discrepancies during manual markup sales and returns.
Sales Enter Item Count	Merchandise count that was manually entered by cashiers. This metric is for loss prevention and sales audit.

Table 6–5 (Cont.) Sales Metrics

Metric	Definition
Return Enter Item Count	Returned merchandise count that was manually entered by cashiers. This metric is for loss prevention and sales audit.
Sales Scan Item Count	Sold merchandise count that was electronically scanned by cashiers. This metric is for loss prevention and sales audit.
Return Scan Item Count	Returned merchandise count that was electronically scanned by cashiers. This metric is for loss prevention and sales audit.
Gross Profit to Sales Amount	Ratio of profit achieved on total sales. The ratio reflects a company's ability to balance its costs with sales. It is a key performance indicator of a company's efficiency and performance.
Net Profit to Sales Amount	Ratio of net profit to net sales. It indicates the bottom-line profit a company keeps from money generated by sales. This is a key performance indicator of a company's profitability for investors.
Average Net Retail	Average retail price of sold items. This is calculated by deducting any taxes or expenses.
Gross Sales Amount LY	Last year's retail value of units sold. It includes tax but excludes discounts.
Return Amount LY	Last year's retail value of units returned. It includes tax but excludes discounts.
Net Sales Amount LY	Last year's difference of gross sales amount minus returns amount.
Gross Sales Qty LY	Last year's quantity of units sold.
Sales Amt Division Contribution to Tot	Gross sales amount generated by a division, as a fraction of total company sales. This is a key performance indicator of sales produced by a particular division. Retailers often develop marketing and financing decisions based on sales contributions from divisions.
Sales Amt Division Contribution to Tot L	Last year's gross sales amount generated by a division, as a fraction of total company sales. This is a key performance indicator that allows focus on the previous year's low-performing divisions and adjustment of marketing policies.
Comp Net Profit MTD	Month-to-date difference between gross profit and returns profit amount for comparable stores. This metric can be examined closely for business-critical months such as holiday seasons or the last months of the financial year.
Comp Net Profit LY MTD	Month-to-date difference between gross profit and returns profit amount for comparable stores for last year. This metric can be examined with current year metrics to compare the overall performance of business-critical months, such as holiday seasons or the last months of the financial year.
Comp Net Profit MTD Var LY	Month-to-date comparable stores net profit variance compared to last year. This key performance indicator measures a company's profitability compared to last year and helps retailers to decide on corrective actions such as promotions or changes in pricing.

Sales Pack

A *sales pack* is a group of individual items grouped together by the retailer to be sold as one item. An example is a bottle of shampoo and a bottle of conditioner, both individual items on their own, but packaged together to be sold as a unique pack item.

Retailers require visibility to pack sales contribution information by regular, clearance, and promotion retail types. This analysis provides the ability to compare and contrast location performance of pack sales using retail type measures.

These metrics can help to determine:

- How a SKU sold as a single item
- How the pack itself has sold historically
- How a SKU sold when it was included in a specific pack

Retail Analytics extraction, transformation, and loading processing prorates the value of a pack into its component items (see "Prorating of Packs" later in this section). This helps in analysis of component pack item contribution to pack sales.

Table 6–6 lists the Sales Pack metrics.

Table 6–6 Sales Pack Metrics

Metric	Definition
Pack Gross Sales Amt	Total value of regular, clearance, and promotion pack sales and pack components before returns. The amount is inclusive of VAT.
Pack Gross Sales Qty	Total quantity of regular, clearance, and promotion pack sales and pack component units before returns.
Pack Return Amt	Retail value of pack sales and pack component units returned. It indicates lost revenue that is credited back to customers. Retailers should find opportunities to convert this to new sales
Pack Net Sales Amt	Sales amount excluding returns. It indicates the actual money amount received from pack sales and pack component.
Pack Return Qty	Quantity of units returned for a pack component item. This is the product of the pack item returns quantity times the pack component item quantity.
Pack Net Sales Qty	Difference between pack gross sales quantity and pack returns quantity.
Pack Gross Profit	Derived profit value for a pack component item.
Pack Return Profit	Derived returns profit value for a pack component item.
Pack Net Profit	Difference between pack gross profit and pack returns profit amount.

Prorating of Packs

The prorating of a pack's value into its component items requires calculation. The following formulas are used for prorating packs:

```
Item Prorated Sales Value = Pack Sales Value * Item Prorate %

Item Prorate % = (Item Price * Pack Item Qty) / Pack Component Sales Value

Pack Component Sales Value = (Item A Price * Item A Qty) + (Item B Price * Item B
Qty) + (Item C Price * Item C Qty) + …+ (Item n Price * Item n Qty)
```

Example

Pack A has a pack sales value of $90,000. Each pack is priced at $9 and contains the following:

Item	Quantity	Price
Item A	2	$4
Item B	1	$2
Item C	1	$1

Calculation Steps

1. Calculate pack component sales value:
   a. Item A Price * Quantity of Item A in Pack A

      4 * 2 = 8

      Item B Price * Quantity of Item B in Pack A

      2 * 1 = 2

      Item C Price * Quantity of Item C in Pack A

      1 * 1 = 1

   b. 8 + 2 + 1 = 11
2. Calculate item prorate percent:

   8/11 = .7273 (Item A)

   2/11 = .1818 (Item B)

   1/11 = .0909 (Item C)
3. Calculate item prorated sales value:

   $90,000 * .7273 = $65,457.00 = Item A Prorated Sales Value

   $90,000 * .1818 = $16,362.00 = Item B Prorated Sales Value

   $90,000 * .0909 = $8,181.00 = Item C Prorated Sales Value

Supplier Invoice

Supplier invoice reporting can help retailers achieve control of a supplier's payment process and assess the discrepancies for a supplier.

Supplier invoice cost is the actual cost as shown on the supplier invoice (from Oracle Retail Invoice Matching or other source system). Supplier invoice *purchase order cost* is the expected cost previously agreed upon in the purchase order, before any deals or discounts. A difference between the two can reflect deals, discounts, clerical errors, or dishonesty.

Supplier invoice cost and supplier invoice purchase order cost are held at the supplier-item-location-day level.

Table 6–7 lists the Supplier Invoice metrics.

Table 6–7 Supplier Invoice Metrics

Metric	Definition
Order Quantity	Number of units for which a supplier is requesting payment.
PO Unit Cost	Unit cost when an order was placed for an item.
Invoice Unit Cost	Unit cost charged by the supplier to the retailer for an item.
Tot PO Unit Cost	Total cost of the order quantity when applying the purchase order unit cost.
Tot Invoice Unit Cost	Total cost of the order quantity when applying the invoice unit cost.
Tot PO to Invoice Cost Diff	Difference in total cost of the order quantity between the purchase order and invoice costs.

Supplier Performance and Compliance

The merchandising organization must carefully select, monitor, and adjust relationships with suppliers. Before negotiations with suppliers, the retailer can prepare by running supplier performance and compliance reports.

- Supplier performance considers typical merchandising measures such as net sales, profit/margin, markups, and return rates, to compare the profitability and inventory costs of goods provided by different primary suppliers.
- Supplier compliance measures allow buyers to assess supplier delivery timeliness and purchase order fill rates. For example, how many advance shipping notices came in early, on time, and late? Were overall purchase order counts at expected levels, under, or over?

This analysis can help the retailer to negotiate supplier-funded promotion negotiations and supplier bill-backs, and reward responsive and flexible suppliers. This in turn can reduce inventory costs, prevent out-of-stock conditions, and increase profitability.

Supplier Performance

This functional area focuses on reporting that provides supplier performance information based on key performance indicators. Collection of this data makes the following types of analyses possible:

- Compare and contrast supplier performance over time
- Compare and contrast department performance by primary supplier
- Monitor department performance in terms of sales volume and value
- Compare and contrast market supplier with supplier performance

Primary Supplier

Department managers in particular need to understand sales and profit contribution information about their suppliers. Retailers can monitor supplier performance better by identifying suppliers of profitable items, measuring contributions to total department performance, and identifying how categories are performing relative to other categories, and relative to last year.

Unless facts (such as net cost) are stored by supplier, all facts in that data can only be attributed to the primary supplier.

Performance Metrics

The following types of measures are a part of supplier performance:

- Sales and profit
  - Sales value and variance in sales value from last year
  - Sales units and variance in sales units from last year
  - Profit amount and variance in percent profit from last year
  - Percent contribution to total sales value for the department
- Inventory position and movement
  - Sell-through
  - Stock turns
  - Beginning stock on hand (BOH) and ending stock on hand (EOH) retail value

  - Receipts
  - Gross margin return per dollar of inventory (GMROI)
- Net (deal) cost

  Net cost (sometimes referred to as deal cost) measures are held at the supplier level. Net cost is populated with data from Oracle Retail Merchandising System (RMS) or another source system. The data consists of cost values that represent different discounts on base cost that the supplier provides. These discounts may be:

  - Deals with deal partners for items, or items at specific locations

    Deal partners can be suppliers, wholesalers, distributors, and manufacturers. Within a deal, you create deal components, specify the items for the deal component, and define thresholds.

  - Fixed deals with suppliers

    Your organization receives payments from suppliers in return for mentioning their products in promotions or for displaying their products on prime shelf space.

  - Bracket costing deals with suppliers

    Your organization receives a certain deal price on an order, depending on the size of the order. Different types of brackets can be established based on mass, volume, pallet, case, each, or stat case.

Supplier Compliance

Supplier compliance measures supplier performance based on key performance indicators such as timeliness and accuracy of deliveries. The supplier compliance functionality supports supplier evaluation based on the following parameters:

- Timeliness
- Delivery accuracy
- Order fulfillment

Supplier Invoice Cost

Supplier invoice cost is the actual cost as shown on the supplier invoice (from Oracle Retail Invoice Matching or other application). Supplier invoice purchase order cost is the expected cost previously agreed upon in the purchase order, before any deals or discounts. A difference between the two can be reflective of deals, discounts, clerical errors, or dishonesty.

Supplier invoice cost and supplier invoice purchase order cost are held at the supplier-item-location-day level.

Receipts by Supplier

Retail Analytics supplier compliance data provides the ability to report receipt units grouped by supplier, item, location, and day. For example, the fact column RECEIVED_QTY contains the quantity from the qty_received column in the RMS SHIPSKU table.

The supplier compliance data does not contain cost or sales data, so it cannot be used to report sales or cost by supplier. The quantity in the supplier compliance data should not be confused with receipt units in the inventory movement data.

Timeliness

Timeliness measures the supplier's ability to deliver according to schedule. Early, late, and on-time shipments are tracked in the supplier compliance area. You can measure supplier timeliness on a daily basis.

```
Timeliness = No of On Time Deliveries / ( No of On Time Deliveries + No of Early
Deliveries + No of Late Deliveries )
```

For example, if the number of on-time deliveries is 75 and the total of all deliveries is 100, the timeliness rating is 75 percent.

Missed deliveries are deliveries that did not take place within the time frame specified. A late delivery is also a missed delivery. Because the timeliness measure would not be meaningful if two of its components were counted twice, missed deliveries are not included in the timeliness measure. Missed deliveries can be reported at the supplier-location-time level as a separate metric.

Delivery Accuracy

Delivery accuracy measures the supplier's ability to deliver the correct items and quantities on the order. The rating is determined by comparing the total number of deliveries for the supplier to the number of deliveries where the quantity or item was incorrect.

```
Delivery Accuracy = Number of ASN Expected Deliveries / Number of Deliveries
```

where:

```
Number of Deliveries = No of ASN Expected Deliveries + No of ASN Over Deliveries +
No of ASN Under Deliveries + No of Mismatched Deliveries
```

A mismatched delivery is a delivery that contains at least one mismatched item.

For example, if the number of on-time deliveries is 75 and the total number of deliveries is 100, the delivery accuracy rating is 75 percent.

Order Fulfillment

Order fulfillment measures the supplier's ability to deliver on order in full. The rating is determined by calculating the ratio of completely filled order to the total number of orders.

```
Order Fulfillment = No of Full Order Deliveries/ Total Orders
```

where:

```
Total Orders = Orders Received in Full + Orders Received in Part + Orders Received
in Excess
```

For example, a supplier earns an order fulfillment rating of 75 percent if the total number of orders is 4 and the number of partial deliveries is 1.

Supplier Performance and Compliance Metrics

Table 6–8 lists the Supplier Performance and Compliance metrics.

Table 6–8 Supplier Performance and Compliance Metrics

Metric	Definition
ASN Met Count	Number of advance shipping notices (ASN) for which expected shipment deliveries equal received shipments.
ASN Under Count	Number of advance shipping notices (ASN) for which expected shipment deliveries are greater than received shipments.
ASN Over Count	Number of advance shipping notices (ASN) for which expected shipment deliveries are less than received shipments.
ASN Expected Qty	Quantity of units expected to be received based on the associated order number or on the supplier's advance shipping notices (ASN).
Unfulfilled ASN Count	Number of advance shipping notices (ASN) for which the associated shipment delivery has not yet been received.
Unfulfilled PO Count	Number of purchase orders for which the total number of ordered units has not yet been received.
PO Met Count	Number of purchase orders for which the ordered quantity is equal to the received quantity.
PO Under Count	Number of purchase orders for which the ordered quantity is greater than the received quantity.
PO Over Count	Number of purchase orders for which the ordered quantity is less than the received quantity.
PO Absent Count	Number of shipment deliveries that were received without corresponding purchase orders.
Ship Late Count	Number of shipment deliveries that arrived after the date specified on the purchase order as the last date that delivery of the order would be accepted.
Ship Early Count	Number of shipment deliveries that arrived before the date specified on the purchase order as the first date that delivery of the order would be accepted.
Ship On Time Count	Number of shipment deliveries that arrived within the timeframe specified on the purchase order that delivery of the order would be accepted.
Days Early Ship	Number of days that a shipment delivery arrived before the date specified on the purchase order as the first date that delivery of the order would be accepted.
Days Late Ship	Number of days that a shipment delivery arrived after the date specified on the purchase order as the last date that delivery of the order would be accepted.

Inventory Position Analysis

Retail Analytics holds stock position at a very low level, which is the ending position for every day for every item at every stockholding location. The available stock position measures include quantity, retail value, and cost amount (usually interfaced from source systems based on weighted average cost calculation).

There are three distinct groupings of stock position in Retail Analytics:

- On-hand stock (goods owned by the retailer and received in a location)
- In-transit stock (goods owned by the retailer, received into one location such as a distribution center, but currently in transit to another store or warehouse)
- On-order stock (goods on an approved Purchase Order which have not yet been received)

Two examples of on-hand measures are ending on-hand (EOH) for a time period, as well as beginning on-hand (BOH) for a time period. The EOH position for week 1 is the BOH position for week 2.

Stock position is a constant state in which a value or position shifts over time. Stock on hand is at a certain position at the beginning and end of a week and at any point between. Positional values cannot be added together to arrive at a meaningful number. For example, the ending stock-on-hand values for the days in a week do not add up to the ending value for a week. Rather, there is a position at the end of each day and, in this example, the ending position for the week is the same as the position for the last day of the week. For this reason, positional measurements are semi-additive. They are not additive in the time dimension. In other dimensions, they act much like transactions. For example, the ending on-hand value for a subclass can be determined by adding the ending on-hand values for all items in that subclass.

Comparing ending inventory value to the same period last year is a typical scorecard measure, but deeper analysis and more complex calculations are also required. Retail Analytics offers critical inventory calculations such as gross margin return on investment (GMROI), weeks of supply, stock turnover, sell-through, and the critical out of stock percentage measures.

A buyer might use one of these calculations to pair net sales and net profit measures on the same report with the out-of-stock percentage for the current month, to assess whether a certain department had low sales performance because of stock unavailability.

Table 6–9 lists the Inventory Position Analysis metrics.

Table 6–9 Inventory Position Analysis Metrics

Metric	Definition
BOH Qty	Quantity of owned inventory units at the beginning of the reporting period. This includes inventory held as components within pack items.
BOH Retail	Retail value of owned inventory units at the beginning of the reporting period. This includes inventory held as components within pack items.
EOH Qty	Quantity of owned inventory units at the end of the reporting period. This includes inventory held as components within pack items.
GMROI	An assessment of the money earned or lost to the amount of money invested. It indicates a retailer's ability to turn inventory into liquid cash above the cost of the inventory.

Table 6–9 (Cont.) Inventory Position Analysis Metrics

Metric	Definition
Stock Turnover	Number of times the inventory stock has been turned over during the period. It is calculated by dividing the cost of goods sold by the amount of average stock at cost.
Weeks of Supply	Number of weeks that current inventory can fulfill sales. This measure helps to avoid inventory stock-outs and lost sales.
Sell Through Qty	Ratio of the quantity of goods sold by a retailer to the quantity originally delivered during a period. Promotions or special advertising can help to increase the sell-through quantity.
Clearance Out of Stock%	Percentage of unique items on clearance that were out of stock.
Regular Out of Stock %	Percentage of regularly priced unique items that were out of stock as of the last batch run.
Tot Out of Stock %	Percentage of regularly priced and promotion unique items that were out of stock as of the last batch run.
Sell Through Retail	Ratio of the gross sales amount as a fraction of owned inventory for a given time period.
Tot Inv Retail	Projected owned inventory retail amount.
Tot Inv Qty	Projected owned inventory quantity.
Stock to Sales	Ratio of the number of times owned inventory can fulfill sales for a given time period.
BOH Cost	Cost value of owned inventory units at the beginning of the reporting period. This includes inventory for pack component items.
EOH Retail	Retail value of owned inventory units at the end of the reporting period. This includes inventory for pack component items.
EOH Cost	Cost value of owned inventory units at the end of the reporting period. This includes inventory for pack component items.
In Transit Qty	Quantity of transfer and allocation inventory units that have been shipped but not yet received at the end of the reporting period. This includes inventory for pack component items.
In Transit Retail	Retail value of transfer and allocation inventory units that have been shipped but not yet received at the end of the reporting period. This includes inventory for pack component items.
In Transit Cost	Cost value of transfer and allocation inventory units that have been shipped but not yet received at the end of the reporting period. This includes inventory for pack component items.
On Order Qty	Quantity of ordered inventory units that have not yet been received at the end of the reporting period. This includes inventory for pack component items.
On Order Retail	Retail value of ordered inventory units that have not yet been received at the end of the reporting period. This includes inventory for pack component items.
On Order Cost	Cost value of ordered inventory units that have not yet been received at the end of the reporting period. This includes inventory for pack component items.
Inventory Unit Retail	Retail value for an item when it is sold in a singular quantity of the standard unit of measure.
Inventory Unit Cost	Purchase order estimated landed cost each time this item is received at this location, or the primary supplier cost, depending on the merchandising system options.

Table 6–9 (Cont.) Inventory Position Analysis Metrics

Metric	Definition
Inventory Average Cost	Weighted average cost of an item at a location, based on the purchase order estimated landed cost. This is adjusted each time inventory is received at this location. Stock of a pack item is valued at the component level, and therefore an average cost is not applicable for pack items.
Comp EOH Qty LY MTD	Month-to-date quantity of owned inventory units at the end of the reporting period for last year. This includes inventory for pack component items.
Comp EOH Qty MTD	Month-to-date quantity of owned inventory units for comparable stores at the end of the reporting period. This includes inventory for pack component items
Comp EOH Qty MTD Var LY	Month-to-date comparable stores ending inventory quantity variance compared to last year.

Wholesale/Franchise

Wholesale/franchise metrics allow reporting for wholesale and franchise locations. These metrics only include data associated with wholesale or franchise locations.

Table 6–10 lists the Wholesale/Franchise metrics.

Table 6–10 Wholesale/Franchise Metrics

Metric	Definition
WF Gross Sales Amt	Retail value of units sold to wholesale/franchise locations. It includes tax but excludes discounts.
WF Return Amt	Quantity of units returned from wholesale/franchise locations. It includes tax but excludes discounts.
WF Net Sales Amt	Difference between gross sales amount and returns amount for wholesale/franchise locations.
WF Gross Sales Amt LY	Last year's retail value of units sold to wholesale/franchise locations. It can include or exclude tax, depending on the merchandising system options, but is excludes discounts.
WF Return Amt LY	Last year's quantity of units returned from wholesale/franchise locations. It includes tax but excludes discounts.
WF Net Sales Amt LY	Last year's difference between gross sales amount and returns amount for wholesale/franchise locations.
Tot Gross Sales Amt	The retail value of units sold to owned and wholesale/franchise locations. This metrics is tax inclusive but is exclusive of discounts. This is generally compared with sales amount numbers at store location to understand dynamics of wholesale or franchise sales.
Tot Gross Sales Qty	The quantity of units sold to owned and wholesale/franchise locations. This is generally compared with sales quantity numbers at store location to understand dynamics of wholesale or franchise sales.

Price

Pricing analytics can help retailers determine the optimal pricing of products. It focuses on the proposed pricing of merchandise. Cost elements and profit components are not evaluated as part of pricing.

Retail Analytics holds price as a retail value for an item, day, and location. For the purpose of analysis, the average price is calculated over the time period selected for the report.

Table 6–11 lists the Price metrics.

Table 6–11 Price Metrics

Metric	Definition
Price	Retail value for an item when it is sold in a singular quantity of the selling unit of measure. This metric is aggregated by the AVERAGE function.
Multi Unit Price	Retail value for an item when a multiple quantity is sold as a single unit. This metric is aggregated by the AVERAGE function.
Std UOM Price	Retail value for an item when it is sold in a single quantity of the standard unit of measure.
Base Cost (Price)	Primary supplier's initial base cost prior to any deals or discounts for an item/location. This metric is aggregated by the AVERAGE function.

Planning

Retail Analytics holds facts for both preseason (original) and in-season (current) planning in several reporting areas, including sales, markdowns, receipts, inventory, gross margin, and open-to-buy, in both dollars and units.

Table 6–12 lists the Planning metrics. The following abbreviations are used in the names of Planning metrics:

- CPC: Current plan for cost-based planning
- CPR: Current plan for retail-based planning
- OPC: Original plan for cost-based planning
- OPR: Original plan for retail-based planning

Table 6–12 Planning Metrics

Metric	Definition
OPC Sales Qty	Quantity of original merchandise financial plan sales.
OPC Sales Retail Amt	Retail value of original merchandise financial plan sales. This is tax inclusive. This is in primary currency.
OPC Sales Cost Amt	The cost value of original merchandise financial plan sales. This is tax inclusive. This is in primary currency.
OPC Profit Cost Amt	Value of original merchandise financial plan gross profit. Gross profit is calculated by the cost accounting method and is the difference of the retail value of sales minus the cost value of sales. This is in primary currency.
OPC BOH Qty	Quantity of original merchandise financial plan owned inventory at the beginning of a time period.
OPC EOH Qty	Quantity of original merchandise financial plan owned inventory at the end of a time period.
CPC Sales Qty	Quantity of current merchandise financial plan sales.
CPC Sales Retail Amt	Retail value of current merchandise financial plan sales. This is tax inclusive. This is in primary currency.
CPC Sales Cost Amt	The cost value of current merchandise financial plan sales. This is tax inclusive. This is in primary currency.
CPC Profit Cost Amt	Value of current merchandise financial plan gross profit. Gross profit is calculated by the cost accounting method and is the difference of the retail value of sales minus the cost value of sales. This is in primary currency.
CPC BOH Qty	Quantity of current merchandise financial plan owned inventory at the beginning of a time period.
CPC EOH Qty	Quantity of current merchandise financial plan owned inventory at the end of a time period.
OPR Reg Sales Qty	Quantity of original merchandise financial plan regular sales.
OPR Pro Sales Qty	Quantity of original merchandise financial plan promotion sales.
OPR Clr Sales Qty	Quantity of original merchandise financial plan clearance sales.
OPR Margin Retail Amt	Value of original merchandise financial plan gross margin. Gross margin is calculated by the retail accounting method and is the difference of the retail value of sales excluding taxes minus the cost of goods sold. This is in primary currency.

Table 6–12 (Cont.) Planning Metrics

Metric	Definition
OPR BOH Cost Amt	The cost value of original merchandise financial plan owned inventory at the beginning of a time period. This is in primary currency.
OPR BOH Retail Amt	Retail value of original merchandise financial plan owned inventory at the beginning of a time period. This is in primary currency.
OPR BOH Qty	Quantity of original merchandise financial plan owned inventory at the beginning of a time period.
OPR EOH Qty	Quantity of original merchandise financial plan owned inventory at the end of a time period.
OPR Receipts Qty	Quantity of original merchandise financial plan inventory received.
CPR Reg Sales Qty	Quantity of current merchandise financial plan regular sales.
CPR Margin Retail Amt	Value of current merchandise financial plan gross margin. Gross margin is calculated by the retail accounting method and is the difference of the retail value of sales excluding taxes minus the cost of goods sold. This is in primary currency.
CPR BOH Qty	Quantity of current merchandise financial plan owned inventory at the beginning of a time period.
CPR EOH Qty	Quantity of current merchandise financial plan owned inventory at the end of a time period.
CPR Receipts Qty	Quantity of current merchandise financial plan inventory received.
Tot Profit Var CP%	Variance of gross Profit to Current Plan Current Plan Profit Amt .
Tot Sales Cost Amt Var CP%	Variance of sales Cost Amt it to Current Plan Sales Cost Amt .
Tot Receipts Retail Amt Var CP%	Variance of receipt Retail Amount it to Current Plan Receipts Retail Amt.

Stock Ledger

Retail Analytics information for stock ledger analysis comes from Oracle Retail Merchandising System (RMS).

The lowest-level stock ledger facts are kept at the subclass and week level. This gives Retail Analytics visibility to store/subclass/week level and subclass/month level. Stock ledger reporting is not available at the item and day levels. Reports and drills into data that are lower than the subclass/week level return null values for stock ledger facts.

If you receive stock ledger information from RMS, the RMS stock ledger feed to Retail Analytics supports either a 4-5-4 fiscal calendar or Gregorian calendar.

If you have a Gregorian stock ledger, reporting in Retail Analytics can be done at the subclass, location, and month levels. Reports and drills into data that are lower than the subclass/month level return null values for stock ledger facts.

If you have a 4-5-4 stock ledger, you can analyze the stock ledger at the subclass, location, week, and month levels. Reports and drills into data that are lower than the subclass/week level return null values for stock ledger facts.

Any other calendars, such as a 13-period time calendar, are not supported by the RMS interface to Retail Analytics for stock ledger facts. If an RMS user customizes the stock ledger to use a 13-period calendar, there are inconsistencies with the RMS stock ledger interface to Retail Analytics unless modifications are made.

Because the month-level stock ledger is directly related to the RMS MONTH_DATA table, data for a specific month is available in Retail Analytics after the close of that month.

Table 6–13 lists the Stock Ledger metrics.

Table 6–13 Stock Ledger Metrics

Metric	Definition
Stock Ledger Gross Sales Qty	Total units of merchandise sold.
Stock Ledger Gross Profit	Difference between sales revenue and the cost of units sold. It indicates the retailer's ability to mark up merchandise for sale.
Stock Ledger Return Retail	Retail value of units returned. It Indicates lost revenue that is credited back to customers. Retailers should find opportunities to convert this to new sales.
Stock Ledger Sales Cost	Cost value of units sold, calculated by adding sale invoices. It includes VAT but excludes discounts.
Stock Ledger Sales Retail	Retail value of units sold, calculated by adding sale invoices. It includes VAT but excludes discounts.
Stock Ledger BOH Cost	Cost value of owned inventory units at the beginning of the reporting period. This includes inventory for pack component items.
Stock Ledger BOH Retail	Retail value of owned inventory units at the beginning of the reporting period. This includes inventory for pack component items.

Table 6–13 (Cont.) Stock Ledger Metrics

Metric	Definition
Stock Ledger EOH Cost	Cost value of owned inventory units at the end of the reporting period. This includes inventory for pack component items.
Stock Ledger EOH Retail	Retail value of owned inventory units at the end of the reporting period. This includes inventory for pack component items.
Stock Ledger Receipts Cost	Cost value of inventory units received.
Stock Ledger Receipts Retail	Retail value of inventory units received.

A

Time Series Conversion Functions

There are two types of time conversions, table-based and expression-based:

- Table-based conversions use a relationship table in the data warehouse to define the conversion from one time period to another.
- Expression-based conversions perform transformations by using mathematical expressions.

All of the Retail Analytics conversions are expression-based. Oracle BI does not use transformation tables to create metrics; however, some Retail Analytics views in Oracle BI are created based on transformation tables. Those views are used to create some complex metrics such as Comp, Comp Base, and BOH (beginning on hand).

Time conversions are used to compare values from different time periods to discover and analyze time-based trends. Some examples of common time conversions are:

- This year versus last year
- Month-to-date comparisons

Any time conversion function can be included as part of the definition of a metric. For example, applying the Last Year conversion to a Sales Value metric creates a Sales Value (Last Year) metric that calculates the sales for last year. Multiple conversions can be applied to the same metric.

Each time conversion in Retail Analytics is defined at all the levels applicable for that transformation. For example:

- The Last Week conversion is defined at the day and week levels.
- Last Month is defined at the day, week, and month levels.
- Last Year is defined at the day, week, month, quarter, half-year, and year levels.

These definitions improve query performance.

Example Time Conversions

The following are some examples of the time conversions in Retail Analytics.

Conversion	Summary
Last Month	Returns the corresponding last month fact data for the time period selected.
Last Week	Returns the corresponding last week fact data for the time period selected.
Last Year	Returns the corresponding last year fact data for the time period selected.
Month to Date	Returns the corresponding month-to-date fact data for the time period selected.

Examples of Metrics That Use Time Conversion

The following are some metrics that illustrate time conversion capabilities. You can also extend these metrics for other time transformations. For more information, see the *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition*.

Metric	Summary
Net Sales Amt	Sales amount excluding returns. It indicates the actual money amount received from sales.
Net Sales Amt LY	Last year's difference of gross sales amount minus returns amount.
Net Sales Amt LY YTD	Last year's year-to-date difference between gross sales amount and returns amount.
Net Sales Amt MTD	Month-to-date difference between gross sales amount and returns amount.
Net Sales Amt LW	Last week's difference between gross sales amount and returns amount.
Net Sales Amt MTD Var LY	Month-to-date net sales amount variance compared to last year. This metric tests a retailer's sales performance on business-critical months such as holidays or the end of the financial year.
Net Sales Amt WTD	Week-to-date difference between gross sales amount and returns amount.
Net Sales Amt YTD	Year-to-date difference between gross sales amount and returns amount.

B

Reporting on Oracle BI Repository Objects

You can use the Oracle BI Repository Documentation utility to export information about Oracle BI repository objects. This information can include:

- Mappings of presentation columns to logical and physical columns
- A metadata dictionary to provide information about metrics and attributes

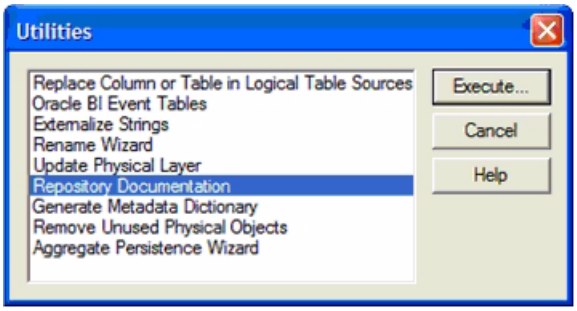
See the *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Business Intelligence Enterprise Edition* for information about using the Oracle BI Administration Tool and utilities. That document describes the procedures in detail.

Generating Documentation of Repository Mappings

You can save documentation of repository mappings to a .CSV (comma-separated values) file. You can import a file with comma-separated values into a spreadsheet, database, or other application.

Follow these steps:

1. From the Tools menu in the Oracle BI Administration Tool, select **Utilities**.
2. From the Utilities dialog, select **Repository Documentation**.



3. Click **Execute**.
4. When prompted, save the .CSV file in the folder you prefer.

Glossary

13-period calendar

A business calendar that contains 13 equal periods, each of 4 weeks (28 days) in length. Every fifth or sixth year, there are 53 weeks. The calendar has a 28-year cycle of 6 years, 5 years, 6 years, 6 years, and 5 years. *See also* 4-5-4 calendar, Gregorian calendar.

4-5-4 calendar

The default Retail Analytics business calendar, in which each quarter contains 13 full weeks in three periods of 4 weeks, 5 weeks, and 4 weeks in length. The calendar can also be implemented as 4-4-5 or 5-4-4. *See also* 13-period calendar, Gregorian calendar.

additive fact

A fact column or measure that can be summed to arrive at a meaningful value. For example, the total daily sales values for every day of a week can be added together to arrive at the total sales value for the week. *Contrast with* positional fact. *See also* semi-additive fact.

advance shipping notice

See ASN.

ASN

Abbreviation for advance shipping notice, an electronic data interface (EDI) transaction from supplier to retailer that identifies the supplier number, order number, carton contents, and store or warehouse destination for a particular delivery.

attribute

In Oracle BI, a detail of a dimension in an Oracle BI repository. For example, Package Size is an attribute of the Product dimension. Attributes usually appear as columns of a dimension table.

BOH

Abbreviation for beginning on-hand, an inventory position at the beginning of a time period.

catalog

See subject area.

comparable (comp) sales

Sales within two specific periods (usually this year and last year) that can be used as measures of productivity and to understand business trends and growth. Comparable sales metrics also help to differentiate between revenue gains that come from new stores and operations at established stores.

comparable (comp) store

A store that is open for business for a set period of time (usually at least 53 weeks) and was in operation within the time period of analysis. In other words, comparable stores are established stores, rather than new or closed stores. Comparable stores can be used for comparative analysis in various areas such as profit, sales, margin, and merchandising.

complex pack

See sales pack.

CPC

Abbreviation for current plan for cost-based planning

CPR

Abbreviation for current plan for retail-based planning

dimension

A conceptual grouping that qualifies data at a general level. Metrics such as sales do not exist in isolation, but rather in the context of dimensions such as product, geography, and time. These dimensions define what type of data is available. When considering a metric such as sales, it is important to consider what data is available. Does sales information exist for each of my products? Is there sales data for each country, region, and state? Is there sales data exist for the last five years?

In Oracle BI, a dimension is a hierarchical organization of logical columns (attributes). One or more logical dimension tables can be associated with at most one dimension. A dimension can contain one or more hierarchies. There are two types of logical dimensions: dimensions with level-based hierarchies (structure hierarchies), and dimensions with parent-child hierarchies (value hierarchies). A particular type of level-based dimension, called a time dimension, provides special functionality for modeling time series data.

EOH

Abbreviation for ending on-hand, an inventory position at the end of a time period.

filter

In Oracle BI, criteria that are applied to attribute and metric (measure) columns to limit the results that are displayed when an analysis is run. For metric columns, filters are applied before the query is aggregated. They affect the query and thus the resulting values.

franchisee

A merchant who operates under a contractual agreement with a parent company under an established name. The parent company controls major business operation decisions for a franchise location.

GMROI

Abbreviation for gross margin return on investment, an assessment of the amount of money earned or lost compared to the amount of money invested.

Gregorian calendar

The internationally accepted civil calendar with 12 months and 365 days per year (366 days in leap years). *See also* 13-period calendar, 4-5-4 calendar.

hierarchy

In an Oracle BI repository, a system of levels in a logical dimension that are related to each other by one-to-many relationships. All hierarchies must have a common leaf level and a common root (all) level. Hierarchies are not modeled as separate objects in the metadata; instead, they are an implicit part of dimension objects.

inventory

Finished items intended for sale. Inventory can also include items that may not be available for various reasons, such as designated display units or defective units being repaired. Inventory is recorded as an asset on a company's balance sheet.

inventory position

The measure of the current level of owned inventory. Inventory position includes on-hand inventory (including reserved inventory), in-transit inventory, and on-order inventory.

invoice

A contractual document that specifies the money owed by the buyer to the seller. An invoice is an Itemized statement given by suppliers to retailers that lists purchased products, their prices, quantities, taxes, and other fees such as shipping and handling. It may also carry any discounts applied at the time of generating the invoice.

key performance indicator (KPI)

A measurement that defines and tracks specific business goals and strategic objectives. KPIs often roll up into larger organizational strategies that require monitoring, improvement, and evaluation. KPIs have measurable values that usually vary with time, have targets to determine a score and performance status, include dimensions to allow for more precise analysis, and can be compared over time for trending purposes and to identify performance patterns.

LM

Abbreviation for last month.

LW

Abbreviation for last week.

LY

Abbreviation for last year.

margin

The difference between the cost of an item and its selling price.

markdown

A reduction in the selling price of an item. Markdowns are often planned to boost sales of an item. The three kinds of markdowns are permanent, promotion, and clearance.

markup

The increase in the selling price of an item above cost or current selling price. Markup is the measurement of profit for each item and is similar to margin, which is the difference between the cost of the item and the selling price.

metadata

Data about data. Metadata objects include the descriptions of schemas (such as tables, columns, data types, primary keys, and foreign keys) and logical constructs (such as fact tables, dimensions, and logical table source mappings). The Oracle BI repository is made up of the metadata used to process queries.

metric

Measures or facts, typically numeric, that are the focus of a business intelligence investigation. Fact columns are columns in the data warehouse that contain the facts and are used to define metrics.

MTD

Abbreviation for month to date.

NRF

Abbreviation for National Retail Federation.

OLAP

Abbreviation for online analytical processing. Oracle BI is the OLAP user interface for Oracle Retail Analytics reporting and analysis.

OLTP

Abbreviation for online transaction processing. Source systems for Oracle Retail Analytics data are typically OLTP systems, such as transaction-based merchandising and pricing systems.

OPC

Abbreviation for original plan for cost-based planning

OPR

Abbreviation for original plan for retail-based planning

Oracle BI repository

A file that stores Oracle Business Intelligence metadata. The metadata defines logical schemas, physical schemas, physical-to-logical mappings, aggregate table navigation, and other constructs.

OTB

Abbreviation for open-to-buy.

PO

Abbreviation for purchase order.

positional fact

A fact column or measure that cannot be summed to arrive at a meaningful result. For example, the ending stock-on-hand counts for an item for all the days of a week do not add up to a meaningful number. *Contrast with* additive fact. *See also* semi-additive fact.

pricing

The process of managing markups and markdowns for merchandise. Pricing is derived from factors such as cost, profit margin, quantity break, supplier quotes, and shipment or invoice date.

prompt

In Oracle BI, a type of filter that allows the content designer to build and specify data values, or the end user to choose specific data values. A prompt expands or refines existing dashboard and analysis filters. *See also* filter.

repository

See Oracle BI repository.

sales pack

A grouping of items under one item number. A sales pack can be either a simple pack or a complex pack. A simple pack contains multiples of one component item. A complex pack contains multiple component items.

semi-additive fact

A fact column or measure that cannot be summed in the time dimension to arrive at a meaningful result, but for which a sum in other dimensions can be meaningful. For example, the ending on-hand values for an item for each day of a week do not add up to a meaningful result. On the other hand, the sum of the ending on-hand values for all items of a subclass can be added together to obtain the ending on-hand value of the subclass. *See also* additive fact, positional fact.

set of books

Separate financial accounting for a particular part of a company, within the same accounting system or in a physically separate system. A company may use multiple sets of books to separate accounting operations by brand/chain, country/currency, or other distinctive characteristic that makes separate financial accounting desirable.

simple pack

See sales pack.

subject area

In the Oracle BI repository, an object in the presentation layer that organizes and presents data about a business model. For Oracle Retail Analytics, the subject areas are Retail As-Is, Retail As-Was, and Retail Point in Time. A subject area is also called a catalog. *See also* as-is reporting, as-was reporting, point in time reporting.

threshold

A minimum purchase amount or quantity required for the purchaser to obtain a discount amount or percentage or other deal.

UDA

Abbreviation for user-defined attribute.

UOM

Abbreviation for unit of measure.

VAT

Abbreviation for value-added tax.

VMI

Abbreviation for vendor-managed inventory.

VPN

Abbreviation for vendor product number.

WF

Abbreviation for warehouse/franchise.

WH

Abbreviation for warehouse.

wholesaler

A merchant middleman who sells chiefly to retailers, other merchants, or industrial, institutional, and commercial users, mainly for resale or business use.

WOS

Abbreviation for weeks of supply.

WTD

Abbreviation for week to date.

YTD

Abbreviation for year to date.