Oracle® Retail Insights Cloud Service

User Guide

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Oracle Retail Insights Cloud Service User Guide, Release 24.2.301.0

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Preface

The *Oracle Retail Insights Cloud Service User Guide* helps Retail Insights users to build, use, and modify reports using the Retail Insights repository in Oracle Business Intelligence (Oracle BI). It includes a user reference to the dimensions, attributes, metrics, and terminology of the Retail Insights 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 Insights data model. The *Oracle Retail Insights 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 Insights software. This information is provided in the *Oracle Retail Insights Implementation Guide* and *Oracle Retail Insights Operations Guide*.

Audience

This user guide is for use by business analysts, the primary end users of Retail Insights, 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 Insights 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 Insights 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

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- Exact error message received
- Screen shots of each step you take

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To more quickly address critical corrections to Oracle Retail documentation content, Oracle Retail documentation may be republished whenever a critical correction is needed. For critical corrections, the republication of an Oracle Retail document may at times not be attached to a numbered software release; instead, the Oracle Retail document will simply be replaced on the Oracle Technology Network Web site, or, in the case of Data Models, to the applicable My Oracle Support Documentation container where they reside.

Oracle Retail product documentation is available on the following web site:

https://docs.oracle.com/en/industries/retail/index.html

An updated version of the applicable Oracle Retail document is indicated by Oracle part number, as well as print date (month and year). An updated version uses the same part number, with a higher-numbered suffix. For example, part number E123456-02 is an updated version of a document with part number E123456-01.

If a more recent version of a document is available, that version supersedes all previous versions.

Oracle Help Center (docs.oracle.com)

Oracle Retail product documentation is available on the following web site:

https://docs.oracle.com/en/industries/retail/index.html

(Data Model documents can be obtained through My Oracle Support.)

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 Insights

This chapter introduces the role of business intelligence and data warehousing in a retail environment. It briefly describes the implementation of Oracle Retail Insights and its data sources, and the Retail Insights user interface through Oracle Analytics Server (OAS).

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 Foundation Cloud Service (RMFCS), 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 Insights

Oracle Retail Insights offers a rich business intelligence solution to retail industry users. Retail Insights is built using latest Oracle technologies and uses Oracle Data Integrator (ODI) for extracting, transforming, and loading (ETL) the data to Oracle Analytics Server for end user reporting and analysis. This solution provides complete, enterprise-wide insight for retail users, enabling fact-based actions and intelligent interactions.

Retail Insights starts with customer and merchandising data. It embraces existing corporate data sources, and it integrates with Oracle Retail solutions to increase effectiveness across the entire merchandising life cycle.

Retail Insights can integrate with Oracle applications, as well as applications from other vendors. It can be implemented alone, or integrated with other applications, to accommodate each retailer's unique information needs and applications environment. The prebuilt nature of the solution allows you to achieve fast time to value, by reducing deployment time and helping to lower total cost of ownership.

Oracle Retail Insights is a software product that includes the following modules:

- Merchandise Insights
- Customer Insights
- Consumer Insights

Merchandise Insights Module

The Merchandise Insights module is a merchandising-specific business intelligence module of the Retail Insights application. It provides insight to critical performance indicators such as item sales, store performance, markdowns, inventory turns, sales and profit trends, and current and potential out-of-stocks. Merchandise Insights dashboards provide the ability to act on those insights. They enable you to order more stock, reallocate merchandise, or begin a promotion, triggered by metric thresholds.

In an end-to-end Oracle Cloud implementation, the primary source of information for the Merchandise Insights subject areas is the Merchandising Foundation Cloud Service. This accounts for much of the core areas in RI, such as your item and store information, stock on hand balances, and transactional OLTP activity spanning the entire item lifecycle. Other data sources include the Sales Audit Cloud Service for sales transactions and the Pricing Cloud Service for promotion and clearance event details. Merchandise Insights data can also be supplemented with external data using flexible fact interfaces and financial plan interfaces.

Customer Insights Module

The Customer Insights module enables you to perform detailed analysis of customers and customer segments. This module is often implemented together with Merchandise Insights as

they share the same core foundation data elements. For each Customer Insights subject area, there are numerous metrics that can be used to answer business questions such as the following:

- Who are my most profitable customers? Who are my most frequent shoppers?
- How do my customers respond to promotions? Which customers prefer specific promotion types?
- How are my products selling across various customer demographics?
- How are my products selling across various customer behaviors?
- How do my loyalty program sales compare to overall sales patterns?

In an end-to-end Oracle Cloud implementation, the primary source of information for Customer Insights subject areas is the Customer Engagement Cloud Service. CE accounts for the customer, segment, and loyalty information that drives much of the dimensional data used in this module. CE does not provide sales information and it is assumed that Sales Audit or another system is still used to provide that data. Customer Insights data can also be supplemented with external data using flexible fact interfaces and financial plan interfaces.

Consumer Insights Module

The Consumer Insights module enables you to perform analysis of consumers and consumer segments, using data provided by Oracle Data Cloud (ODC). RI provides ways to load enriched customer attributes which ODC sends to your CRM, allowing for a greater understanding of your customer base. RI can also receive information about prospective customers from the larger pool of consumers in ODC. These consumers are selected using your own customer base as a way to identify others who are likely to shop at your business.

Customer Enrichment

ODC offers the ability to enrich first-party customer data with a wealth of attributes and profiles accumulated from hundreds of third-party consumer datasets to help you better understand your customer base. This could be anything from identifying frequent online shoppers to finding people who are "Fitness Fanatics". This data is typically provided to your CRM system (such as Oracle Retail Customer Engagement) and can then be interfaced into RI for enhanced customer analytics and segmentation.

You can take advantage of this consumer data in RI to answer questions about your customers that may not have been possible before:

- Do my customers have any common hobbies, activities, or spending behaviors *outside* my stores which may influence their purchasing decisions with me?
- Do my customers tend towards specific consumer profiles that can influence how I interact with them through targeted offers and marketing campaigns?
- How do my customers break down by age, gender, family composition, and other demographics which can impact their response to my advertisements and promotions?
- Are my customers highly seasonal shoppers with preferences for specific holidays or events, which could indicate opportunities for new promotions targeted to those times of the year?

Consumer Prospecting

ODC also provides a service for analyzing your current customers to locate potential consumers that could be converted through outreach and promotional activity. The service takes a subset of your own customers and matches them to other consumers who share

common attributes or behaviors, making them ideal candidates for consumer conversion activities. Most importantly, the consumers returned by this process will have Oracle Person IDs (which are also applied during customer enrichment), allowing you to link new prospects with ODC-enriched customer data over time. Converted consumers may begin to appear as known customers with sales transactions, which can be rolled up to the Consumer Segment level to analyze conversion rates of a segment that you have been actively targeting with marketing or outreach.

Retail Insights will automatically link consumer prospects with ODC-enriched customers using the Oracle Person ID, providing new insights into the effectiveness of targeted offers and the characteristics of first-time buyers. ODC will also provide the same set of enrichment attributes and profiles on all new prospects that you already get on your first-party data, giving you deeper insights into the individuals that we've identified as prime potential customers for your business.

Characteristics

These are some characteristics of Oracle Retail Insights:

- Rich reporting capabilities

  Retail Insights offers report creation capabilities using two different analysis methods in the same environment:

  - Historical (as-was)
  - Current (as-is)

  See 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 Insights. Retailers may use the packaged reports as-is but it is expected that new reports will be created as part of the implementation process to fit the business's specific reporting needs.

- Comprehensive Solution

  Oracle Retail Insights 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 Analytics 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 Insights offers high performance for the Oracle Database batch processes.

- Extensibility

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

- Flexibility

  Oracle Data Integrator and Oracle Analytics Server code promote flexibility during implementation based on customer-specific needs and help in improving batch and report performance.

- High-performance reporting

  Retail Insights metadata is built using Oracle Analytics Server and designed to perform in complex reporting scenarios.

- Robust data model

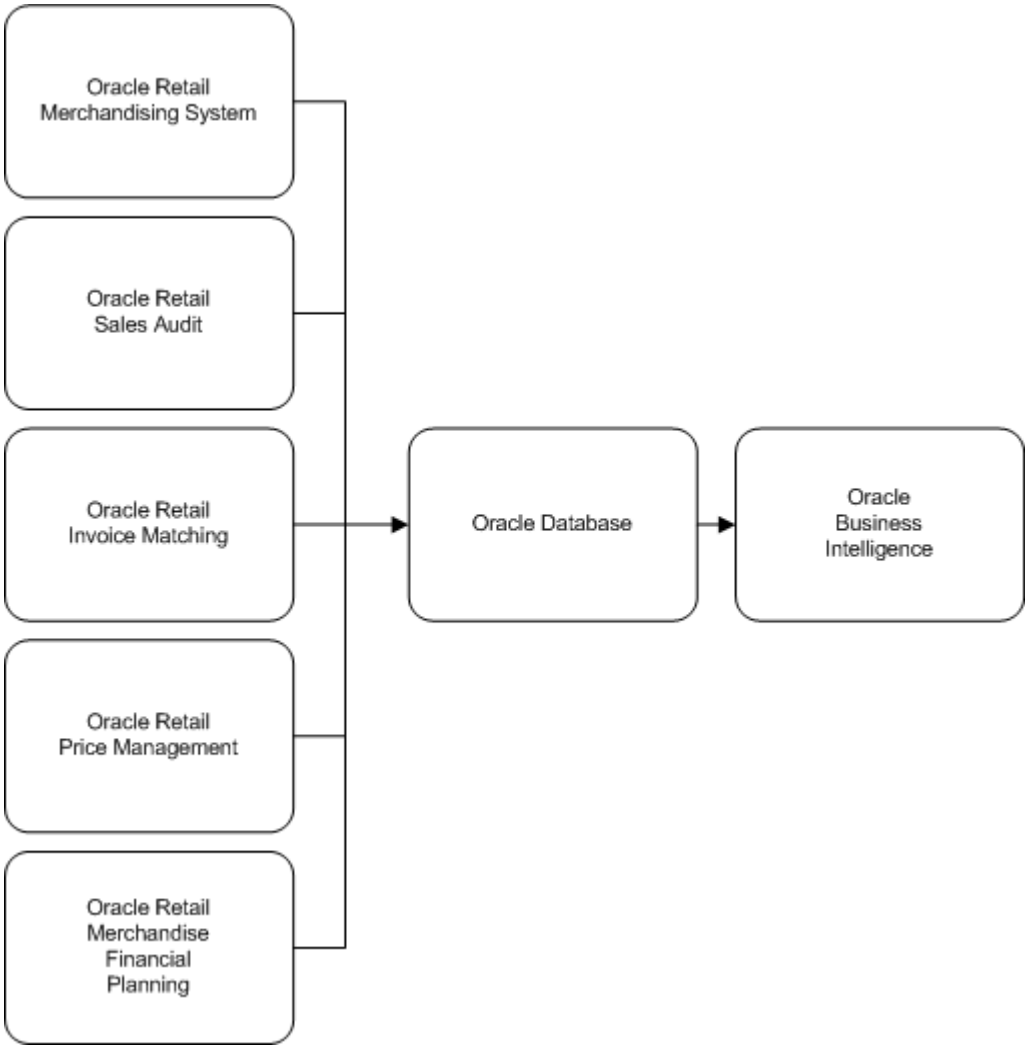
  The Retail Insights data model is designed to support a retailer's data needs in a business intelligence environment. Data model elements are designed to perform with Oracle Analytics Server architecture.

Retail Insights Data Sources

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

This image illustrates the data sources for Oracle Retail Merchandise Insights. 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 Merchandise Insights

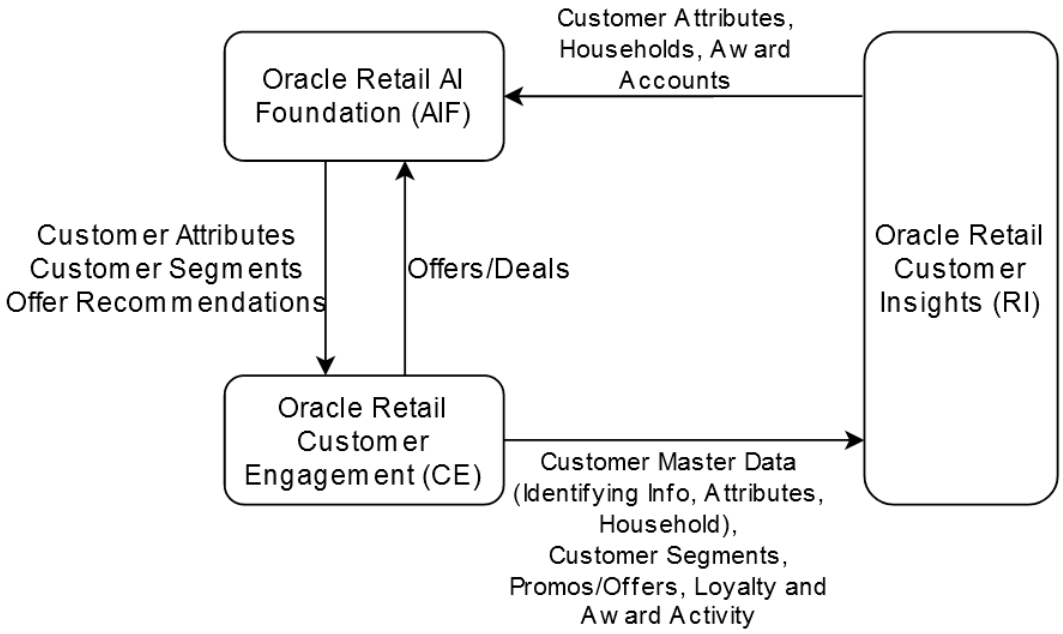


This image illustrates the data sources for Oracle Retail Customer Insights. The data sources can be Oracle Retail applications or other data sources specific to each retailer's systems environment brought into RI via different interfaces.

Oracle Retail Customer Insights is integrated via various interfaces with Oracle Retail Customer Engagement (ORCE) to obtain customer, customer segment and customer household data. Previous to 16.0, Oracle Retail AI Foundation (AIF) was the source for customer segment data to RI. From 16.0, an alternative integration between AIF - ORCE - RI provides a tight coupling of customer, customer segment and customer household data between the three systems. The customer data flows from ORCE to RI. RI in turn passes this data to AIF. AIF create segment information based on different algorithms and sends it to ORCE. ORCE in turn publishes the customer segment data to RI.

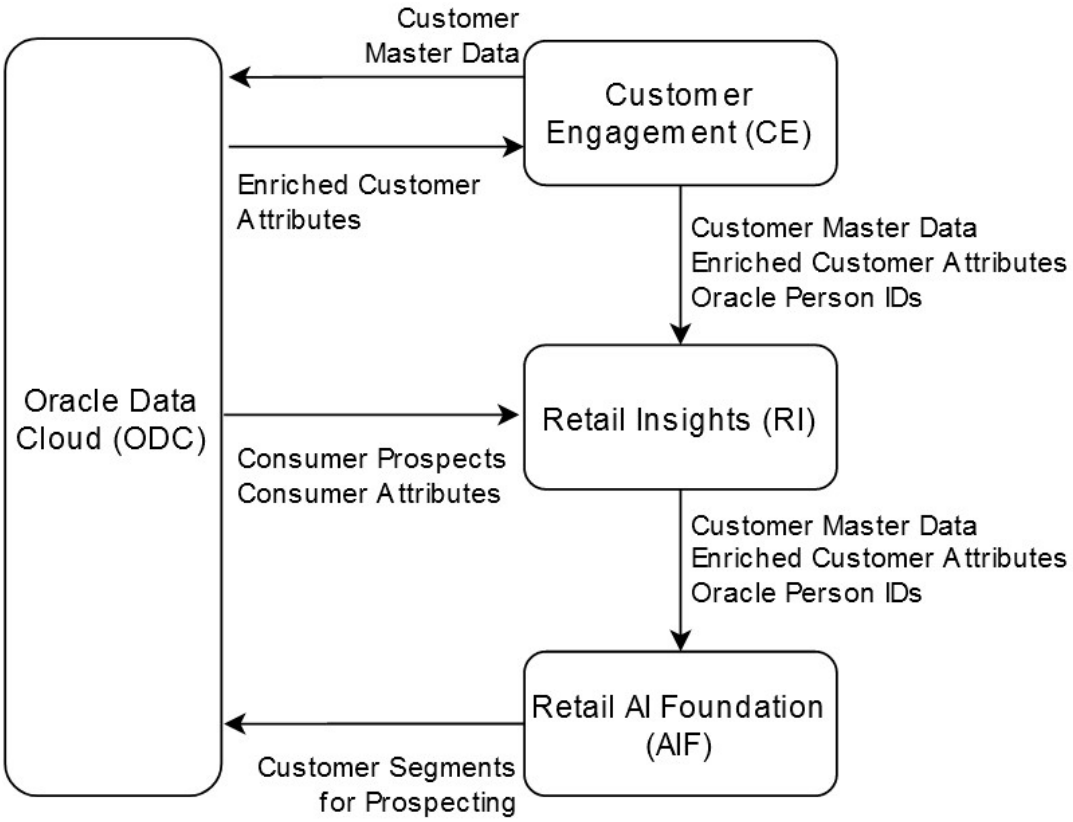
In addition to customer data, RI receives a file for all active promotions and deals initiated in CE, loyalty accounts and programs, and loyalty and award transactional activity.

Figure 1-2 Data Sources for Oracle Retail Customer Insights



This illustrates the data sources for Oracle Retail Consumer Insights. The data sources can be Oracle Retail applications or other data sources specific to each retailer's systems environment brought into RI via different interfaces.

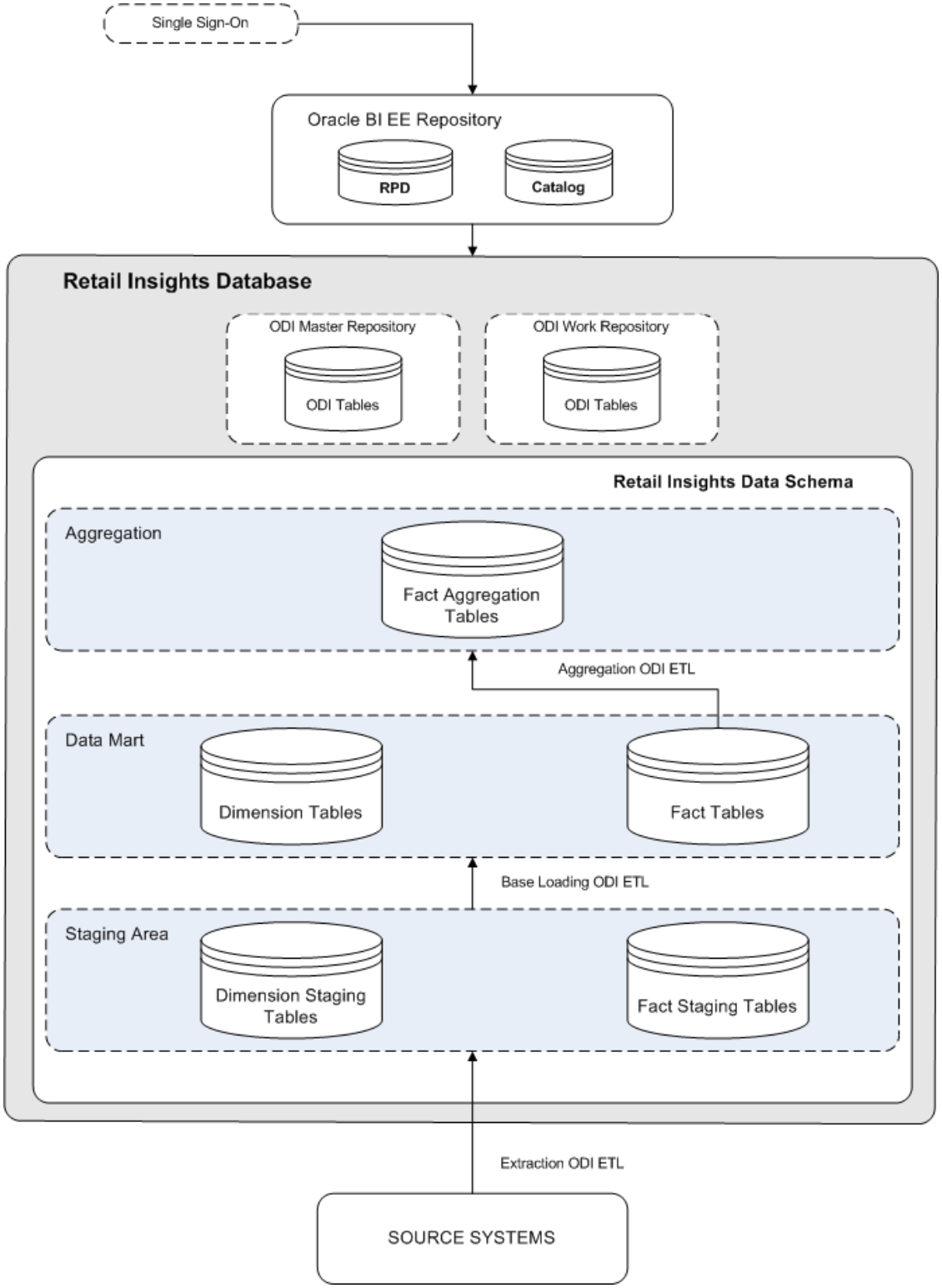
Figure 1-3 Data Sources for Oracle Retail Consumer Insights



Oracle Retail Insights Architecture

This image represents how the Oracle Retail Insights data model interfaces with other Oracle Retail Applications, and how an Oracle Analytics user accesses the Retail Insights metadata. See the *Oracle Retail Insights Implementation Guide* and *Oracle Retail Insights Data Model* for more details about the data model.

Figure 1-4 Retail Insights Architecture



Oracle Retail Solutions

Oracle Retail Insights integrates with any combination of the following Oracle Retail applications:

- Oracle Retail Merchandising Foundation Cloud Service (RMFCS)
- Oracle Retail Sales Audit
- Oracle Retail Invoice Matching (ReIM)
- Oracle Retail Pricing (PCS)
- Oracle Retail Merchandise Financial Planning (MFP)
- Oracle Retail Inventory Planning Optimization (IPO) Demand Forecasting
- Oracle Retail Assortment Planning (AP)
- Oracle Retail AI Foundation (AIF)
- Oracle Retail Customer Engagement (ORCE)

An online transaction processing (OLTP) application such as Oracle Retail Merchandising Foundation Cloud Service (RMFCS) is the principal source of data for Retail Insights. 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.

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

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. Similarly, Assortment Planning (AP) provides these functions at a lower level of detail.

Inventory Planning Optimization (IPO) Demand Forecasting provides accurate forecasts that enable retailers to coordinate demand-driven outcomes that deliver connected customer interactions. With a single view of demand, IPO Cloud Service-Demand Forecasting provides pervasive value across retail processes, including driving optimal strategies in planning, increasing inventory productivity in supply chains, decreasing operational costs, and driving customer satisfaction from engagement to sale to fulfillment.

Oracle Retail AI Foundation (AIF) provides strategic clustering functions. Based on various rules and algorithms customer segments are derived and customers are grouped. AIF facilitate creation of customer segments based on various customer attributes.

Oracle Retail Customer Engagement (ORCE) enables storage of customer data to track their shopping preferences, habits, and tendencies. This information can be analysed in a structured

way in RI that allows retailers to have a better understanding of their customer base and to target promotions to customers who are most likely to react.

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 Insights because of requirements. Dimension data exists at the lowest hierarchy levels.

The data from transaction systems is transformed to accommodate the Retail Insights 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 Insights. 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 Insights permits analysis at any level by storing information at a low granular level, while allowing reporting at higher summary levels.

In some cases, Retail Insights 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 Insights 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 Insights presentation model is implemented in the form of two subject areas, as-is and as-was. (a subject area is also called a presentation catalog in the repository.) The following are the categories of data in the Retail Insights subject areas:

- Merchandise Insights

  Merchandise Insights refers to data like sales and sales promotion, supplier, product, employee, and organization for as-is and as-was time analysis. Much of the data for merchandise insights is sourced from an OLTP system such as RMFCS.

- Customer Insights

  The Customer dimension is supported for sales, sales promotion, customer loyalty, and promotions for as-is and as-was analysis. Data for customer analysis is usually sourced from a CRM system such as ORCE.

- Consumer Insights

  The Consumer Segment dimension is supported on the same facts which are used for Customer (assuming a common link using Oracle Person IDs). The Consumer dimension

is used with the Consumer Segment dimension. Data comes from a combination of ORCE and Oracle Data Cloud.

The subject areas are as follows:

- Retail Insights As-Was
- Retail Insights As-Is

See Reporting on Oracle Analytics Repository Objects, for information about how to produce documentation about repository objects.

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).

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 after 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).

Accessing the Applications

The Retail Insights Cloud Service includes a number of Oracle applications and tools bundled as a single cloud offering. The table below provides a list of common URLs for accessing these applications. The "xxx" prefix in the URL would be replaced by your customer identifier (such as mycompany1) and the "yyy" prefix would be replaced with your environment type (for production environments there is no prefix, for pre-production environments it may be "stage" or "test").

Table 1-1 Application URLs

Solution/Tool	Sample URL
Identity Cloud Service (IDCS)	https://idcs-1234.identity.oraclecloud.com/ui/v1/myconsole?root=my-info
Analytics Classic	https://{service}.retail.{region}.ocs.oraclecloud.com/{solution-customer-env}/analytics
Data Visualization (DV)	https://{service}.retail.{region}.ocs.oraclecloud.com/{solution-customer-env}/dv
AI Foundation (AIF)	https://{service}.retail.{region}.ocs.oraclecloud.com/{solution-customer-env}/orase/faces/Home
BI Publisher	https://{service}.retail.{region}.ocs.oraclecloud.com/{solution-customer-env}/xmlpserver/servlet/home
Innovation Workbench	https://{service}.retail.{region}.ocs.oraclecloud.com/{solution-customer-env}/ords
Process Orchestration and Monitoring (POM)	https://{service}.retail.{region}.ocs.oraclecloud.com/{solution-customer-env}/POMJetUI/

Table 1-1 (Cont.) Application URLs

Solution/Tool	Sample URL
Retail Home	https://{service}.retail.{region}.ocs.oraclecloud.com/{solution-customer-env}/retailhome/

Using Identity and Access Management

Oracle Cloud Infrastructure Console and the Identity and Access Management (OCI IAM) is Oracle's cloud native security and identity platform. It provides a powerful set of hybrid identity features to maintain a single identity for each user across cloud, mobile, and on-premises applications. IAM enables single sign on (SSO) across all applications in a customer's Oracle Cloud tenancy. Customers can also integrate IAM with other on premise applications to extend the scope of this SSO.

All applications in the Retail Insights Cloud Service leverage a single IAM login, which must be created for you by your IT or system administrators group. The link to access IAM will be specific to your company and should be provided to you. Roles will be assigned to your user at the time of account creation, which will determine the applications and tools you are allowed to access. For information on common activities you may need to perform in IAM, refer to the link below:

https://docs.oracle.com/en/cloud/paas/identity-cloud/usids/typical-workflow-configuring-user-settings.html

Finding Help

Each application within the Retail Insights and AI Foundation Cloud Services provides its own help content. Follow the steps below to locate and use this content from within each application.

Retail Insights

Retail Insights uses the Oracle Analytics platform as its user interface. The steps to locate the Help content for Oracle Analytics are summarized below. Note that Oracle Analytics is a platform shared by many Oracle applications, so the help content focuses on the user interface itself, rather than specific application data or metrics.

1. Login to the Retail Insights application using the /analytics URL as defined in the Application URLs section.
2. From the Home page, click on the question mark (?) icon and select Oracle Analytics from the menu.
3. Use the Task menu on the left side of the page to select a guide. The most common Retail Insights activities can be found in the Build Reports and Dashboards task.
4. You can also access the content directly from this URL: https://docs.oracle.com/en/middleware/bi/analytics-server/build-reports-and-dashboards.html

Retail AI Foundation

The AI Foundation Cloud Services provides a user guide accessible from any page in the application. The steps to locate this help content are summarized below.

1. Login to AI Foundation application using the /orase/faces/Home URL as defined in the Application URLs section.
2. From the Home page, click on the question mark (?) icon and select Application Help from the menu.

Data Visualization

The DV application is bundled as a component of the Oracle Analytics Server, and the help content for it is likewise embedded in the OAS documentation.

1. Login to the Data Visualization application using the /dv URL as defined in the Application URLs section.
2. From the Home page, expand the Navigator menu using the icon in the upper left corner of the screen.
3. Select the Academy menu option.
4. Select a task that relates to the area you need help on, or click Learn More… to view additional options.
5. You can also access the content directly from this URL: https://docs.oracle.com/en/middleware/bi/analytics-server/visualize-data.html

Innovation Workbench

The IW application is bundled as a component of AI Foundation Cloud Services and is built using Oracle Application Express (APEX). The steps to locate this help content are summarized below.

1. Access the Innovation Workbench application using the /ords URL or using the link in the AI Foundation task menu.
2. On the Login page (before logging in) click the down arrow at the bottom of the screen.
3. Select one of the guides from the list, such as "Learn More".
4. You can also access the content directly from this URL: https://www.oracle.com/database/technologies/appdev/apex.html

Oracle Analytics User Interface

Oracle Analytics is the interface that provides the OLAP tools for Oracle Retail Insights. Oracle Analytics 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 Analytics through your Web browser. Oracle Analytics is the metadata built on top of the Retail Insights data model, and it can be used for executing and scheduling existing reports or creating ad hoc reports.

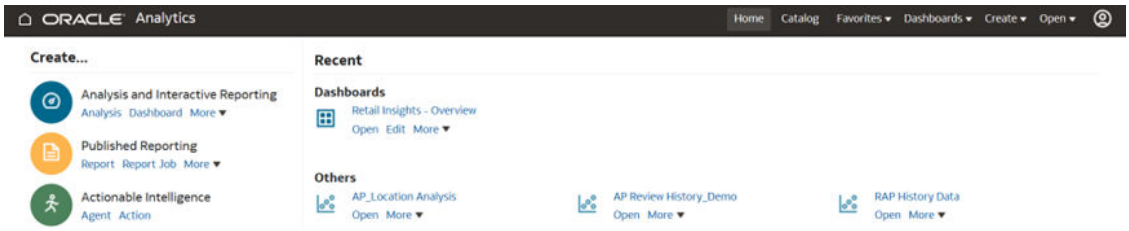
For information about creating reports with Oracle Analytics, the primary reference is the *Oracle Fusion Middleware User's Guide for Oracle Analytics Server*.

Oracle Analytics content can be developed in many ways for your enterprise. The illustrations in this guide show the default installation of Retail Insights 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 Analytics depend on how it is configured in your enterprise. Your system administrator can supply the information you need to access Oracle Analytics and Retail Insights.

The following image shows an example of the interface you use to create and modify reports.

Figure 1-5 Analtyics Interface



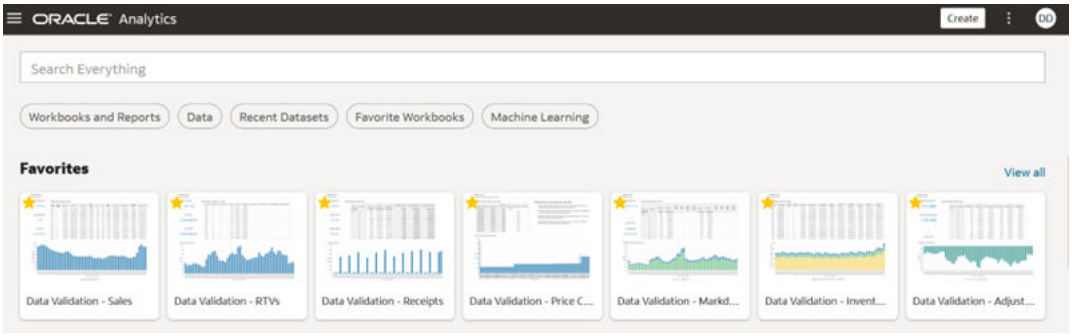
This interface, also known as Analytics Classic, is only available to Retail Insights customers. If you have any other subscription to a Retail Analytics & Planning (RAP) solution, but not RI, then you will not get this interface. Use the Oracle Analytics Classic interface for tasks such as the following:

- 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 Analytics 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.

Additionally, Oracle Analytics includes the Data Visualization (DV) application for data exploration, discovery, and visualization. The DV application is accessed from a different URL (/dv) in the same cloud instance of Oracle Analytics. All RAP customers, even those without an RI subscription, will be able to access DV and use all of its functionality.

Figure 1-6 Data Visualization Interface



Which component of Oracle Analytics you should use depends on the task you want to perform. The following examples provide guidance for selecting the best tool for your task:

Use the Data Visualization module when you want to:

- Explore data elements in search of a specific data-point or measure using drag-and-drop functionality
- Combine external datasets (such as MS Excel files) with internal Retail Insights data
- Create interactive graphs and charts for on-screen display
- Create applications intended for mobile use
- Create curated data flows to present a specific story or narrative

Use the Oracle Analytics Analysis and Dashboard modules when you want to:

- Perform complex analyses and calculations on Retail Insights data, which may include variables, advanced filtering, selection groups, master-detail events, or SQL clauses
- Create static dashboards with analyses and prompts which you do not want individual users to modify once published
- Create operational reports and extracts intended for delivery through Agents or Object Storage download
- Create reports with advanced conditional formatting or business-oriented page layouts intended for a specific look-and-feel

Data Visualization Known Issues

The following known issues exist in the OAS/DV versions deployed with Retail Insights:

- DV Filters on RI attributes spanning more than one dimension will not work with the default settings. On each filter, you must change the "Limit By" setting from "Auto" to "None", and then they will return values.
- DV Expression Filters cannot be used in combination with regular dimension filters at the page/canvas level, as there is no way to change the "Limit By" setting of an expression filter. Instead, add any expression filters directly to each DV object using the Filters side panel option.
- External datasets from files are limited to 250MB per dataset (this is a platform level restriction and cannot be changed).
- The "Explain" feature that analyzes attributes of datasets is not supported on RPD-based semantic layers (like the one RI uses). The workaround for this is to create a custom

Dataset generated from RI subject areas, and then use the Explain feature on the resulting project's attributes.

- RI attributes that require HTML formatting are not supported in DV (such as product and attribute images)
- DV projects cannot be delivered using Agents or exported directly to Email

Supported Languages

Oracle Analytics provides numerous language options for users; however, not all languages supported by Oracle Analytics are supported by Retail Insights. The following languages are fully supported for Retail Insights users (many others supported by Oracle Analytics have partial translations but are not updated regularly at this time):

- Arabic
- English
- French
- German
- Italian
- Polish
- Portuguese (Brazil)
- Spanish

Concurrent and Maximum Users

The Retail Insights primary subject area is set to a maximum of 200 connections on the connection pool, which limits the number of active queries at any one time. This is not the same as the number of concurrent users, since one user is able to run multiple reports and dashboards at the same time and each execution may use a separate connection from the pool. There is no separate limit on the number of users logged into the system, but you may notice performance degradation if the number of users in the system approaches the maximum number of connections. Users that attempt to run reports after the maximum connection count is reached may not be allowed to do so and would need to try again later. This limitation is a global setting and cannot be changed per-environment.

User-Based Data Filtering

Retail Insights supports automatic filtering of report results based on users and groups mapped to levels of the merchandise or organization hierarchy. For example, users may be assigned specific stores or districts for which they are responsible. When executing reports at this level of detail in RI, they will automatically be limited to results matching their assigned locations. The levels of the organization hierarchy that are supported with this functionality include Chain, Area, Region, District, or Store. Merchandise hierarchy includes division, group, department, class, and subclass (but not below that).The retailer is responsible for populating the user, group, and organizational mapping tables as part of the nightly file uploads to RI. Refer to the *Retail Insights Interfaces Guide* in My Oracle Support for more details on these interfaces.

Note that the data filtering is not applied to reports which are not at the specified level of the user/hierarchy mappings, as the identifiers would not be present on the tables used by such

queries. Additionally, users that are not present on the data filtering tables will not have any restrictions applied to query results.

More Information

For more information on creating custom reports, see the following:

- *Oracle Retail Insights Implementation Guide*
- *Oracle Fusion Middleware User's Guide for Oracle Analytics Server*
- *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Analytics Server*

2

Retail Insights for Applications

Overview

While Retail Insights is a standalone Oracle Retail product, parts of the application are also available to all customers having any Retail Analytics and Planning (RAP) solution. The following applications qualify as a RAP solution in this context:

- Merchandise Financial Planning (MFP)
- Assortment Planning (AP) and Space Optimization (ASO)
- Inventory Planning Optimization (IPO)
- Lifecycle Pricing Optimization (LPO)

Subscribing to one or more of these applications will give you the option to use the following components of RI:

- Access to a subset of metrics/attributes within the RI metadata (a.k.a. RPD), which will be controlled via OCI IAM groups
- Access to any pre-built Data Visualization workbooks which come with RI or any of the other RAP solutions
- The ability to create your own workbooks in DV using data stored in RI
- The ability to link your DV workbooks to Retail Home dashboards

If you get a full subscription to Retail Insights, then you would additionally have access to many more features:

- Reporting on customer and consumer data, including loyalty transactions, customer segments and attributes, and consumer profiles
- As-was historical reporting to show your transactional data against prior versions of your merchandise or location hierarchies before reclassifications were applied
- Flexible fact interfaces for loading external data that conforms to Retail Insights dimensions
- Merchandising data not directly related to other RAP applications, such as deals, stock ledger, stock counts, supplier compliance, and many other areas
- Analytics Classic user interface, which allows for creation of more traditional dashboards and formatted reports, scheduling of agents for delivery to email, and formatted Retail Home tile measures

Getting Started

Before you can begin using Retail Insights (RI) to build reports on your business data, there are certain prerequisites that must be completed. The table below summarizes the necessary steps to enable RI within your Retail Analytics and Planning (RAP) environment.

Prerequisite	Description
Aggregated Historical Data	RI uses pre-summarized data at various levels of aggregation such as department-store-week. These tables are typically left empty for a non-RI customer, so you will be expected to populate them with your historical data prior to using any RI reporting. If you have already loaded data into a RAP solution, then refer to the Aggregation Utility in the AIF Operations Guide for details on how to populate these additional data warehouse tables.
Nightly Batch Programs	There are many jobs within the AIF DATA batch schedule in POM that are specifically for RI usage. These jobs may currently be disabled in your environment and you will be expected to enable them before you can use any RI reporting functionality. It will be important to test these programs in your non-production environments first so you can understand their impact on your nightly batch timings and their behavior on your data.
User Setup	RI requires specific user groups be assigned from OCI IAM, as these groups determine what data and functionality the users will have access to. Unauthenticated users will not be able to run reports created with RI data or build reports of their own.
Planning Exports	If you are a planning customer, then you will want to integrate your approved plans or forecast from the planning solutions to RI, this may be disabled in your environment and needs configuration.
Metric Labels	RI supports custom labels for measures and attributes, which are configured using Retail Home. Most retailers want their users to see specific labels in reports.

Aggregated Historical Data

One of the key benefits of Retail Insights is the data warehouse tables which summarize your data at various levels such as department, store, and fiscal week. These tables allow reports which would normally need to consume huge amounts of data to instead return very quickly as the database already has the values you need pre-calculated. For most Retail Analytics and Planning (RAP) customers, these tables will initially be empty as they are not used by applications other than RI. To populate the RI aggregate tables with your existing data, an aggregation utility program has been provided that can take your base transactional data such as sales or inventory and calculate the higher level aggregations.

It is best to run these processes in a non-production environment first as they can take multiple days to execute and you will want to verify that the resulting tables have correctly summarized your data before performing the same steps in your production environment. If you have other ongoing projects for Oracle Retail applications, you may ask your implementation partner to perform these activities for you. For more details on the aggregation utility, refer to the AIF Operations Guide.

Nightly Batch Programs

Retail Insights requires many nightly batch programs to load all of the data tables used in reporting. All of the jobs relating to RI are part of the AIF DATA batch schedule in the Process Orchestration and Monitoring (POM) application. Some of these programs are used across all Retail Analytics and Planning (RAP) applications to load and maintain core foundation data elements, while others are used only for RI reporting. For example, the AIF DATA program for weekly inventory (W_RTL_INV_IT_LC_WK_A_JOB) will likely already be enabled in your RAP

environment, but the RI reporting table for subclass inventory (W_RTL_INV_SC_LC_WK_A_JOB) may be disabled. Before you can use RI for reporting, all such jobs in the AIF DATA schedule must be turned on for nightly processing.

Identifying which jobs you must enable in the nightly schedule will depend on the data you are providing as part of your nightly or weekly file uploads, or integrating from the Merchandising Foundation Cloud Services (MFCS). The jobs for RI are named based on the table they operate on, which are in turn named based on the data they contain. If you are providing sales transactions, then you would already be populating the table W_RTL_SLS_TRX_IT_LC_DY_F. For RI reporting, you will want to enable all other jobs in the AIF DATA schedule which contain the same abbreviation “RTL_SLS”. For inventory positions, you will enable jobs having “RTL_INV”, while for inventory receipts you will enable jobs having “RTL_INVRC”, and so on. Just like with the aggregation programs in the previous section, you will want to enable these jobs in your non-production environments first and test their behavior and performance on your dataset before enabling them in your production system.

User Setup

Accessing Retail Insights requires granting users multiple groups within Oracle Identity and Access Management (IAM). Specific to RI usage for the other applications in RAP, there are pre-defined user groups for each solution. These user groups will only have access to the data in RI that is relevant to their role, such as merchandise financial planning users having access to sales, inventory and receipts which are key inputs to the planning process. The table below summarizes the user groups for RI which are intended for use with the other RAP applications.

Group	Description
<tenant_ID>-MFPInsights_JOB	Grants access to data relevant to Merchandise Financial Planning users
<tenant_ID>-APInsights_JOB	Grants access to data relevant to Assortment Planning users
<tenant_ID>-LPOInsights_JOB	Grants access to data relevant to Lifecycle Pricing Optimization users
<tenant_ID>-IPOInsights_JOB	Grants access to data relevant to Inventory Planning Optimization users

As with all RI groups, these groups are prefixed with the tenant ID of the environment where they will be used (e.g. your stage environment might have a tenant ID of 234rnf348fndfgti and so all groups for that RI environment will start with that sequence of characters). In addition to these groups, your users will also need to be granted access to the Analytics application using a group like DVContentAuthor. For more details on user setup, refer to the Oracle Retail OCI IAM Startup Guide.

Planning Exports

For MFP, AP, and IPO-DF customers, your plan data is not automatically available within Retail Insights. The plan results may need to be configured for integration from the planning system to the data warehouse. This involves configurations both in the planning batch and the AIF DATA batch, database settings in RI to specify the plans to be used, and a one-time update to Oracle Analytics after the setup is done. Some of this work may already have been done in the data warehouse if you are using in-season forecasts in MFP or AP. Refer to the RI Implementation Guide chapter on Planning and Flex Fact Configurations as well as the implementation guides for all of your planning solutions for more details.

Metric Labels

Retail Insights measures can be assigned custom labels from Retail Home to display any value you would like to see in reports. Retailers usually want to see their own names for common values like Net Sales Units and Ending On-Hand Inventory, while also marking empty measures with a prefix or “do not use” label. Refer to the RAP Administration Guide chapter on Managing Label Customization for more details.

Once you have modified any labels, there are two steps to applying them:

1. The batch job W_LOCALIZED_STRING_G_JOB must be enabled in your nightly AIF DATA batch and must run for one night to pull across your changes from Retail Home to RI. You may verify your updated labels in the W_LOCALIZED_STRING_G table in APEX after batch runs.
2. You will need to raise an SR with Oracle Support requesting that the Oracle Analytics server be restarted to apply your Retail Insights label customizations. Currently label changes are only applied during install, upgrades, or server restarts.

Reporting for Merchandise Financial Planning

A user of Merchandise Financial Planning (MFP) that wants to report on their data in RI will have access to two broad categories of data: historical data that is used as input to the planning process, and financial plans that are output from MFP at the end of the planning process. Historical data will include things such as sales, inventory, and receipts. The plan results will include the merchandise plans, financial targets, and location plans (if used). You may combine data from both categories to compare them side by side, such as a report that shows this year’s sales versus last year and plan.

MFP users will have access to the following list of dimensions in RI:

Folder Name	Purpose
Business Calendar	Report using your primary financial calendar, such as the fiscal week.
Gregorian Calendar	Report using Gregorian calendar attributes such as the month.
Item As-Is	Report on your items and merchandise hierarchy, such as department.
Organization As Is	Report on your locations and organization hierarchy, such as region.
From Organization As Is	Report on the source locations linked with transfer activity, instead of the receiving location.
Retail Transaction Code	Report on certain transactions like adjustments and receipts based on their transaction code.
Retail Type	Report on sales by type, such as regular versus promotion.
Time of Day	Report on sales transactions by the time of day, if times are provided in the data.
Purchase Order	Report on purchase orders using attributes like Not Before Date and OTB EOW Date.

Within these folders, some attributes may not have any data as it will depend on what you are providing into the system. For example, the item dimension includes user-defined attributes

(UDAs) that most MFP customers do not use. Some of these folders may not be usable at all for your data, such as the Time of Day dimension when you are only loading weekly sales totals. When you begin using RI reporting, it will be important to determine what data you have available in the data warehouse and supplement that as needed if you require more data to build your reports.

MFP users will also have access to the following list of facts in RI:

Folder Name	Purpose
Intercompany Margin	Report on the margin generated by intercompany transactions (not used in GA solution).
Inventory Adjustment	Report on inventory adjustment transactions such as damaged or wasted goods.
Inventory Position	Report on your inventory positions such as on-hand and in-transit stock units.
Inventory Receipts	Report on inventory receipt transactions such as PO receipts and transfer receipts.
Inventory Reclass	Report on the financial effects of merchandise reclassifications (not used in GA solution).
Inventory Transfer	Report on inventory transfers moving stock between owned locations.
Markdown	Report on the financial effects of price changes such as markdowns.
Purchase On Order	Report on open purchase orders placed with suppliers.
Retailer To Franchise	Report on franchise related activity like franchise sales or markdowns.
Return To Vendor	Report on inventory returned to the vendor (RTVs).
Sales	Report on your sales and return transactions.
Sales Pack	Report on sales of pack items, spread down to be shown on the component items in the pack.
Plan1	Report on the primary merchandise plan from MFP.
Plan2	Report on the merchandise targets from MFP.
Plan3	Report on the location plan from MFP.
Plan4	Report on the location targets from MFP.

Just like with the dimensions, some of these areas may not have any data for you to report on. You might not use RTVs as part of your financial plan, or you may not have any franchise stores. Some sales measures such as manual markup counts or item scan counts will not have data if you only provided what is required for MFP. You will need to do a thorough review of your input data and determine the measures you can use in reporting. For the Plan1 through Plan4 facts, these are the MFP plan outputs which require additional integration batch jobs to be running before they will be available to report on.

Reporting for Assortment Planning

A user of Assortment Planning (AP) that wants to report on their data in RI will have access to two broad categories of data: historical data that is used as input to the planning process, and the item plan that is output from AP at the end of the planning process. Historical data will include things such as sales, inventory, and receipts. The plan results will include the sku-

store-week item plan measures. You may combine data from both categories to compare them side by side, such as a report that shows this year's sales versus last year and plan.

AP users will have access to the following list of dimensions in RI:

Folder Name	Purpose
Business Calendar	Report using your primary financial calendar, such as the fiscal week.
Gregorian Calendar	Report using Gregorian calendar attributes such as the month.
Item As-Is	Report on your items and merchandise hierarchy, such as department.
Organization As Is	Report on your locations and organization hierarchy, such as region.
Clusters As Is	Report on your data by store cluster, if using clusters from AIF.
Retail Transaction Code	Report on certain transactions like adjustments and receipts based on their transaction code.
Retail Type	Report on sales by type, such as regular versus promotion.
Time of Day	Report on sales transactions by the time of day, if times are provided in the data.
Purchase Order	Report on purchase orders using attributes like Not Before Date and OTB EOW Date.

Within these folders, some attributes may not have any data as it will depend on what you are providing into the system. For example, the item dimension includes item supplier attributes that most AP customers do not use. Some of these folders may not be usable at all for your data, such as the Time of Day dimension when you are only loading weekly sales totals. When you begin using RI reporting, it will be important to determine what data you have available in the data warehouse and supplement that as needed if you require more data to build your reports.

AP users will also have access to the following list of facts in RI:

Folder Name	Purpose
Intercompany Margin	Report on the margin generated by intercompany transactions (not used in GA solution).
Inventory Adjustment	Report on inventory adjustment transactions such as damaged or wasted goods.
Inventory Position	Report on your inventory positions such as on-hand and in-transit stock units.
Inventory Receipts	Report on inventory receipt transactions such as PO receipts and transfer receipts.
Inventory Transfer	Report on inventory transfers moving stock between owned locations.
Purchase On Order	Report on open purchase orders placed with suppliers.
Sales	Report on your sales and return transactions.
Sales Pack	Report on sales of pack items, spread down to be shown on the component items in the pack.
Plan5	Report on the item plan from AP.

Just like with the dimensions, some of these areas may not have any data for you to report on. You might not use transfers as part of your item plan, or you may not have any pack sales.

Some sales measures such as manual markup counts or item scan counts will not have data if you only provided what is required for AP. You will need to do a thorough review of your input data and determine the measures you can use in reporting. For the Plan5 fact, this is the AP plan output which requires additional integration batch jobs to be running before it will be available to report on.

In addition to the data available in the data warehouse, you may also report on certain outputs from AI Foundation. The AIF data used within AP that will also be available in RI is the size profile ratios and related measures. The size profile data will be available in the following folders:

Folder Name	Purpose
Size Profile Results	Report on the size profile percents generated by AI Foundation.
Size Profile Attr Results	Report on size profile results pre-aggregated by attribute.
Size Profile Data Errors	Report on data errors found in the size profile runs.

The size profile results are available at the lowest levels of sku-store, however the attribute based results are only usable by location as they are pre-summarized on specific attribute values (which are include as an attribute in the folder). The data errors folder is a standalone reporting area to expose validation errors around multiple diff groups within a style.

Reporting for Lifecycle Pricing Optimization

A user of Lifecycle Pricing Optimization (LPO) that wants to report on their data in RI will have access to two broad categories of data: historical data that is used as input to the optimization process, and the price recommendations and metrics that arwe output from LPO at the end of the optimization process. Historical data will include things such as sales, inventory, and receipts. The optimization results include the style-color/price zone/week (or other level) price recommendations, inventory and price input measures that feed into those results, and any validation errors that occurred as part of the optimization runs. At this time, the two datasets are largely separate as they do not share a common set of dimensions (historical data is at sku/store/date while the LPO results are only at style-color/price zone/week). The data may exist in the same DV workbook if needed, but as separate tables and graphs, they cannot be viewed side by side in the same table.

Historical Data Usage

LPO users will have access to the following list of dimensions in RI which may be used specifically with the historical fact data like sales and inventory:

Folder Name	Purpose
Business Calendar	Report using your primary financial calendar, such as the fiscal week.
Gregorian Calendar	Report using Gregorian calendar attributes such as the month.
Item As-Is	Report on your items and merchandise hierarchy, such as department.
Organization As Is	Report on your locations and organization hierarchy, such as region.
Clusters As Is	Report on your historical data aggregated up to the price zone or store cluster level.

Folder Name	Purpose
Clearances	Report on historical and upcoming clearance markdowns, which will be displayed in the LPO user interface after optimization.
Promotion	Report on historical and ongoing promotions linked with sales transaction activity.
Retail Transaction Code	Report on certain transactions like adjustments and receipts based on their transaction code.
Retail Type	Report on sales by type, such as regular versus promotion.
Time of Day	Report on sales transactions by the time of day, if times are provided in the data.

Within these folders, some attributes may not have any data as it will depend on what you are providing into the system. For example, the item dimension includes user-defined attributes (UDAs) that you may or may not provide. Some of these folders may not be usable at all for your data, such as the Time of Day dimension if you are only loading weekly sales totals. When you begin using RI reporting, it will be important to determine what data you have available in the data warehouse and supplement that as needed if you require more data to build your reports.

LPO users will also have access to the following list of historical facts in RI:

Folder Name	Purpose
Inventory Position	Report on your inventory positions such as on-hand and in-transit stock units.
Inventory Receipts	Report on inventory receipt transactions such as PO receipts and transfer receipts.
Pricing	Report on historical and current item/location prices.
Sales	Report on your sales and return transactions.
Sales Pack	Report on sales of pack items, spread down to be shown on the component items in the pack.
Sales Promotion	Report on sales with one or more promotions and offers applied to the transactions, at the individual promo/offer level of detail. Use in combination with the Promotion dimension.

Just like with the dimensions, some of these areas may not have any data for you to report on. You might not be able to use Sales Promotion measures if you don’t provide sales transactions with promotion identifiers on the transaction lines. Some sales measures such as manual markup counts or item scan counts will not have data if you only provided what is required for LPO. You will need to do a thorough review of your input data and determine the measures you can use in reporting.

LPO Results Data Usage

LPO users will have access to the following list of dimensions in RI specifically for the purpose of reporting on LPO recommendations and related measures. Only these dimensions can be used with LPO data, other dimensions will not return results.

Folder Name	Purpose
Business Calendar	Report using your primary financial calendar, such as the fiscal week. LPO results will only exist at Fiscal Week or above levels. Most LPO data will always be for the current business week only or for the weeks following that (depending on the timeframe of your recommendations).
Clusters As Is	Report on your LPO recommendations at the price zone level.
Price Optimization Product	Report on your LPO recommendations using the LPO product hierarchy, which starts from the recommendation level (style/color or style for example) and can go up to higher levels like department and division.
Regular Price Optimization Product	Report on your LPO regular price recommendations using the LPO reg price product hierarchy, which starts from the recommendation level (sku or style for example) and can go up to higher levels like department and division. The regular and markdown hierarchies are different due to differing base intersections for the results.
Price Optimization Run	Report on your LPO recommendations using the LPO run details such as the Run Name and ID, which can be useful when focusing on a specific run in the LPO user interface that you need to review for issues.

LPO users will also have access to the following list of recommendation results and measures in RI. These must be used only with the previously listed dimensions or as standalone measures (where noted).

Folder Name	Purpose
Price Optimization Actuals	Report on various inputs to the LPO optimization process such as calculated sales measures at the same level as your recommendations (e.g. style-color/price zone/week).
Price Optimization Inventory	Report on stock on-hand data used by the LPO optimization process such as calculated inventory measures at the same level as your recommendations (e.g. style-color/price zone/week).
Price Optimization Price Cost	Report on price and cost data used by the LPO optimization process such as regular and markdown prices at the same level as your recommendations (e.g. style-color/price zone/week).
Price Optimization Recommendations	Report on the price recommendations and associated output measures from the LPO optimization process at your chosen recommendation level (e.g. style-color/price zone/week).
Price Optimization Run Metrics	Report on any other measures associated with individual LPO optimization runs, such as your custom flex attributes data and secondary derived metrics.
Price Optimization Run Alerts	Standalone reporting area for displaying any run alerts and validation errors that occurred during LPO processing.
Price Optimization Run Exports	Standalone reporting area for displaying any export failures or warnings when sending LPO data to Pricing Cloud Service (PCS).
Regular Price Optimization Recommendations	Report on the price recommendations and associated output measures from the LPO regular price optimization process at your chosen recommendation level (e.g. sku/price zone/week).
Regular Price Optimization Run Metrics	Report on any other measures associated with individual LPO regular price optimization runs, such as your custom flex attributes data and secondary derived metrics.

Folder Name	Purpose
Regular Price Optimization Inventory	Report on stock on-hand data used by the LPO regular price optimization process such as calculated inventory measures at the same level as your recommendations (e.g. sku/price zone/week).
Regular Price Optimization Price Cost	Report on price and cost data used by the LPO regular price optimization process such as current regular prices at the same level as your recommendations (e.g. sku/price zone/week).

Reporting for Inventory Planning Optimization

A user of Inventory Planning Optimization (IPO) that wants to report on their data in RI will have access to historical data that is used as input to the planning and optimization processes plus the sku/store/week forecasts that are output from AI Foundation and Demand Forecasting. Historical data will include things such as sales, inventory, and receipts. The forecasts will include the sku/store/week base demand generated by AI Foundation as well as the final approved sku/store/week forecast which is tagged for export to RI. You may combine data from both categories to compare them side by side, such as a report that shows this year's sales versus last year and forecast.

IPO users will have access to the following list of dimensions in RI:

Folder Name	Purpose
Business Calendar	Report using your primary financial calendar, such as the fiscal week.
Gregorian Calendar	Report using Gregorian calendar attributes such as the month.
Item As-Is	Report on your items and merchandise hierarchy, such as department.
Organization As Is	Report on your locations and organization hierarchy, such as region.
Product Org Attributes	Report on the item/location replenishment attributes which are being fed into the system from an external source such as Merchandise Foundation Cloud Services (MFCS), such as the replenishment method and last review date.
Retail Transaction Code	Report on certain transactions like adjustments and receipts based on their transaction code.
Retail Type	Report on sales by type, such as regular versus promotion.
Time of Day	Report on sales transactions by the time of day, if times are provided in the data.
Season Phase Planning	Report on historical data aggregated to a season/phase level. IPO Inventory Optimization allows the use of seasons as a way to define time periods for the optimization and you may also use them to report on historical data like sales and inventory.
Supplier	Report on your suppliers and their attributes, such as the supplier lead time and supplier item codes, along with transaction data such as sales and inventory.
Allocation	Report on allocations generated by an upstream system such as Merchandise Foundation Cloud Services (MFCS). To be used only with the Allocation Detail fact.
Promotion	Report on historical and ongoing promotions linked with sales transaction activity. To be used only with the Sales Promotion fact.

Folder Name	Purpose
Purchase Order	Report on purchase order details using attributes like Not Before Date and OTB EOW Date. To be used only with the Purchase On Order fact.
Shipment	Report on shipments generated by an upstream system such as Merchandise Foundation Cloud Services (MFCS). To be used only with the Shipment Detail fact.
Transfer Status	Report on transfers generated by an upstream system such as Merchandise Foundation Cloud Services (MFCS). To be used only with the Transfer Status Detail fact.

Within these folders, some attributes may not have any data as it will depend on what you are providing into the system. For example, the item dimension includes user-defined attributes (UDAs) that IPO customers may or may not use. Some of these folders may not be usable at all for your data, such as the Time of Day dimension if you are only loading daily sales totals. When you begin using RI reporting, it will be important to determine what data you have available in the data warehouse and supplement that as needed if you require more data to build your reports.

IPO users will also have access to the following list of facts in RI:

Folder Name	Purpose
Inventory Position	Report on your inventory positions such as on-hand and in-transit stock units.
Inventory Receipts	Report on inventory receipt transactions such as PO receipts and transfer receipts.
Inventory Unavailable	Report on the unsellable inventory on-hand data for stock marked unavailable at a location.
Allocation Detail	Report on allocation line item details for allocations generated by an upstream system such as Merchandise Foundation Cloud Services (MFCS).
Shipment Detail	Report on shipment line item details for shipments generated by an upstream system such as Merchandise Foundation Cloud Services (MFCS).
Purchase On Order	Report on purchase order line item details for POs generated by an upstream system such as Merchandise Foundation Cloud Services (MFCS).
Transfer Status Detail	Report on transfer line item details for transfers generated by an upstream system such as Merchandise Foundation Cloud Services (MFCS).
Pricing	Report on historical and current item/location prices.
Sales	Report on your sales and return transactions.
Sales Pack	Report on sales of pack items, spread down to be shown on the component items in the pack.
Sales Promotion	Report on sales with one or more promotions and offers applied to the transactions, at the individual promo/offer level of detail. Use in combination with the Promotion dimension.
Plan Forecast 1	Report on the base demand forecast generated by AI Foundation and sent to Demand Forecasting (DF).
Plan Forecast 2	Report on the final approved forecast tagged in AI Foundation as being used in the export to RI.

Just like with the dimensions, some of these areas may not have any data for you to report on. You might not use allocations as part of your optimizations, or you may not have any promotional sales. Some sales measures such as manual markup counts or item scan counts will not have data if you only provided what is required for IPO. You will need to do a thorough review of your input data and determine the measures you can use in reporting. For the Plan Forecast facts, these are AIF and DF outputs which require additional integration batch jobs to be running before they will be available to report on.

3

Predefined Retail Insights Reports

Retail Home Dashboards

Retail Insights provides a set of pre-built sample tiles and dashboard layouts for Retail Home in order to get a new user started with RI/Retail Home integration. The sample tiles include tile states, filters, layouts, and embedded DV content for a variety of common reporting areas such as sales, inventory, and purchase orders. To import this content into your Retail Home environment, you must go to the Application Navigator Setup, select the RI application row in the table, and click Refresh Seed Data. The application name in the table must be “Retail Insights” as the seed data is linked to that name only. If the application name was changed, then the import process will fail.

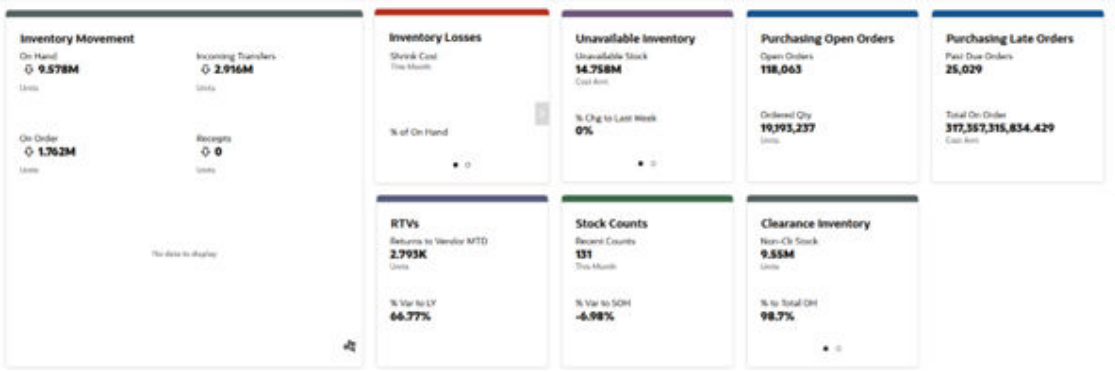
Table 3-1 Retail Home Dashboards

Dashboard Role	Summary
INVENTORY_ANALYST_JOB	Dashboard for a user group that primarily cares about inventory levels and movement of stock.
IT_BUSINESS_ANALYST_JOB	Dashboard for a user group that wants a broad overview of the current state of their business so they can drill in to focus on different areas needing analysis.
LOYALTY_MANAGER_JOB	Dashboard for a user group focused on customer activity, such as loyalty programs and promotions.
PRICING_ANALYST_JOB	Dashboard for a user group that cares mainly about the retail value of goods sold relative to costs across the different price points like promotions and clearances.

Inventory Analyst Dashboard

This dashboard highlights some key reporting areas that may be of interest to an inventory analyst user group. It displays data from Retail Insights in the areas of: inventory on-hand and on-order, inventory comparisons to plan, returns to vendor, recent stock count adjustments, and unavailable inventory levels. The Inventory Movement tile expands to a DV project which provides deeper analysis of inventory levels and movement.

Figure 3-1 Inventory Analyst Dashboard

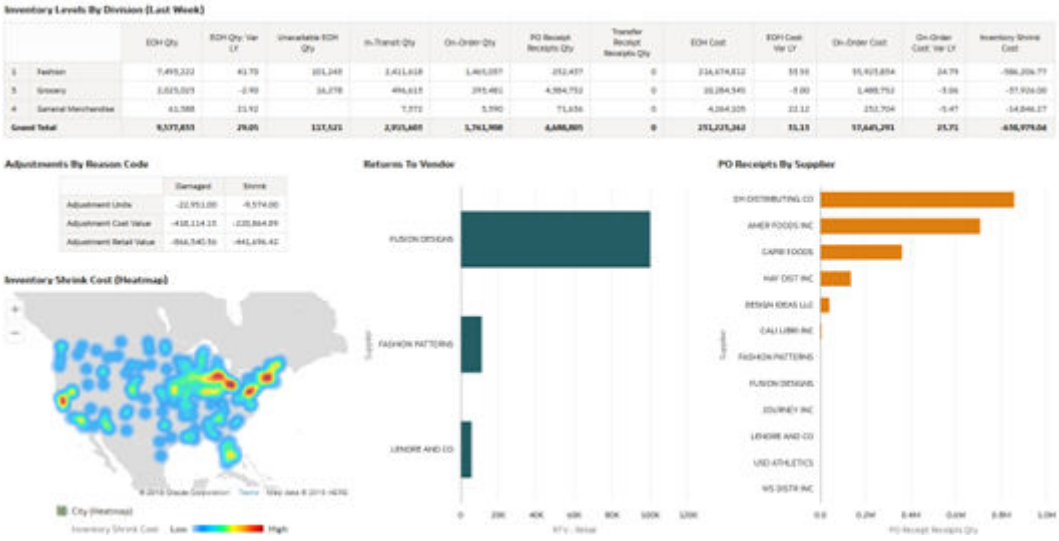


This dashboard includes links to the following DV workbooks which allows users to drill into more details on their business data:

- Inventory Analysis

The Inventory Analysis dashboard shows more details around the retailer's current stock on hand and inventory movement transactions such as receipts and adjustments, giving you visibility into your stock levels and movement year over year.

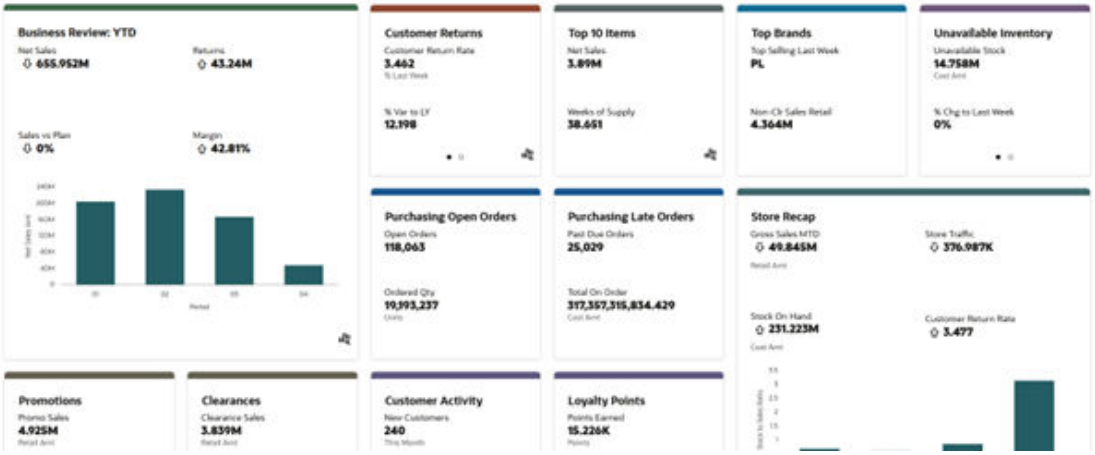
Figure 3-2 Inventory Analysis Dashboard



IT Business Analyst Dashboard

This dashboard provides an overview of many different reporting areas in Retail Insights, with the goal of giving a business analyst a quick snapshot of the current state of the business. Using the many different tiles on sales, inventory, POs, and other areas, the analysis can click through to additional reports to dig into problem areas as needed. The Business Review tile expands to a DV project that reports on sales performance across the business, while the Store Recap tile expands to a more store-centric view of sales.

Figure 3-3 IT Business Analyst Dashboard



This dashboard includes links to the following DV workbooks which allows users to drill into more details on their business data:

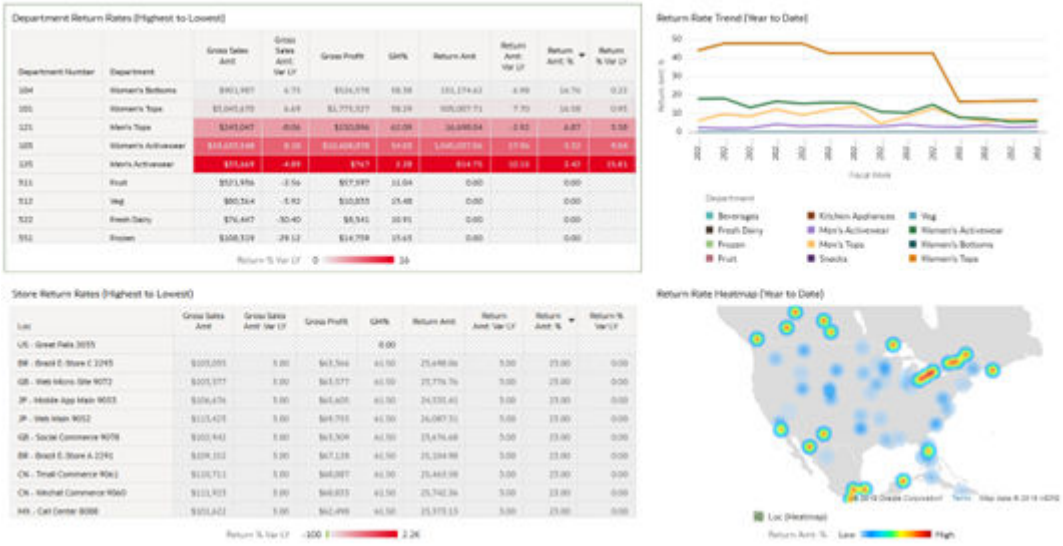
- Category Performance
- Returns Analysis
- Top Bottom 10
- Active Promotions
- Stores Overview

The Category Performance dashboard shows various sales metrics to help you understand which departments are performing well compared to last year across standard measures such as revenue and profit margin.

Figure 3-4 Category Performance Dashboard

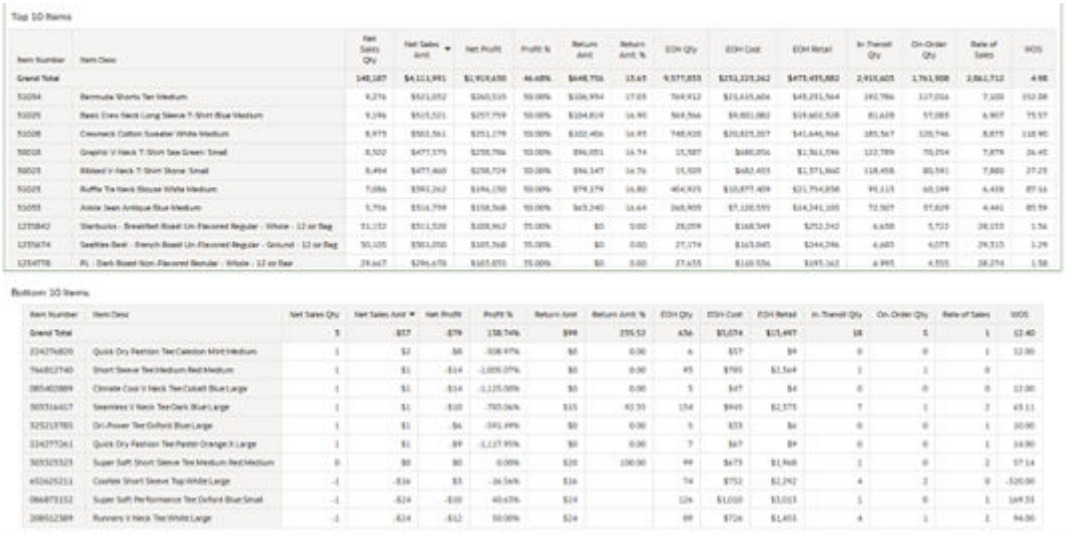
The Returns Analysis dashboard shows return transaction metrics to identify which locations and categories are getting the most returned items from customers.

Figure 3-5 Returns Analysis Dashboard



The Top Bottom 10 dashboard shows your best and worst performing items for last week along with their sales and inventory measures.

Figure 3-6 Top Bottom 10 Dashboard



The Active Promotions dashboard shows all of your ongoing promotions and the associated sales transactions that had the promotions applied to them.

Figure 3-7 Active Promotions Dashboard

The Stores Overview dashboard provides store-level performance indicators such as store traffic and transaction counts and can be filtered to a specific location to see how that store is performing over a period of time. Additional tabs in the dashboard provide views into a location's sales and inventory data.

Figure 3-8 Stores Overview Dashboard

Loyalty Manager Dashboard

This dashboard provides a customer-centric view of data in Retail Insights for a user group that is interested in customer activity like loyalty point usage and promotion redemption. KPIs like New Customer counts and Capture Rate may be an important part of the retailer's strategy when it comes to attracting and retaining customers. Like the other dashboards, this view also

includes the sales performance tile so all user groups have a common frame of reference for how the business is performing.

Figure 3-9 Loyalty Manager Dashboard

This dashboard includes links to the following DV workbooks which allows users to drill into more details on their business data:

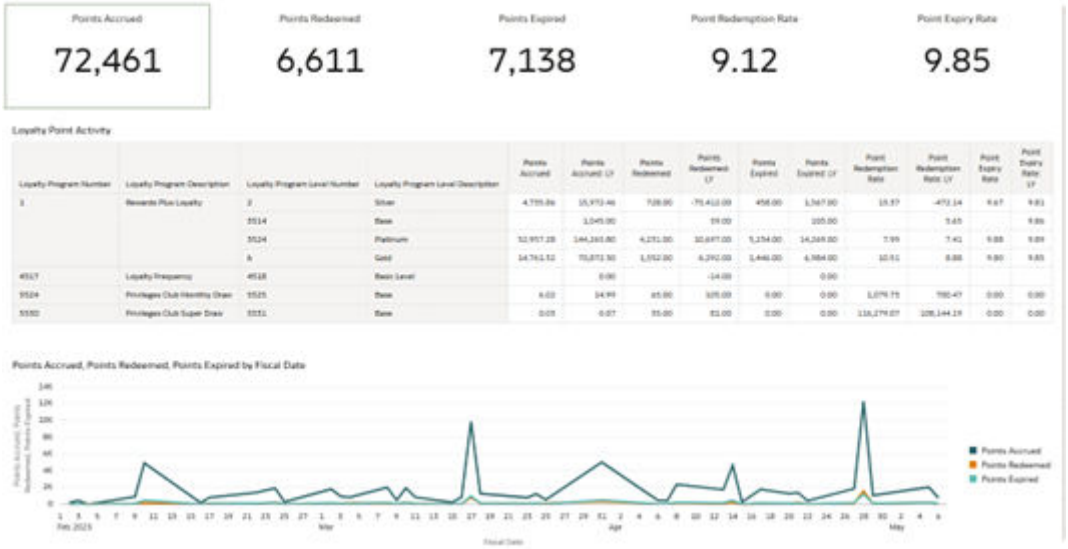
- Category Performance
- Loyalty Points Analysis
- Active Promotions
- New Customers
- Top 100 Customers
- Loyalty Top Stores
- Weekly Trends Online
- Customer KPIs

The Category Performance dashboard shows high-level sales metrics to help you understand which departments are performing well compared to last year across standard measures such as revenue and profit margin.

Figure 3-10 Category Performance Dashboard

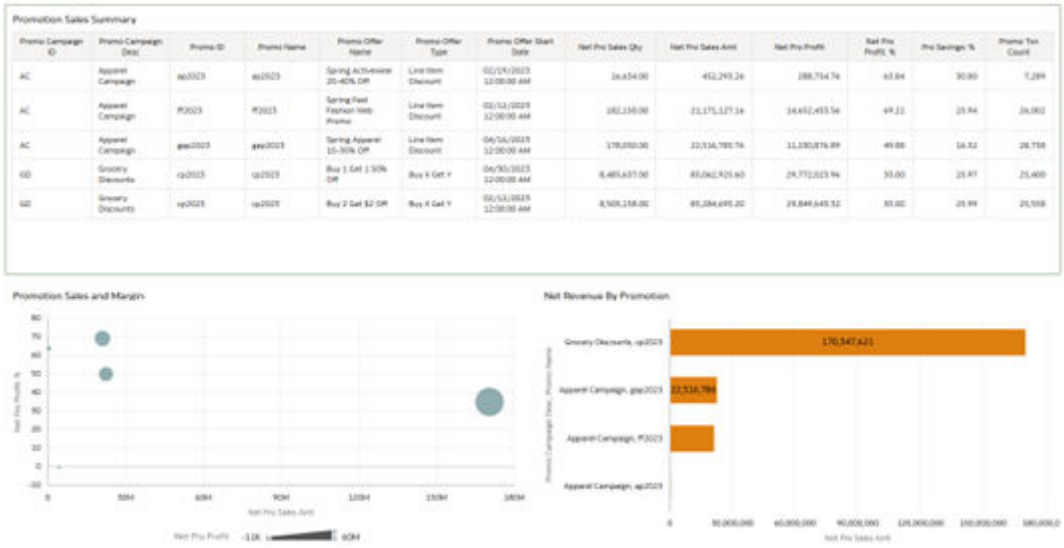
The Loyalty Points Analysis dashboard shows return transaction metrics to identify which locations and categories are getting the most returned items from customers.

Figure 3-11 Loyalty Points Dashboard



The Active Promotions dashboard shows all of your ongoing promotions and the associated sales transactions that had the promotions applied to them.

Figure 3-12 Active Promotions Dashboard

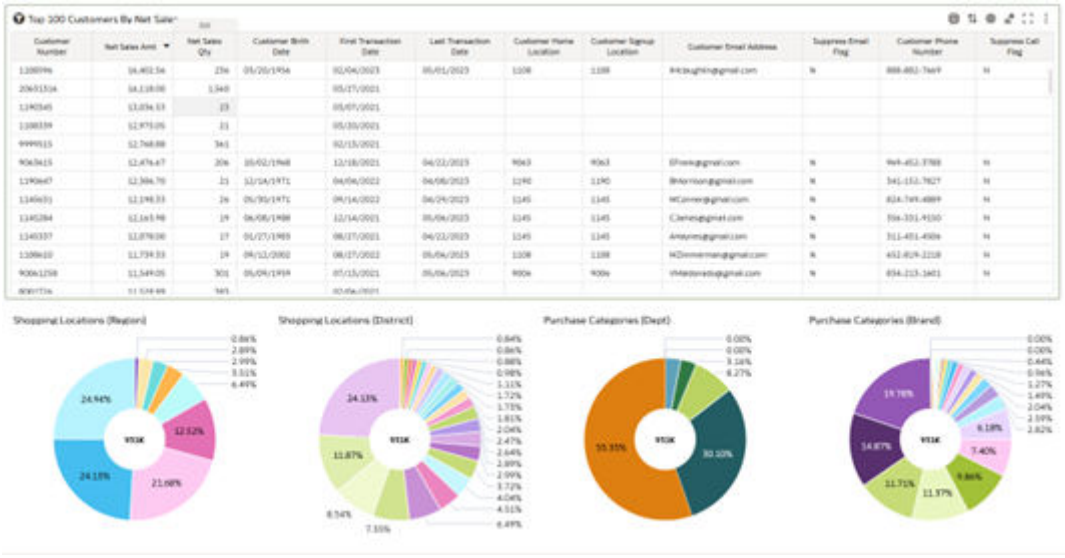


The New Customers dashboard shows customers that purchased from you for the first time along with any information you have on those customer transactions such as what they are buying and where they are shopping.

Figure 3-13 New Customers Dashboard

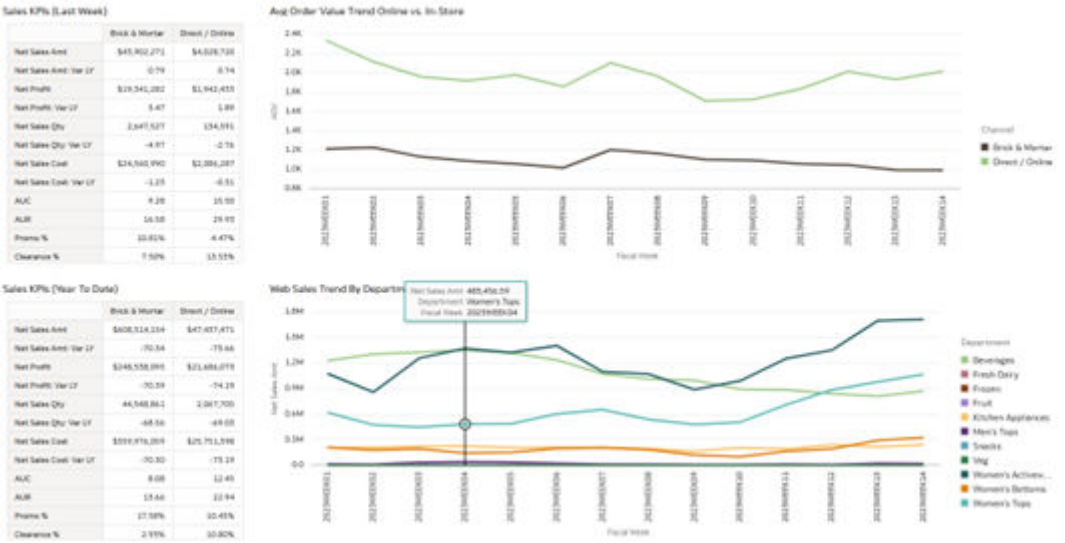
The Top 100 Customers dashboard shows your best customers based on total sales along with metrics to identify their preferred products and locations.

Figure 3-14 Top 100 Customers Dashboard



The Loyalty Top Stores dashboard shows how your stores are performing based on loyalty point program activity such as points accrued by customers at those stores.

Figure 3-15 Loyalty Top Stores Dashboard



The Weekly Trends Online dashboard shows a comparison of sales metrics between channels with a focus on web stores versus brick & mortar stores.

Figure 3-16 Weekly Trends Online Dashboard

Pricing Analyst Dashboard

This dashboard includes metrics on the retail price of goods across different price points, which is important for pricing analysts to understand as they plan for future pricing strategies and set price points for promotional and clearance activities. Analysts may want to see promotional pricing KPIs such as the average discount percent customers are getting, or the ratio of promotional sales to total sales, when determining future promotion pricing. They can see how much clearance inventory they currently have on hand, which is useful for deciding when to apply deeper markdowns to clear out more stock.

Figure 3-17 Pricing Analyst Dashboard

This dashboard includes links to the following DV workbooks which allows users to drill into more details on their business data:

- Category Performance
- Active Promotions

The Category Performance dashboard shows high-level sales metrics to help you understand which departments are performing well compared to last year across standard measures such as revenue and profit margin.

Figure 3-18 Category Performance Dashboard

The Active Promotions dashboard shows all of your ongoing promotions and the associated sales transactions that had the promotions applied to them.

Figure 3-19 Active Promotions Dashboard

Retail Home Templates

RI includes several catalog objects intended to support integration with Retail Home. These objects can be located in the **Shared Folders > Retail Home** folder in the catalog. Only full RI

subscribers may use the dashboard tile templates and filter objects as they require use of Analytics Classic. All customers of any RAP solution may use the DV workbooks for any purpose, if the workbook includes metrics available to your RAP solution (for example, the Category Performance DV workbook uses sales and inventory measures which are available to all RAP customers).

The sample objects include:

- Dashboard Tiles – these analyses are provided to demonstrate the various BI tile formats used in Retail Home, and they also feed into the sample dashboard layouts.
- Filters – these pre-defined filter objects can be added to RI analyses that are going to be linked to Retail Home tiles. Setting up filters for RH tiles requires that the RI analysis have an associated filter on it, otherwise the analysis will not refresh when filter values are changed.
- LOVs – these pre-defined filter datasources are provided to enable Retail Home filtering on many different dimensions in RI. You have to specify a datasource in Retail Home filters for it to populate the list-of-values. The LOV in RH and the filter on the RI analysis must have matching values.
- Projects – these DV workbooks are used in the sample Retail Home dashboards, but you are free to copy and repurpose them for your own dashboards and reporting, both in Retail Home and elsewhere.

For more information on creating RI analyses for Retail Home, refer to the Custom Tile State Reports Configuration chapter of the *Oracle Retail Home Administration Guide*.

4

Creating and Modifying Reports

Getting Started with Oracle Analytics

> **Note:**
>
> If you have a full Retail Insights subscription, then you will have access to the Analytics Classic portion of the user interface, which uses a URL ending in “analytics”. If you do not have an RI subscription but you are using one or more other Retail Analytics & Planning (RAP) applications, then you will have access only to Data Visualization (DV). Within each section of this chapter, it will be noted if the content refers only to Analytics or DV.

Retail Insights uses the Oracle Analytics Server (OAS) platform as its user interface. Learning about the core features and functionality of this interface is a necessary first step in accessing your data and building analyses and dashboards. OAS is split into two modules, Analytics Classic and DV. Analytics Classic uses the concepts of analyses and dashboards to display your data, while DV uses workbooks which are a combination of both types of objects in one modern interface.

An analysis is a query against your organization's data that provides you with answers to business questions. Analyses enable you to explore and interact with information visually in tables, graphs, pivot tables, and other data views. You can also save, organize, and share the results of analyses with others. Users of Retail Insights can be granted the ability to view existing analyses or create new ones, depending on your permission levels.

Once an analysis is created and saved, it can be added to dashboards. Dashboards can include multiple analyses to give you a complete and consistent view of your company's information across all departments and operational data sources. Dashboards provide you with personalized views of information in the form of one or more pages, with each page identified with a tab at the top. Dashboard pages display anything that you have access to or that you can open with a web browser including analyses results, images, text, links to websites and documents, and embedded content such as web pages or documents.

To learn more about creating and viewing analyses in Oracle Analytics, start here:

https://docs.oracle.com/en/middleware/bi/analytics-server/user-oas/create-analyses.html

Within DV, use workbooks to access your data, build reports, design multi-page dashboards, and visualize the results using graphs. Workbooks combine the concepts of analyses (which are singular tables or graphs on one dataset) and dashboards (which include many different views and filters).

To learn more about creating workbooks in DV, start here:

https://docs.oracle.com/en/middleware/bi/analytics-server/user-oas/visualize-and-analyze-data.html

Analysis Methods

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

- Retail As-Is
- Retail As-Was

A single instance of Retail Insights offers as-is and as-was 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 subject areas, they are modeled differently in the Oracle Analytics repository. For example, Item or Subclass or Class might appear similar in all subject areas, but their sources and join conditions are different to support the appropriate method of reporting.

As-Was reporting is only available to Retail Insights subscribers. As-Is reporting should be used for all other Retail Analytics & Planning (RAP) applications.

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 Dimensions and Attributes 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.

Support for Multiple Currencies

Oracle Retail Insights 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:

Table 4-1 Currency Mapping

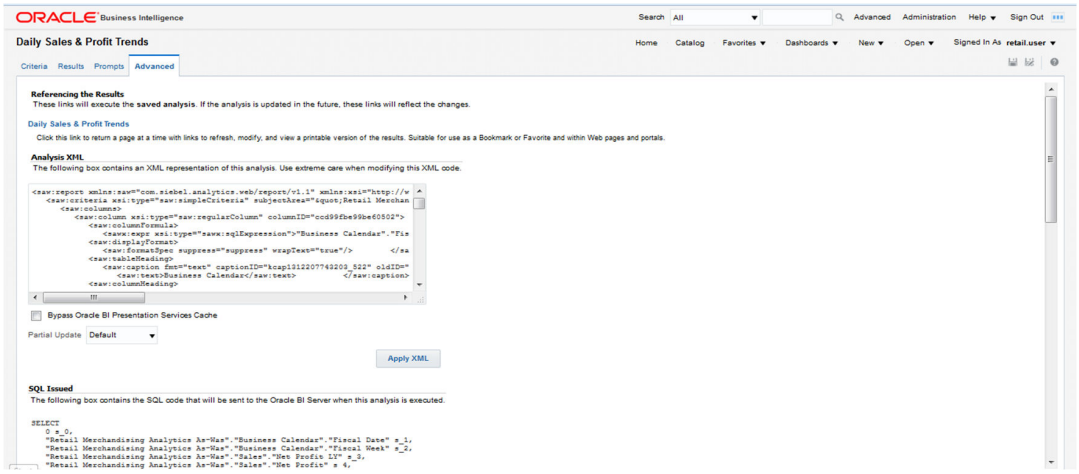
Currency Mapping	Currency
Document Currency	EURO
Local Currency	GBP
Global 1 Currency	USD
Global 2 Currency	CAD
Global 3 Currency	AUD

By default, all data in Retail Insights will be displayed in your Primary (Local) Currency, such as USD for customers in the United States. The data warehouse nightly batch processes convert document and other currencies into the primary currency and store those values in additional tables and columns.

You have the ability to change individual reports to display in a different currency by using prefix variables. The approach will be different based on whether you use Analytics Classic analyses or DV workbooks.

To use this functionality in an analysis, follow these steps:

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



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

```
SET VARIABLE PREFERRED_CURRENCY = 'Document Currency';
```

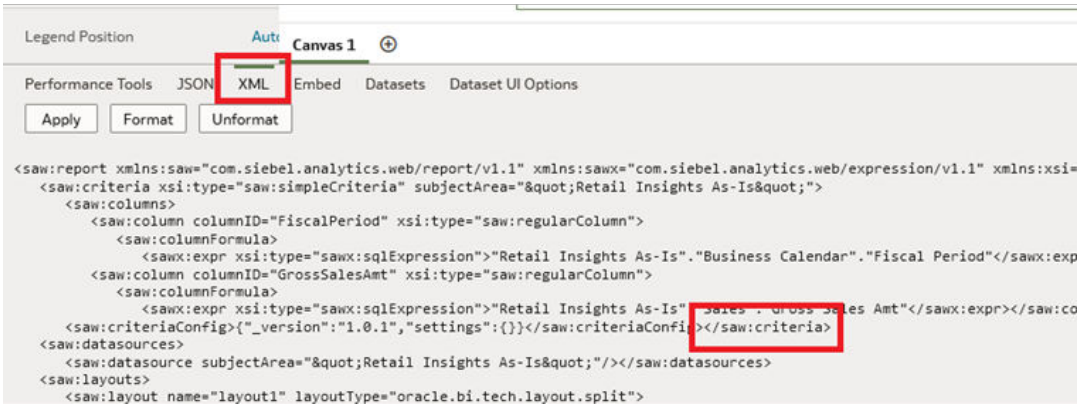
4. At the top, for testing only, you may select the check box **Bypass Oracle BI Presentation Services Cache**. This is needed initially to force the server to re-query the database after changing a variable value, but should not be used after testing is done.

5. At the bottom, click **Apply SQL**.
6. Save the report. The results should now display currency values in the specified currency type when the report is executed.

To use this functionality in a DV workbook, follow these steps:

1. Create your DV workbook with the required amount/currency metrics.
2. Open the Developer menu for the workbook from the main (…) menu in the upper right corner of the report.
3. Click on the XML tab and locate the portion of the XML ending with </saw:criteria>

Figure 4-1 DV Workbook XML Tab



4. Just before the ending criteria tag, insert the following XML (changing the currency type as needed): <saw:prefix>SET VARIABLE PREFERRED_CURRENCY = 'Document Currency';</saw:prefix>
5. Click Apply. The DV report should be refreshed to show the new values.

Support for Multiple Calendars

Oracle Retail Insights supports two variations of the business calendar for the purposes of last year (LY) reporting.

- Unshifted Calendar
- Shifted (or Restated) Calendar

During installation, a default calendar setting can be applied to use either the shifted or the unshifted calendar. This setting is held in C_ODI_PARAM and can be changed after installation, if needed.

Table 4-2 Calendar Type Options

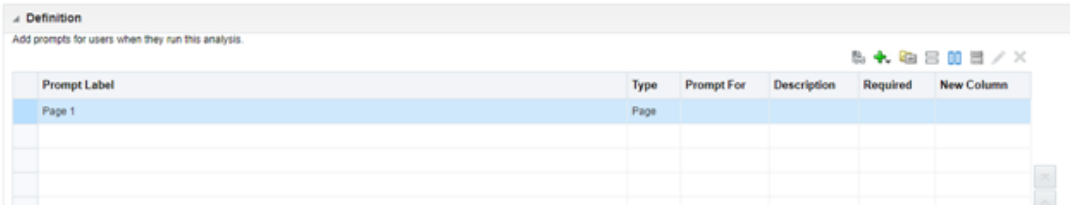
LY_SHIFT Parameter	Calendar Type
UNSHIFT	Unshifted Calendar
SHIFT	Shifted Calendar
GUNSHIFT	Gregorian Unshifted Calendar

Retail Insights classic dashboards allow users to build a variable prompt to switch between either calendar type per-analysis, giving users the ability to compare shifted and unshifted data

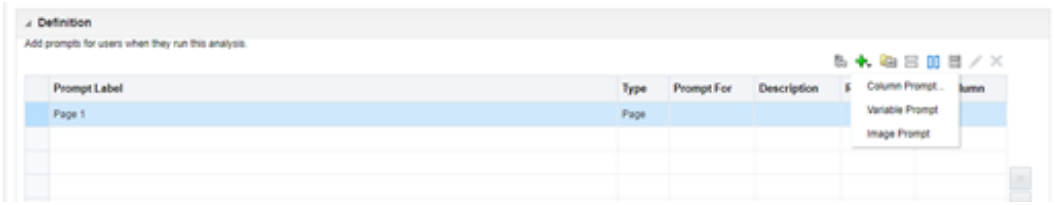
using the same metrics. For the Gregorian calendar, only the GUNSHIFT setting is supported, so a variable prompt is not needed.

To use this functionality in a report, or create it as a dashboard prompt, follow these steps:

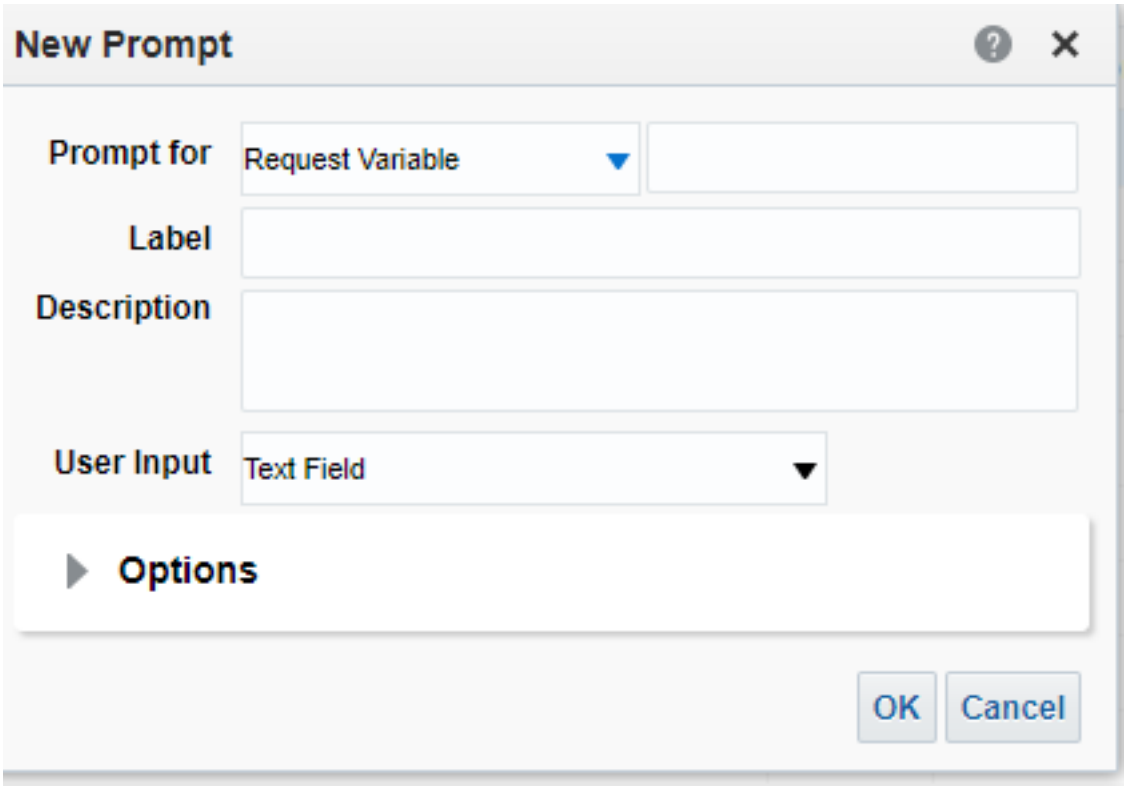
1. Create a New Prompt or Edit an existing one from the Prompts tab.



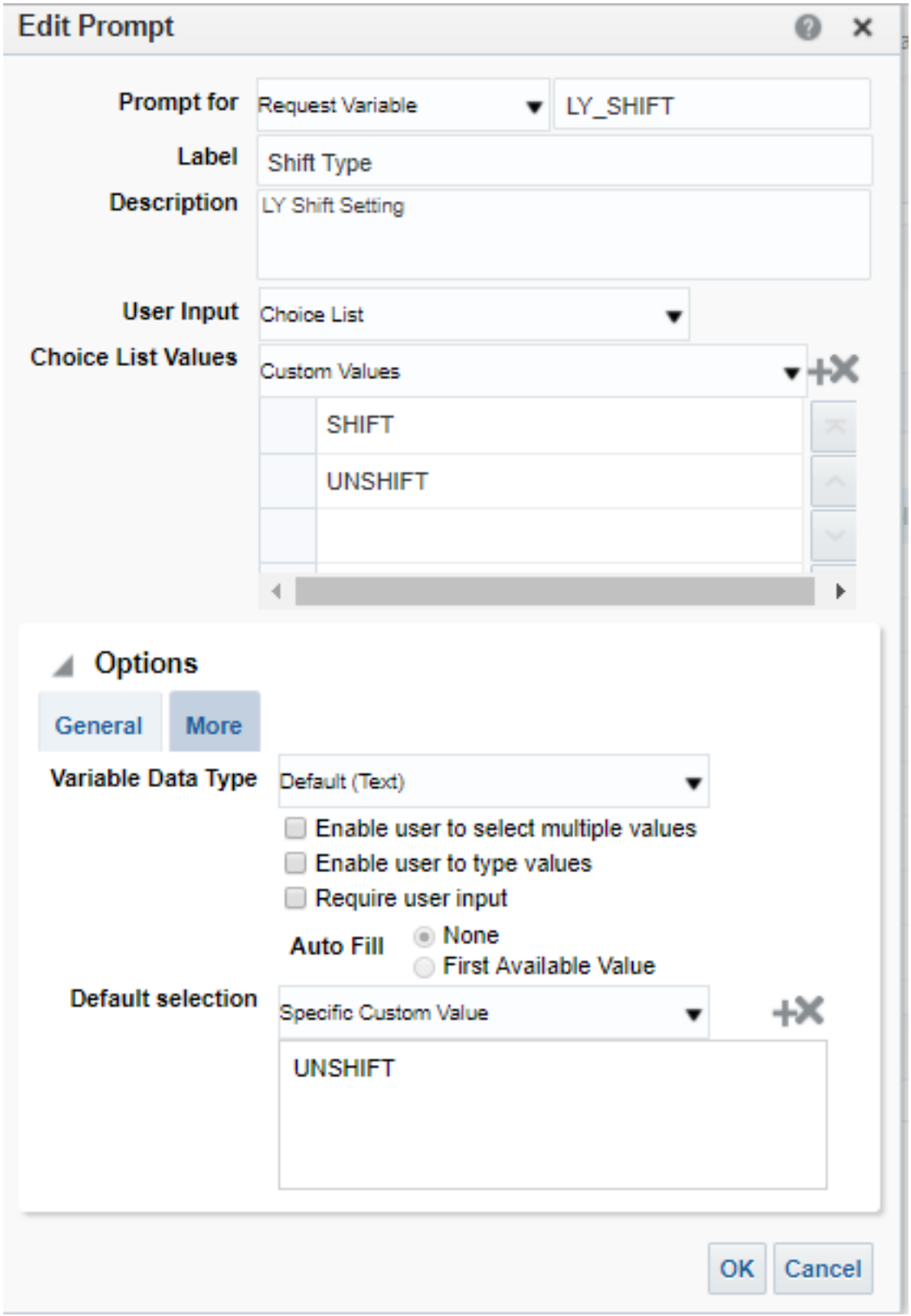
2. Select Variable Prompt as the type of prompt to create.



3. Select Request Variable from the drop down for Prompt For.



4. Select and fill all fields like below. Give the Variable Name as LY_SHIFT. Select User Input as Choice List and enter Custom Values as SHIFT & UNSHIFT. Give a Default value if needed.



5. Save this prompt and use it to switch the value of the session variable LY_SHIFT, which will change how LY metrics are displayed in your analysis or dashboard.

Using Variables

Retail Insights makes use of variables to provide certain values such as the current business date. It is important to understand how to use variables in your analyses, as this is the primary way you can get results that change dynamically based on your business activities. You can reference several types of variable in your analyses, dash-boards, and actions: session, repository, presentation, request, and global. Content authors can define presentation, request, and global variables themselves but other types (session and repository) are defined for you and update automatically.

For more information about the types of variables available and how they are used in Oracle Analytics, start here:

https://docs.oracle.com/en/middleware/bi/analytics-server/user-oas/advanced-techniques-reference-stored-values-variables.html

In addition to the system variables defined by Oracle Analytics, Retail Insights provides the list of repository variables below.

Table 4-3 Repository Variables

Variable Name	Description
Today	Returns today's calendar date
Yesterday	Fetches the previous date based on the sysdate
LastYearDate	Returns the last year date based on the current sysdate
CurrentDate	Returns the current Business Date in the system
CurrentWeek	Returns the current Fiscal Week value
CurrentQuarter	Returns the current Fiscal Quarter value
YTD	Returns the current Fiscal Year value
LastWeek	Returns the previous Fiscal Week value
LastWeek2	Returns the Fiscal Week value of two weeks ago
LastWeek3	Returns the Fiscal Week value of three weeks ago
LastWeek4	Returns the Fiscal Week value of four weeks ago
NextWeek	Returns the next Fiscal Week value
FromPeriod	Fiscal Period value which is one year back from ToPeriod
ToPeriod	Fiscal Period value for the current period, can be used with FromPeriod to get a 13-month rolling window
Last 30 days	Returns all Fiscal Week names for the last 30 calendar days
CurrentGregWeek	Returns the current Gregorian Week value
CurrentGregMonth	Returns the current Gregorian Month value
CurrentGregQuarter	Returns the current Gregorian Quarter value
CurrentGregHalfYear	Returns the current Gregorian Half Year value
CurrentGregYear	Returns the current Gregorian Year value
LastGregMonth	Returns the previous Gregorian Month value
LastGregQuarter	Returns the previous Gregorian Quarter value
LastGregYear	Returns the previous Gregorian Year value

Table 4-3 (Cont.) Repository Variables

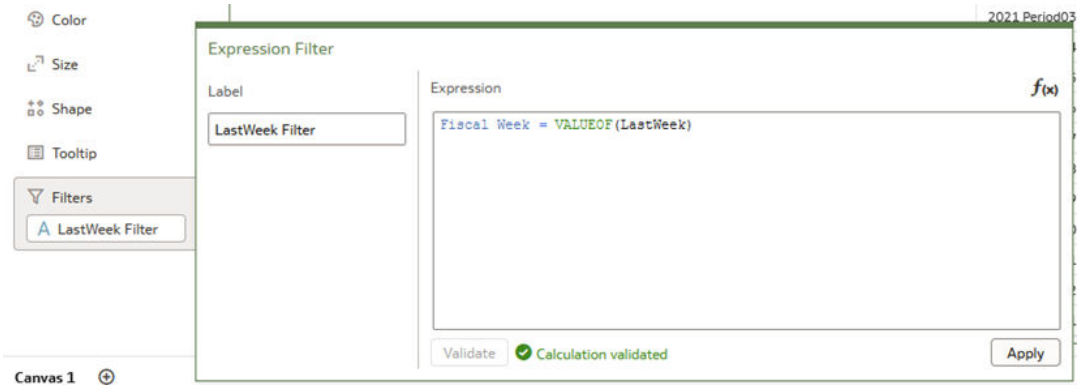
Variable Name	Description
LY_SHIFT	Set the type of LY calendar mapping that is used in reporting
PREFERRED_CURRENCY	The type of currency conversion performed in reporting
SET_ITEM_CNT_CLR_QTY	Set the EOH Clr Qty threshold for the Inventory Position Item Count Clr measure
SET_ITEM_CNT_NCLR_QTY	Set the EOH Non-Clr Qty threshold for the Inventory Position Item Count Non-Clr measure
SET_ITEM_CNT_QTY	Set the EOH Qty threshold for the Inventory Position Item Count measure
SET_LOC_CNT_NCLR_QTY	Set the EOH Non-Clr Qty threshold for the Inventory Position Store Count Non-Clr measure
SET_LOC_CNT_QTY	Set the EOH Qty threshold for the Inventory Position Store Count measure
Wholesale	Channel ID representing wholesale activity in the merchandising system

Variables are used primarily as filter values to make an analysis dynamic. In classic analyses and dashboards, you will have the option to change any filter or prompt to use a Repository Variable. When you select this option, a new text box appears, and you must enter a variable name from the list above into that field.

To use variables in Data Visualization, you must add expression filters to the individual tables or graph views using the steps below.

1. Create a table or graph in a DV workbook.
2. In the grammar panel, expand the Filters menu by clicking the down arrow and select the Add Expression Filter option.
3. In the text box that appears, add your attribute that you will be filtering on, the operators needed, and the function VALUEOF(variablename) where the variable name is selected from the table above.

Figure 4-2 Expression Filter



4. Click Validate to check your statement for formatting issues and then click Apply. The specified variable filter will be applied to your current view.

When using calendar variables for filtering, they will supercede any calendar filters at the top of the workbook, so it is best to choose which method you are using for the entire workbook (either all tables will by dynamically filtered by calendar variables, or they will be prompted at

the top of the workbook and users must select values). Other filters which are unrelated to the variables, like Product filters, can still be used at the top of the workbook and applied to all views uniformly.

Creating Reports for Sales Transactions

One of the most common uses of Retail Insights is reporting on your business's sales transactions. RI maintains a historical record of all sales transactions which occur both in your retail stores and in non-retail channels such as your web store and warehouses. It is therefore critical to understand the many ways in which RI presents sales data to the user, so that you can quickly and accurately report on the information that's relevant to you.

Types of Sales Metrics

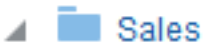
RI broadly splits sales metrics into three basic types: Gross Sales, Net Sales, and Returns. Net Sales metrics are always calculated as (Gross - Returns) for a given quantity. Within each type, RI provides four basic measures of sales: Quantity, Retail Amount, Cost, and Profit. Examples of these basic metrics are provided in the table below.

Table 4-4 Sales Metrics

Sample Metric	Explanation
Gross Sales Qty	Total sales units, not accounting for returns.
Gross Profit	Difference between the retail selling value and cost of goods sold, equivalent to Gross Margin $.
Net Sales Amt	Net retail sales amount, calculated as gross sales amount minus returns.
Return Profit	Difference between the retail amount of returns and the cost value of those returns. Represents the profit lost due to returned units.

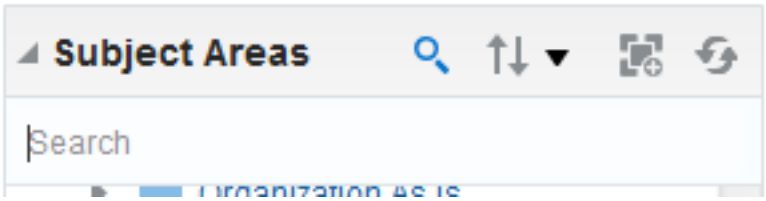
Adding these metrics to an analysis allows us to easily see how they relate to each other. For example, we can create an analysis with gross, net, and returned sales units and validate that net = gross - returns.

1. Start a new analysis in the Retail Insights As-Is subject area.
2. Locate the Sales folder in the left side panel of the Criteria tab and expand it.

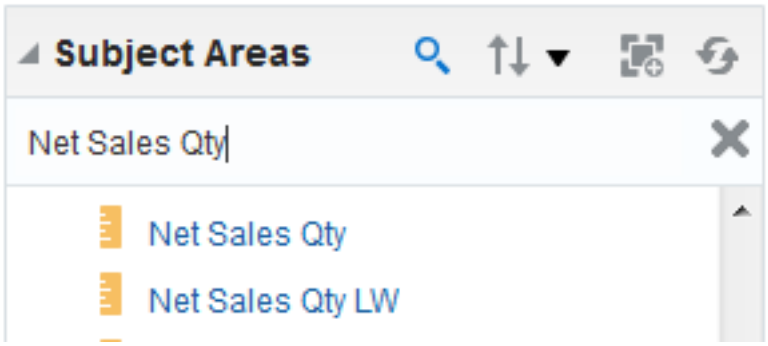


3. Scroll down until you locate the Gross Sales Qty metric, and double-click it to add it to the analysis.

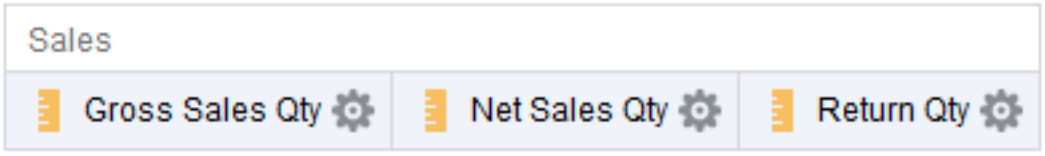
4. As you can see, there are quite a lot of sales metrics available. A quicker way to locate a metric is by using the Search box at the top of the metrics panel. Click the magnifying glass icon to access the Search panel.



5. Type Net Sales Qty into the search box and wait a few seconds for the search to complete. Scroll through the search results and double-click on the Net Sales Qty metric.



6. Repeat the previous step for the Return Qty metric. You should now have all three metrics in your Criteria.



7. Click on the Results tab to view the analysis. Note that net sales = gross - returns.

Gross Sales Qty	Net Sales Qty	Return Qty
892,389	881,357	11,032

8. Repeat the steps for Sales Amt and Profit metrics if desired. It is important to note that "Qty", "Amt", and "Profit" are very common terms used throughout RI to represent these types of measures.

Dimensionality of Sales Metrics

All data in RI is represented by one or more dimensions, such as the Item or Organization dimensions. When we report on business data such as sales or inventory, we generally want to categorize it using these dimensions, however different types of data use different dimensions. It is important to understand which dimensions can be used with each set of measures in RI, as dimensions not supported by the data will not return results in your analysis. We refer to this as the "dimensionality" of the data.

For sales transactions, the available dimensions which can be used are shown below:

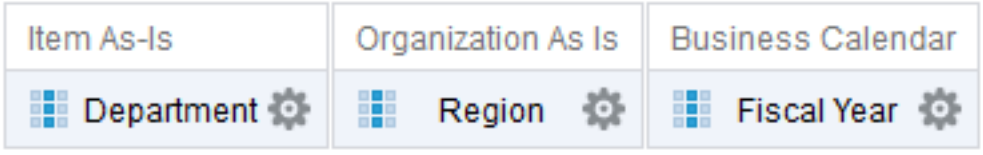
Table 4-5 Sales Transactions Dimensions

Dimension Name	Example Attributes
Item	Department, Style, Brand
Organization	Region, Loc Number, Store Grade
Fiscal Calendar	Fiscal Year, Fiscal Week, Fiscal Date
Supplier	Supplier Num, Parent Supplier
Retail Type	Retail Type
Customer	Customer Number

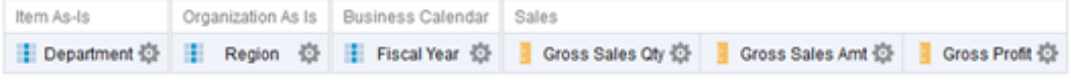
Not all dimensions will be available, depending on your business data and the way it is categorized in the source systems. The most commonly used dimensions are the Item, Organization, and Fiscal Calendar (a.k.a. Product/Location/Day levels).

1. From the Criteria tab of an analysis, first remove any existing metrics by clicking the "double X" icon to the far right of the screen.

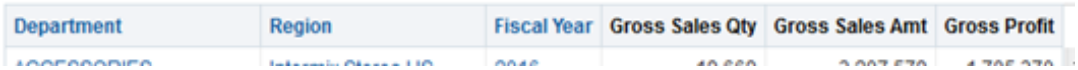
2. Using the Search box in the Subject Areas panel, locate the Department, Region, and Fiscal Year attributes and add them to the analysis.



3. Now add one or more sales metrics, such as Gross Sales Qty, Gross Sales Amt, and Gross Profit.



4. Click on the Results tab to view the results.



Department	Region	Fiscal Year	Gross Sales Qty	Gross Sales Amt	Gross Profit

5. Note that this returns quite a lot of data, so let's also add filters to it. Return to the Criteria tab, click on the "gear" icon next to Fiscal Year, and set a filter of 2017. Repeat the process for Department and Region to add the filters to your analysis.
6. Now click on the Results tab to view the changes to your analysis.

Transaction Types

RI also separates sales into different groups based on the type of sales transaction that was recorded at the point of sale, or by the auditing and merchandising systems. These transaction types are listed below, along with the abbreviations commonly used in RI to represent them.

Table 4-6 Transaction Types

Transaction Type	Metric Abbreviations Used	Also Known As
Regular	Reg, R	Full Price, Non-Clearance
Promotional	Pro, P	
Clearance	Clr, C	Markdown

Net sales metrics in RI are further divided by the three main types of sales transactions (Reg, Pro, Clr). For example, it is possible to report only on Net Reg Sales Qty or Net Clr Profit. If a metric is not explicitly provided, then you may also use the Retail Type dimension to report on all sales metrics by their type, as shown below.

Retail Type	Gross Sales Qty	Gross Sales Amt	Gross Profit
C	2,322	347,371	81,226
P	88	12,121	2,808
R	19,345	4,325,791	2,557,654

What this data represents may vary depending on your business practices. For example, promotional sales could represent sales from coupons, one-off discounts, loyalty award redemptions, or web-only events. Regular sales are typically any item sold at full price and not under promotion or clearance, while clearance sales are only for items sold on clearance.

Calendar Transformations

Sales metrics are further aggregated across various periods of time that are commonly used in business reporting. In order to perform side-by-side reporting of data using different time periods, it is necessary to use the specific metric for those periods. The metrics will generally be named using the abbreviations in the following table.

Table 4-7 Calendar Transformation Sales Metrics

Abbreviation	Description
(no abbreviation)	Base metric (all time)
LW	Last week
WTD	Week to date
MTD	Month to date
QTD	Quarter to date
HTD	Half year to date
YTD	Year to date
LY	Last year
LY LW	Last week last year
LY WTD	Week to date last year
LY MTD	Month to date last year
LY QTD	Quarter to date last year
LY HTD	Half year to date last year
LY YTD	Year to date last year

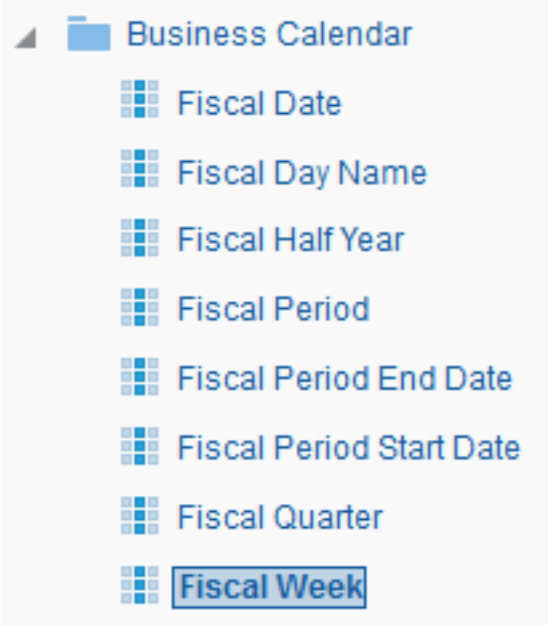
Time transformation metrics also require a point of reference to calculate against, such as a fiscal date. This reference point can be provided either as an attribute in the analysis (e.g. report on department sales by month, using WTD and MTD metrics), or as a filter on the analysis (report on department sales filtered to fiscal year 2017, and use QTD, HTD, and YTD metrics).

1. Using the department/region/year sales report we setup in the previous section, search for the metrics listed below and add them to your analysis.
   - Gross Sales Qty WTD
   - Gross Sales Qty MTD
   - Gross Sales Qty YTD
2. Click on the Results tab. Notice how only the YTD metric is returning data. This is because we currently have only the Fiscal Year specified as part of the analysis, so the other time transformation metrics have no point of reference.

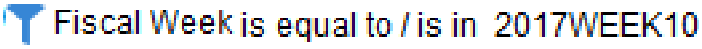
Fiscal Year	Retail Type	Gross Sales Qty	Gross Sales Amt	Gross Profit	Gross Sales Qty WTD	Gross Sales Qty MTD	Gross Sales Qty YTD
2017	C	2,322	347,371	81,226			2,322
	P	88	12,121	2,808			88
	R	19,345	4,325,791	2,557,654			19,345

3. Return to the Criteria tab, and click the "create a filter" icon  on the far right of the Filters panel, and then select More Columns.

4. Locate and expand the Fiscal Calendar folder, and select the Fiscal Week attribute.



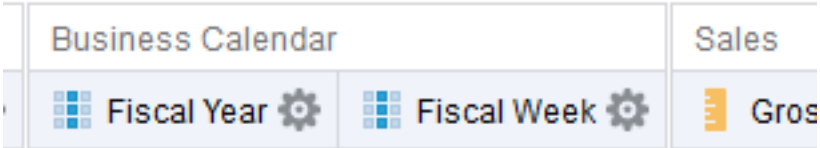
5. In the filter setup window, enter a value of 2017WEEK10 and click OK.



6. Click on the Results tab. Notice how your time transformation metrics have now been populated with values. This data is linked to the fiscal week you specified in your filter condition.

Fiscal Year	Retail Type	Gross Sales Qty	Gross Sales Amt	Gross Profit	Gross Sales Qty WTD	Gross Sales Qty MTD	Gross Sales Qty YTD
2017	C	85	14,352	5,207	85	85	1,197
	R	1,336	264,627	144,914	1,336	1,336	10,862

7. In order to see time transformations across more than one period, you must include a lower level calendar attribute in the analysis. Return to the Criteria tab and remove the filter on Fiscal Week. Then locate the Fiscal Week attribute in the Fiscal Calendar folder, and drag and drop it into your analysis.



8. Click on the Results tab. Note how the report shows many weeks of data, and your time transformations vary depending on the row.

Gross Sales Qty WTD	Gross Sales Qty MTD	Gross Sales Qty YTD	Fiscal Week
145	145	145	2017WEEK01
122	267	267	2017WEEK02
122	389	389	2017WEEK03
143	532	532	2017WEEK04

Non-Merchandise Sales

The sales transaction metrics described so far are specifically for reporting on the sale of merchandise, such as the physical products held in your retail locations. Non-merchandise sales may not be captured as part of this data, depending on how your merchandising system is configured.

One example of non-merchandise sales which are not available in the sales transaction metrics are Gift Card sales. If you need to report against the sales of gift cards, a separate set of metrics are provided in the Gift Card Sales folder. The gift card sales metrics can be used at a level of Location and Fiscal Date, allowing you to see the total amount of gift cards sold by store/day.

Loc	Fiscal Date	Gift Card Amount Sold
01-FIFTH AVENUE 440001	6/1/2017	450

Other Useful Sales Metrics

RI contains many calculated sales metrics in addition to the basic performance measures. Some commonly used calculations are listed below with their associated metric in RI.

Table 4-8 Calculated Sales Metrics

Calculated Value	Related RI Metric Name
Gross Margin %	Gross Profit to Sales Amt
Net Margin %	Net Profit to Sales Amt
AUR	Avg Net Retail
Employee Discounts	Net Emp Disc

Table 4-8 (Cont.) Calculated Sales Metrics

Calculated Value	Related RI Metric Name
Transaction Count	Trx Count

Creating Reports for Inventory Positions

Retail Insights holds stock position at a very low level, which is the ending position for every day for every item at every stockholding location. RI maintains a large variety of inventory metrics which span the entire lifecycle of your merchandise (from the initial order to in-transit, on-hand, RTV, and several others).

Types of Inventory Metrics

The 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 Insights:

- 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. On Order positions are tracked only at the end-of-period level, as the primary reporting method for those values is to show the current position at a given point in time.

Metrics pertaining to owned inventory (such as on-hand and in-transit) are further broken down by their clearance status. RI use the nomenclature "Clr" and "Non-Clr" to represent inventory that is either on clearance or at regular price.

Combining these metrics in an analysis will allow us to comprehensively track the position of our inventory over time.

1. Start a new analysis in the Retail Insights As-Is subject area.
2. Locate the Inventory Position folder in the left side panel of the Criteria tab and expand it.

3. Using the Search box, find and add the following metrics and attributes to the analysis:

   Fiscal Week, BOH Qty, EOH Qty, In Transit Qty, On Order Qty

4. Note how BOH and EOH Qty match their positions over time, but the others are just a single positional value.

Fiscal Week	BOH Qty	EOH Qty	In Transit Qty	On Order Qty
2016WEEK01		140,389	0	0
2016WEEK02	140,389	152,054	0	0
2016WEEK03	152,054	161,669	0	0
2016WEEK04	161,669	162,190	9,492	0

5. Now search for and add the metrics EOH Clr Qty and In Transit Clr Qty. Note that they are a subset of the total quantities shown in the base metrics, as they represent only merchandise which is in clearance status.

Fiscal Week	BOH Qty	EOH Qty	In Transit Qty	On Order Qty	EOH Clr Qty	In Transit Clr Qty
2016WEEK01		140,389	0	0	27,163	0
2016WEEK02	140,389	152,054	0	0	29,805	0
2016WEEK03	152,054	161,669	0	0	26,123	0
2016WEEK04	161,669	162,190	9,492	0	31,141	897

Dimensionality of Inventory Metrics

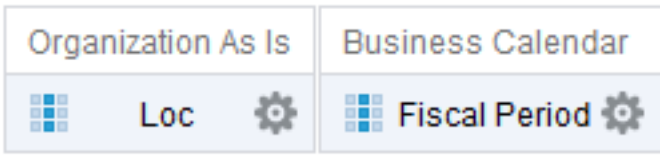
For inventory position, the available dimensions which can be used are shown below:

Table 4-9 Dimensionality of Inventory Metrics

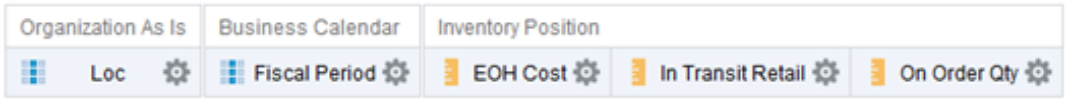
Dimension Name	Example Attributes
Item	Department, Style, Brand
Organization	Region, Loc Number, Store Grade
Fiscal Calendar	Fiscal Year, Fiscal Week, Fiscal Date
Supplier	Supplier Num, Parent Supplier
Retail Type	Retail Type

1. From the Criteria tab of an analysis, first remove any existing metrics by clicking the "remove all columns" icon to the far right of the screen.

2. Using the Search box in the Subject Areas panel, locate the Loc and Fiscal Period attributes and add them to the analysis.



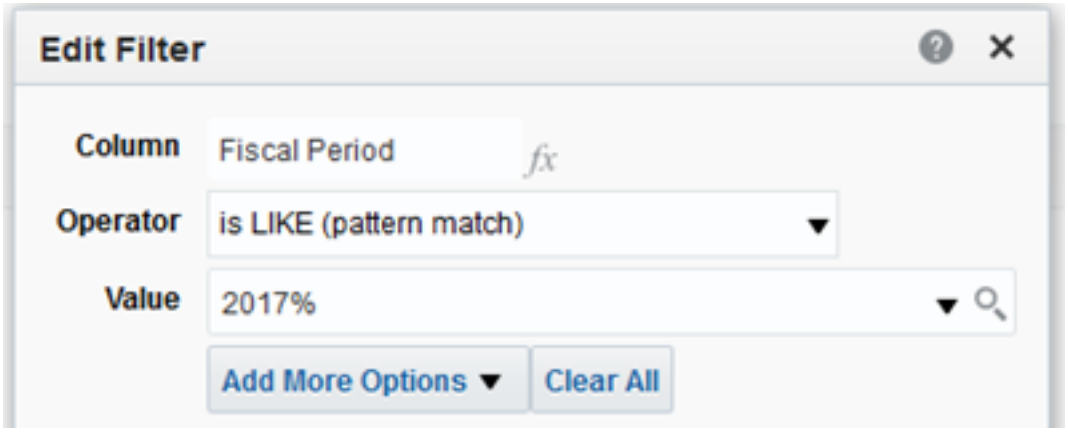
3. Now add one or more inventory metrics, such as EOH Cost, In Transit Retail, and On Order Qty.



4. Click on the Results tab to view the results.

Loc	Fiscal Period	EOH Cost	In Transit Retail	On Ord
01-FIFTH AVENUE 440001	2016 Period01	516,921	71,549	
	2016 Period02	589,187	73,268	
	2016 Period03	514,590	73,085	
	2016 Period04	503,132	35,972	

5. Note that this returns quite a lot of data, so let's also add filters to it. Return to the Criteria tab, click on the "gear" icon next to Fiscal Period, and add a LIKE filter which gets any periods in 2017. In RI, the percent symbol (%) is used in pattern matching to mean "any character".



6. Now click on the Results tab to view the changes to your analysis.

Loc	Fiscal Period	EOH Cost	In Transit Retail	On Order Qty
01-FIFTH AVENUE 440001	2017 Period01	624,023	93,316	0
	2017 Period02	698,537	68,729	0
	2017 Period03	593,860	37,436	0
	2017 Period04	599,930	6,870	0
	2017 Period05	621,685	143,246	719

7. While still in the Results, find the Supplier folder and add the Supplier attribute to the report, by dragging it after the Loc attribute.

Loc	Supplier	Fiscal Period	EOH Cost	In Transit Retail	On Order Qty
01-FIFTH AVENUE 440001	10 CROSBY	2017 Period05	18,832	0	0
	360 SWEATER	2017 Period05	208	0	0
	3X1 DENIM	2017 Period05	3,391	0	0

Calendar Transformations

Inventory metrics are further aggregated across certain periods of time that are commonly used in business reporting. In order to perform side-by-side reporting of data using different time periods, it is necessary to use the specific metric for those periods. The metrics will generally be named using the abbreviations in the following table.

Table 4-10 Calendar Transformations - Inventory Metrics

Abbreviation	Description
(no abbreviation)	Base metric (any time)
LW	Last week
LY	Last year
VAR LW	Variance this week/last week
VAR LY	Variance this year/last year

Because inventory is positional, the behavior of time transformations is somewhat different from sales metrics. When reporting on EOH Qty by itself, you will always get the ending on-hand position relative to the time period in your analysis. Adding EOH Qty LY to the analysis will get the ending on-hand position for the same time period last year. Positional metrics cannot be added together over time, so you will not see transformations such as MTD or YTD.

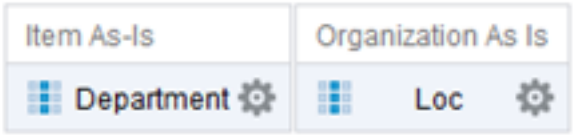
Time transformation metrics usually require a point of reference to calculate against, such as a fiscal date. This reference point can be provided either as an attribute in the analysis (e.g. report on department inventory by month, using EOH and BOH metrics), or as a filter on the analysis (e.g. report on department inventory filtered to fiscal year 2017, and use EOH, EOH LY, and EOH Var LY metrics).

The exception to this rule is Current metrics. Current inventory metrics (such as Current EOH Qty) must NOT have a calendar attribute, as they are programmed to always return the most recent position of that inventory quantity, regardless of time. For example, if you simply want to know the current position of inventory for items at a location, and you don't want the report tied to any particular period of time, then it is best to use Current metrics.

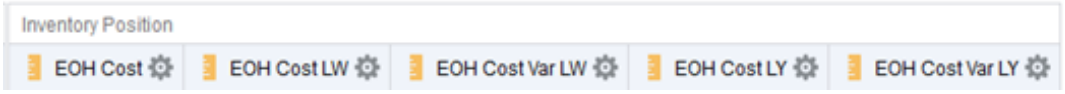
In order to practice with inventory metrics using time transformations, we can create a report which looks at inventory position for a week in 2017, and compares it to last week and last year.

1. From the Criteria tab of an analysis, first remove any existing metrics by clicking the "remove all columns" icon to the far right of the screen. Do the same for the filters.

2. Using the Search box in the Subject Areas panel, locate the Department and Loc attributes and add them to the analysis.



3. Now add all of the time transformation metrics for an inventory position measure of your choice, such as EOH Cost.



4. Add a filter to specify a period of time to report against. Click the "add filter" icon, and go to More Columns. Locate the Fiscal Week attribute, and enter a value of 2017WEEK13. Click OK to save it.

5. Click on the Results tab to view your analysis.

Department	Loc	EOH Cost	EOH Cost LW	EOH Cost Var LW	EOH Cost LY	EOH Cost Var LY
ACCESSORIES	01-FIFTH AVENUE 440001	7,486	8,088	-7	11,842	-37

Inventory Receipts

In some cases, it is necessary to report on inventory receipts separately from the positional status of inventory. For this purpose, RI has a separate set of metrics specifically for receipts. These metrics are NOT positional, and as such can be used in the same way as sales metrics to get sums and averages over time. For example, an analysis by Department and Fiscal Period will show the total receipts which occurred for each department/month combination.

Receipts are further split by type, as described below:

Table 4-11 Inventory Receipt Types

Receipt Type	Description
Allocation	Receipts at a location due to an allocation
PO	Receipts at a location due to a purchase order
Transfer	Receipts at a location due to a non-allocation transfer

Unavailable Inventory

The metrics in the Inventory Position folder generally represent total inventory, such as the total owned inventory at a location, or the total amount on order. In order to report on inventory at a

location that has a non-sellable status, you must use the Inventory Unavailable folder of metrics.

Unavailable inventory metrics use a similar format and nomenclature as the inventory position (EOH, BOH, Clr and Non-Clr), and can be combined with Inventory Position in an analysis to get a better sense of sellable vs. non-sellable inventory. It is also possible to calculate the "available" inventory by subtracting an unavailable measure from the same-named total value (e.g. Available EOH Qty = EOH Qty - Unavailable EOH Qty).

Returns to Vendor

RTV units are units returned to the vendor for any reason (overstock, poor quality, etc.). Return to vendor analysis gives the retailer valuable insights for evaluating vendor performance. RI maintains a record of RTV units and the value of RTV units in cost and retail amount. RTV facts are held at the item/supplier/location/day/return-reason level.

Reason Code	Reason Description	RTV Units	RTV Retail	RTV Cost
O	Overstock	17	3,065	3,296
W	Externally Initiated RTV	4	136	326

Building Dashboards

Dashboards in Analytics Classic are the recommended way to publish information to a large audience in Retail Insights. Dashboards allow you to curate a set of analyses to inform your users about specific insights and KPIs, as well as give them the ability to explore that data using prompts.

Dashboards in RI are created within the /shared/Custom/ folder or a sub-folder beneath that, so that the reports can be made available to all users and not just the content author. This is the only folder in the Catalog reserved for you to add custom content (outside of your personal folder). Dashboards can have permissions as-signed to allow only certain users or groups to access it, if required. Dashboards may have one or many analyses, as well as other content like embedded DV projects or links to other pages.

To learn more about creating and viewing dashboards in Oracle Analytics Classic, start here:

https://docs.oracle.com/en/middleware/bi/analytics-server/user-oas/build-dashboards.html

Managing Content in Retail Insights

All user-created content in Retail Insights is stored within the Oracle Analytics Catalog. There are only two areas designated for user-created content:

- Personal user objects should be saved in My Folders. These objects cannot be accessed by anyone except the user. Administrators do not have access to other users' personal folders. Every user automatically has a personal folder created for them when they first log into the system.
- Shared objects should be saved in the Custom folder in the Shared Folders root directory. These objects are visible to all users, except where administrators have restricted the permissions. Do not create shared content outside of the Custom folder.

All objects created in the shared Custom folder are meant to be centrally managed by a customer administrator or BI team lead. Objects should be organized by functional group or business process, and have permissions assigned at the folder level to restrict access to specific roles or groups. Both folders and individual objects can have permissions assigned to limit the ability to view, modify, or execute them.

To learn more about managing content in Oracle Analytics, start here:

https://docs.oracle.com/en/middleware/bi/analytics-server/user-oas/manage-content.html

Sharing Content in Retail Insights

Retail Insights uses the native capabilities of Oracle Analytics Server to publish and share content. Use one of the following methods to share content with other users:

- Create agents to deliver content to users by email or to their Home page in RI
- Create content in the shared Custom folder and set the permissions to share it with other users
- Create BI Publisher reports with a bursting query to send files to SFTP or email

To learn more about sharing content in Oracle Analytics, start here:

https://docs.oracle.com/en/middleware/bi/analytics-server/user-oas/automate-business-processes-using-agents.html

Visualizing Data

Retail Insights uses Data Visualizer (DV) as a tool to create custom datasets, advanced visualizations, and embedded content for other applications. DV is included as a component of Oracle Analytics Server and comes with all RI and AI Foundation environments, regardless of which services you own. When using DV with Retail Insights, the primary data sources you will work with are the RI subject areas. You also have the ability to import Microsoft Excel spreadsheets and join the files to RI data elements within the same project. You may also use DV to expose data from Innovation Workbench or the RI database directly.

To learn more about visualizing data in Oracle Analytics, start here:

https://docs.oracle.com/en/middleware/bi/analytics-server/user-oas/visualize-and-analyze-data.html

Known Issues and Common Questions

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

- Stock ledger reports cannot be created below subclass and week, because data for these fact areas have the lowest levels of subclass and week from the source systems.
- Comp and BOH (beginning on-hand) inventory 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.
- When reporting on any time transformation metrics like YTD, you must have a prompt or filter on the fiscal calendar, typically for one specific day or week.
- To compare as-is and as-was results for the same report, create a single dashboard with these reports on 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 Insights does not store attribute groups that do not have associated values. For example, Retail Insights will not consume location lists that do not have any associated locations. It will not show item UDAs that are not linked to any items.
- Customer Order Demand cannot be analyzed by the Fulfillment Channel.
- Order Fulfillment cannot be analyzed by the Demand Channel.
- Demand and Fulfillment analysis is not supported by Season Dimension.
- Market Item and Retail Item side-by-side analysis is not supported.
- Season Based reporting is not supported for Market Item and Consumer Reports.
- Market Item reporting is only supported for the As-Is Subject area.
- Users should not drill from Customer Segment to Customer, even though this drill path has been enabled in Oracle Analytics. Drilling may cause performance issues if the proper aggregates have not been created for Customer attributes.
- When combining data from multiple facts which make use of different dimensions (for example, Inventory Position and Purchase Orders), go into the Advanced tab of the analysis and select the checkbox for Show Total value for all measures on unrelated dimensions. This is required to see results when a dimension is not present on some facts, such as viewing EOH Qty with Purchase Order Number and PO Ordered Qty.

5

Dimensions and Attributes

Retail Insights 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 Reporting on Oracle Analytics Repository Objects for information about producing comprehensive listings of Oracle Analytics 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.

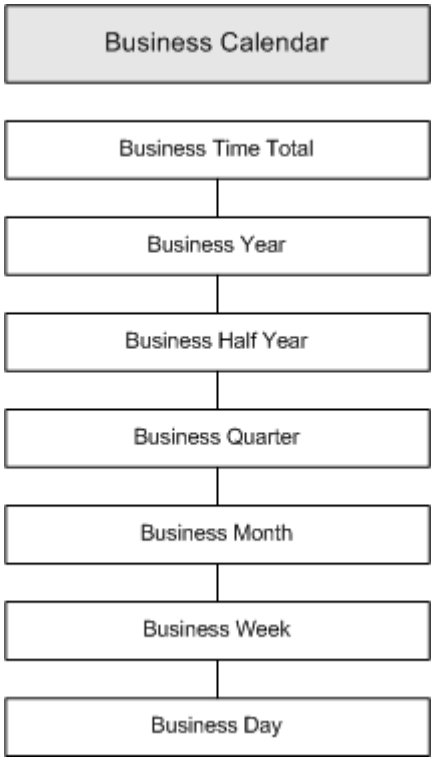


Table 5-1 lists the attributes of the Business Calendar dimension.

Table 5-1 Business Calendar Dimension Attributes

Attribute	Definition
Fiscal Period	The period of time, generally a month, reflected in financial statements.
Fiscal Year Number	Represents the period of year which company uses for calculating its annual fiscal statement.
Fiscal Year	Represents the period of year which company uses for calculating its annual fiscal statement.
Fiscal Year Start Date	Represents the start date of fiscal year for the company.
Fiscal Year End Date	Represents the end date of fiscal year for the company
Fiscal Half Year	Fiscal half-year period name.
Fiscal Quarter	Represents the fiscal quarter for the company
Fiscal Period Start Date	Represents the start date of fiscal period for the company.
Fiscal Period End Date	Represents the end date of fiscal period for the company.
Fiscal Week	Represents the fiscal week for the company.
Fiscal Week Start Date	Represents the start date of fiscal week for the company.
Fiscal Week End Date	Represents the end date of fiscal week for the company.
Fiscal Day Name	Fiscal Day Name
Fiscal Date	Represents the fiscal date.

4-5-4 Calendar

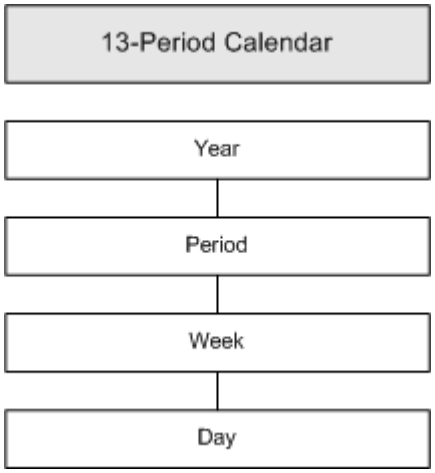
The 4-5-4 calendar is the default calendar. The calendar can be implemented as 4-5-4, 4-4-5, or 5-4-4, depending upon your needs. In addition, you determine the day of the week on which each week begins and ends. Every quarter contains 13 full weeks. Quarters have two 4-week months and one 5-week month.

This calendar also has special handling of 53-week years, which can occur due to each fiscal year being shorter than a Gregorian year. The 53rd week of such a year can be placed into a 4-week or 5-week period depending on the business processes being followed, resulting in a 5 or 6-week period, respectively. Choosing where to place the extra week is an implementation decision.

Because fiscal periods normally have the same number of days/weeks from year to year, Retail Insights provides additional calendar interfaces for defining a mapping between the current year and last year, known as "shifted" and "unshifted" calendars. In an unshifted calendar, the first 52 weeks of each year are aligned with each other, and the 53rd week is left out of LY comparisons. In a shifted calendar, the 53-week year is restated for LY comparisons, such that weeks 1 through 52 of the following year align with weeks 2 to 53 of the 53-week year. Week 1 of the 53-week year can be used as the LY for Week 53, or it can be left out, depending on the configuration specified.

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.

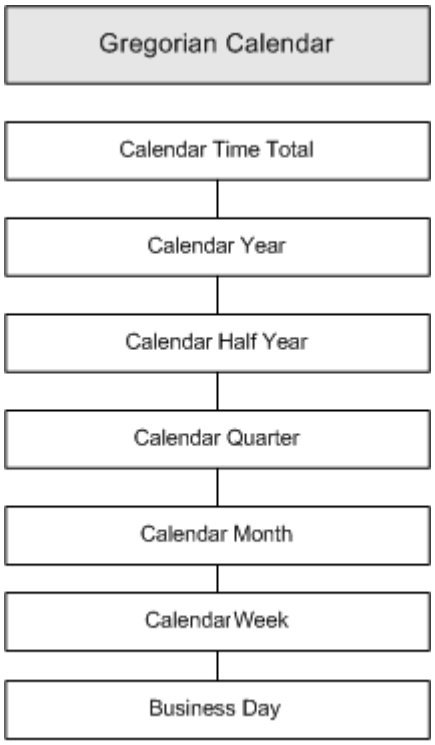


Gregorian Calendar

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. It is important to note that February 29th is treated like the 53rd week of a fiscal calendar, in that it will not be used in LY comparisons. Similarly, in the current year, February 29th has no value for LY. RI is built

around the concept of like-for-like comparisons where your timeframes this year and last year have the same number of days or weeks.

The following is the hierarchy of the Gregorian calendar.



The Gregorian calendar level for Week behaves differently from the Fiscal Calendar. Weeks are not guaranteed to have 7 days, due to the uneven length of a Gregorian year relative to week start/end days. RI uses a pattern where the first and last week of a year may have less than 7 days, so that all other weeks within the year will have 7 days. This also means that the Week level should only roll up directly to the Year level if you want to avoid splitting the same week across multiple months or quarters.

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

Table 5-2 Gregorian Calendar Dimension Attributes

Attribute	Definition
Gregorian Year	This is the Gregorian Year
Gregorian Half Year	This is the Gregorian Half Year
Gregorian Quarter	This is the Gregorian Quarter
Gregorian Month	Indicate the month.

Table 5-2 (Cont.) Gregorian Calendar Dimension Attributes

Attribute	Definition
Gregorian Month Start Date	This is the start date of the gregorian month.
Gregorian Month End Date	This is the end date of the gregorian month.
Gregorian Week	This is the Gregorian Week
Gregorian Week Start Date	This is the Gregorian Week Start Date
Gregorian Week End Date	This is the Gregorian Week End Date

The Gregorian calendar attributes within the Business Calendar allow for reporting against this-year and last-year historical data for Gregorian periods, making use of the LY mapping for Gregorian calendar to determine how each period aligns with it's last-year equivalent. For more information on loading the TY-to-LY mappings, refer to the *Oracle Retail Insights Operations and Interface Guide*.

If you plan to shift your LY calendar to align to a different timeframe year-over-year (for example, to align the week-ending days rather than align the individual days in the year) then there is also a set of Gregorian Unshifted Sales metrics which will not use the shifted LY mappings. These metrics use the abbreviation "GLY" to denote Gregorian LY behaviors.

For example, you may change the Gregorian LY mappings to align Sunday this year to the equivalent Sunday in last year. When using the standard set of LY metrics in RI, they will roll up for those shifted dates (LY YTD may start from January 3rd instead of January 1st in this case). The associated metric for GLY YTD will still roll up from January 1st, no matter what LY mapping you have specified. This allows you to perform life-for-like analyses (where the same weeks are compared YoY) as well as calendar-based analyses (where you compare the same month or year timeframe even if the days are different) without having to switch your calendar back and forth.

Note that at this time, only sales metrics have GLY equivalents. If you want to shift your LY calendar and there is no GLY equivalent metric to get the unshifted view of your data, you can easily create the formula yourself using the built-in AGO() function in OAS.

Gregorian Flexible Attributes

The Gregorian calendar also supports a number of flexible attributes that may be defined by the retailer at the time of implementation. These flex attributes work on the same principle as RMFCS's Custom Flex Attribute system (CFAS) in that the table structure for the data has an identical set of common datatypes and columns. These calendar at-tributes can be used for any number of business reasons, such as reporting on holidays, high-selling periods, alternate definitions of seasons or planning periods, or any other custom timeframe.

Table 5-3 Gregorian Flexible Dimension Attributes

Attribute	Definition
Date Flex Attr 1-10 Char	Date level character-based flex attribute.
Date Flex Attr 11-20 Number	Date level numerical flex attribute.
Date Flex Attr 21-25 Date	Date level date-based flex attribute.

Time of Day

The Time of Day dimension permits analysis in the areas of loss prevention and store 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.

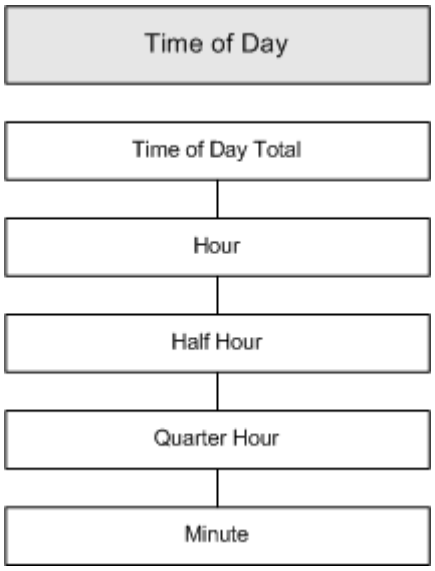


Table 5-4 lists the attributes of the Time of Day dimension.

Table 5-4 Time of Day Dimension Attributes

Attribute	Definition
Hour Number 24 Hour Format	Hour portion in 24-hour format.
Qtr 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 Sales Audit relates only to headquarters employees. In case retailer wants to have all the store and warehouse employees the retailer has to load them into Retail Insights. Other types of employee data that do not exist in Sales Audit, but are desirable for reporting, pertain to employee hours worked and compensation.

RI can be configured to create employee records during the nightly batch process, such that employee IDs included on a transaction (such as the cashier and salesperson) will be usable in reports even when the employee master data file is not provided separately. In this case, reporting on sales by Cashier or Salesperson ID is possible, but the other information like names will not be available.

The primary ways to use the employee attributes for sales reports are:

- Employee Number along with Sales metrics, to report on employee discounts for employee-purchased items
- Cashier Number along with Sales metrics, to report on sales by cashier that was logged into the POS
- Salesperson Number along with Sales metrics, to report on sales by salesperson who was given credit for the sale (or line-item on the sale if multiple salespersons are credited).

Table 5-5 lists the attributes of the Employee dimension.

Table 5-5 Employee Dimension Attributes

Attribute	Definition
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.
Employee Name	Name of the employee.
Employee Number	Number assigned to the employee.
Cashier	Name of the cashier.
Cashier Number	Number assigned to the cashier.
Salesperson	Name of the salesperson.
Salesperson Number	Number assigned to the salesperson.
Employee Alternate Number	Old employee ID from a legacy system or other systems still in use such as Payroll.
Employee Supervisor Number	Source system ID generated by organization/system for the employee's supervisor or manager.
Employee Supervisor Name	Name from the source system for the employee's supervisor or manager.
Employee Job Title	The job title associated with the primary position held by the employee.
Employee Active Flag	Indicates if the employee is still active in records.
Employee Auth Amount	Identifies the amount this employee is authorized to approve for any purposes related to the business of the organization.
Employee Auth Curr Code	The currency code for the authorization amount assigned to the employee.
Employee Auth Cat Code	The category code for the authorization amount assigned to the employee.
Cashier Alternate Number	Old cashier ID from a legacy system or other systems still in use such as Payroll.
Cashier Supervisor Number	Source system ID generated by organization/system for the cashier's supervisor or manager.

Table 5-5 (Cont.) Employee Dimension Attributes

Attribute	Definition
Cashier Supervisor Name	Name from the source system for the cashier's supervisor or manager.
Cashier Job Title	The job title associated with the primary position held by the cashier.
Cashier Active Flag	Indicates if the cashier is still active in records.
Cashier Auth Amount	Identifies the amount this cashier is authorized to approve for any purposes related to the business of the organization.
Cashier Auth Curr Code	The currency code for the authorization amount assigned to the cashier.
Cashier Auth Cat Code	The category code for the authorization amount assigned to the cashier.
Salesperson Alternate Number	Old salesperson ID from a legacy system or other systems still in use such as Payroll.
Salesperson Supervisor Number	Source system ID generated by organization/system for the salesperson's supervisor or manager.
Salesperson Supervisor Name	Name from the source system for the salesperson's supervisor or manager.
Salesperson Job Title	The job title associated with the primary position held by the salesperson.
Salesperson Active Flag	Indicates if the salesperson is still active in records.
Salesperson Auth Amount	Identifies the amount this salesperson is authorized to approve for any purposes related to the business of the organization.
Salesperson Auth Curr Code	The currency code for the authorization amount assigned to the salesperson.
Salesperson Auth Cat Code	The category code for the authorization amount assigned to the salesperson.

Cluster

Understanding consumer shopping behavior is important to help retailers when planning assortment, pricing, promotions and other key merchandising decisions.

This includes understanding:

- Who shops (or is expected to shop) the merchandise area (Department or Class)
- How they would shop the merchandise area as well as other merchandise areas when in the store

This information helps retailers develop strategies and tactical execution plans that are tailored to meet specific customers' needs, thus maximizing customer satisfaction while meeting retailers overall business objectives around increased profitability and growth.

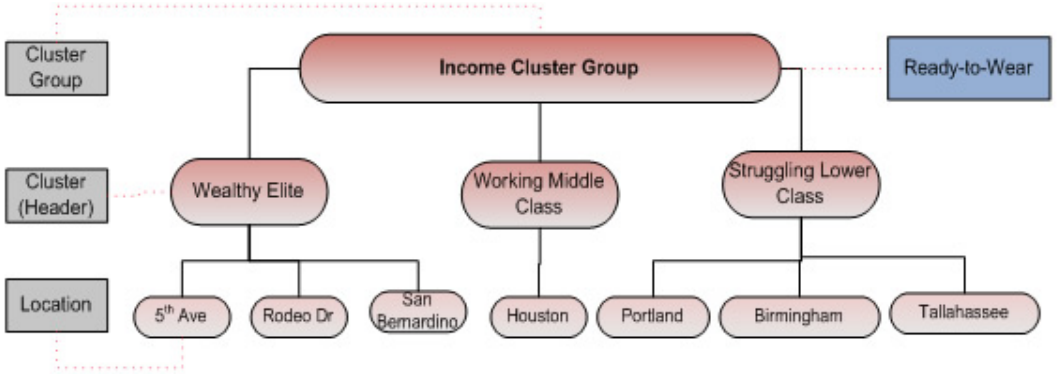
Understanding the makeup of the local consumers shopping each individual store is important in developing assortment, pricing and promotion strategies that are tailored to the local consumer needs. However, given the number of stores at a typical retailer, it is not possible to manually plan these at the individual store level. Hence the need for the intelligent grouping of similar stores into clusters.

Clustering stores enables retailers to manage large chains (that is, greater than 500 locations) in an efficient manner. Effective clustering should involve a small number of clusters providing

maximum differentiation among one another, while minimizing the difference between the locations within each cluster. In other words, stores in a single cluster should be fairly homogeneous, while the clusters themselves should be heterogeneous.

Stores can be clustered based on their similarity in attributes such as performance, size or format of store, weather, or based on similarity in customer make up based on their demographic attributes.

Clusters are organized into the following hierarchy: Cluster Group - Cluster - Location: below is an example hierarchy.



Cluster Attributes

Table 5-6 Cluster Attribute Dimensions

Attribute	Definition
Cluster Group Code	The cluster group code is a business code that is also a unique identifier for a cluster group
Cluster Group Label	The cluster group label is a short description of why the cluster group was built.
Cluster Group Type	Cluster groups are built for multiple reasons, the cluster group type states what the cluster group was built for. Valid cluster group types could be promo, price, markdown, assortment, inventory, replenishment, performance, etc. The cluster group type should be considered required, as it is the only attribute to make sure cluster groups are unique.
Cluster Code	The cluster code is a business code that is also a unique identifier for a cluster within a cluster group.
Cluster Name	The cluster name is a short description of the cluster.
Cluster Description	The cluster description is a long description of the cluster.
Primary Life-stage	Primary life-stage is the most prominent life-stage within a cluster - since clusters can be made up of multiple customer segments - there can be more than one life-stage present. Hence this attribute being the primary or most prominent life-stage attribute value.

Table 5-6 (Cont.) Cluster Attribute Dimensions

Attribute	Definition
Primary Ethnicity	Primary ethnicity is the most prominent ethnicity within a cluster - since clusters can be made up of multiple customer segments - there can be more than one ethnicity present. Hence this attribute being the primary or most prominent ethnicity attribute value.
Primary Education Level	Primary education level is the most prominent education level within a cluster - since clusters can be made up of multiple customer segments - there can be more than one education level present. Hence this attribute being the primary or most prominent education level attribute value.
Primary Typical Lifestyle	Primary typical lifestyle is the most prominent typical lifestyle within a cluster - since clusters can be made up of multiple customer segments - there can be more than one typical lifestyle present. Hence this attribute being the primary or most prominent typical lifestyle attribute value.
Primary Income Level	Primary income level is the most prominent income level within a cluster - since clusters can be made up of multiple customer segments - there can be more than one income level present. Hence this attribute being the primary or most prominent income level attribute value.
Primary Dwelling Type	Primary dwelling type is the most prominent dwelling type within a cluster - since clusters can be made up of multiple customer segments - there can be more than one dwelling type present. Hence this attribute being the primary or most prominent dwelling type attribute value.
Primary Age Class	Primary age class is the most prominent age class within a cluster - since clusters can be made up of multiple customer segments - there can be more than one age class present. Hence this attribute being the primary or most prominent age class attribute value.

Price Zones

Price zones are a way of grouping stores together for use in pricing decisions. They appear functionally similar to Clusters. Price zones are typically created in a retailer's pricing management solution (such as Pricing Cloud Service or RMFCS). Oracle Retail Insights supports loading price zones into the Cluster interfaces using RDE, or through externally interfaced data files. This data will make use of the same attributes outlined above, as well as following the same data structures and formats.

Consumer Attributes

Growing retailers need to attract new customers, and the key to attracting customers is understanding them. Oracle Retail Insights offers a means for retailers to understand and attract new customers and in so doing grow their businesses, through the use of consumer data from Oracle Data Cloud.

Retailers can use Oracle Retail Insights' Consumer analysis to develop a deep understanding of consumers (that is, those shoppers who are their potential customers). It helps retailers understand the types of purchases each consumer segment makes, where the most desirable consumers live and shop, and in which product categories they should be competing for consumers. Building on that knowledge, retailers can build effective strategies to induce

consumers to buy their products, and convert them from out-of-reach, obscure consumers to familiar, loyal, and revenue-producing customers.

Getting Consumer Data

The process starts by identifying and segmenting your best customers in order to make requests to ODC for consumer data. The Customer Segmentation module of the AI Foundation Cloud Services can be used to create these customer groups. Once a request is made to ODC for a given list of customers (represented with Oracle Person IDs), they will return a group of consumers who best align to the characteristics of those individuals and represent ideal targets for consumer conversion. This consumer data is loaded into RI (using the W_RTL_CONSUMER_DS interface) for analysis, using a set of flexible attributes which can be relabeled to match the data you get back on the ODC responses.

RI also provides an optional Consumer Segment interface (W_RTL_CONSUMERSEG_DS) for directly loading details you may want to add to an ODC consumer group after creating it, such as a name or description for future reference. Lastly, the interfaces W_RTL_CONS_METADATA_GS and W_RTL_CONS_DOMAIN_LKP_DS are used during implementation to configure which ODC attributes you have requested, so that RI can appropriately display the translatable text strings for them in reporting.

The following table summarizes the available Consumer attributes in RI:

Table 5-7 Consumer Dimension Attributes

Attribute	Definition
Consumer Segment Attributes	
Consumer Segment ID	Unique identifier of a consumer segment, as provided from the source system for consumer data.
Consumer Segment Name	Short name or description of a consumer segment, to be provided manually for use in reporting.
Consumer Segment Type	The type of consumer segment, such as one sourced from ODC or another external system.
Consumer Segment Desc	Detailed description or supplemental details about a consumer segment, such as the purpose of the segment or the actions taken on it.
Consumer Segment Created Date	System date when a consumer segment record was first established.
Consumer Segment Updated Date	System date when a consumer segment record was last updated.
Consumer Segment Rank	The ranked position of a consumer within a given segment. A value of 1 means that the consumer record was identified as the best fit for a segment.
Consumer Segment Size	The number of consumers belonging to a consumer segment at the time the segment was processed.
Consumer Attributes	
Consumer ID	Unique identifier of a consumer.
Consumer UDA 1 to 100	Consumer attribute value as provided by the source system. The specific attributes in these fields will vary by implementation.
Consumer UDA 1 to 100 Desc	Consumer attribute description which can be translated or updated over time for the same attribute value.
Consumer Create Date	The date a consumer record was first established in this system.

Table 5-7 (Cont.) Consumer Dimension Attributes

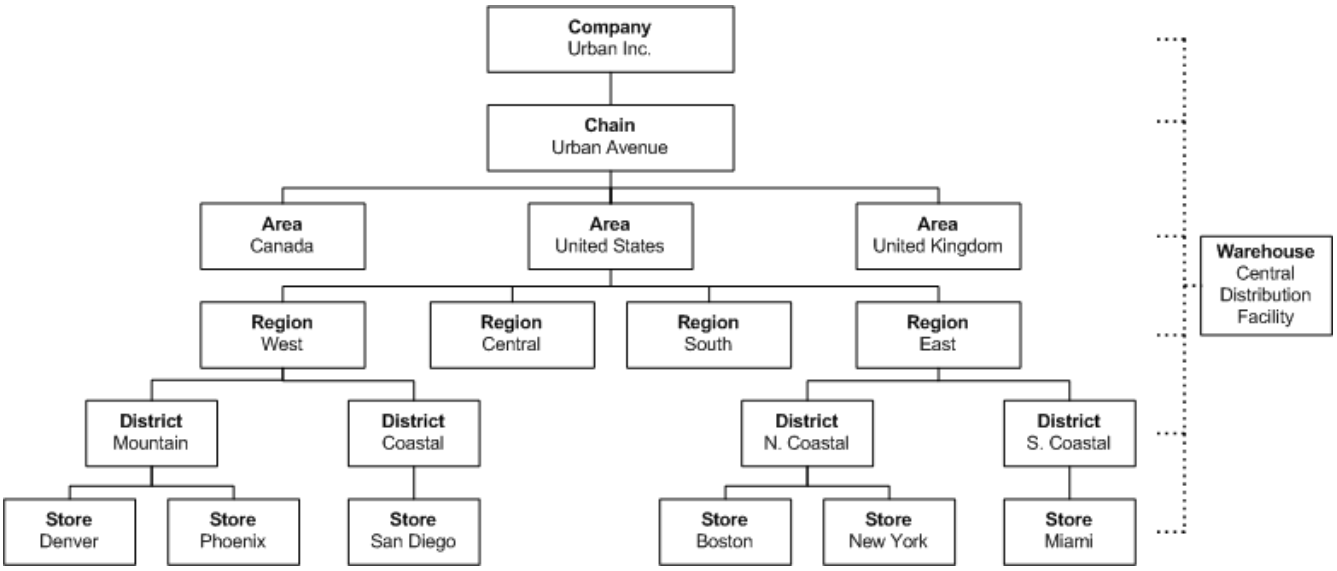
Attribute	Definition
Consumer Update Date	The date a consumer record was last updated in this system.

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 Insights 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.

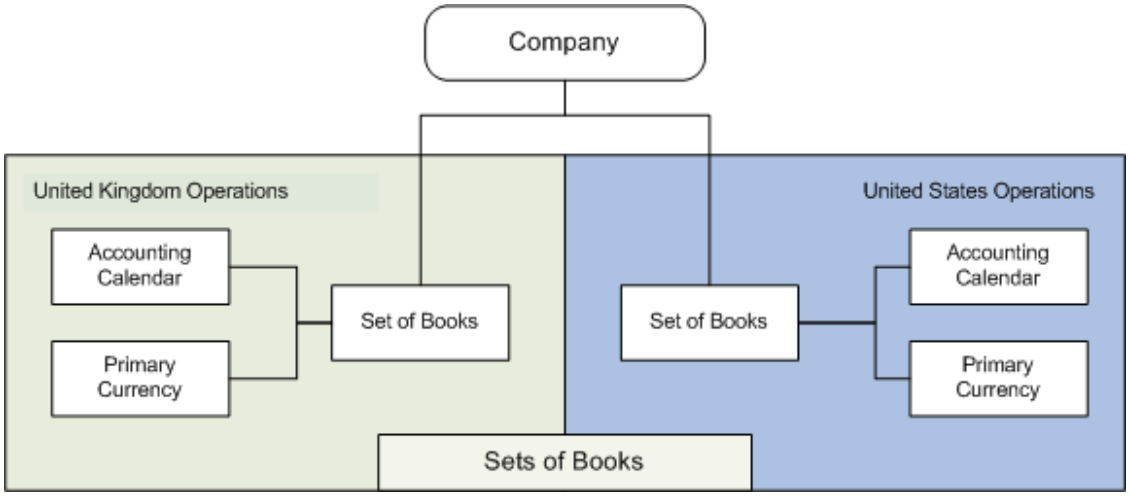
Sets of Books

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

Wholesale functionality, that is, the selling and distribution of products to independently owned customers in a business-to-business transaction, is a market need for many retailers. In contrast to franchise locations, wholesale customers are not owned or licensed by the retailer. Oracle Retail Insights allows retailers who do a significant amount of wholesale business to perform analysis separately from the rest of their regular retail business, with attributes and metrics that are specific to the wholesale business. This enables focused analysis by a retailer who has more than one distinct line of business (retail and wholesale) that have different performance indicators and metrics.

Wholesale Customer Attributes

Table 5-8 lists the attributes of the Wholesale Customer dimension.

Table 5-8 Wholesale Customer Dimension Attributes

Attribute	Definition
DUNS Number	The DUNS number is a nine-digit number assigned to each business location that has a unique, separate, and distinct operation.
Organization Size Code	This attribute is the organization size code.
Competitor Flag	This attribute indicates the organization is a competitor.
Partner Flag	This attribute indicates the organization is a partner.

Table 5-8 (Cont.) Wholesale Customer Dimension Attributes

Attribute	Definition
Prospect Flag	This attribute indicates the organization is a prospect.
Supplier Flag	This attribute indicates the organization is a supplier.
Sales Account Flag	This attribute indicates the organization has a sales account with the retailer.
Sales Ref Flag	This attribute indicates that sales exist for this organization.
Existing Sales Account Flag	This attribute indicates the organization has an existing sales account.
Sales Account Type Code	This field indicates the type of sales account.
Internet home page	This is the URL for the organization's home page.
Customer Since Date	This is the date the organization became a customer.
Customer End Date	This is the date the organization's customer relationship ended. It could be something like the end of the latest sales contract that was not renewed.
Customer Category Code	This field indicates to which category the customer belongs.
Line of Business	Line of business.
SIC Code	This is the Standard Industry Classification code, a four-digit code used by the US government for classifying industries.
SIC Name	Standard Industry Classification name.
Govt ID Type	Government ID Type
Govt ID Value	Government ID Value
Service Provider Flag	This attribute indicates the organization is a service provider.
Potential Sales Volume	This is the potential sales volume of the organization. This should be a range of volume amounts. For example [0-500,000], [500,000-1,000,000] and [1,000,000+].
Annual Revenue	This is the organization's annual revenue amount.
Supplier ID	This is the supplier ID if the organization is a supplier.
Customer Number	This is the internal customer number assigned to the organization.
Primary Contact Name	This is the primary contact name for the organization.
Primary Contact Phone Number	This is the primary phone number for the organization.
Base Currency Code	This is the base currency code of the organization.

Stockholding Franchise Locations

Franchising is the sales and distribution of products to customers who license a retailer's trade name or services, or both, for a fee. Example services provided could include assortment planning, ordering, and store inventory management. A franchise leases the name of the operating retailer but is not owned by them; however in many situations a retailer manages its franchise stores very similarly to how it manages its own corporate stores, including managing its inventory. In such a situation retailers should create stockholding franchise locations as a way to manage their inventory. Because stockholding franchise locations and corporate locations function similarly, Oracle Retail Insights enables retailers to analyze them similarly while retaining the ability to segregate sales at franchise locations from sales at corporate locations.

Non-Stockholding Franchise Locations

If a retailer does not wish to manage the inventory of its franchise locations, those locations can be set up as non-stockholding franchise locations and analyzed accordingly. The retailer will retain the ability to analyze franchise sales separately from sales at corporate locations.

New/Remodeled Stores

New or recently remodeled stores tend to be more volatile and can have a skewing effect on business performance indicators. Sales and profits from new or recently modeled stores are not really comparable in business analysis and a retailer may decide to exclude them for analysis.

A store may be flagged as a New or Remodeled store in the Organization dimension. The flag can either be received from the merchandising source system or in case the retailer does not have the capability in the merchandising system to calculate the flag, RI can flag the stores as New or Remodeled through an RI driven logic. The flags can be set to 'Y' or 'N' by utilizing the variable RA_NEW_STORE_DT and RA_REMODEL_ STORE_DT in C_ODI_PARAM and the RI existing attributes - remodeled store date (W_INT_ORG_ATTR_D. ORG_ATTR1_DATE) and new store date (W_INT_ORG_ATTR_D. ORG_ ATTR2_DATE).

When supplying new/remodeled store dates directly (as well as store close dates on ORG_ATTR3_DATE), these first three date columns on W_INT_ORG_ATTR_D must be used, as all RI attributes used in reporting on these dates will only source data from these columns.

Organization Attributes

Table 5-9 lists the attributes of the Organization dimension.

Table 5-9 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.
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.

Table 5-9 (Cont.) Organization Dimension Attributes

Attribute	Definition
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.
Comp Anchor Year	When using the "same stores" method of comp store analysis, the anchor year specifies which year of comp flag statuses should be applied across previous years. This attribute is required in analyses which use that method of comp reporting, and is generally set to the current fiscal year.
New Store Flag	Indicator of whether a location has been opened newly, with values of "Y" for yes and "N" for no.
Remodeled Store Flag	Indicator of whether a location has been remodeled recently, with values of "Y" for yes and "N" for no.
Store Type	Indicator of the type of store, with values of “Company," “Wholesale," and “Franchise."

Table 5-9 (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.
Total Area	Total square footage of a location.

Table 5-9 (Cont.) Organization Dimension Attributes

Attribute	Definition
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 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".
WH Delivery Policy	Contains the delivery policy of the warehouse.
WH Redistribution Indicator	Indicates that the warehouse is a re-distribution warehouse. Used as a location on Purchase Orders in place of actual locations that are unknown at the time of Purchase Order creation and approval. Valid values are Y or N.
WH Replenishment Indicator	This indicator determines if a warehouse is replenishable.
WH Finisher Indicator	Indicates if this virtual warehouse is an internal finisher.
Virtual WH Type	Indicates the type of virtual warehouse. Codes vary by retailer and are specified in the source system.
WH Inbound Handling Days	Warehouse inbound handling days are defined as the number of days that the warehouse requires to receive any item and get it to the shelf so that it is ready to pick.
Duns Location	Holds the location associated with the DUNS number.
DUNS Number	Holds the Dun and Bradstreet number to identify the company.
Loc Customer Order Flag	Indicates whether the location is customer order location or not.
Loc Customer Order Ship Flag	Indicates whether the location is able to ship customer orders or not.

Table 5-9 (Cont.) Organization Dimension Attributes

Attribute	Definition
Loc Email Address	Contains the email address for the store or warehouse.
Loc Fax Number	Contains the fax number for the location.
Loc Gift Wrapping Flag	Indicates whether the location supports gift wrapping or not.
Store Acquired Date	Contains the date on which the store was acquired.
Store Language ISO Code	Holds the ISO code associated with the given store language.
Total Selling Area	Total store selling area as a summable metric for reporting at higher levels of the hierarchy.

Comparable Store

Comp stores are really established stores as opposed to new or closed stores. Comp store measurements are important to an analyst because profits and sales from the more established stores provide stable indicators of business performance. New or closed stores tend to be more volatile and can have a skewing effect on business performance indicators. Sales and profits from new or closed stores are not really comparable in business analysis, and as a result, they are not included in the comp store measurements.

The Comparable Store Flag can be sent from the retailer's non-Oracle merchandising source system or manually derived and loaded into the RI interface for W_RTL_LOC_COMP_MTX_DS. Note that RI does not load comp flag information from RMFCS in either case; it is either sourced externally and interfaced to RI, or derived by hand and uploaded as-needed. In both cases, the data should consist of a pipeline delimited flat file containing Store ID, Comp Store Flag, Effective From Date, which will form the interface file that must be loaded to W_ RTL_LOC_COMP_MTX_DS table. This file can contain flag values in (N, Y, C), representing non-comparable, comparable, and closed stores respectively.

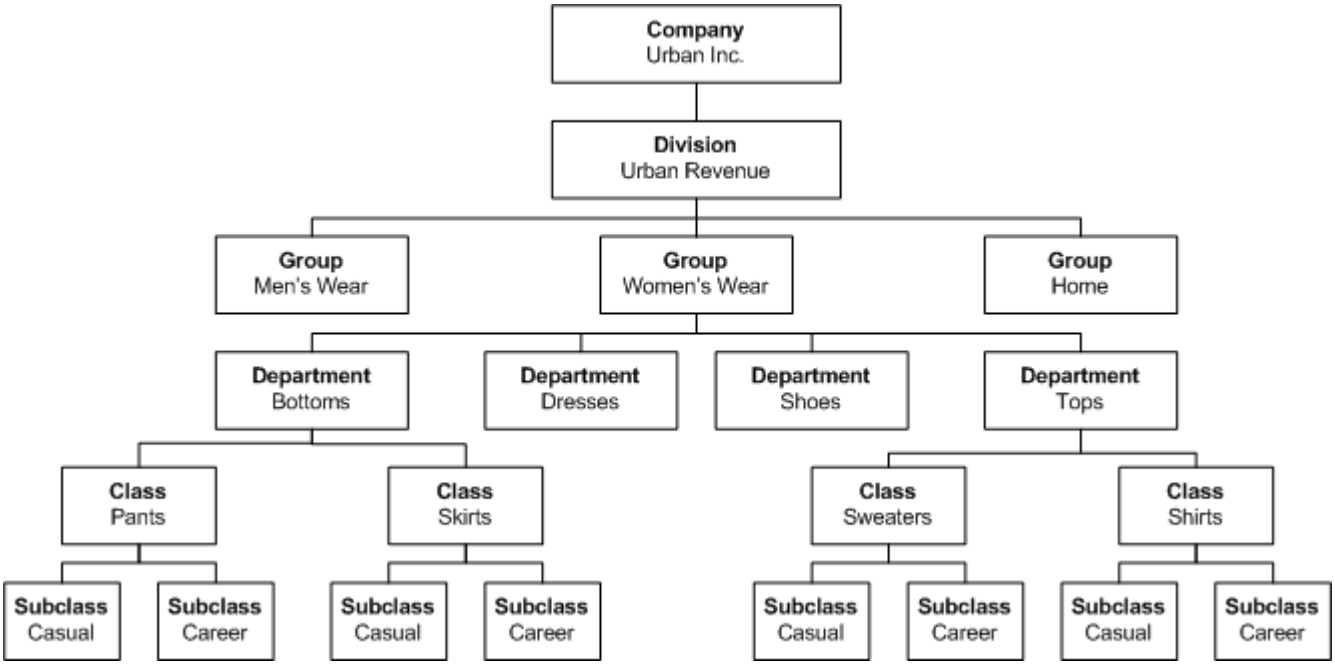
RI provides multiple methods for reporting on comparable stores, depending on the retailer's business needs. In the "Same Store" method of comparison, the stores designated as comp/non-comp/closed in a reporting period have their history grouped under the same statuses for previous years as well, allowing the retailer to always be comparing the same stores this year versus last year in comp reporting. This option is enabled using the SAME_STORES variable in C_ODI_PARAM. If set to 'Y' then this method is enabled for both As-Is and As-Was reporting. The number of years of history to "duplicate" the comp statuses across is configured with the ANCHOR_TO_YEARS variable, which defaults to 2 years (this year and last year).

If Same Stores comp reporting is disabled, then both subject areas instead use As-Was comp reporting (also known as Group Comp). This method will consider the historical values of the Comp Flag and directly report a store's history based on its comp status at that point in time. This type of reporting may split a store's history across different comp statuses within the same analysis.

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 Insights. 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 Foundation Cloud Service (RMFCS). Differentiators hold all item differentiator identifiers, along with their associated National Retail Federation (NRF) industry codes.

Oracle Retail Insights comes with the following differentiators as an example for reference:

- Style (Color only)
- Color for Style

They are arranged in the following hierarchy: Style (Color only) > Color for Style > Item.

These are just an example and can be added to or modified as needed to make them relevant to a specific retail business.

Style (Color Only)	Color for Style	Item	Gross Sales Amt
110059627	110059627~Green	RA Level 2 Item:Green:Large 110059631	25
		RA Level 2 Item:Green:Small 110059630	15

For retailers that do not use Style and Color differentiators, a more generic set of attributes is available which captures any diff (or combination of diffs) that are selected in RMFCS when creating SKUs from a Level 1 item. This combination of diffs is referred to as the "item diff aggregate". RI captures the diff values used to define all of the SKUs under a Level 1 item, and creates an intermediate reporting level in between Level 1 and Level 2 (SKU). In the typical

Style/Color configuration of a fashion retailer, this is the same as the Color level of reporting, but it has the flexibility to support whatever combination of diffs are used in RMFCS.

The following attributes allow for building reports at the Item Diff Aggregate level:

- Item Diff Agg ID
- Item Diff Agg Desc

They are arranged in the following hierarchy: Item Level 1 > Item Diff Agg > Item.

Product Attributes

Table 5-10 lists the attributes of the Product dimension:

Table 5-10 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.

Table 5-10 (Cont.) Product Dimension Attributes

Attribute	Definition
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."
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 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.
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.

Table 5-10 (Cont.) Product Dimension Attributes

Attribute	Definition
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.
Item Diff Agg ID	Combination of item differentiators used to define the aggregate reporting level between Level 1 and Level 2.
Item Diff Agg Desc	Description of item differentiators used to define the aggregate reporting level between Level 1 and Level 2.
Color Item Diff Agg	The color of an item, when used as an item diff aggregate.
Size Item Diff Agg	The size of an item, when used as an item diff aggregate.
Flavor Item Diff Agg	The flavor of an item, when used as an item diff aggregate.
Brand Item Diff Agg	The brand of an item, when used as an item diff aggregate.
Style Item Diff Agg	The style of an item, when used as an item diff aggregate.
Fabric Item Diff Agg	The fabric of an item, when used as an item diff aggregate.
Scent Item Diff Agg	The scent of an item, when used as an item diff aggregate.
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.

Table 5-10 (Cont.) Product Dimension Attributes

Attribute	Definition
UOM	Standard unit of measurement for an item.
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.
Class Alternate	Alternate version of the Class attribute which operates only on the description of the class, allowing for grouping of same-named classes onto the same result row in an analysis.
Subclass Alternate	Alternate version of the Subclass attribute which operates only on the description of the subclass, allowing for grouping of same-named subclasses onto the same result row in an analysis.
Item Desc	Descriptive text for the transaction-level item from the merchandising system, without any appended values such as item numbers.
Item UDA ID 1 - 50 Item UDA Desc 1 - 50	User-defined attributes which have been "pivoted" into a column-based structure, allowing for side-by-side usage in reporting. Content of the attributes is determined by populating the W_RTL_UDA_METADATA_G interface.
Item Diff ID 1 - 8 Item Diff Desc 1 - 8	User-defined differentiators which have been "pivoted" into a column-based structure, allowing for side-by-side usage in reporting. Content of the attributes is determined by populating the W_RTL_UDA_METADATA_G interface.
Item Supplier Label	The descriptive label for an item as provided by the supplier to the merchandising system.
Item Supplier VPN	The vendor product number as provided by the supplier to the merchandising system.

Table 5-10 (Cont.) Product Dimension Attributes

Attribute	Definition
Item Supplier Origin Country	The origin country as provided by the supplier to the merchandising system.
Item Supplier Pickup Lead Time	The pickup leadtime as provided by the supplier to the merchandising system.
Item Supplier Inner Pack Size	The inner pack size of an item as provided by the supplier to the merchandising system.
Item Secondary Desc	The secondary item description optionally provided in the merchandising system.
Item Primary Part Number	The primary part number associated with a transaction item, such as a UPC or EAN number.
Item Primary Part Desc	The primary part description associated with a transaction item, such as a UPC or EAN description.
Pack Comp Qty	Pack component item units contained within a pack item.
Color Group	Description of the differentiator group used to setup items having a Color attribute in the merchandising system.
Color Group ID	Identifies the differentiator group used to setup items having a Color attribute in the merchandising system.
Container Item	This field holds the container item number for a contents item.
Diff Group	Description of the differentiator group used to setup items in the merchandising system.
Diff Group ID	Differentiator group used to setup items in the merchandising system.
Item Case Type	This field determines which case sizes to extract against an item for inventory planning applications
Item Catch Weight Flag	Indicates whether the item should be weighed when it arrives at a location.
Item Catch Weight Order Type	This field determines how catch weight items are ordered.
Item Catch Weight Sale Type	This field indicates the method of how catch weight items are sold in store locations.
Item Catch Weight UOM	Unit of measure for catch weight items.
Item Cost Zone Group	Cost zone group associated with the item.
Item Default Waste Percent	Default daily wastage percent for spoilage type wastage items.
Item Deposit Price Per UOM	This field indicates if the deposit amount is included in the price per UOM calculation for a contents item ticket.
Item Deposit Type	This field is the deposit item component type. A NULL value in this field indicates that this item is not part of a deposit item relationship.
Item Forecastable Flag	Indicates if this item will be interfaced to an external forecasting system (Y, N).
Item Gift Wrap Flag	This field will contain a value of Y if the item is eligible to be gift wrapped.
Item Handling Sensitivity	Holds the sensitivity information associated with the item.
Item Handling Temp	Holds the temperature information associated with the item.
Item Retail Label Type	This field indicates any special label type associated with an item (i.e. pre-priced or cents off).

Table 5-10 (Cont.) Product Dimension Attributes

Attribute	Definition
Item Retail Label Value	This field represents the value associated with the retail label type.
Item Service Level	Holds a value that restricts the type of shipment methods that RCOM can select for an item.
Item Ship Alone Flag	This field will contain a value of Y if the item should be shipped to the customer is a separate package versus being grouped together in a box.
Item Short Desc	Shortened description of the item.
Item Store Order Multiple	Merchandise shipped from the warehouses to the stores must be specified in this unit type or multiple.
Item UOM Conversion Factor	Conversion factor between an Each and the STANDARD_UOM when the STANDARD_UOM is not in the quantity class.
Item Waste Percent	Average percent of wastage for the item over its shelf life.
Item Waste Type	Identifies the wastage type as either Sales Wastage or Spoilage Wastage.
Pack Orderable Code	Code identifying the type of orderable pack. An orderable pack is a collection of items that is ordered as a single unit. Values include V (vendor pack), B (buyer pack) and N (not orderable).
Pack Sellable Code	Code identifying the type of sellable pack. A sellable pack is a collection of items that is sold as a single unit. Values include S (sellable) and N (not sellable).
Pack Type Code	Code identifying the type of pack. A pack is a collection of one or more items with varying quantities. Values include S (simple pack) and C (complex pack).
Perishable Item Flag	A grocery item attribute used to indicate whether an item is perishable or not.
Simple Pack Comp Number	The component item number contained in a simple pack. Use this attribute to display the component of a sellable simple pack in-line with other data. If the item is not a simple pack, it will just repeat the selling item number.
Simple Pack Comp Qty	The component item quantity contained in a simple pack. Use this attribute to display the number of units in a sellable simple pack in-line with other data. If the item is not a simple pack, it will display a quantity of 1.
Size Group	Description of the differentiator group used to setup items having a Size attribute in the merchandising system.
Size Group ID	Identifies the differentiator group used to setup items having a Size attribute in the merchandising system.
Item Orderable Flag	Indicates if the item is orderable in the merchandising system.

Table 5-11 Product Split Dimension Attributes

Attribute	Definition
Style	This attribute displays the style of an item.
Color	This attribute displays the color of an item.
Size	This attribute displays the size of an item.

Table 5-11 (Cont.) Product Split Dimension Attributes

Attribute	Definition
Fabric	This attribute displays the fabric of an item.
Flavor	This attribute displays the flavor of an item.
Scent	This attribute displays the scent of an item.
Color Alternate	This attribute displays the description of a color in primary language, for use in grouping report results by the color label.
Size Alternate	This attribute displays the description of a size in primary language, for use in grouping report results by the size label.
Season Alternate	This attribute displays the description of a season in primary language, for use in grouping report results by the season label. This has been copied over from the Season Phase dimension for use in item/season based reports.
Phase Alternate	This attribute displays the description of a season phase in primary language, for use in grouping report results by the phase label. This has been copied over from the Season Phase dimension for use in item/season based reports.
Item Part Desc	Description of the code associated with a product that is typically printed on the physical item, such as a UPC, EAN, or PLU. A single SKU may have multiple part numbers associated with it.
Item Part Number	A code associated with a product that is typically printed on the physical item, such as a UPC, EAN, or PLU. A single SKU may have multiple part numbers associated with it.

Product Images

RI is capable of displaying item images that have been configured for use in RMFCS. RI directly captures the URLs which have been assigned to items and exposes them to OAS as string attributes. The URLs can be displayed as images by changing the column's Data Format option to either Image URL or HTML. The Image URL format will directly perform a GET browser request on the URL and return the image exactly as it is formatted on the host system. The HTML format allows you to enter custom HTML tags to change the format of the image, such as the width or height. All URLs must use the HTTPS protocol, image URLs using HTTP will not be rendered in RI. The image URLs are a concatenation of the file path and file name from RMFCS, without any manipulation. Ensure that this concatenation results in a valid URL before using it in RI.

An example column formula that can be used in conjunction with the HTML data format is provided below:

```
'<img src='||"Item As Is"."Item Image"||' width=100 height=100 />'
```

This formula will display the image at a forced 100x100 pixel size, which is a typical viewing size in reports where the image is just a reference (e.g. to see the color or silhouette) rather than the focus of the analysis.

Table 5-12 lists the attributes for item images.

Table 5-12 Product Image Attributes

Attribute	Definition
Item Image	Image representing a transaction item.
Style Image	Image representing a style or parent-item.
Subclass Image	Image representing a subclass.
Class Image	Image representing a class.
Department Image	Image representing a department.
Group Image	Image representing a group.
Division Image	Image representing a division.
Company Image	Image representing a company.
Item Attribute Image	Image representing an item attribute.
Default Item Attribute Image	This is the default Item Attribute image.
Second Half Item Image	This attribute displays the description of the Item image used in the item similarity comparison.

Related Items

Table 5-13 lists the attributes of the Related Items dimension. These values are sourced from the related item data in RMFCS. Related item attributes are currently supported with the Sales and Inventory Position facts. Related items should be viewed along with the Item dimension to see the full relationship.

Table 5-13 Product Org Dimension Attributes

Attribute	Definition
Item Relationship ID	Unique identifier for the relationship with a related item.
Item Relationship Name	Name given to the relationship with a related item.
Item Relationship Type	Describes the type of relationship for a related item. Values are configured in code_detail table under code_type IREL. Valid values: CRSL, SUBS.
Related Item Desc	Description of the related item.
Related Item End Date	Indicates the date till the related items can be used for transactions. A null value means it's effective indefinitely.
Related Item Number	Unique identifier of the related item.
Related Item Priority	Relative priority of a related item when multiple items are assigned. Applicable only in case of relationship type SUBS.
Related Item Start Date	Indicates the date when the related items can be used for transactions.

Substitute Items

Table 5-14 lists the attributes of the Substitute Items dimension. These values are sourced from the substitute item data in RMFCS. Substitute item attributes are currently supported with the Sales and Inventory Position facts. Substitute items should be viewed along with the Item and Organization dimensions to see the full relationship.

Table 5-14 Substitute Items Dimension Attributes

Attribute	Definition
Substitute End Date	Indicates the date when the substitution will end for the main item
Substitute Item Desc	Description for the substitute item.
Substitute Item Fill Priority	Contains the fill priority for the main item relative to a substitute item and is NULL if LOC_TYPE is not W (Warehouse). Valid values for this field are: M (main), S (substitute)
Substitute Item Number	Unique identifier for the substitute item.
Substitute Item Pick Priority	Contains the pick priority for the substitute item. If there are multiple substitute items for a main item, then the pick priority will determine the order the item is picked.
Substitute Reason	Reason for substituting the item.
Substitute Replenishment Pack	Contains the replenishment pack, if any, that will be used to fulfill the demand of the associated item.
Substitute Start Date	Indicates the date when the substitution will start for the main item.

Product Org Attributes

Table 5-15 lists the attributes of the Product Org Attributes dimension. These values are sourced from the item/loc traits and replenishment item loc table data in RMFCS

Table 5-15 Product Org Dimension Attributes

Attribute	Definition
Backorder Indicator	Contains a value of Y to indicate the item is backorderable.
Electronic Marketing Club	Code representing the electronic marketing club the item belongs to at the location.
Food Stamp Indicator	Contains a value of Y when the item is eligible for food stamps.
In Store Market Basket	Contains the in store market basket code for the item/location.
Manual Price Entry	Contains a value of Y when the item is expected to have manual price entries at the POS for a location.
National Brand Comparison Item	Nationally branded item to which you would like to compare the current item.
Refundable Indicator	Contains a value of Y to indicate the item is refundable at that location.
Returnable Indicator	Contains a value of Y to indicate the item is returnable to that location.
Reward Club Eligible Indicator	Whether the item is valid for various types of bonus point or award programs at the location.
Store Reorderable Indicator	Contains a value of Y to indicate the item is reorderable to that location.
WIC Indicator	Contains a value of Y to indicate the item is eligible for the Women, Infants, and Children (WIC) program.
Item Loc Status	Current status of item at the store
Item Loc Previous Status	Previous status of item at the store
Item Loc Status Update Date	Date on which the status for item at the store was most recently changed.

Table 5-15 (Cont.) Product Org Dimension Attributes

Attribute	Definition
Item Loc Ranged Flag	Contains a value of Y to indicate the item location ranging.
Item Loc Clearance Flag	Contains a value of Y to indicate the item is on clearance at the store.
Item Loc Taxable Flag	Contains a value of Y to indicate the item is taxable at the store.
Item Loc Local Desc	Contains the local description of the item at a specific location.
Item Loc Local Short Desc	Contains the local short description of the item at a specific location.
Item Loc Pallet Tier Units	Contains the number of shipping units (cases) that make up one tier of a pallet. Multiply TIER x HEIGHT to get total number of cases for a pallet.
Item Loc Pallet Height	Contains the number of tiers that make up a complete pallet (height). Multiply TIER x HEIGHT to get total number of cases for a pallet.
Item Loc Store Order Multiples	Contains the multiple in which the item needs to be shipped from a warehouse to the location.
Item Loc Daily Waste Percent	Contains the average percentage lost from inventory on a daily basis due to natural wastage.
Item Loc Size of Each	Contains the size of an each in terms of the uom_of_price.
Item Loc Ticket Size	Contains the size to be used on the ticket in terms of the uom_of_price.
Item Loc Ticket UOM	Contains the unit of measure that will be used on the ticket for this item.
Item Loc Primary Variant	Address sales of PLUs (i.e. above transaction level items) when inventory is tracked at a lower level (i.e. UPC).
Item Loc Primary Cost Pack	Contains an item number that is a simple pack containing the
Item Loc Primary Supplier	item in the item column for this record.
Item Loc Primary Country	Contains the numeric identifier of the supplier who will be considered the primary supplier for the specified item/loc.
Item Loc Inbound Handling Days	Contains the identifier of the origin country which will be considered the primary country for the specified item/location. Contains the number of inbound handling days for an item at a warehouse type location.
Item Loc Source Method	Specifies how the ad-hoc PO/TSF creation process should source the item/stores request.
Item Loc Source Warehouse	Used by the ad-hoc PO/Transfer creation process to determine which warehouse to fill the stores request from.
Item Loc UIN Type	Contains the unique identification number (UIN) used to identify the instances of the item at the location.
Item Loc UIN Label	Contains the label for the UIN when displayed in SIM.
Item Loc UIN Capture Time	Indicates when the UIN should be captured for an item during transaction processing.
Item Loc UIN Generation Flag	Contains a value of Y to indicate the UIN is being generated in the external system.
Item Loc Franchise Costing Loc ID	Indicates if the costing location of the franchise store is a store or a warehouse.
Item Loc Franchise Costing Loc Type	Contains the type of costing location in the costing location field.

Table 5-15 (Cont.) Product Org Dimension Attributes

Attribute	Definition
Replenishment Order Method	Determines if the replenishment process will create an actual order/ transfer line item for the item location if there is a need for it or if only a record is written to the Replenishment Results table. Valid values are Manual, Semi-Automatic, Automatic, or Buyer Worksheet.
Replenishment Method	Contains the character code for the algorithm that will be used to calculate the recommended order quantity for the item location. Valid values include Constant, Min/Max, Floating point, Time Supply, Dynamic, SO Store Orders. Replenishment Increment Percent
Replenishment Increment Percent	Contains the percentage by which the min and max stock levels will be multiplied when calculating the recommended order quantity.
Replenishment Supply Min Days	Contains the minimum number of days of supply of stock to maintain.
Replenishment Supply Max Days	Contains the maximum number of days of supply of stock to maintain.
Replenishment Time Supply Horizon	Contains the number of days over which an average sales rate is calculated to be used in the Time Supply replenishment method algorithm.
Replenishment Inventory Selling Days	Contains the number of required days of on hand inventory to satisfy demand.
Replenishment Reject Orders Flag	Contains a value of Y to indicate if uploaded store orders with needs date on or after the NEXT_DELIVERY_DATE are valid.
Replenishment Lost Sales Factor	Contains the percentage of sales that could have occurred if inventory had been available through the order lead time.
Replenishment Scaling Exempt Flag	Contains a value of Y to indicate if the item/location should be exempt from scaling during the order scaling process during the replenishment process
Replenishment Order Scale Max Value	Contains the limit up to which order scaling can increase the order quantity for the item/location during the replenishment process.
Replenishment Terminal Stock Qty	Contains the desired stock on hand for the item location when the end of season is reached.
Replenishment Season ID	Contains the numeric identifier of the season for which this item location is being replenished.
Replenishment Phase ID	Contains the numeric identifier of the phase within the season for which this item location is being replenished.
Replenishment Last Review Date	Contains the date on which the item location was last reviewed.
Replenishment Next Review Date	Contains the date on which the item location will be reviewed next.
Replenishment Order Unit Tolerance	Contains the allowable unit change to order quantities generated from replenishment.
Replenishment Order Percent Tolerance	Contains the allowable percent change to order quantities generated from replenishment.
Replenishment Tolerance Flag	Contains a value of Y to indicate unit and percent tolerances will be used.
Replenishment Last Delivery Date	Contains the last delivery date that replenishment was run for.

Table 5-15 (Cont.) Product Org Dimension Attributes

Attribute	Definition
Replenishment Next Delivery Date	Contains the next delivery date calculated for the next review cycle.
Replenishment MBR Order Qty	Populated if the item on replenishment is using the Warehouse Stocked/Cross-Docked stock category.
Replenishment MBR Pickup Lead Time	Contains the pickup lead time for MBR cross-link line items after reqext processes them.
Replenishment MBR Supplier Lead Time	Contains the supplier lead time for MBR cross-link line items after reqext processes them.
Replenishment Transfer PO Link	Contains a reference number to link the item on the transfer to any purchase orders that have been created to allow the from location (i.e. warehouse) on the transfer to fulfill the transfer quantity to the to location (i.e store) on the transfer.
Replenishment Last ROQ	Contains the last recommended order quantity created by Vendor Replenishment Extraction (rplext.pc).
Replenishment Pack Size Level	Contains the pack size level (Case, Inner, Each) at which the item is shipped between warehouses and stores.
Replenishment Unit Cost	Contains the unit cost for the item for the replenishment supplier/ country.
Replenishment Supplier Lead Time	Contains the number of days that will elapse between the date an order is written and the delivery to the store or warehouse from the supplier.
Replenishment Inner Pack Size	Contains the break pack size for the item for the supplier.
Replenishment Pack Size	Contains the quantity that orders must be placed in multiples of for the supplier of the item.
Replenishment Pallet Tier Units	Contains the number of shipping units (cases) that make up one tier of a pallet. Multiply TIER x HEIGHT to get total number of units (cases) for a pallet.
Replenishment Pallet Height	Contains the number of tiers that make up a complete pallet (height).
Replenishment Rounding Level	This field determines how order quantities will be rounded to Case, Layer and Pallet.
Replenishment Inner Rounding Threshold	Contains the Inner Rounding Threshold value.
Replenishment Case Rounding Threshold	Contains the Case Rounding Threshold value.
Replenishment Layer Rounding Threshold	Contains the Layer Rounding Threshold value.
Replenishment Pallet Rounding Threshold	Contains the Pallet Rounding Threshold value.
Replenishment Service Level Type	Contains the Service Level Type (Simple Sales or Standard) that will drive the safety stock calculation algorithm.
Replenishment Zero SOH Transfer Flag	Contains a value of N to indicate a transfer should be created even though the warehouse does not have enough stock on hand.
Replenishment Multiple Per Day Flag	Contains a value of N to indicate if an item can be replenished multiple times per day at the location.
Replenishment Supplier Lead Time Flag	Indicates if the supplier lead time will be considered in the calculation of time supply order points and order up to point.

Table 5-15 (Cont.) Product Org Dimension Attributes

Attribute	Definition
Replenishment Supplier Num	Contains the numeric identifier of the supplier from which the specified location will source the replenishment demand for the specified item location.
Replenishment Country Code	Contains the country code of the supplier country that will be used to supply the replenishment demand for the specified item location.
Replenishment Review Cycle	Contains the number representing when the specified item location will be reviewed for replenishment. Valid values are 0-14. A 0 represents a weekly review cycle, a 1 represents a daily review cycle, a 2 represents a review cycle of every 2 weeks, a 3 represents a review cycle of every 3 weeks, etc.
Replenishment Stock Category	Contains the sourcing strategy for the item/location relationship.
Replenishment Source WH	Contains the numeric identifier of the warehouse through which the specified item will be sourced, or will crossdock to the specified store.
Replenishment Activate Date	Contains the date on which the item location will start to be reviewed for replenishment.
Replenishment Deactivate Date	Contains the date at which time the item location will no longer be reviewed for replenishment.
Replenishment Pres Stock	Contains the minimum amount of stock that needs to be on store shelves.
Replenishment Demo Stock	Contains the amount of stock that cannot be sold as new and is not counted as part of inventory in the replenishment calculations.
Replenishment Min Stock	Contains the required minimum number of units available for sale.
Replenishment Max Stock	Contains the required maximum number of units available for sale.
Replenishment Service Level	Contains the required measure of the probability that demand is satisfied from on hand inventory.
Replenishment Pickup Leadtime	Contains the expected number of days required to ship the item from the supplier to the initial receiving location.
Replenishment WH Leadtime	Contains the expected number of days required to move the item from the warehouse to the store defined on this record.
Item Loc Deposit Code Flag	Indicates whether a deposit is associated with this item at the location.
Item Loc Proportional Tare Pct	Contains the value associated of the packaging in items sold by weight at the location.
Item Loc Fixed Tare Value	Contains the value associated of the packaging in items sold by weight at the location.
Item Loc Fixed Tare UOM	Contains the unit of measure value associated with the tare value.
Item Loc Return Policy	Contains the return policy for the item at the location.
Item Loc Stop Sale Flag	Indicates that sale of the item should be stopped immediately at the location
Item Loc Report Code	Contains the code to determine the reports the location should run.
Item Loc Flex Attr 1 - 25	Item Location level custom flex attributes matching standard CFA datatypes and formatting

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

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.

It is also possible that the retailer has multiple sources of promotions both internal and external to their Oracle applications. RI has the ability to source promotions directly from the RPM and Customer Engagement applications. It can also accept external promotions through a separate interface. Regardless of the source of the promotion data, it is assumed that the retailer will ensure uniqueness of the promotions across all source systems, such that the sales transactions occurring under a specific promotion can be correctly identified and reported on.

Table 5-16 lists the attributes of the Promotion dimension.

Table 5-16 Promotion Dimension Attributes

Attribute	Definition
Promo Source	Identifier for the source system of the promotion data, in cases where multiple source systems are generating promotions (such as RPM, CE, and OMS).
Promo ID	Unique ID from the source system that identifies a promotion. A promotion is an intentional grouping of promotion offers. A promotion can only be a child of a single promotion event. Multiple promotions within a promotion event can have overlapping timeframes within the event.
Promo Name	Name of a promotion. A promotion is an intentional grouping of promotion offers. A promotion can only be a child of a single promotion event. Multiple promotions within a promotion event can have overlapping timeframes within the event.

Table 5-16 (Cont.) Promotion Dimension Attributes

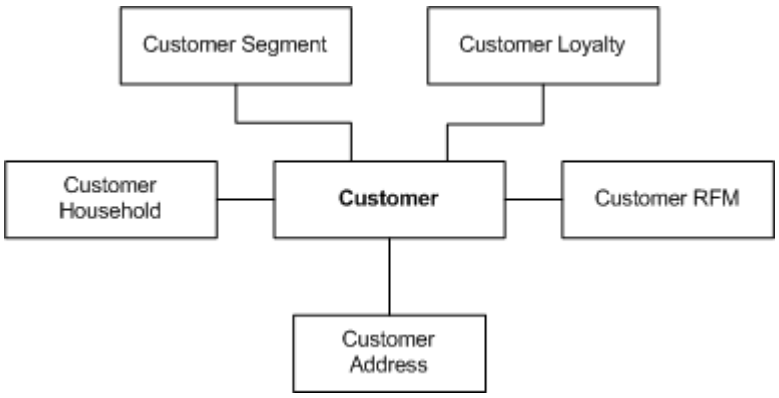
Attribute	Definition
Promo Description	Description of a promotion. A promotion is an intentional grouping of promotion offers. A promotion can only be a child of a single promotion event. Multiple promotions within a promotion event can have overlapping timeframes within the event.
Promo Start Date	This represents the start date of a promotion. This value is determined by the timeframes of the promotion offers within a promotion.
Promo End Date	This represents the end date of a promotion. This value is determined by the timeframes of the promotion offers within a promotion.
Promo Offer ID	Unique ID from the source system that identifies a promotion offer. A promotion offer is an intentional grouping of promotion details within a promotion. A promotion offer is always a child of a single promotion, which is a child of a single promotion event. Multiple offers within a promotion can have overlapping timeframes within the promotion.
Promo Offer Name	Name of a promotion offer. A promotion offer is an intentional grouping of promotion details within a promotion. A promotion offer is always a child of a single promotion, which is a child of a single promotion event. Multiple offers within a promotion can have overlapping timeframes within the promotion.
Promo Offer Start Date	This represents the start date of a promotion offer. Individual offers may have overlapping timeframes within a promotion.
Promo Offer End Date	This represents the end date of a promotion offer. Individual offers may have overlapping timeframes within a promotion.
Promo Offer Type	Promotion offer type that is applied to a promotion offer, with values such as 0 (simple item offer), 1 (simple transaction offer), and 2 (buy/get transaction offer). A promotion offer type is the method to implement a price discount, reward, or credit/financing.
Coupon Code	A static number or code used to identify a set of coupons associated with an offer. May be used to generate serialized coupon numbers that will be issued to customers or redeemed at the point of sale.
Target Name	Describes the customer segment that is targeted for a particular promotion. The promotion offers may only be delivered to the customers in the specified segments.
Promo Detail ID	Identifier of a detail of a promotion offer, usually either a condition or reward attached to the offer, but may include other details such as rules, constraints, or limits on the offer.
Promo Detail Type	Identifies the type of detail record associated with an offer, with values such as "C" for condition or "R" for reward. The available types will vary depending on the source of promotion data.
Promo Condition/Reward Type	Identifies the type of condition or reward rule, such as Buy/Spend X or Give Percent Off.
Promo Condition/Reward Amount	Identifies the amount associated with a condition or reward, such as the price change amount or percent off.
Promo Condition/Reward Quantity	Identifies the number of units associated with the condition or reward, such as the quantity to buy before getting the reward, or the quantity eligible for discount.
Promo Condition/Reward UOM	The unit of measure for the condition or reward quantity.

Table 5-16 (Cont.) Promotion Dimension Attributes

Attribute	Definition
Promo Flex Attrib 1 through Promo Flex Attrib 60	60 flexible promotion fields are available for externally sourced promotion data, which may contain a variety of promotion-specific attributes and values.
Promo Campaign Desc	Description of a promotion campaign, which is an intentional grouping of promotions. A single campaign may contain many promotions.
Promo Campaign End Date	Date until which the campaign record is effective.
Promo Campaign ID	Unique display ID from the source system that identifies a promotion campaign.
Promo Campaign Start Date	Date from which the campaign record is effective. This represents the start date of a promotion campaign.
Promo Campaign Strategy	The business or marketing strategy for a promotion campaign. This is a generic description field that allows for additional details to be stored as part of the campaign or promotion.
Promo Campaign Theme	The theme or categorization of a promotion campaign. This is a generic description field that allows for additional details to be stored as part of the campaign or promotion.
Promo Campaign Type	The type of promotion campaign. This is a generic description field that allows for additional details to be stored as part of the campaign or promotion.
Promo Offer Cancel Date	The date that an offer was cancelled.
Promo Offer Cancel Reason Code	The reason code used to cancel an offer.
Promo Offer Exclusive Discount Flag	Indicates if the discount must be exclusive of any other offer or not. Valid values in (Y, N).

Customer

Knowledge of the customers' preferences and buying behavior allows the retailer to increase sales through up-selling efforts, target customers for promotions, and prevent defection to competitors. In Retail Insights, customer information and transaction history can be used to segment the customer base by one of several methods. This analysis yields important information about who the best customers are, and the affinity of customer segments to particular products.



Customer addresses and personal information will be sourced from an external customer management system or from Oracle Retail Customer Engagement (ORCE). Oracle Retail Insights will provide Source Independent Load interfaces (W_PARTY_PER_DS and W_RTL_PARTY_PER_ATTR_DS) to feed customer master data, addresses, and other customer attributes from the Oracle Retail Insights staging tables to the customer dimension. Some or all of this data could be loaded into the CRM system by Oracle Data Cloud, and then passed down from there to RI.

If detailed customer data is not available, it is also possible to seed customer numbers directly from sales transactions (if the POS system is capable of providing such identifiers). This allows for a simple form of customer analysis that uses just the unique identifiers from the point of sale to analyze your data.

Customer addresses and personal information will be sourced from an external customer management system or from Oracle Retail Customer Engagement (ORCE). Oracle Retail Insights will provide Source Independent Load interfaces (W_PARTY_PER_DS and W_RTL_PARTY_PER_ATTR_DS) to feed customer master data, addresses, and other customer attributes from the Oracle Retail Insights staging tables to the customer dimension. Some or all of this data could be loaded into the CRM system by Oracle Data Cloud, and then passed down from there to RI.

Table 5-17 lists the attributes of the Customer dimension.

Table 5-17 Customer Dimension Attributes

Attribute	Definition
Customer Individual Gender Code	Code for an individual's gender.
Customer Individual Gender	An individual's gender, for example: male, female, not declared.
Customer Individual Marital State Code	Code for an individual's marital state (marital status).
Customer Individual Marital State	An individual's marital state (marital status), for example: single, married, divorced, widowed.
Annual Income	Customer's annual income.
Education Background Code	Code for the education background code of the customer.
Recency Category	Recency category of the customer.
Customer Primary City	Customer primary city of residence.
Customer Primary State Code	Code for customer primary state.
Customer Primary State	Customer primary state.
Customer Primary Postal Code	Customer primary postal code.
Customer Primary Country	Customer primary country.
Address ID	Customer address ID.
Churn Score	Score indicating the likelihood of customer retention.
Customer Status Code	Status code for a customer.
Customer Status Code Description	Status of a customer, for example: potential, first-time, regular.
Education Background	Education background of a customer, for example: bachelor's degree, master's degree).
Ethnicity Code	Code for the ethnicity of the customer, for example: H = Hispanic, G = German, U = Unknown.

Table 5-17 (Cont.) Customer Dimension Attributes

Attribute	Definition
Nationality Code	Code for the nationality of the customer.
Customer Type	Type of customer
Nationality	Nationality of the customer.
Occupation Code	Code for the occupation of the customer.
Occupation	Occupation of the customer.
Prospect Flag	Flag to indicate someone who has visited or shopped online, but has not purchased. The retailer may have some information about such prospect customers.
Recency Category Code	Code indicating how recently the customer purchased.
Recency Category	Score indicating how recently the customer purchased.
Frequency Category Code	Code indicating how often a customer purchases.
Frequency Category	Score indicating how often a customer purchases.
Monetary Category Code	Code indicating the monetary value of a customer's purchase.
Monetary Category	Score indicating the monetary value of customer's purchase.
RFM Categories Code	Code indicating the customer's total RFM Score.
RFM Categories	Score indicating the combined recency, frequency, and monetary value of a customer.
Churn Score Range Sort	Sort range for churn score.
Churn Score Range	Range of churn score.
Customer Address Type Code	Code for the type of customer address.
Customer Address Type	Type of address, for example: billing address, delivery address.
Years at Address	Number of years for which the specific address has been in use.
Customer Address Class Code	Code indicating the class of the address.
Customer Address Class	Class of address, for example: residential address, commercial address.
Primary Address Flag	Flag that indicates if the address can be used for all customer communication and reporting purposes.
City	Indicates the City.
State Code	State code.
State	State.
Postal Code	Postal code.
Country	Indicates the Country.
Opt Out Flag	Flag indicating if the address or e-mail address may or may not be marketable.
Customer Birth Month	Customer month of birth.
Customer Birth Year	Customer year of birth.
Age	Indicates the age of customer based on year and month of birth.
Age Range	This demographic attribute for customer represent the range in which his age lies. This attribute will be typically configured by user based on their business needs.

Table 5-17 (Cont.) Customer Dimension Attributes

Attribute	Definition
Customer Income Band	Range in which customer's income falls.
Ethnicity Name	Ethnicity of the customer, for example: H = Hispanic, G = German, U = Unknown.
Dwelling Status	The dwelling status classifies all dwellings according to whether they are occupied, unoccupied, or under construction during the time period of the data collection.
Dwelling Size	This attribute lists the floor area for a dwelling unit expressed in the standard unit of measure.
Dwelling Type	This attribute lists the dwelling unit occupied by, or intended for occupancy by, one household. Examples include: detached house, flat, apartment, tenement, trailer park, etc.
Dwelling Tenure	The dwelling tenure attribute refers to the period of the occupancy of a private household in a dwelling. It is expressed in number of years.
Religion	This attribute identifies a customer's religion.
Religion Code	This attribute is the code for a customer's religion.
Social Class	Status hierarchy by which customers are classified on the basis of esteem and prestige. Values - Upper Class, Upper Middle class, Lower middle class, Upper lower class, lower class.
Social Class Code	Code indicating the status hierarchy by which customer are classified on the basis of esteem and prestige.
Family Lifecycle	Indicates the family lifecycle of the customer, Examples include: bachelor, married with no children (DINKS: Double Income, No Kids), full-nest, empty-nest, or solitary survivor.
Family Lifecycle Code	Code indicating the family lifecycle of the customer.
Metro Area Size	Size of population in the metro area where the customer lives.
Activity	Activity based on AIO survey.
Activity Code	Activity code based on AIO survey.
Attitude	This attribute indicates the customer's attitude.
Attitude Code	Code indicating customer's attitude.
Benefit Sought	The main benefits the customer looks for in a product. For example, health, taste, and so on.
Benefit Sought Code	Code based on benefits sought.
Climate	This indicates the weather patterns for the customer's area.
Climate Code	The code indicates the weather patterns.
Customer Lifetime Value	This attribute is a forecast of customer profitability.
Customer Lifetime Value Code	This is the code for customer lifetime value.
Customer Lifetime Value Range	This is the range in which the customer's value falls, for example, Very High/High/Medium/Low
Customer Profitability Code	This is the code for customer profitability.
Customer Profitability	This attribute is a historical analysis of customer profitability, for example, High/Medium/Low.
Interest	This attribute indicates interest based on AIO survey.
Interest Code	Code indicating customer's interests.

Table 5-17 (Cont.) Customer Dimension Attributes

Attribute	Definition
Occasion	This attribute indicates when a customer tends to purchase or consume the product. It can be holidays and events that stimulate purchases
Occasion Code	Code indicating when customer tends to purchase or consume the product.
Opinion	This attribute indicates (but is not limited to) customer's political opinions, environmental awareness, sports, arts and cultural issues.
Opinion Code	Code indicating customer opinions.
Readiness to Buy	This attribute indicates customer buying mindset.
Readiness to Buy Code	Code indicating the customer buying mindset.
Hours Worked	The number of hours the customer works.
Age of Kids	This attribute will contain predefined ranges for a customer. The generic range of values will be Range - 0-3, 3-6, 6-10, 11-18, 0-16.
Population Density	Population density of the customer's area. Possible values can be urban, suburban, or rural.
No of Teens	This attribute is the number of teens in the customer's household.
Usage Rate	This indicates light, medium and heavy product usage by the customer.
Years Primary Store	This attribute is the number of years the customer has shopped at their primary grocery store.
Customer Active Flag	Flag indicating if the customer is active.
Citizenship	This indicates the citizenship status of the customer.
Citizenship Code	Code indicating the citizenship status of the customer.
Customer Address Effective Date	The date a customer's primary address is effective from.
Annual Revenue	A customer's annual revenue or net worth.
Call Flag	Flag indicating if this customer can be called.
Contact Active Flag	Flag indicating if this contact is active.
Contact Business Name	Name of the business or organization associated with this customer.
Contact Formed Date	The date that this customer's information was first recorded.
Customer End Date	The effective end date for the customer.
Customer Since Date	The effective start date for the customer.
Customer Birth Date	The birth date of the customer.
Customer Email Address	The primary email address of the customer.
Customer Phone Number	The primary phone number of the customer.
Customer End Date	The effective end date for the customer.
Customer First Name	The first name or given name of a customer.
Customer Middle Name	The middle name of a customer.
Customer Last Name	The last name or surname of a customer.
Customer Name Prefix	The prefix on a customer name.
Customer Name Suffix	The suffix on a customer name.

Table 5-17 (Cont.) Customer Dimension Attributes

Attribute	Definition
Customer Nickname	The nickname of a customer.
Customer Full Name	The full name of the customer.
Customer Home Location	The name or number of the customer's chosen home or preferred retail location.
Customer Signup Location	The name or number of the location where the customer signed up or had their data entered into the system.
Last Transaction Date	The last recorded transaction date for the customer, as registered in source system for the customer data.
First Transaction Date	The first recorded transaction date for the customer, as registered in source system for the customer data.
Enterprise Flag	Flag indicating if this customer is an individual or an organization.
Suppress Call Flag	Flag indicating if this customer should not be contacted by phone.
Suppress Email Flag	Flag indicating if this customer should not be contacted by email.
Suppress Fax Flag	Flag indicating if this customer should not be contacted by fax.
Suppress Mail Flag	Flag indicating if this customer should not be contacted by mail.
Customer Oracle ID	The identifier assigned by Oracle Data Cloud to track the data for a known individual across systems.
Customer Oracle Address ID	The identifier assigned by Oracle Data Cloud to track the data for a known household across systems.

Customer Segmentation

Customer segmentation is the process of identifying and classifying customers according to their current and future value to your business. Segmentation identifies your most and least valuable customers based on how frequently and recently customers have purchased, and the monetary value and profitability of their business. You can use this information to establish programs and policies that protect your most valued customers against defecting to a competitor. In addition, segmentation assists the marketing analyst in identifying customers whose purchasing history indicates the potential to become more profitable, as well as those who contribute little value to your business.

Your best customers are those who:

- Have purchased goods or services from you recently
- Purchase from you frequently
- Spend a large amount of money

Table 5-18 lists the attributes of the Customer Segment dimension.

Table 5-18 Customer Segment Dimension Attributes

Attribute	Definition
Customer Segment Name	Name of the customer segment.
Customer Segment Type	Indicates the type of customer segment.

Table 5-18 (Cont.) Customer Segment Dimension Attributes

Attribute	Definition
Customer Segment Age Range	This attributes indicates the age group for customer segment. This attribute can be used by marketers devise, and endorse items specifically for the needs and perceptions of age groups.
Customer Segment Gender Code	The code indicating gender of customer segment.
Customer Segment Gender	This attributes defines the gender of customer segment. Gender drives marketing decisions for categories like clothing, hairdressing, magazines and toiletries and cosmetics, and so on.
Customer Segment Family Size	Indicates the Family Size for a demographics based segment.
Customer Segment Generation Code	Generation code for creating demographic segments.
Customer Segment Generation	Generation for creating demographic segments. Possible value can be Baby-boomers, Generation X ans so on.
Customer Segment Annual Income Range	The attribute defines target customer segment income range. Retailers will use this attribute to potentially target affluent customers with luxury goods and convenience services. Low Income range customers may be targeted with every day value or discounted items and services.
Customer Segment Occupation Code	Occupation code to classify customer into occupational categories.
Customer Segment Occupation	Occupation for purposes of segmenting into occupational categories.
Customer Segment Education Background Code	Educational background code to classify customer into different education categories.
Customer Segment Education Background	Educational background to classify customer into different education categories.
Customer Segment Ethnicity Code	The code to identify ethnic groups to find customers with special interests.
Customer Segment Ethnicity	This attribute identifies ethnic groups to find customers with special interests.
Customer Segment Nationality Code	Nationality code for the purpose of demographics based segmentation.
Customer Segment Nationality	This attribute identifies nationality to find customers with special interests.
Customer Segment Religion Code	Religious code for the purpose of demographics based segmentation.
Customer Segment Religion	This attribute identifies religious groups to find customers with special interests.
Customer Segment Social Class Code	Code indicating the status hierarchy by which customer are classified on the basis of esteem and prestige.
Customer Segment Social Class	Status hierarchy by which customer are classified on the basis of esteem and prestige. Values - Upper Class, Upper Middle class, Lower middle class, Upper lower class, lower class.
Customer Segment Family Lifecycle Code	Code indicating the family lifecycle of the segment.

Table 5-18 (Cont.) Customer Segment Dimension Attributes

Attribute	Definition
Customer Segment Family Lifecycle	Indicates the family lifecycle of the segment, Examples include: bachelor, married with no children (DINKS: Double Income, No Kids), full-nest, empty-nest, or solitary survivor.
Customer Segment Region Code	Region code for the purpose of geographic based segmentation. Possible value can be continent, country, state, or even neighborhood.
Customer Segment Region	Region value for the purpose of geographic based segmentation. Possible value can be continent, country, state, or even neighborhood.
Customer Segment Metro Area Size	Size of population for creating geographic based customer segments.
Customer Segment Population Density	Population density for creating geographic customer segments, Possible values can be urban, suburban, or rural.
Customer Segment Climate Code	The code indicates the weather patterns.
Customer Segment Climate	This indicates the weather patterns for the purpose of geographic based segmentation.
Customer Segment Benefit Sought Code	Benefits sought code for purposes of segmentation based on benefits sought.
Customer Segment Benefit Sought	The main benefits consumers look for in a product. For example, health, taste, and so on.
Customer Segment Usage Rate	This indicates light, medium and heavy product usage segments.
Customer Segment Readiness To Buy Code	Code indicating the customer segment's buying mindset.
Customer Segment Readiness To Buy	This attribute indicates customer segment's buying mindset.
Customer Segment Occasion Code	Code indicating when segment tends to purchase or consume the product.
Customer Segment Occasion	This attribute indicates when segment tends to purchase or consume the product. It can be holidays and events that stimulate purchases
Customer Segment Activity Code	Activity code based on AIO survey.
Customer Segment Activity	Activity based on AIO survey. This attribute can be used to create Psychographic segments.
Customer Segment Interest Code	Code indicating customer segment's interests.
Customer Segment Interest	Indicates interest based on AIO survey. This attribute can be used to create Psychographic segments.
Customer Segment Opinion Code	Code indicating customer segment's opinions.
Customer Segment Opinion	This attribute indicates (but is not limited to) customer segments political opinions, environmental awareness, sports, arts and cultural issues.
Customer Segment Attitude Code	Code indicating customer segment's attitude.
Customer Segment Attitude	This attribute indicates the customer segment's attitude. This can be used to create Psychographic segments.

Table 5-18 (Cont.) Customer Segment Dimension Attributes

Attribute	Definition
Customer Segment Value Code	Code indicating customer segment's value.
Customer Segment Value	This attribute indicates the customer segment's value. This can be used to create Psychographic segments.
Customer Segment Source Type	This attribute indicates whether the customer segment was based on customers or households.

Customer Segment Allocation

The customer segment allocation folder under Customer Insights in Oracle Retail Insights enables analysis of the association of a retailer's customer segments to its merchandise and organization hierarchies. That association enables the targeting of specific customer segments with promotions by indicating in what locations and what products a customer segment is most likely to purchase. Note that this is purely for dimensional reporting.

For example, if a merchant sees a strong association between customer segment: farmer; subclass: plows; locations: Midwest Region, she will want to ensure that she has an extended assortment of the plows subclass for that Region. That way she is driving sales as well as meeting or exceeding customer expectations.

The Customer Segment Allocation association itself is done by external systems and interfaced to Oracle Retail Insights. The association level needs to be predefined in the configuration file to determine at what level of the merchandise and organization hierarchy customer segment allocation should be tracked. For example, a retailer could configure association at subclass and store level, or department and region level, or whatever levels are appropriate for their organization. Regardless of what level is chosen during configuration, it is not recommended to drill up or down on those merchandise or organization hierarchy levels during reporting, as that will provide incorrect results.

Customer Behavior

Retail Insights exposes a set of metrics describing customer behavior, which are calculated using the Retail AI Foundation Cloud Services. These metrics are calculated using customer-linked transaction data. In addition to helping understand how customers have behaved in past, these metrics can also help predict future behavior.

Table 5-19 Customer Behavior Metrics

Attribute	Definition
Customer Latency	The number of days between each of a customer's transactions sales or return.
Customer Lifespan	The time between a customer's first and last purchase.
Customer RFM	The RFM (recency, frequency, monetary) score determines quantitatively which customers are the best ones by examining how recently a customer has purchased (recency), how often the customer purchases (frequency), and how much the customer spends (monetary).
Customer Projected Next Purchase Date	Prediction of the next likely customer purchase date.

Table 5-19 (Cont.) Customer Behavior Metrics

Attribute	Definition
Customer Location Loyalty	How loyal are customers to a specific location? A value of 100% indicates that they always shop at a particular location.
Customer Style Loyalty	How loyal are customers to a particular style? A value of 100% indicates that they always prefer one specific style.
Customer Color Loyalty	How loyal are customers to a particular color? A value of 100% indicates that they always prefer one specific color.
Customer Brand Loyalty	How loyal are customers to a particular brand? A value of 100% indicates that they always prefer one specific brand.
Customer Price Efficiency Loyalty	How efficient are customers in getting a promotion price? A value of 100% indicates that the customer always buys items on promotions or is very efficient in obtaining a good price.
Customer Projected Lifetime Value	The projected total lifetime value of a customer, which is modeled by predicting the number/value of future purchases a customer will make and combining that with their purchase history.

Customer Loyalty Scores

Loyal customers are among the retailer's most precious assets. A loyal customer contributes to your business on a regular basis over an extended period of time and almost always ranks as one of your best customers.

When used in conjunction with RFM analysis, these metrics allow you to assess the importance of various items to your best customers.

In Retail Insights, customer's loyalty scores are tracked at individual customer as well as customer segment level for various grains of promotion, calendar, style, brand and merchandising hierarchy.

Loyalty score attributes indicate the likelihood of purchase of merchandise by a given customer or customer segment for the supported attributes.

Table 5-20 lists the attributes of the Customer Loyalty dimension.

Table 5-20 Customer Loyalty Score Dimension Attributes

Attribute	Definition
Seg Dept Loyalty Score	Customer Segment's loyalty scores for Department, Location and Day. This score is an indication of customer segment's experience of purchase of products or services.
Seg Dept Loyalty Score by Promo	Customer segment's loyalty score for Department, Location and Day by Promotion Component Type. This score is an indication of customer segment's experience of purchase of products or services.
Seg Class Loyalty Score	Customer segment's loyalty score for Class, Location and Day. This score is an indication of customer segment's experience of purchase of products or services.
Seg Class Loyalty Score by Promo	Customer segment's loyalty score for Class, Location and Day by Promotion Component Type. This score is an indication of customer segment's experience of purchase of products or services.

Table 5-20 (Cont.) Customer Loyalty Score Dimension Attributes

Attribute	Definition
Seg Subclass Loyalty Score	Customer segment ‘s loyalty score for Subclass, Location and Day. This score is an indication of customer segment's experience of purchase of products or services.
Seg Subclass Loyalty Score by Promo	Customer segment‘s loyalty score for Subclass, Location and Day by Promotion Component Type. This score is an indication of customer segment's experience of purchase of products or services.
Seg Style Brand Loyalty Score	Customer segment‘s loyalty score for Style, Brand, Location and Day. This score is an indication of customer segment's experience of purchase of products or services.
Seg Style Brand Loyalty Score by Promo	Customer segment‘s loyalty score for Style, Brand, Location and Day by Promotion Component Type. This score is an indication of customer segment's experience of purchase of products or services.
Cust Dept Business Month Loyalty Score	Customer's loyalty score for Department, Location and Business Month. This score is an indication of customer's experience of purchase of products or services.
Cust Dept Business Month Loyalty Score by Promo	Customer's loyalty score for Department, Location and Business Month by Promotion Component Type. This score is an indication of customer's experience of purchase of products or services.
Cust Class Business Month Loyalty Score	Customer's loyalty score for Class, Location and Business Month. This score is an indication of customer's experience of purchase of products or services.
Cust Class Business Month Loyalty Score by Promo	Customer's loyalty score for Class, Location and Business Month by Promotion Component Type. This score is an indication of customer's experience of purchase of products or services.
Cust Style Business Month Brand Loyalty Score	Customer's loyalty score for Style, Brand, Location and Business Month. This score is an indication of customer's experience of purchase of products or services.
Cust Style Business Month Brand Loyalty Score by Promo	Customer's loyalty score for Style, Brand, Location and Business Month by Promotion Component Type. This score is an indication of customer's experience of purchase of products or services.
Cust Dept Greg Month Loyalty Score	Customer's loyalty score for Department, Location and Gregorian Month. This score is an indication of customer's experience of purchase of products or services.
Cust Dept Greg Month Loyalty Score by Promo	Customer's loyalty score for Department, Location and Gregorian Month by Promotion Component Type. This score is an indication of customer's experience of purchase of products or services.
Cust Class Greg Month Loyalty Score	Customer's loyalty score for Class, Location and Gregorian Month. This score is an indication of customer's experience of purchase of products or services.
Cust Class Greg Month Loyalty Score by Promo	Customer's loyalty score for Class, Location and Gregorian Month by Promotion Component Type. This score is an indication of customer's experience of purchase of products or services.
Cust Style Greg Month Brand Loyalty Score	Customer's loyalty score for Style, Brand, Location and Gregorian Month. This score is an indication of customer's experience of purchase of products or services.
Cust Style Greg Month Brand Loyalty Score by Promo	Customer's loyalty score for Style, Brand, Location and Gregorian Month by Promotion Component Type. This score is an indication of customer's experience of purchase of products or services.

Household

Table 5-21 lists the Customer Household attributes supported by Retail Insights.

Table 5-21 Customer Household Attributes

Attribute	Definition
Household Income	Indicates the household income.
Household Class Id	Code for household class.
Household Class	Household class for a customer. Possible values are Nuclear/Joint/ Single Parent, Double Income/Single Income.

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 Insights 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.

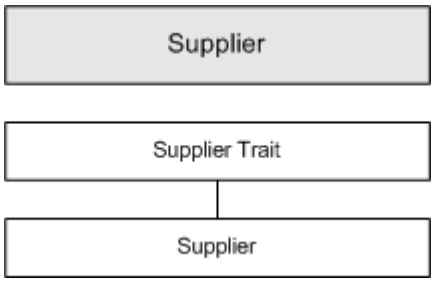


Table 5-22 lists the attributes of the Supplier dimension.

Table 5-22 Supplier Dimension Attributes

Attribute	Definition
Supplier Number	Unique ID from the source system that identifies a supplier.
Supplier	Trading name of a supplier.

Table 5-22 (Cont.) Supplier Dimension Attributes

Attribute	Definition
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.
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.

Table 5-22 (Cont.) Supplier Dimension Attributes

Attribute	Definition
Supplier Trait Desc	Description of a supplier trait. A supplier trait is an attribute of a supplier, used to group suppliers with similar characteristics.
Supplier Backorder Ind	Indicates if backorders or partial shipments will be accepted.
Supplier Default Lead Time	Holds the default lead time for the supplier. The lead time is the time the supplier needs between receiving an order and having the order ready to ship.
Supplier Delivery Policy	Contains the delivery policy of the supplier.
Supplier Final Destination Ind	Indicates if the supplier can ship to final destinations as per allocation or not.
Supplier Return Allowed Ind	Indicate if the supplier or supplier site accepts returns for the items associated with them.

Retail Type

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

- Regular
- Promotional
- Clearance
- Employee
- Intercompany
- Book Transfer
- Normal Transfer

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

It is important to note that inventory data is not held for all values of Retail Type. In RMFCS, stock on hand is considered to be in clearance or non-clearance status. In Retail Insights, non-clearance inventory is associated with the Regular value of Retail Type, while clearance inventory is associated with the Clearance value. Similarly, transfers can only be classified using one of the (I, B, N) values.

Table 5-23 describes the Retail Type attribute.

Table 5-23 Retail Type Attribute

Attribute	Definition
Retail Type	Price type of an item. Values are as follows: • R - Regular • P - Promotion • C - Clearance • E - Employee • I - Intercompany • B - Book • N - Normal 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-phase-season relationships are then loaded into Retail Insights. You can query sales and inventory data, for example, based on all items in the spring season, or just items in the Spring II phase.

> **Note:**
>
> On a given day, an item can belong to more than one season and more than one phase within a season. Seasonality is designed to group by item/location/day to avoid double-counting.

Retail Insights provides two versions of Season Phase attributes to support different business practices. The first version is called Season Phase Operational attributes. These attributes should be used when your merchandising system is managed to align buying and selling activities to fixed periods of time, such as a set of items being sold only during the Spring 2017 season. When using these attributes in reports, the start and end dates of the seasons and phases will be used to limit the data returned, similar to using calendar attributes. For example, if you want to see the net sales and profit for the Spring 2017 season, you could use the operational Season ID attribute to limit results to the effective dates of that season (without worrying about what those dates are).

The second set of attributes is called Season Phase Planning. These attributes should be used when a season or phase is used informationally, such as to describe when the item will first be received into stores, but not necessarily the window of time the item is selling for. Using these attributes will not limit reports to the start and end dates, it is more similar to using item or location attributes.

The following is the hierarchy of the Product Season dimension.

Table 5-24 lists the attributes of the Product Season dimension.

Table 5-24 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.
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.
Phase Desc Alternate	Alternate grouping of phase descriptions based only on the names, which allows for grouping multiple same-named phases onto the same report line.

Trade Area

A trade area is the geographic area serviced by a retail store or proposed retail store. A trade area is defined by whether a consumer shops at the store, and a retailer may have multiple trade areas for the site (primary, secondary, tertiary). Trade areas should be defined in such a way that retailers can determine the demographic, psychographic, or population data for the geography served by the store. This data is pulled from market area data, which is usually

based on census blocks in the U.S. The trade area provides a mechanism to map market area data to a specific store because the census blocks (or other method used to store market area data) do not correlate directly to the geographic area served by a store. Examples of ways to define a trade area include using traffic flow studies, a retail gravity model, a zip code method, or commuting data.

Table 5-25 Trade Area Dimension Attributes

Attribute	Definition
Trade Area Name	Indicates the name of the trade area
Trade Area Description	This attribute provides a description of the trade area.
Trade Area Type	This attribute describes the type of trade area. Valid values could include Urban, Suburban, Rural, and others.
Pull factor	Pull factors are ratios that estimate the proportion of local sales that occurs in a town.
Commuter population	Number of people who commute in this trade area.
Peak Season Population	The number of people in the Trade Area during peak 'population' season. This is common in Trade Areas with high tourist population ebb and flow.
Tourist Population	The number of people that are tourists in a Trade Area.
State Population	The number of people in the state that the Trade Area resides.
Number of Households	The number of households within a trade area.
Average Family Size	The average number of people within a household that reside in a trade area.
Per Capita Income	The income divided by the total population of a Trade Area.
Avg Num of Vehicles	Average number of vehicles per household in this trade area.
Average Drive Time	This attribute indicates the average time in minutes consumers must drive from their homes to shop.

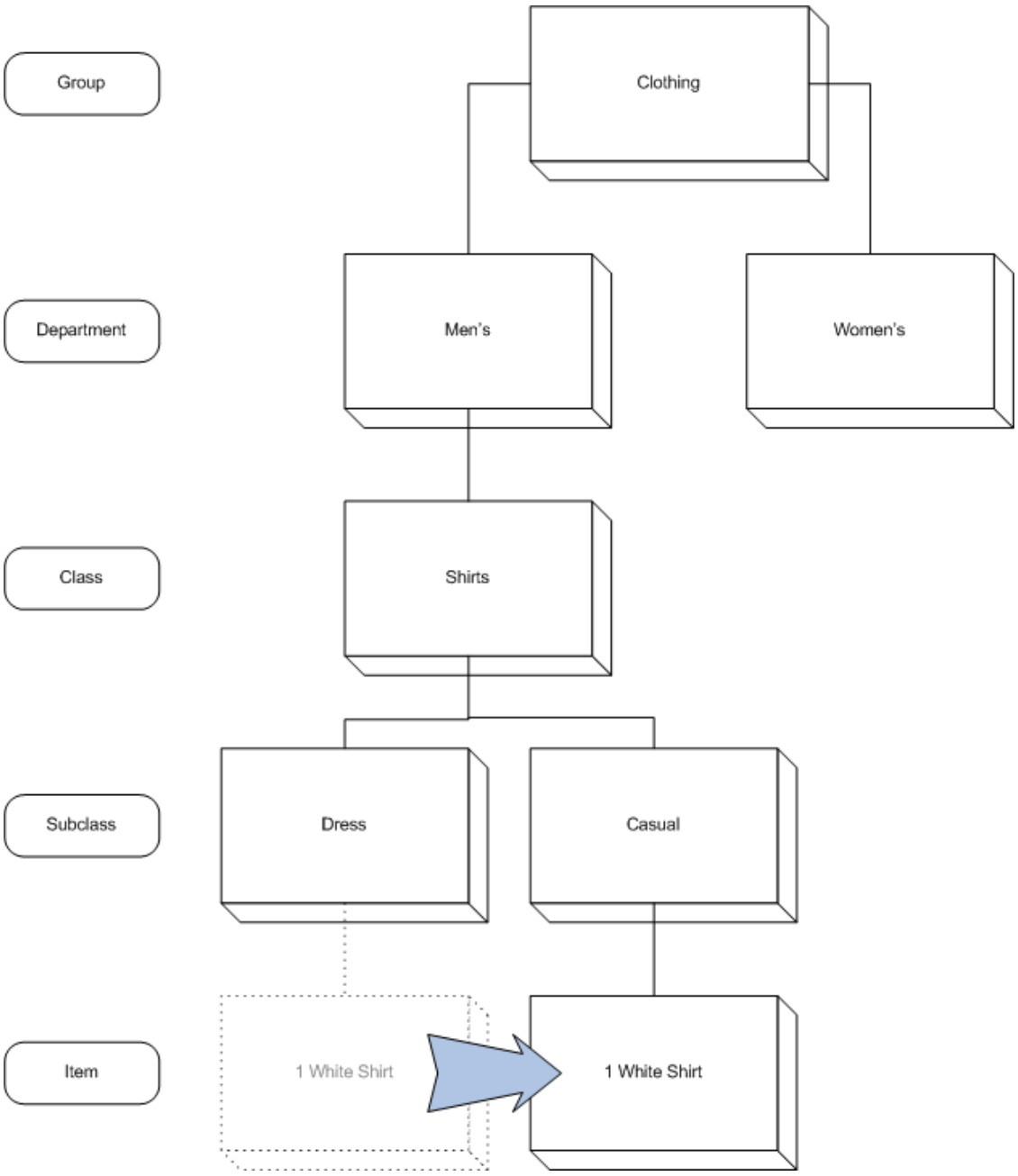
Reclassification

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 Insights reporting, whether you are using as-is, as-was, or point in time analysis. See "Analysis Methods" in 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 Insights still needs to track sales for that item from its new location in the product hierarchy, both before and after the change.

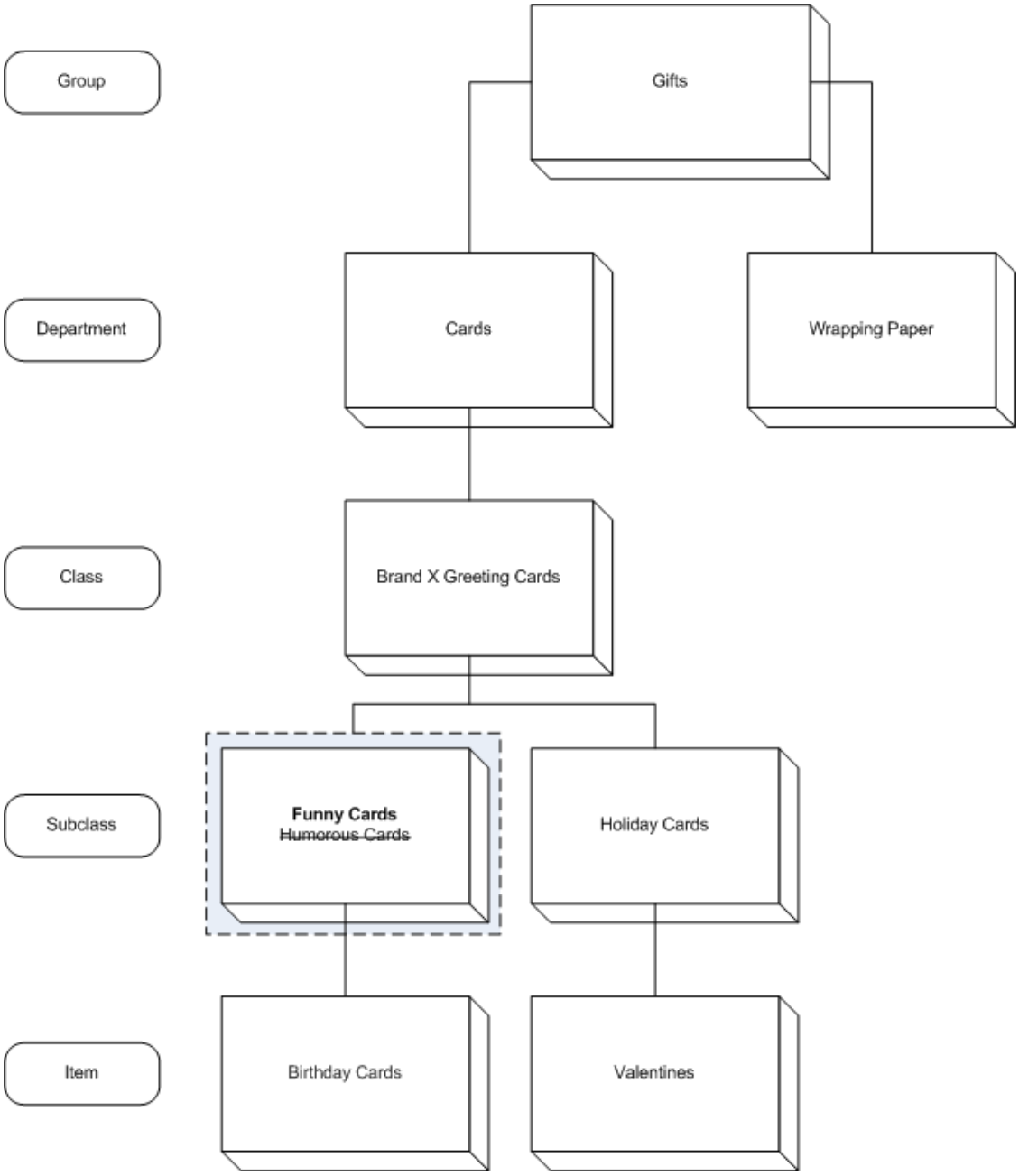
Retail Insights handles major changes by assigning the reclassified item (to use the same example) a new surrogate key. The surrogate key, along with the dimension's identifier, allow a means to track the dimension, and all transactions related to it, at any point in time.

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 Insights is less complex than major change processing.

Customer Order

Oracle Retail Insights' customer order functionality allows retailers to analyze transactions that cross multiple channels, and enables analysis of Oracle's Commerce Anywhere capabilities. It has two dimensions: customer order demand and customer order fulfillment.

For most retailers, effective customer order management has become critical as customers no longer shop only in brick and mortar stores, but expect the ability to interact with retailers across a variety of channels. A customer order is an agreement between the retailer and the customer in which the customer pays for an item and the retailer agrees to make the item available for pickup or delivery at a later date. It consists of two parts, demand and fulfillment. Demand involves facilitating the capturing of customer orders via an e-commerce site, a mobile device, an in-store kiosk or any other similar method. The order fulfillment process, in which the customer takes possession of the product, must be properly managed across those channels to avoid jeopardizing relationships with valued customers who want a seamless experience. An order management system, such as DOO (Distributed Order Orchestration) and GOP (Global Order Promising), is used to manage the order throughout its lifecycle. When an order is initially taken, this application will determine where the order should be sourced based on customer preferences and rules related to fulfillment options set by a retailer (e.g. cost, lead times). Oracle Retail Insights provides a comprehensive set of metrics to help retailers achieve customer satisfaction. Included are key performance measurements for customer order demand and customer order fulfillment.

Oracle Retail Insights' customer order dimension supports a number of different attributes of a customer order to allow performance analysis of retailer's business across all channels. A complete list of these attributes and their descriptions is in the following sections. These attributes allow a user to slice and dice customer order data for analyses by order delivery information, order status, and other customer order details.

For example, if an item in an order line is sold as a substitute for another item (perhaps the original item is unavailable), then both the original item and the substitute item will be identified as such. These attributes can be used to analyze the demand for the original item the customer wanted and the alternative items that were actually ordered and delivered.

Order status is also captured so that retailers can track the order lifecycle and analyze orders based on whether they are backordered, complete, canceled, etc. to discover potential issues involved with customer satisfaction that excessive backorders or cancellations might indicate. A large amount of canceled orders, for instance, could mean there is a group of upset customers who are returning items with which they are unsatisfied or for which delivery time was too late to be acceptable.

Finally, a retailer can identify how an order was shipped, through the requested shipment type and requested shipment method attributes, which identify the carrier and the service type being used to fulfill the order. This could be used in conjunction with the order status analysis to determine if customer dissatisfaction correlates to a specific shipment type or method.

> **Note:**
>
> When using Customer Order Promotion Transaction, Customer Order Transaction, Customer Order Status, and Customer Order Fulfillment dimensions, Salesperson and/or Cashier attributes should be used to represent an employee. Employee Name should not be used with these facts.

Table 5-26 Customer Order Demand Attributes

Attribute	Definition
CO Header Demand Status	This attribute provides the status of the customer order header, which could be unique to the retailer's order management system. Using this attribute a user can identify the status of customer order. Some of the statuses could be "Order Initiate", "Back-ordered", "Partial Picked", "Picked", "Partial Shipped", "Shipped", "Completed" and "Cancelled".
CO Line Demand Status	This attribute provides the status of the customer order line, which could be unique to the retailer's order management system.
Sales Person	This attribute lists the retailer's sales person who was responsible for the transaction and was credited with originating the sale.
Cashier	This attribute lists the employee who processed the sales transaction by receiving the tender from customer.
Customer Service Representative	This attribute lists the employee who helped the customer with any questions or sold them value-added services (re-packaging, gift packing, gift cards, etc).
Origin Demand Channel	This attribute lists the location deemed the point of origin for the customer order. There are several channels, such as call center, website, SMS advertisement, store cashier, and sales person that could be considered the Origin Demand Channel.
Submit Demand Channel	The location deemed the generation of demand or point of submission for the customer order. There are several channels, such as customer service center, website, kiosk at store, and store POS system that could be considered the submit demand channel. The origin demand channel and submit demand channel may or may not be the same for a customer order.
CO Header Number	Each customer order has header information that is primarily customer-related, pertains to the entire order, and is uniquely identified by a Customer Order header number. Header information also contains information about the conditions that affect how the system processes an order, such as fulfillment type, fulfillment method and delivery dates. Most of the remaining header information consists of default values from the Address Book, Customer Billing Instructions, and Customer Master, such as tax code and area, and shipping address information.
CO Line Number	The customer order line number is used to uniquely identify the customer order line information, which includes detailed information about the items on the order, such as quantities, prices, status, and shipped quantities. It also contains the customer order header number to identify the order to which the line belongs.

Table 5-26 (Cont.) Customer Order Demand Attributes

Attribute	Definition
Requested Shipment Type	This attribute provides the type of requested shipment for the customer order line. Some shipment types could be "Direct Ship to Customer", "Store Pickup", etc.
Requested Shipment Method	Requested Shipment Method is more granular information about the Requested Shipment Type attribute. It defines the method of shipping to the customer. If the shipment type is "direct ship to cust" the method might be "overnight" or "ground". If the shipment type is "Store Pickup" the method would refer to how the goods were made available at the store, such as "WH-to-Store transfer", or "Stock from Store", etc.
CO Line Original Item	If an item is not available it may be replaced with a substitute item. In that case Oracle Retail Insights stores the original item as the CO Line Original Item attribute.
CO Line Substitute Item	If a customer orders an item that is not available, a retailer may decide to substitute a similar item that is available to be shipped immediately. This attribute displays the substitute item.
CO Retail Type	This attribute displays the price type that was recorded for the line item. The possible values could be R-Regular, P-Promotion, and C-Clearance.
CO Cancel Reason	This attribute is the reason given by the customer for canceling an order. Examples could be "Backorder Abandon," "Late Delivery," etc.

Table 5-27 Customer Order Fulfillment Organization Dimension Attributes

Attribute	Definition
Fulfillment Company Number	This attribute displays the unique ID from the source system that identifies a fulfillment company.
Fulfillment Company	Name of a fulfillment company. Fulfillment Company is the highest attribute within the fulfillment Organization hierarchy. A fulfillment company consists of one or more fulfillment chains.
Fulfillment Chain Number	This attribute displays the unique ID from the source system that identifies a fulfillment chain.
Fulfillment Chain	This attribute displays the name of a fulfillment chain. A fulfillment chain consists of one or more areas.
Fulfillment Area Number	This attribute displays the unique ID from the source system that identifies a fulfillment area.
Fulfillment Area	This attribute displays the name of a fulfillment area. A fulfillment area consists of one or more regions.
Fulfillment Region Number	This attribute displays the unique ID from the source system that identifies a fulfillment region.
Fulfillment Region	This attribute displays the name of a fulfillment region. A fulfillment region consists of one or more districts.
Fulfillment District Number	This attribute displays the name of the unique ID from the source system that identifies a fulfillment district.

Table 5-27 (Cont.) Customer Order Fulfillment Organization Dimension Attributes

Attribute	Definition
Fulfillment District	This attribute displays the name of a fulfillment district. A fulfillment district consists of one or more locations.
Fulfillment Location Number	This attribute displays the unique ID from the source system that identifies a fulfillment location.
Fulfillment Location	This attribute displays the lowest level within the fulfillment organization hierarchy. It identifies a fulfillment warehouse, fulfillment store, or partner within the fulfillment company.
Fulfillment Channel ID	The ID of channel in which a customer order is fulfilled.
Fulfillment Channel	The channel in which a customer order is fulfilled.

Table 5-28 Customer Order Tender Attributes

Attribute	Definition
Sales Transaction Number	This attribute displays a unique number through which the sales transaction can be identified. The transaction number is used to add detailed information about the item sales on the transaction, such as quantities, prices, discounts and tender amounts.
Tender Type	The form of payment made for a customer order sales transaction. Examples of tender types include cash, credit card, or gift card.
Transaction Type	This attribute differentiates cross channel liability transactions from normal sales, return transactions, and wholesale sales and return transactions. This is an internally generated attribute used by Oracle Retail Insights.

Reason

The Reason dimension makes it possible to track why a particular action was taken in the areas of inventory adjustment and sales. Return reasons such as "wrong item shipped" or "defective" are tracked by Return Reason. Inventory adjustments are tracked by Inv Adjustment Reason. The Reason attributes do not form a drillable hierarchy.

Both sets of reason codes exist within the same attributes, but only the codes associated with a specific metric will display in a given analysis. For example, Reason Code and Return Amt will show the return reason codes. Reason Code and Adjustment Units will show the inventory adjustment reason codes. Status Codes will behave similarly for Unavailable Inventory and Customer Order facts.

Table 5-29 Reason Attributes

Attribute	Definition
Reason Code	To identify the reason why a particular action had performed depending on the subject area used (For example: Inv Adjustments, Return to Vendor, cost change, price change etc.)
Reason Description	A detailed description of the reason why a particular action had performed depending on the subject area used (For example: Inv Adjustments, Return to Vendor, cost change, price change etc.)

Table 5-29 (Cont.) Reason Attributes

Attribute	Definition
Status Code	To identify the status of the element depending on the subject area used. (For example: Inv Status, Customer order status etc.)
Status Description	A detailed description of the status depending on the subject area used. (For example: Inv Status, Customer order status etc.)
Status Class	This Attribute can be used to identify the different functional areas that status is used for. (For example: Inv Status, Customer order status etc.)
Reason Category	This attribute gives the category of reason for different functionalities (For example: Inventory Adjustment, RTV etc.)

Inventory Transfer

Inventory Transfers are stock movements between a retailer's locations. Inventory Transfers analysis will enable retailers to improve sales and avoid out of stocks by moving stock to locations where it is most needed. Depending on the transaction codes used in creating Inventory Transfers the transfer type is captured in Retail Insights as Normal, Book and Inter Company transfer types. Retail Insights will not support Transfers functionality for Transformable items. Retail Insights holds the inventory Transfers at item, to location, from location, transfer type and day level.

Table 5-30 Inventory Transfer Attributes

Attribute	Definition
Transfer Type Code	Indicates the code for Transfer Type. This is based on the origin of the transfer request and determines how transfer behaves.
Transfer Type Description	Indicates the description for Transfer Type. This is based on the origin of the transfer request and determines how transfer behaves. Different Transfer Types that are supported are - Normal Transfer, Book Transfer, Inter Company.
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.
Tsf Zone Desc	Detailed description of 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.
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.
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 belong to only one transfer entity, and a transfer entity can belong to multiple organization units.

Transfer from Organization

The Transfer from Organization dimension allows tracking of inventory transfers from a location or other organizational attribute. This permits analysis of the number of units transferred and the retail and cost value of the transfer in the organization.

Table 5-31 Transfer From Organization Attributes

Attribute	Definition
From Chain Number	Chain in the company from which a transfer originates
From Chain	Name of the chain from where the transfer originated.
From Area Number	Area in the chain from which a transfer originates.
From Area	Name of the Area under the chain from which a transfer originates.
From Region Number	Region in the area from which a transfer originates.
From Region	Name of the Region under the area from which a transfer originates.
From District Number	District Number from which a transfer originates.
From District	Name of the District under the region from which a transfer originates.
From Loc Number	Warehouse, store, or partner location number from which a transfer originates.
From Loc	Warehouse, store, or partner location name from which a transfer originates.
From Tsf Entity ID	Transfer entity ID from which a transfer originates.
From Tsf Entity Desc	Transfer entity description from which a transfer originates.
From Tsf Zone ID	Transfer Zone ID from which a transfer originates.
From Tsf Zone Desc	Transfer Zone description from which a transfer originates.

Transfer Status

Separately from the dimensions listed above, RI also maintains the current status of each individual transfer created in the merchandising system. This is equivalent to the RMFCS table for TSFHEAD, and captures all of the up-to-date attributes and status codes for every transfer action. Having this data in RI allows allocators and buyers to analyze transfer activity across the business and quickly identify problem areas using a variety of criteria, such as getting daily reports for cancelled or rejected transfers, transfers which have been open past a certain number of days, or transfers which have specific context types.

Table 5-32 Transfer Status Dimension Attributes

Attribute	Definition
Transfer Number	Unique number to identify the transfer within the system.
Parent Transfer Number	Identifies the transfer at the level above the transfer and only used for the transfer with finishing activity.
Transfer From Loc Type	Contains the location type of the from location of the transfer. Valid values: S-Store; W - Warehouse; E - External Finisher

Table 5-32 (Cont.) Transfer Status Dimension Attributes

Attribute	Definition
Transfer From Loc	Contains the location number of the transfer from location. This field will contain a store, warehouse or external finisher number based upon the FROM_LOC_TYPE field.
Transfer Expected DC Date	It is the date that the transfer is expected to be shipped from a warehouse and communicated to WMS.
Transfer Inventory Type	Indicates whether the transfer is for Available or Unavailable inventory (not combination of both). Valid values: A - Available, U - Unavailable
Transfer Type	Identifies the type or reason for the transfer.
Transfer Status	Contains the status of the transfer. Valid value: I - Input, B - Submitted, A - Approved, S - Shipped, C - Closed, D - Deleted (will be deleted during batch), X - Transfer is being externally closed, P - Picked, L - Selected.
Transfer Freight Code	Determines the priority for this transfer. Valid values: N - Normal, E - Expedite, H - Hold
Transfer Routing Code	Indicates the type of freight to use on the transfer.
Transfer Create ID	Contains the user ID of the user that created the transfer.
Transfer Approval Date	Contains the date the transfer was approved.
Transfer Approval ID	Contains the user ID of the user that approved the transfer.
Transfer Delivery Date	Indicates the earliest date that the transfer can be delivered to the store.
Transfer Close Date	Contains the date the transfer was closed.
Transfer External Ref Number	Contains audit trail reference to external system when an external transaction initiates master record creation in the Oracle Retail system.
Transfer Repl Approve Flag	Contains the indicator used to determine if the transfer should be approved during the replenishment process. Valid values: Y, N.
Transfer Comments	Contains any miscellaneous comments associated with the transfer entered by the user.
Transfer EOW Date	Contains the end of week date for the exp_dc_date column. It is used for OTB extracts for Intercompany transfers.
Transfer Mass Return Number	Contains the Mass Return Transfer Number with with this transfer is associated.
Transfer Not After Date	Contains the last day upon which a store can ship the requested merchandise to the warehouse.
Transfer Context Type Code	This field holds the reason code related to which a transfer is made.
Transfer Context Type Desc	The descriptive value for the transfer context type code.
Transfer Context Value	Contains the value relating to the context type, for example Promotion Number.
Transfer Restock Cost Percent	Contains the percentage of cost charged by the receiving location for re-stocking.
Transfer Franchise Order Need Date	Contains the need date of franchise Order. This column is populated only for Franchise Order transfers.
Transfer Delivery Slot	Indicates the delivery slot that will be used for the transfer.
Transfer Franchise Order Number	Contains the franchise order number this transfer is linked to.

Table 5-32 (Cont.) Transfer Status Dimension Attributes

Attribute	Definition
Transfer Franchise Return Number	Contains the franchise return number this transfer is linked to.

Market Item

One of the critical components available with Oracle Retail Insights reporting is the ability for a retailer to compare its own performance to that of the market. Market Item attributes allow the retailer to make assortment, promotional and space allocation decisions within a wider context. By comparing its own trends to that of the market it is possible to identify and respond to opportunities and problems quickly and effectively.

Table 5-33 Market Item Dimension Attributes

Attribute	Definition
All Store	Represents the highest level of Market Item hierarchy.
Market Dept	Indicates the second level of Market Item hierarchy.
Market Category	The range of products purchased by a business organization or sold by a retailer is broken down into discrete groups of similar or related products; these groups are known as product categories (examples of grocery categories might be: tinned fish, washing detergent, toothpastes).
Market Subcategory	Each market category divides into sub-categories. A pre requisite to defining the sub-categories is that trends behind the categories are known. Subcategory is defined as grouping of common differentiating characteristics within a larger category.
Market Segment	The next level below Market subcategory. Key information about how inventory is tracked and reported is stored at the Market Segment level.
Market Sub-segment	The next level below Market Segment. This is equivalent to Subclass level of Retailer's merchandising hierarchy.
Market Item Description	Description of the item including characteristics of the market item.
Market Item Brand	Displays the brand associated with the market item. This is level 10 of Market Item hierarchy.
Market Sub Brand	A subcomponent of a brand. For example, if a brand were "Super Cola", the subbrand might be "Super Cola Light".
Market Brand Owner	Brand owner for the Item.
Market Brand Owner Number	Brand owner for the Item.
Market Item Flavor	Indicates the flavor of Market Item.
Market Item Pattern	Indicates the pattern of Market Item.
Market Item Scent	Indicates the scent of Market Item.
Market Item Size	Indicates the size of market item.
Market Package Type	The package type defines as the packaging method chosen by the market item. After choosing the packaging type, retailer should specify the dimensions of the item. The following types of packaging types are available Case Pallet Each.

Table 5-33 (Cont.) Market Item Dimension Attributes

Attribute	Definition
Market Parent Company	The next level below Market Sub-segment. It Indicate the parent company for the given market item hierarchy.
Vendor Name	The name of the vendor who supplies the market item.
Multi Pack	The multi-pack is defined as package of several individual pack items sold as a unit. This can be broken into multiple pack items.
Universal Product Code	Twelve-digit barcode printed or affixed on virtually everything sold in supermarkets or retail stores, including books, magazines, candy, etc., for automatic checking-out at the cashier counter. UPC not only identifies an item, it also provides real time information on quantity sold, and inventory and ordering information.

Competitor Pricing

A competitor is a retailer with a product range and customer base similar to those for the organization business unit [Store location in RI] and its channels. The competitor entity holds information about each competitor store and associates it with a location in the organization. Competitor pricing details can be associated with a specific competitor location and mapped to an item in the product hierarchy. This structure provides the means to compare competitor prices for similar or identical items, at a direct competitor location. With this type of timely information, promotion and pricing strategies can be implemented by retailers to prevent potentially costly customer defections.

Sample questions that Competitor Pricing Analysis can help answer:

- How do my prices compare, for specific items, against nearby competitor locations? Against average competitor prices across all competitor locations?
- How do my prices vary for an Item at the competition, when that Item has regular price, or when it's on promotion, or on clearance at the competitor?

One of the critical components available with Oracle Retail Insights reporting is the ability for a retailer to compare its own performance to that of the market. Market Item attributes allow the retailer to make assortment, promotional and space allocation decisions within a wider context. By comparing its own trends to that of the market it is possible to identify and respond to opportunities and problems quickly and effectively.

Buyer

The Buyer dimension stores data about buyers who are responsible for raising purchase orders. The buyer dimension is attached to the Purchase order transactions and is used to report on order quantity, received quantity, cancelled qty against purchase orders created by the given buyer.

Table 5-34 lists the attributes of the Buyer dimension.

Table 5-34 Buyer Attributes

Attribute	Definition
Buyer Name	The name of the person authorized to create purchase order.

Table 5-34 (Cont.) Buyer Attributes

Attribute	Definition
Buyer Phone	The current telephone number of the buyer.
Buyer Fax	The current Fax number of the buyer.

Purchase Order

A Purchase order (PO) is a request issued by a Retailer to a supplier, indicating types, quantities, and agreed prices for products. Sending a purchase order to a supplier constitutes a legal offer to buy products or services.

The purchase order dimension stores key details of the purchase orders such as Supplier, Buyer, Order Type, import order indicator etc for orders that have been approved at least once are stored in the dimension.

The purchase order dimension is used with Buyer, Supplier, Item, Organization, Calendar dimensions to report on cost and quantity of ordered, cancelled, received purchase orders against a supplier/Buyer/Item/Location/Time period. The dimension can also be used with the Sales fact, if there are matching customer order numbers on both the PO header record and a sales transaction record.

Table 5-35 lists the attributes of the Purchase Order dimension.

Table 5-35 Purchase Order Attributes

Attribute	Definition
Appointment Date Time	This column will hold the date and time of the receiving appointment at the warehouse.
Backhaul Allowance	Contains the type of backhaul allowance that will be applied to the order. Some examples are Calculated or Flat rate
Backhaul Type	This field contains the type of backhaul allowance that will be applied to the order. Some examples are Calculated or Flat rate
Close Date	This contains the date when the order is closed.
Contract Number	This contains the contract number associated with this order.
Currency Code	This contains the currency code for the order.
Customer Order Number	The customer order identifier associated with a purchase order, typically used for drop shipments where the PO is placed to fulfill the customer order.
Delivery Supplier	This field holds the supplier/supplier site from where the goods are delivered.
Earliest Ship Date	The date before which the items on the purchase order cannot be shipped by the supplier. Represents the earliest ship date of all the items on the order
EDI PO Indicator	This indicates whether or not the order will be transmitted to the supplier via an Electronic Data Exchange transaction.
Import Country ID	The identifier of the country into which the items on the order are being imported.

Table 5-35 (Cont.) Purchase Order Attributes

Attribute	Definition
Import Order Number	This indicates if the purchase order is an import order. Valid values are Y (Yes) and N (No).
Latest Ship Date	The date after which the items on the purchase order cannot be shipped by the supplier. Represents the greatest latest ship date of all the items on the order
Not After Date	This contains the last date on which the delivery of goods in purchase order will be accepted.
Not Before Date	This contains the first date on which the delivery of goods in purchase order will be accepted.
Order Number	This is the purchase order number that uniquely identifies an order within source system.
Order Type	Indicates the type of order and which Open To Buy bucket will be updated. Valid values include: N/B - Non Basic ARB - Automatic Reorder of Basic BRB - Buyer Reorder of Basic.
Original Approval Date	This contains the date that the order was originally approved.
Originated Indicator	Indicates where the order originated. Valid values include: 0 - Current system generated (used by automatic replenishment) 2 - Manual 3- Buyer Worksheet 4 - Consignment 5 - Vendor Generated
Payment Method	Indicates how the purchase order will be paid. Valid options are LC (Letter of Credit), WT (Wire Transfer), OA (Open Account).
Pickup Date	Contains the date when the order can be picked up from the Supplier. This field is only required if the Purchase Type of the order is Pickup.
Pickup Location	Contains the location at which the order will be picked up, if the order is a Pickup order.
Pickup Number	This contains the reference number of the Pickup order.
PO Type	This contains the value associated with the PO_TYPE for the order.
Purchase Type	Indicates what's included in the suppliers cost of the item. Valid values include C (Cost), CI (Cost and Insurance), CIF (Cost, Insurance and Freight), FOB (Free on Board).
QC Indicator	This indicator determines whether or not quality control checking is required when items for this order are received. Valid values are Y and N.
Reject Code	This contains a code for the reason why the order was rejected during the automatic replenishment approval process. Valid values include: VM (Vendor minimum not met), NC (Negative cost calculated on an item), UOM (UOM convert error due to incomplete data).

Table 5-35 (Cont.) Purchase Order Attributes

Attribute	Definition
Ship Method	The method used to ship the items on the purchase order from the country of origin to the country of import. Valid values include 10 (Vessel, Non container), 11 (Vessel, Container), 12 (Border Water-borne (Only Mexico and Canada)), 20 (Rail, Non-container), 21 (Rail, Container), 30 (Truck, Non container), 31 (Truck, Container), 32 (Auto), 33 (Pedestrian), 34 (Road, Other, includes foot and animal borne), 40 (Air, Non-container), 41 (Air, Container), 50 (Mail), 60 (Passenger, Hand carried), 70 (Fixed Transportation Installation), 80 (Not used at this time).
Ship Pay Method	Code indicating the payment terms for freight charges associated with the order. Valid values include: CC - Collect, CF - Collect Freight Credited Back to Customer, DF - Defined by Buyer and Seller, MX - Mixed, PC - Prepaid but Charged to Customer, PO - Prepaid Only, PP - Prepaid by Seller
Split Reference Order Number	This column will store the original order number from which the split orders were generated from. It will be for references purposes only. The purpose is to allow users a means of grouping orders that were split from an original super order. The original order, once split, will however be removed from the system.
Status	Indicates the status of the purchase order. Dimension only holds POs with the following status: A - Approved C - Cancelled
Vendor Order Number	This contains the vendor's unique identifying number for an order. These orders may have originated by the vendor through the EDI process or this number can be associated to an Oracle Retail order when the order is created on-line.
Revision Date	The date that an existing purchase order was revised. A revision could include major changes such as a cancellation of ordered units, or a minor change such as a modification to the unit cost amount.

Allocation

An allocation helps allocate merchandise against each store or warehouse after determining the inventory requirements for the given item, location, and week using real time inventory information. An allocation can either be done in advance of the order's arrival or at the last minute to leverage real-time sales and inventory information. Pre-distribution of product quantities on a purchase order can be done to support faster delivery of goods from a warehouse location to stores. This is tracked via allocations against a given purchase order. Multiple allocations can be raised against a given PO that help distribute the ordered quantity among the stores sourcing from the warehouse.

The Allocation dimension holds details of a given allocation such as the order number against which the allocation was done, the status etc. The Allocation dimension is linked to the Purchase order dimension to report allocations and the allocated quantities against a purchase order.

Table 5-36 lists the attributes of the Allocation dimension.

Table 5-36 Allocation Attributes

Attribute	Definition
Alloc Number	Contains the unique identifier for the allocation
Order Number	The purchase order number against which the allocation has been raised. This is a common attribute between the Purchase Order Dim and the Allocation Dim.
Status	Status of the allocation. Valid Values: 'R' = Reserved 'A' = Approved 'C' = Closed
PO Type	The PO_Type of the order associated with the allocation
Alloc Method	Contains the preferred allocation method, which is used to distribute goods when the stock received at a warehouse cannot immediately fill all requested allocations to stores. Valid values for this field are: A - Allocation quantity based P - Prorate method C - Custom
Release Date	Contains the date on which the allocation should be released from the warehouse for delivery to the store locations.
DOC	The ASN or BOL number for an ASN or BOL sourced allocation.
DOC Type	The source of the Allocation. Valid Values: PO, TSF, ALLOC, ASN, BOL

Tender Type

The tender type dimension holds the various tender types that may be utilized during sales transactions.

Table 5-37 Tender Type Dimension Attributes

Attribute	Definition
Tender Type	Represents the tender type code.
Tender Type Group	Represents the tender type group to which the tender type ID belongs to.
Tender Card Number	Represents the identifier of a gift card or voucher that was purchased (such as for gift card sales) or used as tender (such as gift card redemption). Does not include other tender types such as credit cards.

Coupon

A coupon is a voucher entitling the holder to a discount for a particular product.

Coupons are important vehicles for targeted offers and for driving sales of a desired category. An analysis of coupon use can help retailers understand if the cost of producing and distributing coupons is worthwhile.

Table 5-38 Coupon Dimension Attributes

Attribute	Definition
Coupon Description	Contains the description of the coupon associated with the coupon number.
Coupon Reference Number	Holds the coupon barcode - only an EAN13 or free text can be entered.
Coupon Maximum Discount Amt	Contains the Maximum Discount value that can be gained from the coupon.
Coupon Amt	Contains the percent or dollar value of the coupon.
Percent Ind	Specifies whether the coupon amount is a percent or a dollar value.
Promotion	Holds the promotion ID. Any open promotion can be selected to be associated with coupons
Promotion Component ID	Promotion Component ID field required for RPM. Will be required if a promotion has been selected.
Transaction Level Ind	Indicates if this is a transaction level coupon.
Coupon Effective Date	The effective from-date of the coupon.
Coupon Expiration Date	The date the coupon expires.

Transaction Code

The Transaction Code attribute represents the codes used in merchandising systems to differentiate different types of transactions which occur during daily operations. In Retail Insights, these codes are also used to separate Inventory Receipts based on their associated transaction type.

There are three values for Transaction Code which are used in conjunction with Inventory Receipts:

- Purchases (20)
- Allocation Transfer Receipts (44~A)
- Transfer Receipts (44~T)

Table 5-39 Transaction Code Dimension Attributes

Attribute	Definition
Transaction Code	Code which describes the transaction type that generated the inventory receipts.
Transaction Description	Description of the transaction type that generated the inventory receipts.

Customer Loyalty Program

Loyalty Programs define the rules used for tracking the purchases of Customers belonging to location loyalty programs, usually through a system of "points". These points can then be redeemed for discounts of a fixed amount (though the points alone have no intrinsic value). The discounts can be distributed through the mail as paper coupons, or made available to

customers as an E-Award coupon or Entitlement coupon associated with an Award Program. Loyalty program data can be extracted from Oracle Retail Customer Engagement.

Table 5-40 Loyalty Program Dimension Attributes

Attribute	Definition
Loyalty Program Number	The number associated with the customer loyalty program.
Loyalty Program Description	The name of the customer loyalty program.
Loyalty Points Description	The name of the points used in a point-based loyalty program.
Loyalty Points Currency Value	The currency amount required to earn a point in a point-based loyalty program.
Loyalty Program Active Flag	A flag indicating if a loyalty program is currently active.
Loyalty Program Start Date	The effective start date for the loyalty program.
Loyalty Program End Date	The effective end date for the loyalty program.
Loyalty Program Level Number	The number associated with a level in a customer loyalty program.
Loyalty Program Level Description	The name of a level in a customer loyalty program.
Loyalty Program Level Active Flag	A flag indicating if a loyalty program level is currently active.
Loyalty Program Level Default Flag	A flag indicating if a loyalty program level is the default level a member of the program will start at.
Loyalty Program Currency	The primary currency used for the loyalty program.

Customer Loyalty Account

Loyalty Accounts are used to assign customers to one or more Loyalty Programs. A loyalty account may contain details about the customer's use of the program, such as their points balance, program level, and account open and expiration dates. A customer must have a loyalty account in order to take advantage of the benefits of a loyalty program. Loyalty account data can be extracted from Oracle Retail Customer Engagement.

Table 5-41 Loyalty Account Dimension Attributes

Attribute	Definition
Loyalty Account Number	The number associated with the customer loyalty account.
Loyalty Account Card Serial Number	The sixteen-digit number embossed on a loyalty account card.
Loyalty Account From Date	The date that a loyalty account became active at a loyalty program level.
Loyalty Account To Date	The date that a loyalty account was no longer active at a loyalty program level.
Loyalty Account Active Flag	A flag indicating if the loyalty account is active in the source system.
Loyalty Account Expiry Flag	A flag indicating if the loyalty account has expired, such as due to inactivity or account closure.
Loyalty Account Points Balance	The number of points available on a loyalty account.
Loyalty Account Escrow Balance	The number of points in escrow to a loyalty account.

Table 5-41 (Cont.) Loyalty Account Dimension Attributes

Attribute	Definition
Last Award Processed Date	The last time an award was processed against a loyalty account.
Last Accrual Date	The last time points were accrued against a loyalty account.
Last Program Level Change Date	The last time the loyalty account moved to a different program level.
Last Transaction Date	The last time a transaction was recorded against the primary customer on a loyalty account

Stock Counts

A stock count (or cycle count) is an inventory auditing procedure, which falls under inventory management, where a subset of inventory, in a specific location, is counted on a specified day. Stock counts may be performed once or multiple times per fiscal year, and different locations may undergo a count at different times. The primary purpose of stock counting is to capture an accurate count of all stock on hand and compare it to the inventory management system's records for inaccuracies and losses. Major differences between the stock count and inventory records would be a cause for concern and require further investigation by the retailer, as these differences could be due to theft or poor inventory management practices by the store.

Reporting on stock counts involves collecting sales and inventory data for the range of dates between the prior count and the current one. This information can be compared to the manual counts and metrics like shrinkage can be calculated at various levels of the merchandise or organization hierarchies. Due to the dynamic nature of stock counts (in terms of when they occur and which locations have undergone them at any point in time), aggregating the sales and inventory data is not as simple as rolling up to a specific fiscal period. The reporting system will need to understand the stock count dates that occur at each retail location, and return aggregate data which is rolled up from each store's individual date ranges.

RI provides a Stock Count dimension for capturing and reporting on stock count activities as well as two Stock Count facts covered in the next chapter. The dimension consists of a list of locations associated with a stock count, as well as the window of time to analyze historical data for the count. The data for this dimension needs to be provided to RI by the retailer from an inventory system such as SIM that manages the stock count activities.

Only when the dimension is provided daily can the stock count facts be populated with data.

> **Note:**
>
> When reporting on factual data, such as sales and inventory for a stock count activity, the following OAS filter can be used to limit the results to the stock count period:
>
> "Business Calendar"."Fiscal Date" between "Stock Count"."Stock Count From Date" and "Stock Count"."Stock Count To Date"
>
> This filter can be added by creating a new filter, selecting the box for "Convert this filter to SQL" in the popup, and clicking OK. Copy the text above into the text box that appears. Then click OK again.

Table 5-42 Stock Count Dimension Attributes

Attribute	Definition
Stock Count ID	Number which uniquely identifies the stock or cycle count in the source system.
Stock Count Desc	Description of the cycle or stock count. This value can be used to group together stock count activities across multiple locations for reporting purposes.
Stock Count Type	Indicates the type of stock count, such as B (both unit and amount) or U (unit only).
Stock Count Status	Indicates the status of a stock count, such as whether it is scheduled but not yet executed, or already finalized and approved.
Stock Count Start Date	Contains the starting date from which data should be included for the current stock or cycle count, such as the day after the prior count occurred.
Stock Count End Date	Contains the date on which the stock or cycle count event will take place.

Discount Type

Discount types are codes defined in the point of sale system to classify a price change applied to a sale, such as manufacturer coupons, employee discounts, or manager price overrides. Discount types would be populated in the sales audit system in order to capture which discounts have been applied to a transaction, which is then loaded to RI along with the Sales Discount fact.

Table 5-43 Discount Type Dimension Attributes

Attribute	Definition
Discount Type Code	Number which uniquely identifies the discount code in the point of sale and auditing systems.
Discount Description	Description of the discount code, such as Employee Discount.

Selling Organization

It is possible for return transactions to be tagged with the original selling location and original transaction ID associated with the sale of the returned item. This information can be passed from the point of sale system, and then RI will link the selling location to the organization hierarchy for reporting. This functionality enables detailed returns analysis following the sale and return of an item, such as identifying items which are bought online and returned in store.

Table 5-44 Selling Organization Dimension Attributes

Attribute	Definition
Selling Company Number	This attribute displays the unique ID from the source system that identifies original selling company.
Selling Company	Name of the original selling company.

Table 5-44 (Cont.) Selling Organization Dimension Attributes

Attribute	Definition
Selling Chain Number	This attribute displays the unique ID from the source system that identifies original selling chain.
Selling Chain	This attribute displays the name of original selling chain.
Selling Area Number	This attribute displays the unique ID from the source system that identifies original selling area.
Selling Area	This attribute displays the name of original selling area.
Selling Region Number	This attribute displays the unique ID from the source system that identifies original selling region.
Selling Region	This attribute displays the name of original selling region.
Selling District Number	This attribute displays the name of the unique ID from the source system that identifies original selling district.
Selling District	This attribute displays the name of original selling district.
Selling LocNumber	This attribute displays the unique ID from the source system that identifies original selling location.
Selling Loc	This attribute displays the name of the original selling location.
Selling Channel Id	This attribute displays the unique ID from the source system that identifies original selling channel.
Selling Channel	This attribute displays the name of the original selling channel.

Clearances

Clearance events which are managed through a pricing solution such as RPM will be loaded into RI for detailed clearance reporting. The clearance events will be captured for the items and locations included in the event, for the range of effective dates the clearance is active for. An item-location may only be under the effects of a single clearance event at a time, but may undergo multiple clearances across the entire item lifecycle. RI will automatically manage the effective dates and eligibility of items on clearance as new clearance events are generated in the source system.

Retail Insights will maintain the full history of clearance events applied to items, allowing for in-depth analysis of sales, inventory, and similar facts grouped by individual clearances, or aggregated by the clearance groups or markdown numbers associated with multiple events. Some facts are not supported with the Clearances dimension as the fact data would not typically be used at this level, such as Base/Net Supplier Costs, Customer Orders, Purchase Orders, and Sales Promotions. Certain combinations of dimensions would also prevent Clearance analysis, such as looking at Transfers based on the From/To Locations where you could be transferring between clearance and non-clearance locations.

Table 5-45 Clearances Dimension Attributes

Attribute	Definition
Clearance ID	The display ID of a clearance event
Clearance Group ID	The group ID of a clearance event.
Clearance Group Desc	The description of a clearance group assigned to a clearance.

Table 5-45 (Cont.) Clearances Dimension Attributes

Attribute	Definition
Clearance Markdown ID	The unique identifier of the markdown number assigned to a clearance event.
Clearance Markdown Number	The markdown number assigned to a clearance event, generally designating the sequence of the event across multiple clearances (such as first, second, final).
Clearance OOS Date	Contains the date when the item/location on clearance is expected to be out of stock. Does not mean the item will actually become out of stock on this date.
Clearance Reason	The user-provided reason for initiating the clearance event.
Clearance Change Type	The type of price change being applied, such as Amount Off, Percent Off, Fixed Price, or Exclude.
Clearance Change Amt	The amount of a price change or fixed price override on a clearance event. This value shows the item price after the change has been applied.
Clearance Change UOM	The unit of measurement for the price change on a clearance event.
Clearance Change Currency	The currency code for the price change on a clearance event.

Custom Flex Attributes

The custom flex attribute solution (CFAS) for RMFCS is a metadata driven framework that enables you to set up additional attributes on the pre-enabled RMFCS entities without having to change the existing screens or make any changes in the application code. Retail Insights has the ability to consume certain sets of commonly used CFAS attributes created using the out-of-box RMFCS framework, including Item, Location, and Item-Location attributes. RI currently supports the standard configuration of these tables using a single group-set per dimension.

Each CFAS interface is loaded from RMFCS as an extension of the associated dimension in RI. RI currently supports the following interfaces.

- Item attributes are loaded from the RMFCS table ITEM_MASTER_CFA_EXT and are exposed in OAS as a new set of Item dimension attributes.
- Location attributes are loaded from a combination of STORE/WH/PARTNER CFA tables and are exposed in OAS as a new set of Organization dimension attributes.
- Item-Location attributes are loaded from the ITEM_LOC_CFA_EXT table and are exposed in OAS as a new set of Product Org attributes.
- Supplier attributes are loaded from RMFCS table SUPS_CFA_EXT table and are exposed in OAS as a new set of Supplier attributes.
- Merchandise hierarchy attributes are loaded from a combination of DEPS/CLASS/SUBCLASS CFA tables in RMFCS and are exposed in OAS as a set of Item dimension attributes.

The RI attribute names for CFAS attributes are intentionally generic, and it is expected that the retailer will relabel them during implementation of RI. The naming scheme follows a standard pattern of <Dimension> Flex Attr <Number> <Datatype>. For example, Item attributes will have names such as Item Flex Attr 22 Date or Item Flex Attr 11 Number. These should be relabeled to show names that will be meaningful to RI users when building reports. Once they have been

loaded and labeled appropriately, the attributes should function in the same manner as any other RMFCS-sourced attribute.

Deals

A deal is a set of one or more agreements that take place between the retailer and a vendor. A vendor can be a supplier, wholesaler, distributor or manufacturer, and from the vendor, the retailer is entitled to receive discounts or rebates for goods that are either purchased or sold. A deal consists of a set of discounts and/or rebates that are negotiated with the vendor and share a common start date. Retail Insights includes a standalone Deals dimension with attributes that define the deal details. The deal ID is the primary key for the dimension and a deal will have only one row in the data. When new data comes to the system for an existing deal, the attribute values are updated to reflect the latest data. History is not retained for old versions of deal data. Deal attributes may be used with the Deal Income fact for reporting.

Table 5-46 Deals Dimension Attributes

Attribute	Definition
Deal Active Date	Date the deal will become active. This date will determine when deal components begin to be factored into item costs.
Deal Actual Earned TD	The total monies earned for the deal to date.
Deal Add Reporting Days	This column will give the number of extra reporting days that should be added to the Deal_actuals_forecast table to cater to the late postings of the transactions after the deal close date.
Deal Apply Timing	Indicates when the deal component should be applied - at PO approval or time of receiving. Valid values are O for PO approval, R for receiving.
Deal Approval Date	Date the deal was approved.
Deal Bill Back Method	This will determine the bill back method. It will be required for bill back deals only. Valid values are Credit note or Debit note.
Deal Bill Back Period	Code that identifies the bill-back period for the deal component. This field will only be populated for billing types of BB. Valid values are W for week, M for month or Q for Quarter and A for Annual.
Deal Billing Partner ID	This indicates the partner that will included on the invoice information.
Deal Billing Partner Type	Type of the partner the deal applies to. Valid values are S1 for supplier hierarchy level 1 (manufacturer), S2 for supplier hierarchy level 2 (distributor) and S3 for supplier hierarchy level 3 (wholesaler).
Deal Billing Supplier ID	This indicates the supplier that will included on the invoice information.
Deal Billing Type	Billing type of the deal component. Valid values are OI for off-invoice and BB for bill-back.
Deal Close Date	Date the deal will/did end. This date determines when deal components are no longer factored into item costs. It is optional for annual deals, required for promotional deals. It will be left null for PO-specific deals.
Deal Comments	Free-form comments entered with the deal.

Table 5-46 (Cont.) Deals Dimension Attributes

Attribute	Definition
Deal Comp Type	Type of the deal component, user-defined and configurable. In the case of multiple components, will only get one of the values for this record.
Deal Comp Type Desc	Description of the deal component. In the case of multiple components, will only get one of the values for this record.
Deal Create Date	Date of when the record was created. This value should only be populated once on insert, it should never be updated in the source.
Deal Currency	Currency code of the deals currency. All costs on the deal will be held in this currency.
Deal External Ref No	Any given external reference number associated with the deal.
Deal Growth Rate TD	The budget growth rate percentage for the deal to date.
Deal Hist Comp End Date	The last date of the historical period against which growth will be measured in this growth rebate.
Deal Hist Comp Start Date	The first date of the historical period against which growth will be measured in this growth rebate.
Deal Income Method	This will determine how the income will be calculated. Valid values are Actuals earned to date or Pro-rated using forecast.
Deal Invoice Logic	This will determine if the credit notes or debit notes created should be created manually or require manual intervention and also if negative amounts should be included. Valid values are AA for Automatic All values, MA for Manual All Values, AP Automatic Positive values only, MA Manual Positive values only, NO - no invoice processing.
Deal Last Invoice Date	This is the last time an invoice was raised for the deal.
Deal Next Invoice Date	This is the estimated next invoice date for the deal.
Deal Number	Unique deal number, generated from a sequence.
Deal Order Number	Order the deal applies to, if the deal is PO-specific.
Deal Pack Level Flag	Used to indicate whether the packs are to be tracked at pack level or not.
Deal Partner Desc	Name of the partner assigned to this deal.
Deal Partner ID	Level of supplier hierarchy (such as manufacturer, distributor or wholesaler) set up as a partner, used for assigning rebates by a level other than supplier.
Deal Partner Type	Type of the partner the deal applies to. Valid values are S1 for supplier hierarchy level 1 (manufacturer), S2 for supplier hierarchy level 2 (distributor) and S3 for supplier hierarchy level 3 (wholesaler).
Deal Rebate Calc Type	Indicates if the rebate should be calculated using linear or scalar calculation methods. Valid values are L for linear or S for scalar.
Deal Rebate Flag	Indicates if the deal component is a rebate. Deal components can only be rebates for bill-back billing types. Valid values are Y for yes or N for no.
Deal Rebate Growth Flag	Indicates if the rebate is a growth rebate, meaning it is calculated and applied based on an increase in purchases or sales over a specified period of time. Valid values are Y for yes or N for no.

Table 5-46 (Cont.) Deals Dimension Attributes

Attribute	Definition
Deal Rebate Income Type	Indicates if the rebate should be applied to purchases or sales. Valid values are P for purchases or S for sales. It will be required if the rebate indicator is Y.
Deal Recalc Orders Flag	Indicates if approved orders should be recalculated based on this deal once the deal is approved. Valid values are Y for yes or N for no.
Deal Reject Date	Date the deal was rejected.
Deal Reporting Level	This will determine periods shown in the deal income screen and the frequency of the deal income accrual reporting. Valid values are W for week, M for month or Q for Quarter.
Deal Status	Code for the status of the deal. Valid values are A for approved, R for rejected and C for closed. Unapproved deals will not be extracted from the source.
Deal Stock Ledger Flag	Indicates if the deal income accrual will also be written to the RMS stock ledger. Valid values are Y for yes or N for no.
Deal Supplier Desc	Name of the supplier assigned to this deal.
Deal Supplier Num	Deal supplier's number. This supplier can be at any level of supplier hierarchy.
Deal Threshold Type	Identifies whether thresholds will be set up as qty values, currency amount values or percentages (growth rebates only). Valid values are Q for qty, A for currency amount or P for percentage.

Lifecycle Pricing Optimization

If you own the Oracle Retail Lifecycle Pricing Optimization (LPO) solution then you will have the ability to report on some of the results of that application directly in Retail Insights. Retail Insights exposes the optimization run attributes and included product hierarchy nodes as dimensions and attributes. It also includes the run input and output metrics and calculations as fact measures. You may report on these fact measures by Optimization Run and Run Products, but you can also join the data with the Business Calendar and Clusters dimensions to see the metrics by price zone and fiscal week.

Table 5-47 Price Optimization Run Dimension Attributes

Attribute	Definition
LPO Processing Week ID	Internal calendar identifier that corresponds to the last actual week data was loaded for price optimization purposes.
LPO Run ID	Unique identifier for the Price Optimization run.
LPO Run Name	Name assigned to identify the Price Optimization run.
LPO Run Desc	Description assigned to identify the Price Optimization run.
LPO Run Status ID	Status ID of the Price Optimization run.
LPO Run Status	Status of the Price Optimization run, such as Ready for Review or Approved.
LPO Last Execution Date	The last time the Price Optimization run was executed.

Table 5-47 (Cont.) Price Optimization Run Dimension Attributes

Attribute	Definition
LPO Batch Run Flag	Indicates if the Price Optimization run was triggered from a batch.
LPO Finalized Flag	Indicates if the Price Optimization run has been finalized.

Table 5-48 Price Optimization Product Dimension Attributes

Attribute	Definition
LPO Product Rec Lvl ID	Identifier for the recommendation level of the LPO product hierarchy
LPO Product Rec Lvl Name	Name for the recommendation level of the LPO product hierarchy
LPO Product Lvl 1 ID	Identifier for the top level of the LPO product hierarchy
LPO Product Lvl 1 Name	Name for the top level of the LPO product hierarchy
LPO Product Lvl 2 ID	Identifier for level 2 of the LPO product hierarchy
LPO Product Lvl 2 Name	Name for level 2 of the LPO product hierarchy
LPO Product Lvl 3 ID	Identifier for level 3 of the LPO product hierarchy
LPO Product Lvl 3 Name	Name for level 3 of the LPO product hierarchy
LPO Product Lvl 4 ID	Identifier for level 4 of the LPO product hierarchy
LPO Product Lvl 4 Name	Name for level 4 of the LPO product hierarchy
LPO Product Lvl 5 ID	Identifier for level 5 of the LPO product hierarchy
LPO Product Lvl 5 Name	Name for level 5 of the LPO product hierarchy
LPO Product Lvl 6 ID	Identifier for level 6 of the LPO product hierarchy
LPO Product Lvl 6 Name	Name for level 6 of the LPO product hierarchy
LPO Product Lvl 7 ID	Identifier for level 7 of the LPO product hierarchy
LPO Product Lvl 7 Name	Name for level 7 of the LPO product hierarchy
LPO Product Lvl 8 ID	Identifier for level 8 of the LPO product hierarchy
LPO Product Lvl 8 Name	Name for level 8 of the LPO product hierarchy
LPO Product Lvl 9 ID	Identifier for level 9 of the LPO product hierarchy
LPO Product Lvl 9 Name	Name for level 9 of the LPO product hierarchy

Retail Insights Attribute Metadata

The following chart provides information about Retail Insights attribute metadata. Users please be aware that you cannot mix facts across as-is and as-was subject areas.

Table 5-49 Retail Insights Attribute Metadata

Attributes	As-Is	As-Was
Business Calendar	X	X
Employee	X	X
Cluster	X	X

Table 5-49 (Cont.) Retail Insights Attribute Metadata

Attributes	As-Is	As-Was
Consumer Group	X	X
Consumer Household Group	X	X
Organization	X	X
Stockholding Franchise	X	X
Non-Stockholding Franchise	X	X
Product	X	X
Promotion	X	X
Customer	X	X
Customer Behavior	X	
Customer Segment	X	X
Customer Segment Allocation	X	X
Household	X	X
Customer Segment Loyalty		X
Supplier	X	X
Retail Type	X	X
Season Phase	X	X
Season Phase Planning	X	X
Trade Area	X	
Market Item	X	
Buyer	X	X
Purchase Order	X	X
Allocation	X	X
Tender Type	X	X
Coupon	X	X
Competitor Pricing	X	X
Customer Order	X	X
Customer Order Origin Channel	X	X
Customer Order Submit Channel	X	X
Customer Order Tender Type	X	X
Fulfillment Organization	X	X
Gregorian Calendar	X	X
Customer Order Fulfillment	X	X
Customer Order Status	X	X
Reason	X	X
Shipment Method	X	X
Shipment Type	X	X
Tender Type	X	X

Table 5-49 (Cont.) Retail Insights Attribute Metadata

Attributes	As-Is	As-Was
Time of the day	X	X
Return to Vendor	X	X
Inventory Adjustments	X	X
Inventory Transfers	X	X
Transaction Code	X	X
Customer Loyalty Program	X	X
Customer Loyalty Account	X	X
Stock Count	X	X
Discount Type	X	X
Selling Organization	X	X
Clearances	X	X
Purchase Type	X	X
Deals	X	X
Price Optimization Run	X	
Price Optimization Product	X	

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 Insights 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 Analytics.

Retail Insights 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 Analytics interface, you can access a summary description of a metric as follows:

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

> **Note:**
>
> See Reporting on Oracle Analytics Repository Objects for information about producing comprehensive listings of Oracle Analytics repository objects.

> **Note:**
>
> See Retail Insights Metric Definitions for a complete list of Retail Insights metrics.

Comparable Stores Analysis

Comparable (comp) stores are stores that are open for business for a set period of time and were in operation within the time period of analysis. In other words, comp stores are really established stores as opposed to new or closed stores. Comp store measurements are

important to an analyst because profits and sales from the more established stores provide stable indicators of business performance. New or closed stores tend to be more volatile and can have a skewing effect on business performance indicators. Sales and profits from new or closed stores are not really comparable in business analysis, and as a result, they are not included in the comp store measurements.

The Comparable Store Flag can be sent from the retailer's merchandising source system (not including RMFCS, which does not provide RI with comp flags), or can be provided manually through a flat file interface. Regardless of the method used to determine comparable store status, the Comp Flag attribute is provided as a means of reporting metrics based on the comp status of a location. Additionally, special Comp metrics are provided in multiple subject areas to support side-by-side reporting of comp data with other metrics. If using the Same Store type of reporting, the Comp Anchor Year attribute must be used to specify which year the comp flags will be taken from. For example, if the reporting period is March 2017, then a filter must be set such that Comp Anchor Year = 2017.

The Comp Store Measurements measure the growth in sales and profit, excluding the impact of newly opened stores. Sales and profits from new stores are not reflected in same-store comparisons until those stores are converted to comparable stores. With this approach, stores whose open dates are not captured in the source system are not included in these comparisons. Each store needs to have a store open date as well as a store close date when a store is closed. If there is no close date, the store is assumed to be still in operation.

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 Foundation Cloud Service (RMFCS) or another source system. The data from RMFCS 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.

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 Insights 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, employee discount, 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.

RI also captures reference fields from RMFCS transactional data, which may contain details about markdowns initiated in Retail Price Management. For example, Ref Number 1 will contain the price change event ID and Ref Number 2 will contain the markdown number assigned to a clearance event (such as First or Second). These attributes will allow the user to report on clearance activity using the data in these fields, such as limiting an item's sales and inventory data to the time it is in First Markdown status. Such analysis is used for determining the profitability and sales patterns relating to specific markdowns on a product.

When reporting on markdown data, it is important to understand that the records for such price changes are only captured at the time the price change goes into effect (this is comparable to the time the transaction is registered in RMFCS). For example, when a clearance markdown is applied to an item, RI will record the impact of that markdown on all item-locations affected by it, in terms of the change to retail amounts for available stock on hand. Even though the item continues to be in clearance status for many weeks, the markdown data exists only for the day of the original price change event. This represents the impact to the total retail value of the stock on hand due to the change in selling price.

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 Insights stores sales forecast data in one of two configurable planning interfaces called Plan Forecast 1 and Plan Forecast 2. The default data level of these interfaces is item-location-week level. The sales forecast quantities exclude value-added tax (VAT). Retail Insights can accept forecast data directly from IPO Cloud Service-Demand Forecasting or from an external application.

For a more detailed explanation of how configurable planning facts work, refer to the Planning section later in this chapter, as well as the *Oracle Retail Insights Implementation Guide*.

Inventory Adjustments

Inventory Adjustments are changes to inventory level in units, retail and cost value. Inventory Adjustment analysis provides visibility to Inventory analysts, Inventory controllers, Inventory

managers, Category managers and store managers for analyzing the reasons and plan accordingly to overcome the potential problems that are causing the stock adjustments. Inventory Adjustments impact the stock ledger as the inventory value for a location is impacted. Ending stock value will be increase/decreased making the stock as over-valued or de-valued.

Retail Insights holds the inventory adjustment units and value by transaction code, reason code, item, location and day level. Merchandising transaction codes on the fact can include 22, 23, and 41. Additionally, RI may hold the clearance status and clearance markdown numbers associated with the items on this fact, in order to enable clearance-based inventory reporting. The Clearance Dimension is used to maintain these status codes on the adjustments fact during nightly batch processing. If the dimension is not used, then all records will default to "N" or non-clearance status.

Inventory Transfers

Inventory transfer is the movement of stock between the retailer's locations. Inventory transfers analysis will help the retailer in taking appropriate and profitable decisions to improve the sales by initiating stock transfer from nearby locations to avoid lost sales.

Retail Insights supports three types of transfers, normal, book and intercompany, with an attribute called transfer type.

- Book transfer items are inventory units moved from one part of the retailer's location to the virtual location.
- Normal transfers are the inventory moved between the retailer's physical locations. (Store or warehouse)
- Intercompany transfer items are inventory units moved from one legal entity into another legal entity. RI holds transfer units and cost and retail values of transferred units.

Inventory transfers are held at the item or subclass, destination (to) location, shipping (from) location, and day or week levels. When you want to see total inventory transferred to a location (with no regard for the From Location) then simply use the standard Organization attributes, such as Loc Number. If you want to see the movement of inventory between locations, then you must use the From Organization dimension as well as the Organization dimension.

Inventory Transfer Details

In addition to the aggregated transfer in/out information, RI also captures the lowest level details about individual transfer actions taking place in the merchandising system. The Transfer Status Detail fact will maintain an up-to-date record of all transfer lines, including the initial quantities, shipped quantities, cancelled quantities, and all other unit values associated with the inventory movement action. This fact is equivalent to the RMFCS table TSFDETAIL and will have all data columns from that source when it is used. RI also maintains a linked dimension for the Transfer Status header (TSFHEAD) in order to expose the attributes associated with each transfer. The transfer status fact is held at a level of Transfer header, Purchase Order (when linked to a PO), receiving location, item, and transfer creation date.

Inventory Receipts

Inventory receipts are units purchased and placed in inventory or units received from other retailer locations as part of a transfer or an allocation. 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 Insights holds the number of units received 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. Additionally, RI may hold the clearance status and clearance markdown numbers associated with the items on this fact, in order to enable clearance-based inventory reporting. The Clearance Dimension is used to maintain these status codes on the receipts fact during nightly batch processing. If the dimension is not used, then all records will default to "N" or non-clearance status.

Receipts are also differentiated by type, based on whether they are the result of a purchase order, allocation, or non-allocation transfer. A Transaction Code dimension is provided to separate inventory receipts by type, as well as metrics to allow reporting on specific types of receipts.

Inventory Unavailable

Unavailable inventory is on-hand inventory which is currently in a non-sellable state, such as damaged goods. Such inventory is still considered part of a location's total on-hand inventory, but it cannot be sold to customers. Unavailable inventory analysis provides visibility into the types and amounts of non-sellable goods currently being held at a location.

Retail Insights maintains a record of unavailable units and the value of unavailable units in cost and retail amount, grouped by status code, item, location, and day.

Return to Vendor

RTV units are units returned to the vendor for any reason (overstock, poor quality, etc.). Return to vendor analysis gives retailer valuable insights for evaluating vendor performance.

Retail Insights maintains record of RTV units and the value of RTV units in cost and retail amount. RTV facts are held at the item/supplier/location/day/return reason level.

In addition to the units, cost, and retail of an RTV, RI also captures the tran code 65 records from the Merchandising system for RTV restocking fees and costs.

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. *Net sales value* is the net value after customer returns are subtracted from gross sales value.

Retail Insights 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 Insights holds sales amount and units by retail price type to allow analysis at this level. The terms for the price types are Regular (Reg), Promotional (Pro) and Clearance (Clr). A fourth group called Non-Clr is the addition of Reg and Pro metrics into one value.

Return metrics may additionally be reported on using Reasons and Selling Location. Reason codes are the reasons that a customer returned a product, as specified at the point of sale. Analyzing returns by reason could highlight potential problems with inventory from a specific supplier or products that have poor sizing measurements. The original selling location is the location where the sale occurred for a verified return (for example, a return where the receipt was provided or the original sale could be found in the customer's history). Analyzing the original selling locations of returns can identify customer trends such as buying online and returning in store, or buying in one location and returning at a nearby different location.

RI provides fields on the sales interfaces for a number of reference values that are commonly included with transactional data. The main sales transaction interface contains 19 reference fields, which by default align to the fields available in Sales Audit for transaction headers, items, and discounts. The transaction tender interface also includes four reference fields, which default to those found in Sales Audit's tender table. RI also has fields available to capture optional attributes and descriptive elements on a transaction, such as drop shipment indicators, sales types, and price override codes.

Sales Extensions

The sales transaction fact can also be extended using a source-agnostic interface for additional facts and attributes. The interface (W_RTL_SLS_TRX_EXT_IT_LC_DY_FS) contains all of the external identifiers of a transaction line, such as POS transaction numbers and sales associate IDs, as well as 50 flex columns for data. The interface could be populated with POS data not interfaced through other means, as well as manually-generated attributes needed for advanced sales reporting. The interface also supports having multiple sales associates per transaction line, which provides reporting at a lower grain of detail than what Sales Audit provides to RI directly.

Sales Fulfillment

The sales transaction fact can also support reporting on sales by fulfillment location, when the sale is a customer order or online sale fulfilled at a different location. This information is interfaced from Sales Audit if the POS has been configured to populate the fulfillment location ID on the RTLOG. When the fulfillment location ID is populated in RI, you may use the Fulfillment Organization dimension to see which locations are fulfilling such sales. A number of different business scenarios can be analyzed using this data, such as the amount of online purchases fulfilled in stores and the number of in-store customer orders that are not fulfilled from that point of sale.

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 Insights 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.

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:

Table 6-1 Pack A Example

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

Simple Pack Reporting

RI provides additional ways to report on sales involving Simple Packs (pack items having only one kind of component item within them). For these pack items, it can be necessary to get the sales for the pack item as well as the component item, either separately on different lines or together in one measure.

To see the sales of simple pack items with their component item number, you can create reports having the attributes Item Number and Simple Pack Comp Number along with regular Sales metrics. The Item Number will show the pack number if it was a pack sale, or the component item if it was a direct sale of the component. The Simple Pack Comp Number will always show the component item.

Example

Pack Item 5360 has within it a component item 5319. Both the pack and the component are sellable items and may appear in RI sales data. Using the Simple Pack Comp attributes, I can see which component belongs to the pack when reviewing its sales, and how many units of the component were sold as part of the pack:

Table 6-2 Simple Pack Comp Attributes

Item Number	Simple Pack Comp Number	Simple Pack Comp Qty	Net Sales Qty	Net Sales Amt
5360	5319	10	2	$38
5319	5319	1	5	$10

> **Note:**
>
> This data is not the prorated component sales as described earlier, but the original sales of the packs and components as they came from the source system. If I want to see the combined total sales of a component item (both on its own and when spread from pack sales to the component values) then there are a set of Sales Pack metrics prefixed "Simple Pack Total". When using these metrics, only the Item Number attribute is necessary, since the Sales Pack is already spread to component level.

Example

For the same pack and component item in the example above, we want to see the total sales spread to the component level and summed together, so I can accurately report on only the component items being sold.

Table 6-3 Example

Item Number	Simple Pack Total Net Sales Qty	Simple Pack Total Net Sales Amt
5319	25	$48

Sales Consignment and Concession

RI has a separate fact area designated for the sale of consignment and concession items, when using the consignment/concession functionality available with RMFCS version 19 or later. The Sales Consignment set of metrics will display only the sale of non-owned inventory. These sales are also included in your total sales amounts, in order to provide a complete picture of revenue and profits.

The calculation of profit and cost amounts for such sales transactions will be derived using the consignment/concession rates or unit costs configured in RMFCS (depending on the type of item cost used).

When an item's sales are portioned out based on a percent of the selling price, the general formula is: Sales Profit = Sales Amt * (1 - Purchase Rate/100)

When an item's sales are paid out using a fixed unit cost, the general formula is: Sales Profit = Sales Amt - (Sales Qty * Unit Cost)

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.

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 Foundation Cloud Service (RMFCS) 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 Insights 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 RMFCS 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.

Inventory Position Analysis

Retail Insights 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 four distinct groupings of stock position in Retail Insights:

- 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)
- Reserved and expected stock (stock that has been held for a transfer or return but has not been shipped)

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 Insights offers critical inventory calculations such as gross margin return on investment (GMROI), weeks of

supply, stock turnover, sell-through, weekly average inventory, 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.

An inventory analyst can track the inventory age of existing inventory at a given location. The movement of merchandise from a warehouse to the stores in a timely manner is critical to business. Merchandise lying in a warehouse for a long time adds to the expenses and also brings down profits. Inventory aging related metrics will provide the basis for calculating the inventory age, amount value and the percentage of inventory that has aged beyond a certain set time period.

Some of the questions that can be answered as part of the Inventory aging analyses are:

- What is Quantity/Cost/Retail of received merchandise that is still present at the given location beyond a given time period?
- How quickly is the Merchandise being distributed from the servicing DC to the stores?
- What percentage of merchandise is aging at the servicing DC and for how long?
- What is the trend of inventory aging this year compared to last year?

Inventory can also be maintained for consignment and concession items. RI loads the inventory position for such items with a flag identifying the ownership type (Owned, Consignment, or Concession). The Purchase Type dimension can be used to split inventory metrics by ownership status.

RI supports several variations of the Inventory Availability concept. Inventory is considered to be generally available in stores if it has enough on-hand units to meet or exceed a minimum display quantity or presentation stock. In the context of RMFCS, this presentation stock level comes from the replenishment settings for each item-location. Using the presentation stock and max stock values for an item-location, the availability is calculated in two different ways:

- Numerical availability, which is based on the percent of items having on-hand quantity above the presentation stock threshold, where each item is simply available or not (0 or 1).
- Weighted availability, which is based on the on-hand units/cost/retail being above or below the presentation stock, where having a non-zero value below the minimum threshold still provides some weight to the final percentage of available items.

If no replenishment parameters are available then these calculations will not be populated.

Wholesale

Wholesale metrics enable reporting on wholesale transactions as distinct from regular retail transactions, allowing retailers to understand how their wholesale business is working as a stand-alone operation. This will keep the wholesale business from being lost in the noise of their overall sales. The list below is unique wholesale metrics, but also all the regular sales metrics can be used to do wholesale analysis by filtering for transactions at wholesale locations.

Franchise

Oracle Retail Insights has three types of franchise metrics: Stockholding Franchise, Non-Stockholding Franchise, and Franchise. Which one a retailer uses will depend on their relationship with their franchise locations: if they manage inventory and replenishment for their franchisees, then Stockholding Franchise metrics are more useful, but if their franchisees

operate relatively independently, Non-Stockholding Franchise metrics would be appropriate. Markdown and Markup metrics are simply known as Franchise metrics because there is no way to distinguish between stockholding and non-stockholding for this type of metric.

Consumer

Consumer analysis is a method by which retailers will analyze their target consumers in order to determine the most effective strategies to improve both their sales and profitability. The Consumer dimension and Consumer Segment dimension can be used together to create consumer profiles, analyze consumer attribute trends and patterns, and identify groups of consumers that are ideal for conversion and marketing activities. Additionally, the Consumer Segment dimension can be used along with Sales fact data to analyze the effectiveness of conversion activities on a specific segment.

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 Insights holds price as a retail value for an item, day, and location. For the purpose of analysis, the price is semi-additive and calculated over the time period selected for the report. For example, if the Price metric is added to an analysis at the levels of Subclass, Loc, and Fiscal Week, then the value returned will be the average price for all items in the subclass, at that location, as of the end of that week.

Planning

Retail Insights 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. RI stores planning data at intersections of Merchandise Hierarchy, Product Attributes, Organization Hierarchy, Calendar Hierarchy, and Supplier Dimension. The Merchandise Hierarchy includes item, subclass, class, department, group, and division. The Organization Hierarchy includes store, district, region, area, chain, channel, and company. The Time Hierarchy includes day, week, period, quarter, half year, and year. The supplier dimension includes suppliers, parent suppliers, or no suppliers. Product attributes can include the brand, style, color, size, pattern, flavor, or scent (these align with the same-named attributes that exist in the Item Dimension).

RI provides up to 4 possible combinations of intersection of the 4 hierarchies (and optional attribute) per each implementation. The 4 possible combinations can be configured during the installation time to decide which level of Merchandise Hierarchy, Product Attribute, Organization Hierarchy, Calendar Hierarchy, and Supplier Dimension will be used. Multiple plan interfaces may exist at the same intersections of data if desired.

The following abbreviations are used in the names of Planning metrics:

- CP1 to CP4: Current Plan for Plan 1 through Plan 4
- OP1 to OP4: Original Plan for Plan 1 through Plan 4

In addition to metrics, the plan versions also contain a number of fact-based Flex attributes that can be populated as needed. Flexible character attributes behave differently from metrics in that they must NOT be combined in a report with attributes from other plans. For example, OP1 Flex 1 Char Value cannot be used in the same report as CP1 Flex 1 Char Value. The attributes are tied to specific plan versions and would influence the data being queried, just like

when using actual dimension attributes. There would be no data existing for both OP1 and CP1 flex attribute values at the same time.

Review the following example configuration:

The first plan configuration (loaded to the staging table W_RTL_PLAN1_PROD1_LC1_T1_FS) will be used to hold the primary Merchandise Financial Plan. This plan will exist at the levels of Subclass, Chain, and Week. The Subclass's unique identifier (a concatenated value of dept~cls~sbc, e.g. 10~100~5) is provided for the product hierarchy values, the Chain identifier (e.g. 1) is provide for the location hierarchy values, and the week-ending date is provided for the calendar values. Product attributes and suppliers are not being used, so they should be set to a default value of '-1'.

The Version Number field should be set as '0' for the original plan, and '1' for the current plan. Versions after 1 represent changes to the current plan that need to be captured in RI over time. For example, if my plan is revised once a month, I may want RI to hold each monthly revision as a new version so that I can see how my initial plan compared to my end-of-quarter revised plan. A version number attribute is available in each plan to perform these comparisons. The CP metrics will always show the latest plan version if more than one exists.

All of the chosen hierarchy levels would be configured in C_ODI_PARAM settings prior to running a batch with planning data. All planning files should be bundled in the RI_MFP_DATA.zip file and uploaded to the SFTP server, where they will be picked up and processed during the nightly batch run.

Stock Ledger

Retail Insights information for stock ledger analysis comes from Oracle Retail Merchandising Foundation Cloud Service (RMFCS).

The lowest-level stock ledger facts are kept at the subclass and week level. This gives Retail Insights 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 RMFCS, the RMFCS stock ledger feed to Retail Insights supports either a 4-5-4 fiscal calendar or Gregorian calendar.

If you have a Gregorian stock ledger, reporting in Retail Insights 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 RMFCS interface to Retail Insights for stock ledger facts. If an RMFCS user customizes the stock ledger to use a 13-period calendar, there are inconsistencies with the RMFCS stock ledger interface to Retail Insights unless modifications are made.

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

Baseline

Baseline metrics are derived from data mined during a period of time when an item is not on promotion.

The baseline process brings sales transaction data from Retail Insights into a suitable structure for performing baseline calculations. The process first transfers sales data by week, identifying which weeks are suitable to be included for baseline calculation. A set of item/location weekly sales is suitable for baseline calculation only if it does not have promotion sales for the week. The number of weeks of sales data to use for baseline calculation is configurable, with a default suggested value of 16 weeks, eight weeks prior to the promotional week and eight weeks after. You can configure both the number of weeks included and whether they are pre-promotion or post-promotion weeks. For example, 14 weeks might be included in the calculation, with eight weeks pre-promotion and six weeks post-promotion. After processing, the calculated baseline metrics are returned to Retail Insights.

These metrics are calculated at the promotion component/item/location/week level. They include baseline units, sales, profit, and transactions.

Baseline metrics can be used by a buyer during category planning, to establish expected sales for a category before promotions are added. This can help identify the level of promotion needed for the category to hit sales targets. A planner might decide that sales goals can be reached without promotions, or by promoting very little, thus saving money and adding to category margins.

Baseline metrics can also be used to calculate lift for promoted products; that is, how much over the baseline did sales increase when this category was promoted? If the difference between baseline and promoted weeks is large, and baseline sales are unacceptably low, it might be concluded that customers are shopping the category only for promoted items. Promotions might need to be cut back or changed, to avoid conditioning customers to buy items only when they are on promotion. If the difference is too small, the promotions might not be effective and not worth the cost to run them.

Trial and Repeat

Retailers want to analyze the impact of new item introductions, and item promotions, to see whether customers come back a second and third time after trying something new. Something new may be a new item introduction, or the first time an item is put on promotion, perhaps as part of raising that item (or Brand's) profile, and so on. Trial and Repeat Metrics can help to analyze the repeat purchase behavior of customer household for the merchandise.

Customer

The Customer Insights module enables you to perform retail analysis around customers and customer segments. The following are some example business questions that Customer metrics can help to answer:

- Who are my most profitable customers? Who are my most frequent shoppers?
- Are my customers only buying items from me when they are on promotion?
- What does a customer buy from me on a typical shopping trip? Does it vary by where they live or how much money they make?
- Which of my departments appeal to which of my customers? That is, who is shopping in my stores and what are they shopping for?

Customer data can be reported from the Sales, Sales Promotion, Sales Discount, and Customer Loyalty folders in Retail Insights. Combining the Customer dimension with one or more facts will display data only for known customers (those shoppers having a unique identifier in your POS and CRM systems). Unknown customer transactions are given a default customer ID of -1 and all such data will appear on a single row in reports.

Sales Promotion

Retail Insights has a number of metrics against which to measure a promotional sales, cost and forecast as well as Promotion Campaign costs. These metric provide useful insight into the processes of managing actual marketing cost, evaluating financial performance of marketing tactics, and analyzing forecast and actual spending.

The main folder for promotional activity is the Sales Promotion folder. It contains a set of metrics that must be reported on with the Promotion dimension to analyze performance of a specific promotional event or deal that was given to customers. These promotional events could come from Retail Pricing Cloud Services, Customer Engagement, or an external source such as a marketing platform or online store application.

Transactions are typically identified at the POS as being affected by one or more promotions and deals, which is then processed through Sales Audit and sent to RI with a retail type of 'P' and the ID of the promotion. Additionally, it is possible to mark transactions as belonging to an external promotion, event, or other activity not managed through the pricing or CRM tools at the retailer. These external events must be identified on a reference field in the POSLog data (such as REF_NO3 in the RTLog interface to Sales Audit). RI must then be configured to join that reference field with the External Promotions interface data having the master records for the external event. Once the above integration path is established, transactions having the external event or promotion ID on them will be moved into the Sales Promotion area, and may be reported on just like other Promotion types.

The other Promotion facts in Retail Insights are for customers to populate on-demand with their own data, such as the Promotion Forecast and Promotion Budget facts. These interfaces have no standard Oracle data source, but may be loaded with data from an external application if desired

> **Note:**
>
> Promotion Budget only supports as-is reporting.

> **Note:**
>
> Amount facts are in local and primary currency only.

Cluster

A cluster is a group of stores. Retailers make store clusters for various reasons, but the general idea is that stores in a cluster should have some key element or elements in common, which differentiates them from stores in other clusters. These elements could involve business objectives like store performance benchmarking, inventory management, and assortment/ space planning. Then clusters can be used for analysis of sales, inventory, and promotions. Performance, inventory, ranging, trade area analysis, and union analysis are examples of elements around which clusters are built.

Oracle Retail Insights' cluster metrics enable retailers to analyze their clusters' sales, inventory position, inventory receipts and promotions, so that any analysis that might normally be limited

to some aspect of the organizational hierarchy can instead be performed on a retailers' customized store cluster, enabling precise, actionable analysis.

The Cluster dimension also supports loading of Price Zones from RPM. These price zones will look and behave the same way as other store clusters from a reporting point of view, as the structure (zone group -> zone -> location) is the same.

Customer Order

Customer orders lie at the heart of the modern retail experience. Virtually every customer transaction that takes place outside of a brick-and-mortar store is captured as part of a customer order, whether it is a normal sale, cancellation, return or exchange. A customer order consists of a customer order header that contains one or more customer order lines. Oracle Retail Insights' customer order metrics allow retailers the flexibility to analyze the performance of their business across the various selling channels their customers use.

Retail Insights supports a number of different metrics related to customer orders to allow performance analyses of omnichannel retailing. A list of the major metrics (minus the time transformations such as LY and LW) is below.

Similarity Score

Similarities calculate how likely a customer is to switch from one item to another in a range from 0 to 1. For example, if the similarity rate for Toothpaste A and Toothpaste B is 0.75 while the similarity rate for Toothpaste A and Toothpaste C is 0.21, the customer is more likely to switch to Toothpaste B than Toothpaste C.

Competitor Pricing

A competitor is a retailer with a product range and customer base similar to those for the organization business unit [Store location in RI] and its channels. The competitor entity holds information about each competitor store and associates it with a location in the organization. Competitor pricing details can be associated with a specific competitor location and mapped to an item in the product hierarchy. This structure provides the means to compare competitor prices for similar or identical items, at a direct competitor location. With this type of timely information, promotion and pricing strategies can be implemented by retailers to prevent potentially costly customer defections.

Purchase On Order

Purchase orders and pre distribution of merchandise that is on the purchase order is instrumental to a retailers inventory movement. Analyzing various aspects of merchandise that is currently on order i.e merchandise that is on an approved purchase order where the entire quantity has not yet been received is important as it can give insight into the quantity, value and status of the merchandise that will be incoming in the near future.

A key metric that the retailers would track is the on order merchandise quantity that has been pre distributed so that the merchandise reaches the stores via an allocation without any delay.

Some of the questions that can be answered as part of the On Order analyses are:

- What is the Merchandise that is on order in terms of Units/Retail/Cost by Supplier/ Purchase Order/Item/location/day?

- What is quantity/Cost/Retail of ordered merchandise that has been received from supplier by Purchase Order/Item/location/day?
- What is the quantity/Cost/Retail of the ordered merchandise that is yet to be shipped by the vendor by Item/location/day?

Purchase On Order metrics help identify the on order, total ordered, received, cancelled merchandise quantity and value and the allocated quantity and allocated percentage of the PO on order qty. RI maintains orders with a status of A (active) for as long as they remain open, as well as orders in status C (closed) for a period of 30 days after completing the order. After 30 days have elapsed on a closed order, RI will stop showing that data in reports for the current business date (this is configurable, and historical data for the order is always available by looking at past dates).

The Purchase Order dimension may also be used in combination with Sales facts to analyze orders placed in response to a customer order (such as a drop shipment). This requires that both the sales transaction and the purchase order have a matching Customer Order Number to join the data.

Gift Card Sales

Gift cards are prepaid, stored-value money cards issued by retailers to be used instead of money for purchases. Gift cards are important for retailers because they drive foot traffic and sales, and it would be valuable for them to be able to quantify that effect and any trends up or down that could be an issue. If gift card purchases and redemptions are not up to expectations, retailers may need to take steps like consumer education, or adding mobile platform gift cards.

Oracle Retail Insights gift card metrics provide analysis on gift card amount sold and the trend with respect to last year. Counts of gift cards sold and transactions containing gift card sales are also provided, along with last year metrics for comparison.

Transaction Tender

Transaction tender identifies the tender types that have been used to pay during a given sale or return transaction. Transaction tender data can be utilized to generate gift card redemption analysis. It can also be used to better understand customer purchasing behaviors, such as preferred payment methods, and to analyze the uptake of new payment methods the retailer has introduced at the point of sale.

Oracle Retail Insights transaction tender metrics provide analysis on tender amounts per tender type, gift card redemption amount and the trend with respect to last year, as well as counts of gift cards redeemed and transactions having redemptions. The data is held at the levels of transaction, location, date, and tender type. It is not held by item or transaction-line as there is no indication from the source system to differentiate how much tender is applicable to a specific item or line.

Sales Discount

Sales Discount lists the various discounts that were applied for a given sales transaction. Analysis can be done on the discount amount, discount type and coupon discounts applied. Metrics are also available for the cost and profit associated with a discounted line, and the original pre-discount amount for the sale.

Oracle Retail Insights sales discount metrics can form a basis for analysis of coupon sales penetration that can help retailers understand if the cost of producing and distributing coupons is worthwhile. It is also possible to analyze the revenue and discount amounts created by

specific discount types, in order to assess the effectiveness of a discount in generating additional sales relative to the decrease in retail value per transaction. RI further splits discounts by the retail type on the transaction, so it is possible to analyze discounts taken off full price or clearance items separately, or to understand the percentage of discounts taken off regular, promotional, or clearance-priced items.

Store Traffic

Store traffic information is used to understand the distribution of traffic by minute, hour, day of the week, store location, seasonal periods, promotion periods, total chain, etc. Retailers can also look at the conversion ratio of their store which is the total sales transactions divided by total traffic. You will be able to determine if your conversions went up, down or remained the same during the promotion.

Oracle Retail Insights store traffic metrics can be used to analyze the store traffic and conversion rate of stores in comparison to comparable stores. Traffic data is loaded and viewed in 24-hour time format, ranging from 0000 to 2359.

Customer Loyalty Activity

Customer loyalty activity refers to transactions which involve a retailer's loyalty programs, such as loyalty point accrual, redemption, expiration, and award generation. This information can be used to analyze how customers are interacting with your loyalty program and how effective the program's benefits are. For example, if customers are accruing a large number of loyalty points through sales transactions but are not redeeming them, it could indicate that the program's rewards are not enticing enough to encourage participation. It is also useful to know how many loyalty points have been issued but not redeemed, as these represent a potential liability for the retailer in terms of future discounts and coupons that may be used to purchase products.

Retail Insights loyalty activity can be extracted from Customer Engagement, and is held by program, account, customer, location, and day.

Customer Loyalty Award Activity

Loyalty award activity tracks the distribution, redemption, value, and expiration of loyalty awards issued to a customer. Loyalty awards usually come in the form of e-awards or entitlement deals that are distributed to customers who have accumulated a certain number of points as part of a Loyalty Program. The generation and distribution of loyalty awards are done via scheduled jobs in Customer Engagement. The rules determining the award type, award frequency, award amount and the number of points that will be subtracted from the customer's account are defined in the award rules linked to a loyalty program level (rules are not extracted from CE to RI).

Retail Insights loyalty award activity can be extracted from Customer Engagement, and is held by program, account, customer, and day.

Stock Counts

A standard practice in physical retail locations is to perform regular counts of on-hand inventory to ensure that there are no major deviations between the inventory management systems and the actual available inventory. A stock count generally consists of a pre-count snapshot taken in the system of record for all inventory to be counted, followed by one or more physical counts of each unit on-hand. Counts are then reconciled with the inventory management system and adjustments to the on-hand units may be created.

Retail Insights provides two methods for analyzing stock count activities, depending on the systems used by the retailer. The first method will interface directly with RMFCS to extract the stock count snapshot and counted quantities stored by that system after a stock count is performed. The second method provides a generic interface for manually loading non-RMFCS stock count results into RI. These counts would generally be sourced from a perpetual inventory management system such as SIM.

One or both of the provided interfaces may be used to load stock count results for analysis in RI. Separate metrics are available for each interface, allowing the user to compare and contrast multiple instances of a snapshot or count. The stock count snapshots from RMFCS will be loaded automatically through RDE, and will contain all available data on the STAKE_SKU_LOC table, both for snapshots and store counts. The interface for SIM stock count results provides columns both for the SIM pre-count snapshot and the physical counted/approved quantities.

POS Sales

The Retail Insights Cloud Service includes a web service capable of accepting POS sales logs from Oracle XStore using their generic broadcaster service. This service is exposed through the AI Foundation platform's SOAP APIs. If this service is enabled, then the set of metrics on the POS Sales folder become available for use against this data in near real-time. These metrics allow you to see sales and return transactions from your points of sale as they occur throughout the day, along with core measures of performance such as Sales Units and Amounts. This data is held at the transaction, item, location, retail type, day, and time-of-day levels.

Deal Income

Deal income transactions are sourced from a merchandising system, and in the case of RMFCS, are a combination of transaction codes 6 and 7.

Deal income from sales (tran code 6) is recorded to post income generated from bill back rebate or vendor funded promotion types of deals that are calculated based on sales. These are the deals from which the retailer gets income as certain part of sales. The amount of income may differ based on predefined threshold sales levels and percentage thereof. Deal income from sales is posted only to the retail value by default, but in RI all three values (qty, cost, and retail) are exposed if required.

Deal income from purchases (tran code 7) is recorded to post income generated from bill back or bill back rebate deals that are calculated based on purchases. The income from these deals is dependent upon the quantity of purchases made by the retailer from the vendor, and deal income may differ based on predefined threshold levels of purchases. Deal income from purchases is posted only to the cost value by default, but in RI all three values (qty, cost, and retail) are exposed if required.

The deal income fact in RI is held at the standard data levels of item, location, and date. You may also use the Deal dimension to report on deal income by individual deal. The Deal Income fact only goes down to the deal header level of detail (equivalent to DEAL_HEAD table in Merchandising Cloud), it does not support the individual components of a deal as Merchandising doesn’t track deal income against the components, only the deal header record.

Deal Actuals

In addition to deal income transactions, RI has a separate fact for deal actuals, which are the aggregated financial values associated with each specific deal. Deal actuals are integrated with Merchandising Foundation CS (MFCS) primarily using the source table DEAL_ACTUALS_ITEM_LOC. Deal actuals cover two key performance metrics: turnover and income. Turnover refers to the total revenue generated for a period across the merchandise hierarchy for which the deal is applicable. Income refers to the actual amount of revenue generated by the deal itself based on the deal income calculation methods used in the source system where deals are managed.

The deal actuals fact in RI is held at the standard data levels of item, location, and date. You may also use the Deal dimension to report on deal actuals by individual deal and deal component. Which data columns are populated between turnover and income for a given deal will depend on the type of deal, calculation methods, and other parameters setup in the source system.

Intercompany Margin

The intercompany margin fact refers to the intercompany margin calculations done in a merchandising system. Intercompany transfers are treated like sales between two legal entities and can result in a price that is different from the retail price of the item. Margin calculations can be performed to determine the gain or loss from the intercompany transactions. This fact can be loaded with such data for the standard quantity, cost, and retail measures populated for most transactional activities. The fact is held at the standard data levels of item, location, and date.

Inventory Reclass

In the merchandising system, reclassification transactions are written when an item is moved, or reclassified, from one department/class/subclass to another, to record the movement of inventory 'in' to the new subclass. Transaction data records are written for each location in which the item being reclassified exists in the system based on owned inventory at the location. For every Reclassification In transaction for the location, a Reclassification Out transaction also exists and the two transaction data records balance one another.

In RI, the reclassification fact simply captures the reclassification in/out transaction pairs and exposes the quantity, cost, and retail values associated with them. The fact is held at the standard data levels of item, location, and date.

Price Optimization Results

The results of the Lifecycle Pricing Optimization (LPO) application are exposed in Retail Insights as fact measures in several folders, such as Price Optimization Run Metrics and Price Optimization Recommendations. Every LPO run produces a large number of metrics and attributes at the same level as the recommendations (e.g. style/color-zone-week). These are critical to the end users to have in reports to analyze the quality of the results and any actions they might need to take within LPO after the runs are complete.

The Price Optimization Run Metrics fact contains a series of calculated values and input measures that are specific to one optimization run, such as the recent sales and inventory totals used in the run and the optimized margin and other derived outputs. It also contains all of the custom measures imported from outside of LPO that are to be used for reporting on the run results, pre-aggregated to the level of the recommendations. The run metrics are limited to results from the current processing week only in order to improve performance, and because the current week’s runs are typically the only ones needed for analysis. The dimensions

supported on the run metrics are the Optimization Run, Optimization Products, Business Calendar, and Clusters (which has price zone data).

The Price Optimization Recommendations fact shows the actual price recommendations resulting from the optimization run, as well as any price overrides applied by users to the runs. The recommendations include the forecasted and optimal sales and inventory measures depending on your optimization objectives. The recommendations are limited to the current processing week, just like the run metrics. The recommendations have the same level of dimensionality as the run metrics.

The Price Optimization Actuals fact shows the aggregated historical inputs such as the sales and prices sent to the LPO models. This is specifically sourced from the PMO_ACTIVITIES table in the database for any aggregations used in the current processing week. The fact will display data for the current week plus the 4 weeks prior, as this is the data that will most directly influence the LPO results. The dimensions supported on the run metrics are the Optimization Products, Business Calendar, and Clusters (which has price zone data). If used with the Optimization Run dimension, the measures will show as total values, since they are not split by run.

The Price Optimization Inventory fact shows the aggregated historical inputs from the PRO_INVENTORY table which is also used as input to the LPO models. The fact will display data for the current processing week only. The dimensions supported on the run metrics are the Optimization Products and Clusters (which has price zone data). If used with the Optimization Run or Business Calendar dimensions, the measures will show as total values, since they are not split by run and only cover one week of data.

The Price Optimization Price Cost fact shows the aggregated historical inputs from the PRO_PRICE_COST table which is also used as input to the LPO models. The fact will display data for the current processing week only. The dimensions supported on the run metrics are the Optimization Products and Clusters (which has price zone data). If used with the Optimization Run or Business Calendar dimensions, the measures will show as total values, since they are not split by run and only cover one week of data.

The Price Optimization Run Alerts fact shows the results of the internal sanity checker which looks for data that violates any rules defined in LPO such as missing price or inventory values for an item. This fact may only be used with the Optimization Run dimension as the sanity check results are stored by run. All other values needed to analyze the errors are included within the fact itself and does not require joins to other areas.

The Price Optimization Run Exports dimension is a standalone dimension for checking integration errors from LPO to Pricing Cloud Services. These errors are returned by the Pricing API and cover a wide range of data issues such as clearance conflicts, missing items or locations, invalid price zones for the markdown, failed connections, and so on. This data does not join with any other folder in RI.

Size Profile Optimization Results

The results of the Size Profile Optimization (SPO) application are exposed in Retail Insights as fact measures and supporting fact-based attributes.

The Size Profile Results fact contains a single key metric, the Size Profile %. This metric is reportable at the Item and Location levels and allows you to see the optimized size profile for any given product. For example, in a report having sales and inventory for a range of items in a subclass, you may also add the Size Profile % to see what the expected distribution of sales is across all the sizes in a style or color. You may optionally use the attributes in this folder for the Size Group to see what range of sizes were used in generating a particular profile value for an item.

The Size Profile Attribute Results fact returns a different intersection of the size profile data which is captured against a chosen attribute value such as brand. The reporting attributes in this folder should be used in combination with the Attr Size Profile % to see your size profiles organized or aggregated by the chosen product attribute.

The Size Profile Data Errors fact is a standalone reporting table that exposes any data validations performed by SPO that might be relevant to users. The validation error currently provided is specifically for multi-group errors where SKUs within a single style have two or more size groups associated with them, which is not allowed.

Flexible Facts

Retail Insights provides four flexible fact interfaces which can be configured to load data from an external source at any level of the product, location, supplier, and calendar hierarchies. These configurations should be set in the C_ODI_PARAM table during implementation. The full list of supported levels and configurations will be comparable to the Planning fact interfaces as the architecture is the same.

The flexible fact metrics in RI are intended to provide the retailer with a way to load data from outside of Oracle and combine that data with all other areas in RI. How the data will be reported on, and which dimensions can be used, will depend on the levels configured during implementation. For example, if the external data is provided at a level of Location and Fiscal Date, then only the Organization and Fiscal Calendar dimensions in RI can be used with the flexible fact metrics. For this reason, it is recommended to provide the data at the lowest possible levels of each available dimension, to allow RI the widest range of attributes and aggregations to use in reporting. Fact data provided at a lower level (such as Store) will support any aggregation defined above it (such as Channel or Region).

The metrics for these facts are provided with generic labels that describe the datatype of the source column. Each of the four facts have an identical set of metrics, differing only in the base numerical value of 1 through 4, to designate which flexible fact table is being used. It is expected that the retailer will relabel these metrics during implementation to something more meaningful to RI users. For example, the default label for the first metric is External Flex 1 Metric 1 Number. A total of 100 metrics are provided across several data types for each of the facts:

- 40 numerical non-currency fields
- 20 numerical currency-enabled fields
- 30 character-based freeform fields
- 5 percent fields (using a non-scaled range like 0-1)
- 5 date fields

Retail Insights Metric Metadata

The following chart shows Retail Insights metric metadata. Users should be aware that you cannot mix facts across as-is, as-was, and point-in-time subject areas.

> **Note:**
>
> Performance of reports that contain YTD metrics may become less optimal as the end of the fiscal year approaches, due to the increasing amount of data that accumulates. Users should be aware of this and take steps to mitigate any performance effects, such as being specific with filters and prompts to get back the smallest amount of data necessary for analysis.

Table 6-4 Metric Metadata

Metrics	As-Is	As-Was
Cost and Profit	X	X
Markdowns and Markups	X	X
Sales Forecast	X	X
Inventory Receipts	X	X
Sales	X	X
Sales Discount	X	X
Sales Consignment	X	X
Sales Extensions	X	X
Transaction Tender	X	X
Gift Card Sales	X	X
Store Traffic	X	X
Competitor Pricing	X	X
Sales Pack	X	X
Supplier Invoice	X	X
Supplier Performance and Compliance	X	X
Inventory Position	X	X
Wholesale	X	X
Franchise	X	X
Price	X	X
Planning	X	X
Stock Ledger		X
Trial and Repeat	X	X
Sales Promotion	X	X
Customer Order	X	X
Customer Order Promotion Transaction	X	X
Customer Order Status Fact	X	X
Customer Order Transaction	X	X
Touch Point	X	X
Retail Promotion Actuals	X	X
Retail Promotion Forecast	X	X
Promotion Baseline	X	X

Table 6-4 (Cont.) Metric Metadata

Metrics	As-Is	As-Was
Promotion Budget	X	X
Consumer Spend	X	X
Sales Promotion	X	X
Inventory Position	X	X
Return to Vendor	X	X
Inventory Adjustment	X	X
Inventory Transfers	X	X
Similarity Score	X	X
Purchase On Order	X	X
Customer Loyalty Activity		X
Customer Loyalty Award Activity		X
Stock Counts	X	X
POS Sales	X	X
Inventory Reclass	X	X
Deal Income	X	X
Deal Actuals	X	X
Intercompany Margin	X	X
Lifecycle Pricing Optimization	X	
Size Profile Optimization	X	

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 Insights conversions are expression-based. Oracle Analytics does not use transformation tables to create metrics; however, some Retail Insights views in Oracle Analytics 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 Insights 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.

The Last Year time transformation works differently depending on whether the retailer is using the Gregorian calendar or Business calendar. For the Gregorian calendar the Last Year corresponds to the current week last year, while for the Business calendar the Last Year will be 52 or 53 weeks from the current week.

Example Time Conversions

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

Table A-1 Time Conversions

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.

Table A-1 (Cont.) Time Conversions

Conversion	Summary
Last Year	Returns the corresponding last year fact data for the time period selected.
Gregorian Last Year	Returns the corresponding last year fact data for the unshifted Gregorian calendar (e.g. from January 1st).
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 Analytics Server*.

Table A-2 Metrics that use Time Conversion

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 GLY YTD	Last year's Gregorian 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 Analytics Repository Objects

You can use the Oracle Analytics Repository Documentation utility to export information about Oracle Analytics 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

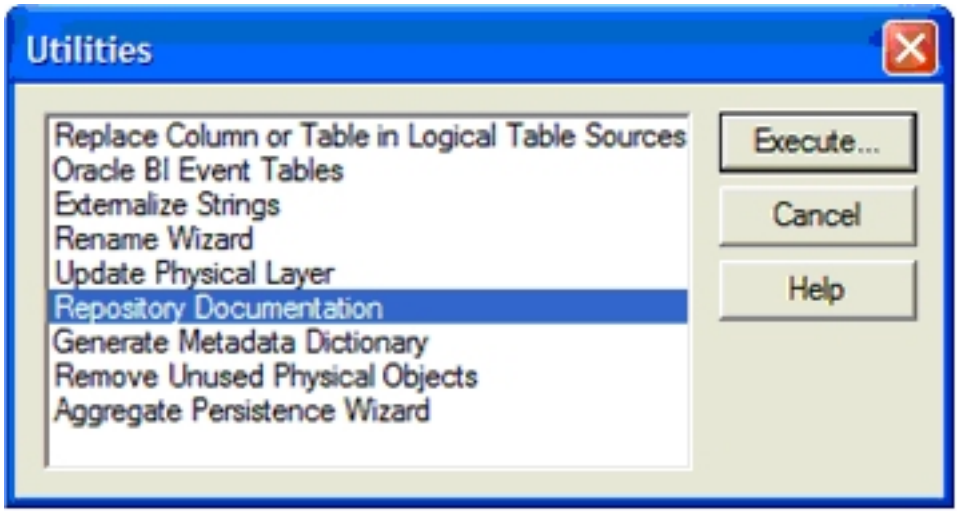
See the *Oracle Fusion Middleware Metadata Repository Builder's Guide for Oracle Analytics Server* for information about using the Oracle Analytics Server Administration Tool and utilities. That document describes the procedures in detail.

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 Analytics Server 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.

C

Retail Insights Metric Definitions

As of the Retail Insights 18.0.002 release, the complete list of metrics has been moved to *Oracle Retail Insights Cloud Service Suite, Retail Science Platform Cloud Service, and Retail Data Extractor for Cloud Documents (Doc ID 2539848.1)* on My Oracle Support. See Metrics for additional information about the functional areas for which RI provides metrics.

D

Appendix: Oracle Retail AI Foundation Cloud Services Overview

Oracle Retail AI Foundation Cloud Services provides advanced analytical insights to drive the end-to-end retail process. The foundation provides out-of-the-box analytics that are purpose built for end business users with a workflow and a user experience. The foundation also provides the ability to create a retailer's own AI/ML models and then invoke and infuse those results into the business process as well as create application extensions with Oracle's Application Express.

Oracle Retail AI Foundation Cloud Services includes the features described below.

Advanced Clustering utilizes machine learning techniques to cluster stores based upon similar selling patterns, providing a more customer-centric set of clusters to drive assortment decisions. The capability also provides the ability to cluster based upon other metrics and attributes such as space to drive assortment space optimization.

Customer Segmentation provides the ability to utilize historical performance, customer loyalty information, and demographics to segment customers to utilize in downstream processes.

Attribute Extraction automates the attribution process by extracting attributes from product descriptions.

Customer Decision Trees provide the ability to understand exactly how your customer is shopping their assortment. Are they coming in for a specific brand, product, size? This then enables you to utilize these insights within planning as dynamic attributes to pivot from your static merchandise hierarchy to analyze your assortment decisions in the way in which your customer is shopping.

Demand Transference drives insights into the overall uniqueness of items and the potential demand transferable to other items which is then utilized in assortment recommendations for both assortment planning as well as space optimization.

Profile Science helps retailers understand how to break their buys by size, looking at not just historical sales but also where there were stock outs and missed opportunities.

Affinity Analysis identifies associations across products and product types such as halo and cannibalization. These insights can help drive the overall decisioning of process of promotion planning and impact analysis.

Innovation Workbench enables data scientists to create their own AI/ML models with open source programming language as well as SQl.

Each of these capabilities can further fuel data-driven decisions for retailers.

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 Insights 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.

affinity

The relationship between items or groups of items in the basket of a customer.

attribute

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

baseline price

The price calculated for an item for a preconfigured duration (default 16 weeks), by calculating the average price when an item is not on promotion.

baseline sales

Sales calculated for an item for a preconfigured duration (default 16 weeks), by multiplying the baseline price times the baseline units of an item.

behavioralistic segment

A traditional form of segmentation that identifies target consumers or groups based on characteristics, including benefits sought, usage rate, readiness to buy, and occasions of purchase.

BOH

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

buyer

A person who develops business strategies and seasonal assortment plans to maximize the development of the brand, sales, and profits for a department or assigned area. The buyer identifies opportunities and recommends new products or concepts for the department.

buyer analyst

A person who assists the buyer in developing business strategies and seasonal assortment plans to maximize the development of the brand, sales, and profits for a department or assigned area. The buyer analyst identifies opportunities and recommends new products or concepts for the department.

campaign

The entire communication strategy for a specific marketing communications program. The marketing communications program is frequently in support of promotional events and individual promotions, but it can stand alone. Retailers execute several different types of campaigns, including advertising, direct marketing, and in-store marketing.

cannibalization

The reduction in sales of one item from its baseline sales when another item is on promotion. Retail Insights calculates this metric in conjunction with affinity items. When Item A, to which Item B has affinity, is promoted, any negative impact on Item B sales during this promotion period is referred to as cannibalization .

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.

confidence

Given an association rule that if X then Y, the frequency with which, in transactions in which the customer purchased X, they also purchased Y.

consumer

Any potential shopper. Consumers are a superset of a retailer's customers.

CPC

Abbreviation for current plan for cost-based planning.

CPR

Abbreviation for current plan for retail-based planning.

customer

A shopper who has bought from a retailer. A customer has one or more associated transactions in a sales transaction table.

customer segment

A preparation step for classifying each customer according to the customer groups that have been identified in the retailer's customer data. Segmentations can be broadly classified as demographic or behavioral (customers who shop at a particular retailer).

demographic segment

A traditional form of segmentation that identifies target customers based on characteristics including age, generation, income range, family size, presence of children, race, gender, education, and occupation.

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 Analytics, 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 Analytics, 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.

geographic segment

A traditional form of segmentation that identifies target customers based on characteristics including region, size of metropolitan area, population density, and climate.

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.

halo

The increase in sales of one item from its baseline sales when another item is on promotion. Retail Insights calculates this metric in conjunction with affinity items. When Item A, to which Item B has affinity, is promoted, any positive impact on Item B sales during this promotion period is referred to as halo.

hierarchy

In an Oracle Analytics 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.

historic baseline

The normal expected sales in the absence of any promotion. All baseline methods are modeled using previous non-promoted sales movement of a product to model (prediction) of what the expected sales of that product will be. Baseline volume can exceed total volume if expected sales are greater than actual sales. All the baseline metrics (units, profit, and sales) are calculated for a default period of 16 weeks, or other duration specified by system options for market basket analysis. The default weight age scheme is (1/2)ˆn; however, it can be configured.

This duration is divided into 2 equal periods. Using a 16-week period (the default configuration), to find baseline amount, use 8 weeks of sales before the promotional week, and 8 weeks of sales after the promotional week.

If the user-specified duration x weeks is not even, then (x-1)/2 weeks are used for pre-promotion sales and (x+1)/2 weeks for after-promotional sales.

household penetration

A percentage of households in a specific market that use or consume an item. The value is calculated by dividing the total number of households that buy a product by the total number of households in the market.

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 analyst

A person who conducts in-depth review of the business to drive sales. This includes identifying specific opportunities (for example, sales/stock relationships, underperformance) and recommending actions to be taken.

inventory manager

A person who replenishes stock in stores on a daily basis, tracks supplier service levels; collaborates with the commercial team and suppliers to improve efficiency. The inventory manager reviews and recommends refinements to parameters in IT reporting.

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.

market basket analysis

The value of the total market basket relating to a class or subclass. This measure is meaningful when compared to the average market basket.

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.

merchandising executive

A person who views and manages business goals and objects; roles such as buyer report to this person.

merchandise financial planner

A person who is responsible for financial seasonal planning of sales, stock levels, production requirements, and the control of purchases relative to planned levels of (for example) color, fabric, and branch/store volumes.

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 Analytics 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 Analytics Server is the OLAP user interface for Oracle Retail Insights reporting and analysis.

OLTP

Abbreviation for online transaction processing. Source systems for Oracle Retail Insights 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 Analytics 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.

planning executive

A person who sets the strategic long-term targets from company to division level. The planning executive is responsible for merchandise planning organization and often has assortment planning, item planning, and allocation as responsibilities.

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.

pricing analyst

A person responsible for pricing strategies for the company through combining the objectives set by the marketing department (increase revenues, decrease inventory) with historical and predictive analytics data.

promotion

The tactics a retailer undertakes to generate increased incremental sales volume for specific item-store combinations within a promotional event. Promotions are frequently communicated as part of a marketing campaign to ensure that awareness is generated with the target audience. Promotions are attempts to stimulate the sale of particular merchandise, by temporarily reducing the price, advertising the merchandise, or linking sales to offers of other merchandise at reduced prices or free.

promotional planner

A person responsible for planning promotions within stores.

prompt

In Oracle Analytics, 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.

psychographic segment

A traditional form of segmentation that identifies target customers based on characteristics including activities, interests, opinions, attitudes, and values.

repository

See Oracle Analytics repository.

retail type

The price type at which items were sold or held as inventory. There are four values for retail type:

- Regular
- Promotional
- Clearance
- Intercompany

RFM

Recency, frequency, and monetary score for a customer.

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

support

Given an association rule that if X then Y, the frequency with which, out of all transactions, the customer purchased both X and Y.

target customer (target prospect)

The ideal consumer who lives near your stores, consumes the products you sell, and that you want to attract into your stores.

threshold

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

transaction count

The number of transactions carried out at a retailer's stores by all customers. This is different from customer trips, because there could be several transactions in one trip, but transactions are easier to quantify through the point-of-sale system.

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.

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