



Agile PLM Business Intelligence

User Guide

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Preface

The Agile PLM documentation set includes Adobe® Acrobat PDF files. The [Oracle Technology Network \(OTN\) Web site](http://www.oracle.com/technology/documentation/agile.html) <http://www.oracle.com/technology/documentation/agile.html> contains the latest versions of the Agile PLM PDF files. You can view or download these manuals from the Web site, or you can ask your Agile administrator if there is an Agile PLM Documentation folder available on your network from which you can access the Agile PLM documentation (PDF) files.

Note To read the PDF files, you must use the free Adobe Acrobat Reader version 7.0 or later. This program can be downloaded from the [Adobe Web site](http://www.adobe.com) <http://www.adobe.com>.

The [Oracle Technology Network \(OTN\) Web site](http://www.oracle.com/technology/documentation/agile.html) <http://www.oracle.com/technology/documentation/agile.html> can be accessed through **Help > Manuals** in both Agile Web Client and Agile JavaClient. If you need additional assistance or information, please contact My Oracle Support (<https://support.oracle.com>) for assistance.

Note Before calling Oracle Support about a problem with an Agile PLM manual, please have the full part number, which is located on the title page.

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Readme

Any last-minute information about Agile PLM can be found in the Readme file on the [Oracle Technology Network \(OTN\) Web site](http://www.oracle.com/technology/documentation/agile.html) <http://www.oracle.com/technology/documentation/agile.html>

Agile Training Aids

Go to the [Oracle University Web page](http://www.oracle.com/education/chooser/selectcountry_new.html) http://www.oracle.com/education/chooser/selectcountry_new.html for more information on Agile Training offerings.

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Introduction

This chapter includes the following:

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▪ Audience	1
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▪ Related Documentation	3

About This Guide

The Agile PLM Business Intelligence User Guide enables you to understand the scope and usage of Agile PLM Business Intelligence (BI) applications. This document outlines only the delivered prebuilt dashboards, reports, subject areas, and security setup for PLM BI.

Before you read this document, we recommend that you read the *Oracle Business Intelligence Enterprise Edition* documentation on the [Oracle Technology Website](http://www.oracle.com/technology/index.html) <http://www.oracle.com/technology/index.html> for information on the underlying architecture.

Audience

This user guide addresses the implementation and functional experts who add, modify, or delete reports in the Oracle Business Intelligence Enterprise Edition (OBIEE) Interactive Dashboards.

Chapter Organization

This guide is organized into the following chapters:

- [Chapter 1: Introduction](#) on page 1 provides the general direction of this user guide in terms of objective, audience, contents, and acronyms. All related Agile PLM Business Intelligence (BI) documentation and Agile PLM Data Mart (DM) documentation are listed under [Related Documentation](#) on page 3 for your reference.
- [Chapter 2: Understanding Oracle Agile PLM BI](#) on page 5 provides a general overview of Agile PLM Business Intelligence and describes common industry terminology. The Agile PLM BI application is built on OBIEE. This chapter recommends a list of OBIEE documents that help you understand the OBIEE Interactive Dashboards and Answers.
- [Chapter 3: Understanding PLM BI Dashboards](#) on page 9 provides an overview of Agile PLM BI Dashboards. It also lists the types of dashboards and provides a brief description of the dashboard content. Guided Navigation is a key feature of OBIEE used in the Agile PLM BI application. This chapter provides information about guided navigation, authentication, and security.

- [Chapter 4: Understanding PLM BI Subject Areas](#) on page 19 enables you to understand the Subject Areas in the Agile PLM BI application. This chapter lists the example questions that each subject area can address. These questions help you choose the correct subject area when you create reports. This chapter also lists the recommended best practices to render useful analysis reports pertaining to PPM.
- [Chapter 5: Appendix](#) on page 35 lists the key measures and dimensions in Agile PLM BI, with brief descriptions. In addition, there are matrices that help you map the subject areas and measures. Additional notes on Item-AML combination and a matrix to understand the applicable measures and dimensions are also listed as part of the appendix.

Acronyms

A list of acronyms used in this document is provided here for your reference:

Acronym	Expansion
AML	Approved Manufacturer's List
BI	Business Intelligence
CAPA	Corrective and Preventive Action
DM	Data Mart
ECO	Engineering Change Order
ECR	Engineering Change Request
ETL	Extract-Transform-Load
MCO	Manufacturing Change Order
MDS	Multi-Dimensional Schema
MTBC	Mean Time Between Cycles
MTBF	Mean Time Between Failures
NCR	Non-Conformance Report
OBIEE	Oracle Business Intelligence Enterprise Edition
ODI	Oracle Data Integrator
PLM	Product Lifecycle Management
PLM BI	Product Lifecycle Management Business Intelligence
PLM DM	Product Lifecycle Management Data Mart
PPM	Product Portfolio Management
PQM	Product Quality Management
PR	Problem Report
SS	Stop Ship
WBS	Work Breakdown Structure

Related Documentation

The [Oracle Technology Network \(OTN\) Web site](http://www.oracle.com/technology/documentation/agile.html) <http://www.oracle.com/technology/documentation/agile.html> has the following documents related to PLM BI and PLM Data Mart:

PLM BI

- Agile PLM Business Intelligence Readme
- Agile PLM Business Intelligence Install and Setup Guide
- Agile PLM Business Intelligence User Guide
- Agile PLM Business Intelligence Data Reference Manual
- Agile PLM Business Intelligence Capacity Planning Guide
- Agile PLM Business Intelligence MDS Configurator Data Mapping Guide

PLM Data Mart

- Agile PLM Data Mart Setup Guide
- Agile PLM Data Mart Data Reference Guide
- Agile PLM Data Mart Readme

Understanding Oracle Agile PLM BI

This chapter includes the following:

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- Common BI Terminology 5
- Recommended Reading 7

Overview of Oracle Agile PLM Business Intelligence

Oracle Agile PLM BI enables you to analyze business data thoroughly from multiple perspectives, assess business impact and take timely decisions. Trend analysis helps you to become aware of business demands, identify costly processes, foresee risks, and monitor product performance.

Purpose

Agile PLM BI contains interactive dashboards that enable you to:

- View Key Performance Indicators.
- Spot trends using reports and metrics.
- Determine the current state of product quality.

Features

The key features of Agile PLM BI are:

- A library of prebuilt reports, dashboard prompts, and filters that present data in interactive charts, graphs, and grids.
- Access to specific objects such as subject areas, dashboards, and reports, per role.
- Ad-hoc query analysis.

Common BI Terminology

Dimensions

Dimensions represent the organization of logical columns (attributes) that belong to a single logical dimension table. Examples of dimensions are Time periods, Product lines, Customers, and Suppliers.

Subject Areas

Oracle Business Intelligence presents data in subject areas. A subject area contains columns that represent information about the areas of your organization's business or about groups of users within your organization. Subject areas usually have names that correspond to the type of information they contain. Example: Quality and Change Management.

Measures

Measures refer to a measure or calculated data, such as number of problem reports or affected items that can be specified in terms of dimensions. For example, you might want to determine the number of new complaints for a product line in a given time period.

Filters and Prompts

Filters are built into requests and are used to limit the results that appear on a dashboard. A report that appears on a dashboard shows only those results that match the filter criteria. Filters are applied on a column-level basis. Certain filters inherit the values that the users specify in dashboard prompts.

A prompt is another type of filter that applies to all items in a dashboard. Some prompts, such as date or period, are common to some dashboards. Other prompts, such as CAPA type, are unique to a specific dashboard. Prompts are synonymous with parameters.

Note See *Oracle Business Intelligence Answers, Delivers, and Interactive Dashboards User Guide*, 'Filtering Requests in Oracle BI Answers' for further information.

Folders

Folders are organizational constructs that hold content saved in the presentation catalog, such as requests created with Oracle BI Answers. A Folder is similar to a UNIX directory or a Microsoft Windows folder.

Guided Navigation

These are links to navigate to the transaction processing application, another dashboard, or a URL. This link can be set up to appear conditionally, based on the results of a report or Key Performance Indicator.

Key Performance Indicator (KPI)

KPIs are key metrics that indicate how well an organization is performing an activity that is critical to the success of the organization.

Example:

Current month performance in terms of Complaints Cycle time compared to last 12 months.

Requests (Reports)

Requests are the building blocks of Business Intelligence dashboards. These requests are created using Oracle BI Answers to retrieve and display an organization's data. Data can be displayed in a variety of graphical formats. Links can be established in the chart or table of a report to launch another report and to offer guided analysis.

Star Schema

Star Schema is a relational database schema which contains a fact table associated with a series of multi-dimensional tables.

Recommended Reading

The [Oracle Technology Network](http://www.oracle.com/technology/index.html) <http://www.oracle.com/technology/index.html> has documents that enable you to understand OBIEE and its component applications listed below:

- Oracle Business Intelligence Enterprise Edition (OBIEE)
- Oracle Business Intelligence Answers (Oracle BI Answers)
- Oracle Business Intelligence Delivers (Oracle BI Delivers)
- Oracle Business Intelligence Interactive Dashboards (Oracle BI Dashboards)
- Oracle Business Intelligence Presentation Catalog (Oracle BI Presentation Catalog)

Oracle Business Intelligence Enterprise Edition (OBIEE)

OBIEE is a comprehensive suite of enterprise business intelligence products that contain the programs, servers, and tools to support broad self-service access across the organization. OBIEE is the foundation for Agile PLM Business Intelligence application.

Oracle Business Intelligence Answers (Oracle BI Answers)

Oracle BI Answers are components within the Oracle BI Enterprise Edition that provide answers to business questions. You can use Oracle BI Answers to create ad-hoc queries into an organization's data.

This interface allows PLM BI users with the appropriate permissions to build and modify Reports or Requests that enable PLM BI users to:

- Explore and interact with information
- Present and visualize information using charts, pivot tables, and reports

Requests can be saved in the form of reports which can be shared, modified, formatted, or embedded in a dashboard.

Oracle Business Intelligence Delivers (Oracle BI Delivers)

Oracle BI Delivers is the interface used to create Oracle Business Intelligence Alerts based on analytics results. This is a pro-active intelligence solution that enables monitoring of business

activities. Results specific to out-of-tolerance situations can be detected within reports. The subscribers and target owners can be notified immediately through Web, Wireless, and Mobile communication channels.

Oracle Business Intelligence Interactive Dashboards (Oracle BI Interactive Dashboards)

Oracle Business Intelligence Interactive Dashboards provide access points for analytics information. When a PLM BI user accesses Oracle BI, the user's default dashboard appears. Dashboards display reports that contain content specific to the needs of individual PLM BI users or groups. You can merge the historical and current data sources into a single dashboard. PLM BI users with the appropriate permissions can place results from Oracle BI Answers into dashboards for use by PLM BI users.

Oracle Business Intelligence Presentation Catalog (Oracle BI Presentation Catalog)

The Oracle BI Presentation Catalog stores content created with Oracle BI Answers and Oracle BI Interactive Dashboards. Content can be organized into folders that are either 'Shared' or 'Personal'. Types of content that can be stored in the Presentation Catalog include Requests created with Oracle BI Answers, HTML content, links to other images, documents, and sites.

Understanding PLM BI Dashboards

This chapter includes the following:

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Overview of Agile PLM BI Dashboards

Agile PLM BI provides various dashboards based on the analysis areas and Agile PLM modules.

This section discusses:

- Types and Content of Dashboards
- Guided Navigation
- Out-of-the-box Security Groups

The Agile PLM BI dashboards are classified into the following groups:

- Product Changes
- Product Engineering
- Product Quality
- Product Portfolio

Types of Dashboards

The following are the types of dashboards available:

- Functional Dashboards
- Role-based Dashboards

The following are the standard Functional Dashboards available in the Agile PLM BI application:

- Customer Complaints
- Non-Conformances
- CAPA

- Audits
- Change Orders
- Manufacturer Orders
- Product Portfolio

The following are the sample role-based Dashboards available in the Agile PLM BI application:

- Quality Executive
- Quality Manager
- Quality Analyst
- Change Analyst
- Component Engineer
- Component Manager
- Commodity Manager
- Configuration Manager
- VP Engineering

Dashboard Content

The following table briefly describes every standard Dashboard page:

Dashboard	Description	Prompt	Example Pages	Example Reports
Customer Complaints	Provides comprehensive and actionable insight into various aspects of Customer Complaints - trends, Open/Overdue volumes, and Cycle time and Failure modes.	Complaints Type, Calendar Year	Complaint Trends, Overdue Complaints	Top 10 product lines based on closed complaints, Overdue complaints by Aging
Non-Conformance Reports	Provides comprehensive and actionable insight into various aspects of NCR's - trends, open/overdue volumes, cycle time and failure modes.	NCR Type, Calendar Year	Overview – NCR, Item NCR	Failure Mode Pareto Analysis, NCR Affected Items by Trend

Dashboard	Description	Prompt	Example Pages	Example Reports
Corrective and Preventive Actions	Provides comprehensive and actionable insight into various aspects of CAPA - trends, open CAPA and cycle time.	CAPA Type, Calendar Year	CAPA Trends, Cycle Time	Closed CAPA by Dimensions, Open CAPA Status Cycle Time by Dimensions
Audits	Provides comprehensive and actionable insight into Audits- trends, open audits and cycle time.	Audit Type, Calendar Year	Audit Trends, Open Audits	Audit Cumulative Trends, Top 5 Suppliers based on Open Audits
Change Analyst	Enables you to track submitted changes and pending approvals	Change Analyst, Quarter	Submitted Issues, Change Documents	Open Change Orders by Status, Documents on Pending Change Orders
Change Orders	Provides the ability to analyze volume, cycle time and trends of Change Orders. It also provides the ability to analyze the trends and reasons for Change Requests and Stop Ships.	Year, Quarter, Change Order Type	Open Change Orders, Item Changes	Open Change Orders Aging by Dimensions, Parts undergoing change by Part Type
Configuration Manager	Enables you to manage the Change Order process with the ability to measure Cycle time and Volume. The analysis help you to identify issues related to process.	Quarter, Preliminary, Year, Quarter, Product Lines	Team Effectiveness, Process Effectiveness	Change Orders Aging by Change Analyst, Number of Closed Change Orders by Workflow Type
Manufacturer Orders	Manufacturer Order functional dashboard provides the ability to analyze volume, cycle time and trends of Manufacturer Orders.	Year, Quarter, Month, Mfr Change Type	Mfr Order Trends, Open Mfr Orders, Cycle Time, Item Mfr Order	Open Manufacturer Change Orders by Dimensions, Changes Cumulative Trends
Quality Executive	Provides Quality Executive with comprehensive and	Year and Item Product Line, Calendar Year	Failure Mode, Product Line Performance	NCR Affected Items by Failure Mode, Closed CAPA

Dashboard	Description	Prompt	Example Pages	Example Reports
	high-level view of complaint trends, failure modes and product line performance.			Volume and Cycle Time
Quality Manager	Provides comprehensive visibility into all aspects of quality in one or more product lines.	Year and Product line, Year Quarter Month	Product Line Performance, Supplier Performance	Complaints Trend and Cycle Time, NCR Trend by Supplier
Quality Analyst	Enables analysts to track and manage open complaints, NCR and CAPA.	Not Applicable	Submitted Issues, Open Issues	Open Complaints by Status, Open NCRs by Days Open
Component Engineer	Enables you to track progress of newly created parts and sign-off progress on Manufacturer Change Orders.	Mfr Part Creator, Item Creator, Manufacturer (AML), Manufacturer, Year, Quarter	NPI Manufacturer	Manufacturer part without Item, Top 10 Manufacturers based on AML count by Mfr part preference status
Component Manager	Helps track key Part risks such as AML (Approved Manufacturer List) risk, Manufacturer Part Risk, and Part risk. It also helps Component Manager track newly created parts and their associated risks.	Year, Quarter, Product Lines, and Part family	NPI, Team Effectiveness	New Mfr Parts and Risk coverage by Part Family, Mfr Part Risk Effectiveness
Commodity Manager	Enables you to track Manufacturer and Manufacturer Parts being considered for New Product development. It helps in early visibility of risks associated with new products.	Year, Quarter, Commodity, Product Lines	NPI, Commodity Analysis	Top Ten Commodities by Part Count, Top N Manufacturers based on AML Split
VP Engineering	Provides ability to monitor Product design, quality and risk information. It also helps evaluate	Year, Product Lines	NPI, Product Line Performance	Products with Pending Change, Design Effectiveness, and Product Risk

Dashboard	Description	Prompt	Example Pages	Example Reports
	effectiveness of Product lines along key parameters such as mean time between changes and design KPI.			
Product Portfolio	This dashboard provides the ability to track progress and measure performance of a product portfolio. It has reports that assist in Strategic and Tactical portfolio management.	Portfolio Name, Project State, Project Name, Product Line, Project Region, Project Type, Project Division, Program Name, Portfolio Name, Project Launch Year, Project Customer, Phase Type, Phase Name, Gate Type, Gate Name, Tasks, Task Owner Resource Pool	Projects, Portfolio, Phases and Gates	Top 5 projects with most schedule changes, Task Completion Rate, Current Phase Performance based on Cost Variance, Upcoming Gate reviews, Project Portfolio by Time

The following table lists the standard Key Performance Indicators in Agile PLM BI application:

KPI	Description	Page
Percentage Open Variance	Indicates the variance between the expected and actual number of 'Open' items in Complaints, Audits, NCRs, CAPA, Change Orders, Change Analyst, Configuration Manager, and Manufacturing Orders dashboards.	Overview page in all functional dashboards
Percentage New Variance	Indicates the variance between the expected and actual number of 'New' items in Complaints, Audits, NCRs, CAPA, Change Orders, Change Analyst, Configuration Manager, and Manufacturing Orders dashboards.	Overview page in all functional dashboards
Cycle Time Variance	Indicates the variance between the expected and actual Cycle Time for items in Complaints, Audits, NCRs, CAPA, Change Orders, Change Analyst, Configuration Manager,	Overview page in all functional dashboards

KPI	Description	Page
	and Manufacturing Orders dashboards.	
KPI – Projects	Indicates the number of projects as on date for the current year and the past year	Portfolio Page
KPI - Average Project Duration	Indicates the average project duration for the current year and the past year	Portfolio Page
KPI - Projects Under Execution	Indicates the number of projects that are work in progress for the current year	Portfolio Page
KPI - Number of Projects Estimated late	Indicates the number of projects that have been estimated late	Portfolio Page
KPI - Number of Projects completed to date	Indicates the number of projects completed as on date	Portfolio Page
KPI - Number of Projects completed late	Indicates the number of projects that were completed late.	Portfolio Page
Number of Projects estimated	Number of Projects that have exceeded the budget, effort and schedule	Project Page

Guided Navigation

Guided Navigation 'guides' you through the results obtained from Oracle BI Answers and helps provide insight into business issues, so that you can take appropriate actions. When based on common scenarios and best practices for your industry or organization, Guided Navigation allows you to see and analyze related issues by navigating to a related set of results, another dashboard, or a URL. Guided Navigation is specified using the Dashboard Editor.

The functional dashboards contain a Guided Navigation section that appears conditionally based on certain Key Performance Indicators (KPIs). When the system detects that one of these KPIs has reached its predefined threshold, a link appears in the Guided Navigation section to guide you to a Summary report for further investigation.

The following table lists the sample alert names, threshold descriptions, and Guided Navigation target pages for the alerts that are delivered with the Agile PLM BI application.

Guided Navigation Link Name	Dashboard	Page	Condition	Navigation
Overdue Complaints	Customer Complaints	Overview	(" - Volume Measures". "# Of Overdue Complaints - Not Released"/" - Volume Measures". "# of Open Complaints - Not Released")*100 >75	Customer Complaints --> Overdue Complaints Page

Open Complaints without Expected Resolution Date	Customer Complaints	Open Complaints	# of Open Complaints - without expected resolution date returns data	Open Complaints without Expected Resolution Date
Guided Nav Link 1	Quality Executive	Overview	Open Complaints are 10 % above last 12 month average	Open Complaints by Product Lines
Guided Nav Link 1	Quality Executive	Overview	New NCR last month are 10 % higher than the 12 month average	Open NCRs by Product Lines
Guided Nav Link 1	Quality Executive	Overview	CAPA cycle time is 10 % higher than the 12 month average	Closed CAPA Cycle Time by Product Lines
Guided Nav Link 1	Quality Executive	Overview	No Audits were conducted in last 6 months.	New Audits by Product Lines
Change Requests & Stop ships	Change Orders	Overview	Number of Open Change Requests and Stop Ships is greater than 90 days	Change Requests & Stop ships
Elapsed Duration exceeds 75% of Scheduled Duration	Product Portfolio	Phases and Gates	Days elapsed exceeds 75%. Scheduled duration is greater than 1, and Phase Status Type is not equal to or is not in 'Complete' state.	Elapsed duration exceeds 75% of Sch duration

Security Groups

The following Groups are provided out of the box with Dashboard access as shown below:

Dashboard	Dashboard pages	Roles
Customer Complaints	Overview Complaint Trends Open Complaints Overdue Complaints Cycle Time Item Complaints	Administrator, Engineering Manager, VP-Quality, Support Manager Support Manager does not have access to Item Complaints page and Item Quality subject area.
Non Conformance Reports	Overview NCR Trends Open NCR Overdue NCR Cycle time Item NCR	Administrator, Engineering Manager, VP-Quality
Corrective and Preventive Actions	Overview CAPA Trends	VP-Quality, Administrator

Dashboard	Dashboard pages	Roles
	Open CAPA Cycle Time Item CAPA	
Audits	Overview Audit Trends Open Audits Cycle Time Item Audits	VP-Quality, Administrator
Quality Executive	Overview Failure Mode&CAPA Product Line Performance	VP-Quality, Administrator
Quality Analyst	Submitted Issues Open Issues Customer/Supplier Open	Quality Analyst , Administrator
Commodity Manager	Summary NPI Commodity Analysis	Commodity Manager
Change Analyst	Submitted Issues Open Issues Change Documents	Change Analyst
Change Orders	Overview Change Orders Trends Open Change Orders Cycle Time Item Changes Change Requests and Stop Ships	VP Engineering Configuration Manager
Configuration Manager	Summary Team Effectiveness Process Effectiveness	Configuration Manager
Manufacturer Orders	Overview Mfr Orders Trends Open Mfr Orders	VP Engineering Component Manager Component Engineer

Dashboard	Dashboard pages	Roles
	Cycle Time Item Mfr Order	
Component Engineer	Summary NPI Manufacturer	Component Engineer
Component Manager	Overview NPI Team Effectiveness	Component Manager
VP Engineering	Overview Product Line Performance NPI	VP Engineering
Product Portfolio	Portfolio Project Selection Program Cycle Time Projects Phases and Gates Tasks	Executive and Portfolio Manager can see all the Dashboard pages. Project Manager has access to all Dashboard pages except the Portfolio page. Task Owner has access to the Task page only.

User Authentication Details

Contact your BI administrator for the user authentication details. The user authentication details available out of the box are as follows:

OOTB User Names	Password
Change Analyst	Does not require password
Commodity Manager	Does not require password
Component Engineer	Does not require password
Component Manager	Does not require password
Configuration Manager	Does not require password
Engineering Manager	em
Executive	Does not require password
Portfolio Manager	Does not require password
Project Manager	Does not require password
Quality Analyst	qa

Quality Manager Global	qmg
Quality Manager Product Line	qmp
Support Manager	sm
Task Owner	Does not require password
VP Engineering	Does not require password
VP Quality	vpq

Note Your BI Administrator reserves the right to change the authentication details for organizational data security reasons.

Understanding PLM BI Subject Areas

This chapter includes the following:

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Overview of Agile PLM BI Subject Areas

A Subject Area is a group of logical tables and logical columns that represent Measures and Dimensions. These columns help analyze specific business processes. For example, the Customer Complaints subject area consists of all the measures and dimensions that are required to analyze the customer complaints in your organization. Agile PLM BI provides subject areas that map to corresponding classes in PLM application.

In the Agile PLM BI application, when you click the **Answers** link, the Oracle Answers page appears with a list of subject areas in the Workspace. Click a subject area to view the measures and dimensions on the left pane of the Workspace. Users with appropriate access permissions can drag and drop measures and dimensions into the Workspace to create reports.

For more information on creating reports and using the features of Oracle Answers, see *OBIEE User Guide*.

Note For information on Measures and Dimensions see, [Appendix](#) on page 35.

Analysis Areas

The Agile PLM BI application supports various subject areas. These subject areas are grouped into the following analysis areas based on the focus of analysis:

- Product Risk
- Product Change
- Product Quality
- Product Portfolio

Product Risk

Product Risk analysis areas enable you to minimize risk on new products by helping identify parts with risk such as parts that have fewer manufacturer parts associated with them, manufacturer parts that are inactive, Parts that have no published prices, and Parts with quality or compliance issues.

Product Risk analysis comprises the following subject areas:

- Item
- Item AML
- Manufacturer Part
- Item Performance

Note Each of these subject areas contain specific measures and dimensions that are pertinent to the risk analysis. The reports from these subject areas provide an analysis pertaining to a specific measure and dimension. These reports may drive the tactical decisions in the organization. The management can use the trend reports to understand the current trends, pattern of the changes in trends over a specific time period and the past trends. Refer the [Subject area matrices](#) on page 44 for information on the measures available in every subject area.

Item Subject Area

The Item Subject Area measures the volume and risk associated with Preliminary and Released Items. In addition, it also calculates the age of items on the basis of Effectivity or Released Dates, taking the item revisions into consideration. You can analyze the Item Part Risk by important Item dimensions such as Life Cycle, Product Line, and Part Family.

Note This Subject Area contains items that are associated with Manufacturer Parts and those that are not associated with Manufacturer Parts.

Examples of the common questions answered in this subject area are:

- What percent of Items belonging to a specific Product Line have price data attached to them?
- How many released items have pending changes associated with them?
- What is the yearly Item Life Cycle Age with respect to Part Category?

When to Use this Subject Area	To analyze Part risks
Key Measures	Counts such as number of preliminary items; Risk measures such as % Items with Manufacturer Part and Item age
Key Dimensions	Part Family, Life Cycle, Product Lines, Supplier, Creator

Item-AML Subject Area

The Item-AML subject area helps identify part risks arising out of Part risks associated with manufacturer parts. Companies can determine the minimum number of manufacturer parts per Item they are comfortable with, to avoid downstream supply chain issues. They can also analyze impact of a manufacturer on a Product line and monitor the parts impacted by obsolescence.

Note This subject area considers only those items associated with Manufacturer parts.

Examples of the common questions answered in this subject area are:

- What is the average number of Parts per Item by Part Family?
- What parts are sole-sourced?
- How many items are at risk due to obsolete parts?

When to Use this Subject Area	To determine the Manufacturer or Manufacturer Part risk on a Part or a Product line.
Common Measures	#Mfr, #Released Items, #Mfr Parts, Avg Mfr parts per Item, Items with one Mfr only
Common Dimensions	Part Family, Product Line, Item Number, Mfr Part Life Cycle, Mfr Location, Mfr Part Family, Mfr Part LifeCycle Phase, Mfr Preferred Status, Mfr Part Creator

Manufacturer Parts Subject Area

This subject area helps you understand the risks associated with Manufacturer Parts such as lack of price and compliance. In addition, you can identify the obsolete parts.

Note This Subject area considers only the Manufacturer parts.

The following are a few of the sample questions answered in this subject area:

- How many Mfr Parts are obsolete by Product Family?
- How many Manufacturers are we dealing with by Product Family?
- What are the Part Families that have the highest number of parts to be qualified?

When to Use this Subject Area	Subject of analysis is Manufacturer or Manufacturer parts.
Common Measures	Number of Manufacturer Parts and Number of Manufacturers
Common Dimensions	Mfr Part Number, Mfr Part family, Mfr Life Cycle Phase

Product Quality

Product Quality analysis areas help improve Product quality by providing trends and cycle time information across key quality processes such as, Problem Reports, Non-Conformance Reports(NCR), Corrective And Preventive Actions(CAPA) and Audits.

Product Quality analysis comprises the following subject areas:

- Customer Complaints
- NCR
- CAPA
- Audits

Each of these subject areas contain specific measures and dimensions that are pertinent to the product quality. The focus of Product Quality business area is to handle the issues and non-conformances. The reports from these subject areas pertain to specific measures and dimensions and assist the strategic decisions in the organization.

Note Refer the [Subject area matrices](#) on page 44 for information on the measures available in every subject area.

Customer Complaints Subject Area

The Customer Complaints subject area enables you to obtain reports about the volume, cycle time, and aging of the customer complaints across Product lines, Severity and Status. Source for Customer Complaints are the Problem Reports created in Agile PLM.

Examples of the common questions answered in this subject area are:

- How many complaints were recorded in the last quarter per product line? What is the trend?
- How quickly are they getting resolved?
- What is the workflow cycle time between the originate state and released state of the customer complaints this week?
- What are the cycle times for each status step? Where are the bottlenecks?

When to Use this Subject Area	Business question is about the complaints raised on the product
Key Measures	Count of new, open and closed complaints, Cycle time of complaints and aging analysis in buckets of time such as 11-20,21-30 days
Common Dimensions	Customer, supplier, product lines, severity, status, and resolution

Non-Conformance Reports Subject Area

The Non-Conformance Reports subject area enables you to analyze the Volume, Cycle Time and Aging of the Non-Conformance Reports (NCR).

Examples of the common questions answered in this subject area are:

- What are the common Non-Conformances?
- What is the trend in which the Non-Conformance Reports are closed?
- What is the aging of Open NCR?
- How many NCRs are in various Aging buckets?
- What 20% of failure modes cause 80% of NCR?

When to Use this Subject Area	Business questions are about the non-conformances reported on the product.
Key Measures	Count of new, open and closed NCRs, Cycle time of NCRs and aging analysis in buckets of time such as 11-20,21-30 days
Common Dimensions	Customer, supplier, product lines, severity, status and resolution

Audits Subject Area

The Audits subject area provides the ability to analyze the count, turn around time and aging of the audits which take place in the organization.

Examples of the common questions answered in this subject area are:

- How many audits have been conducted this year?
- How many audits did not result in any change over the past year?
- What is the average cycle time of an audit?
- What are the major areas of concern based on the Audit results?

When to Use this Subject Area	Business question is about the audits conducted on the product or process.
Key Measures	Count of new, open and closed Audits, Cycle time of Complaints and aging analysis in buckets of time such as 11-20,21-30 days
Key Dimensions	Customer, Supplier, Product Lines, Status, and Audit result

Corrective and Preventive Actions Subject Area

Corrective and Preventive Actions (CAPA) subject area enables you to analyze the Volume, Cycle Time, and Aging of CAPA.

Examples of the common questions answered in this subject area are:

- What status changes take longest time?
- How many CAPAs are overdue?
- How many CAPAs have resulted in Changes?

When to Use this Subject Area	Business question is about the CAPA
Common Measures	Count of new, open and closed CAPAs, Cycle time of CAPAs and aging analysis in buckets of time such as 11-20,21-30 days
Common Dimensions	Customer, Supplier, Product Lines, Category, and Status

Item Quality Subject Area

Item Quality subject area provides the ability to analyze the items affected by Complaints, NCR, CAPA, and Audits separately. With Complaints affected item and NCR affected item, it supports 'Failure Mode and Affected Item' and 'Quantity Affected' analysis. With CAPA and Audits, it supports 'Affected Item' analysis.

Examples of the common questions answered in this subject area are:

- How many items in this product line were reported in quality incidents?
- What are the failure modes?

When to Use this Subject Area	Business question is on the items affected by CAPA, Customer Complaints, NCR and Audits.
Common Measures	Number of affected items with changes, number of Failure Modes
Common Dimensions	Failure Mode, Item Type, Item Product Line, Item Commodity, and Item Part Family

Product Changes

Product Changes areas of analysis help you to identify trends and cycle time related to Change Orders, Manufacturer Orders, Engineering Change Requests, and Stop Ships.

Product Changes analysis comprises the following subject areas:

- Change Orders
- Change Requests
- Item Changes
- Mfr. Change Orders
- Stop Ships

Note Refer the [Subject area matrices](#) on page 44 for information on the measures available in every subject area.

Change Orders Subject Area

This subject area provides the ability to analyze the volume of change orders processed, the time taken by the change orders to move from one stage to another within a workflow, and the aging of change orders. It also analyzes the sign-off cycle time by the users and user groups assigned for the sign-off responsibility. In addition, you can measure the count of the First Time Right change orders.

The following are a few of the sample questions answered in this subject area:

- Who are the analysts with most open change orders?
- What are the new change orders by product lines?
- How many change orders have been rejected in the last quarter?

When to Use this Subject Area	Business question is on age, cycle time, volume and sign-off of the change orders.
Key Measures	Count of New Change Orders, Open Change Orders, Cumulative Closed Change Orders, Change orders open between 11-20 days, First Time Right Closed and Released Change Orders, Approvers, and Modified Bill of Materials
Key Dimensions	Product Line, Category, and Reason for Change

Manufacturer Change Orders Subject Area

This Subject Area provides the ability to analyze Volume, Cycle Time, and Aging of Manufacturer Change Orders. It also analyzes the Sign-off cycle time by the Sign-off users.

Examples of the common questions answered in this subject area are:

- What are the Open Manufacturer Change Orders per Originator?
- What are the reasons of change that are showing spike this year in comparison with the last year's record?
- Which Categories have highest Cycle Time?
- What was the cycle time of Manufacturing Change Orders that closed last quarter?

When to Use this Subject Area	Business question is on age, cycle time, volume, and sign-off of the manufacturer change orders.
Common Measures	Volume, Sign-off Cycle time, Aging, Redline, and First Time Right
Common Dimensions	Product Line, Category, and Reason for Change

Change Requests Subject Area

The Change Requests subject area provides the ability to analyze Volume, Cycle Time, and Aging of Change Requests. It also analyzes the sign-off cycle time by the sign-off users.

Examples of the common questions answered in this subject area are:

- What is the current status of Open Change Requests?
- What was the cycle time of Change Requests that closed last quarter?
- What Change Requests had the highest Cycle Time?

When to Use this Subject Area	Business question is on age, cycle time, volume, and sign-off of the Change Requests.
Common Measures	Count of New Change Request, Open Change Requests, Cumulative Closed Change Requests, Change Requests open between 11-20 days, First Time Right Closed and Released Change Requests and Approvers; Sign-off cycle time
Common Dimensions	Product Line, Category, and Reason for Change

Stop Ships Subject Area

The Stop Ships subject area provides the ability to analyze Volume, Cycle Time, and Aging of Stop Ships. It also analyzes the sign-off cycle time by the sign-off users.

The following are a few of the sample questions answered in this subject area:

- What is the current status of Open Stop Ships?
- What is the trend in Stop Ships per Product Line?
- How many new Stop Ships occurred this year?

When to Use this Subject Area	Business question is on age, cycle time, volume, and sign-off of the Stop Ship documents.
Common Measures	Count of New Stop Ships, Open Stop Ships, Cumulative Closed Stop ships, Stop Ships open between 11-20 days, First Time Right Closed and Released Stop Ships and Approvers; Sign-off cycle time

Common Dimensions	Product Line, Category, and Reason for Change
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Product Portfolio

Product Portfolio analysis areas help you with actionable insight to manage product pipeline, project schedules and phase gate processes. Users can prioritize and monitor project progress and costs, identify schedule risks and monitor project cycle time.

Product Portfolio analysis comprises the following subject areas:

- Project Summary
- Phase Gate
- Project Detail
- Portfolio Summary
- Program Summary

PLM PPM - Project Summary Subject Area

Project Summary subject area provides key metrics to measure Project and Phase health. In addition, Projects can be aggregated by Portfolio and key business dimensions such as Product line, Region, Division and Project Type thus helping analyze Project execution at a macro level. In addition, the Project Summary subject area helps you to understand the impact of baseline over schedule duration. The aggregated task measures such as Number of Tasks below Project aggregates all the tasks regardless of whether they are Parent or Child Tasks. Refer the section [PPM Analytics - Best Practices](#) on page 32 for the definition of Tasks.

Examples of the common questions answered in this subject area are:

- What Projects in my Product line are over schedule, budget or effort?
- What Projects/ Phases are expected to complete this month?
- What Projects have been baselined the most?
- How many active projects are there in my portfolio?
- What are the best-executed projects that are 'Complete'?
- What are the projects scheduled to be launched in the next one year's time?

When to Use this Subject Area	To understand the Project execution at a big picture level.
Key Measures	Count of Projects started or completed this year, count of Projects that are over budget, schedule, or effort. Count of Tasks in Project that are Off-track, Average Project Schedule or Actual durations, Average duration variances, Cost and effort variances

Common Dimensions	Product line, Region, Division, Project Type, Customer; Other dimensions: Portfolio, Program, Project, Phase and Gate
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Note Project Summary Subject Area can be analyzed by Portfolio and Program dimension.

PLM PPM - Phase Gate Subject Area

Phase Gate subject area helps you to analyze projects in terms of their performance at the decision gates. You can determine the current decision gate a Project is at and determine the number of deliverables that are holding up its progress to next Phase. Business assumptions or projections made at the Project approval stage are often re-visited or updated at a Decision Gate. You can use Phase-Gate subject area to analyze trends of these projections. (This may require configuration or customization.)

Examples of the common questions answered in this subject area are:

- What is the distribution of active Projects by decision gate?
- What Projects are in launch gate? How many tasks are pending?
- How many decision gates are behind schedule?
- What decision gates are often delayed?

When to Use this Subject Area	To analyze Project performance along with decision gate performance
Common Measures	Count of Gates, count of delayed gates, Gate schedule variance days, Project cost remaining, Number of Tasks remaining on a Phase
Common Dimensions	Project-Product line, Region, Division, Project Type, Customer; Other dimensions: Portfolio, Program, Project, Phase and Gate

PLM PPM - Project Detail Subject Area

Project detail subject area helps you gain detailed visibility into Tasks associated with your Projects. You can use this subject area to identify tasks that are in-complete, tasks that started late and those tasks that are estimated to complete late. In addition, you can use this subject area to identify delayed Gates (that may or may not be decision gates).

Examples of the common questions answered in this subject area are:

- What tasks are behind schedule?
- Who are the task owners with most delayed tasks?
- Which tasks are expected to start or finish in the next two weeks?

When to Use this Subject Area	To analyze the Project at a Task level
Key Measures	Activity duration, Gate duration, Activities cost, Gate cost, Number of deliverables, and Gates
Key Dimensions	Product line, Region, Division, Project Type, Customer; Other dimensions: Portfolio, Program, Project, Phase, Gate and Activities or Gates

PLM PPM - Portfolio Summary Subject Area

Portfolio summary subject area can be used to analyze Portfolio. The metrics available in this subject area help to compare the Budget set at a Portfolio level with summation of Actual costs from Projects that belong to this Portfolio.

For information on setting up domain values to enable Portfolio, refer *Agile PLM Data Mapping and MDS Configurator Guide*.

Key Measures	Number of Portfolios and Portfolio cost variance
Key Dimensions	Portfolio, Scheduled Start Date and End Date, Item Name, and Program Health

PLM PPM - Program Summary Subject Area

Program summary subject area can be used to analyze Programs. The metrics available in this subject area help to compare the Budget set at a Program level with summation of Actual costs from Projects that belong to this Program. For information on setting up domain values to enable Portfolio, refer *Agile PLM Data Mapping and MDS Configurator Guide*.

Common Measures	Number of Programs, Program end date variance, Program total and actual cost
Common Dimensions	Program, Scheduled Start Date and End Date, Item Name, and Program Health

Note Program Summary Subject Area cannot be analyzed by Portfolio dimension.

Additional Notes on Item AML and Product Performance Subject Areas

It is important to understand the following common scenarios that form the basis of most of the Item, Mfr, and Item-AML reports.

Scenario 1:

When using Item-AML subject area, we recommend that you create Reports for the Global Items with latest effective revision that are not obsolete. Life cycle can be used as a dimension, but when there is more than one life cycle per revision, some aggregation of data may not be valid. Average of data may provide correct results in these use cases.

Use the out of the box filter, 'filter-latest item revisions' to create reports that filter only the latest revision of the Item.

The query used in the filter is as given below:

Site is equal to / is in Global

AND Change Class Type is equal to / is in Change Orders, Manufacturer Orders

AND Is Latest Rev is equal to / is in YES

AND Life Cycle is not equal to / is not in Obsolete

AND REV is not null

OR REV is not equal to / is not in Introductory

Recommended Dimension:

For simplified interpretation, we recommend you to use dimension and measure combinations from same dimension/measure group. For example Item dimensions with Item measures.

For other combinations, interpretations may be necessary. The contexts within each measure provide explanation as required.

Note Use Item Number, Rev, Site to get a detailed report by Item and revision. Use Item Number, Life cycle to get a detailed report of Items by life cycle.

Scenario 2:

Some measures are appropriate for reports analyzing the trend over time. For example, AML split distribution in the past vs. present. In such situations, all versions of the Item need to be included with the Time dimension. Even obsolete items need to be included to get the correct analysis.

Use the out of the box filter, 'filter-all item revisions' to create reports for all revisions of the Item.

The query used in the filter is as given below:

Site is equal to / is in Global

AND Change Class Type is equal to / is in Change Orders, Manufacturer Orders

AND REV is not null

OR REV is not equal to / is not in Introductory

Note Inclusion of this filter does not automatically consider count of every revision of the item. For example, if there are two items with three released revisions each, the result for # Items released displays 2. When you combine the # Items released with Item number and revision, all revisions of every item are counted.

Time dimension is not valid with measures such as Item Age within Item Subject Area and measures where aggregation is by averaging data.

Life cycle can be used as a dimension, but when there is more than one life cycle per revision, some aggregation of data may not be valid. Summation of data gives correct result.

Recommended filters:

Site = Global;

Class Type = Change Orders, Manufacturer Orders;

Rev not equal to 'Introductory' or not equal to NULL;

Recommended Dimension: Time

Use Item Number, Rev, Site to get a detailed report by Item and revision

Use Item Number, Life cycle to get a detailed report of Items by life cycle.

You can also filter the detailed report by a specific item number, to view the trend of items over revision or life cycle.

Do not use the recommended filters and dimensions with the following measures:

- # Item with Pending Changes
- # Items (Prelim)
- # Items (All)

Note The filters in scenarios 1 and 2 may not give different results when combined with Item Measures and Item Dimensions. The results may be different when Item Measures are combined with Mfr or Mfr part dimensions. Similarly, the Mfr and Mfr Part measures exhibit different results when filters in scenarios 1 or 2 are used.

Agile PLM BI provides revision specific information for few measures and dimensions. Example: Description and AML. Calculations specific to the remaining Measures and Dimensions use the data specific to the latest revisions for all revisions.

PPM Analytics - Best Practices

We recommend using certain best practice templates to organize your projects so that the Agile PLM BI analytical reports on these projects give accurate results.

General Project, Phase, and Gate Hierarchy

You need to identify and configure the Phase sub class to a Phase domain value in the PLM BI Configurator.

On the basis of this configuration, Agile PLM BI makes the following assumptions:

- Project is identified to be one level above Phase
- Tasks are activities that are one or more levels below Phase

In addition, you need to identify and configure the Decision Gates using the PLM BI Configurator. These configurations along with usage of best practice templates shown below are required for PLM BI to provide the right information in the analysis areas.

Template 1: Gate is at the same level as the Phase	Template 2: Gate is within a Phase
Project 1 <ul style="list-style-type: none"> ▫ Phase 1 <ul style="list-style-type: none"> • Task 1.1 <ul style="list-style-type: none"> ▪ Task 1.1.1 ▪ Task 1.1.2 • Task 1.2 ▫ Gate 1 ▫ Phase 2 <ul style="list-style-type: none"> • Task 2.1 • Task 2.2 ▫ Gate 2 ▫ Phase N <ul style="list-style-type: none"> • Task n.1 • Task n.2 • Task n.n ▫ Gate N 	Project 1 <ul style="list-style-type: none"> ▫ Phase 1 <ul style="list-style-type: none"> • Task 1.1 <ul style="list-style-type: none"> ▪ Task 1.1.1 ▪ Task 1.1.2 • Task 1.2 • Gate 1 ▫ Phase 2 <ul style="list-style-type: none"> • Task 2.1 • Task 2.2 • Gate 2 ▫ Phase N <ul style="list-style-type: none"> • Task n.1 • Task n.2 • Gate n

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For more detailed metrics on Phases, you can split Phase subclasses into Phase 0, 1, 2...and so on.

Note While it is possible to look at a flat list of all Tasks below the Phase, PLM BI does not maintain or display a tree of tasks. For example, in the above template, it is possible to get Tasks under Phase 1 such as Task 1.1, 1.1.1 & 1.1.2 but it is not possible to get a list of Tasks under Task 1.1

PLM BI does not support a Phase subclass under another Phase subclass.

Portfolio and Programs

PLM BI supports Portfolio and Program analysis. The information that is provided in these areas is dependent on the following:

- Domain value configuration of Portfolio and Program in the PLM BI Configurator
- Usage of PLM Reference number in A9 Product Portfolio Management

Usage of PLM Reference Number in A9 PPM

PLM Reference number is available from Agile 9.3 version onwards. If you are a 9.2.2.x customer, use a Defined field instead of PLM Reference number.

Association between Portfolio, Project, and Program for Agile PLM 9.3

Use PLM Reference Number on

- Portfolio to refer to one or more projects or programs or both. You cannot use PLM Reference Number on Portfolio to refer to other Portfolios.
- Program to refer to one or more Projects. You cannot use PLM Reference Number on Programs to refer to other Programs.
- Project to refer to Items. Reference to any other object will be ignored by PLM BI.

Note Portfolio and Program referred to above are the subclasses configured as Domain Values in PLM BI Configurator.

Association between Portfolio, Program, and Project for 9.2.2.x

Use Defined fields (P2/P3) on

- Portfolio to associate with one or more programs, projects or both. You cannot use the Defined field on Portfolio to refer to other Portfolio.
- Program to associate with one or more projects. You cannot use the Defined field on Program to refer to other programs.

- Project to refer to Items. Agile PLM BI does not consider references to any other object.

PPM has category fields. In PLM BI, these fields are assumed to be associated with the project and exposed as Project dimensional attributes.

Use these fields to capture information regarding the projects. If these fields are associated with Phases or Tasks, they can be analyzed using the Project Detail Subject Area.

Portfolio and Programs

- Portfolio is a collection of projects.
- Portfolio cannot be aggregated as a collection of programs.
- Program can be aggregated as a collection of projects.
- All projects in programs associated with portfolio are treated as belonging to a portfolio.

Projects

A9 PPM has fields on cover page known as Category fields. These fields can be used as dimensions on Project. In addition they can be used as Dimensions on Activities only in Project Detail subject area.

This chapter includes the following:

▪ Dimensions Library	35
▪ Measures Library	38
▪ Subject Area Matrices	44

Dimensions Library

Dimensions are columns that you want to analyze by, such as 'Complaints by Product Line'. The dimensions represent the organization of logical columns (attributes) that belong to a single logical dimension table. These dimensions are grouped into folders in Oracle Answers. Examples of dimensions are Time, Product lines, Customers, and Suppliers. This section briefly describes some important dimensions.

Time Dimension

You can use time dimension to limit the results of your query to a specific period of interest.

Time Dimension is categorized into the following groups:

- Calendar Time
- Fiscal Time
- Time Utility

Calendar Time

This group of dimensions follows the Gregorian calendar starting January 1st. The various time buckets available in Calendar Time category are:

- Year
- Quarter
- Month
- Week
- Day

When you use this dimension in combination with a measure in a report, it returns results in the chosen time buckets.

Fiscal Time

This group of dimensions follows the company's Fiscal Calendar. The date is set during the

installation.

The various time buckets available in Fiscal Time category are:

- Year
- Quarter
- Month
- Week
- Day

When you use this dimension in combination with a measure in a report, it returns results in the chosen time buckets.

Time Utility

In analysis, there might be requirements to know the results from time periods such as the last quarter, the current week and rolling 6 months. The Time Utility group of dimensions enables you to obtain results specific to a Current, Previous or Rolling time bucket - Year, Quarter, Month, Week. All calculations that use these time buckets are based on the current date. All reports using Time Utility stay current.

Some of the Time Utility members are:

- Current Month,
- Previous Year
- Rolling 12 months
- Rolling 6 Quarters

Note Rolling time provides results for the last x quarters, months or weeks. By default the time utility members use fiscal calendar.

Changes

This folder contains a list of most commonly used dimensions. You can use Change Number dimension to generate detailed reports on product changes. You can use Complaint number to generate the most granular reports.

People

This folder contains user dimension that helps answer questions pertaining to the user role. For example, you can use People dimensions for questions such as, 'Who is the Originator or Change Analyst on the Product Changes?' The People dimensions also include a Sign-off user and Sign-off group that combine with Sign-off Measures.

Workflow Status Cycle Time

This dimension returns cycle time within a status when used in combination with work flow status cycle time measure.

Total Cycle Time Dimensions

This dimension returns average cycle time between two statuses when combined with workflow Total cycle time measure.

Note This dimension works with Workflow cycle time measure only.

Flags

The flags enable you to constrain the queries. For example: Has CAPA flag indicates whether the Change has CAPA related to it or not.

Defined Fields

These Defined fields work only when PLM source attributes are configured to Defined fields in MDS, using Configurator.

Workflow Status Cycle time Dimensions

This Dimension returns Cycle time within a status when used in combination with workflow status Cycle time measure

Workflow Total Cycle time Dimensions

This dimension returns average cycle time between two statuses when combined with Workflow Total cycle time measure.

Affected Items Dimensions

There are Affected Items associated with any complaint (or NCR, CAPA, or Audit). The dimensions which analyze these affected items are termed as Affected Items Dimensions.

Note The counts from the dimensions may be misleading, especially when one complaint (or NCR, CAPA, or Audit) has more than one Affected Item.

Item Dimensions

Item dimensions consist of categories of dimensions specific to Parts and Documents. These categories contain the attributes which are useful in the Item Analysis. Example dimensions are: Change Class Type, Overall Compliance and Supplier.

Role-playing Dimensions in PPM

In PPM, the measures render results based on the chosen time dimension. The role-playing time dimensions in PPM Analytics are as follows:

Scheduled Start Date:

The data in reports using this dimension are based on the Scheduled Start Date of the projects. The value of the Scheduled Duration is computed as the average duration of the projects.

Scheduled End Date:

The data in reports using this dimension are based on the Scheduled End Date of the projects. The value of the Scheduled Duration is computed as the average duration of the projects.

Actual Start Date:

The data in reports using this dimension are based on the Actual Start Date of the projects. The value of the Scheduled Duration is computed as the average duration of the projects.

Actual End Date:

The data in reports using this dimension are based on the Actual End Date of the projects. The value of the Scheduled Duration is computed as the average duration of the projects.

Measures Library

Measures are the count or sum of columns such as Total Sales of Brand, Number of Complaints, and Number of Suppliers.

Volume Measures

This category of measures provides a count of the objects for a specific time period such as month, year, or quarter.

The following are the various types of Volume Measures:

- New - Provides count of newly reported objects for a time period.
- Open - Provides count of 'Open' objects at the end of a time period.
- Closed - Provides count of objects that closed in a time period.

Note Cumulative counts provide count of all objects until the time interval.

New Measures

New Measures provide a count of newly reported objects in a specific time period such as week, month, quarter, year sorted by 'Originated' date. These 'New' measures indicate the trend of reported objects such as Customer Complaints. An increasing or decreasing trend in your report is a sign that an action needs to be taken or an action taken was successful.

Open Measures

Open Measures provide the count of number of objects in the 'Open' state arranged by 'Originated' date for a specific time period. The count of the 'Open' objects is as on the current date if the time period is not complete at the time of the report. If it is complete, then the count is as on the last day of the time period. The count does not consider 'Originated Date' for calculations.

Closed Measures

The Closed Measures provide count of the objects that are marked 'Closed' in a given time period such as week, month, quarter, or year arranged by 'Release Date'. Cumulative Closed Measures provide the count of all the 'Closed' objects till a specific time interval. The count is calculated using 'Release Date' or 'Complete Date'. The trend charts of 'Closed' indicate if there is a rise or fall in the rate or closure of the objects. The count of the number of complaints closed in a month is an example.

Ago Measures

These measures enable you to compare current volume to a previous period such as Quarter ago. The results help you decide if the trend is better than the past. Visibility to the trend is the purpose of these reports.

To Date Measures

These measures enable you to assess performance in a specific time period such as Quarter, Week, or Year. These measures are used to compare results against a specific bench mark. For example, if you are expecting the number of customer complaints for a specific quarter to be 30, then at anytime during the quarter, the count of the customer complaints to date, informs you of the current count of complaints. You might decide to appoint more people for a specific product, if you see the number of complaints increasing at an alarming rate and you still have a whole month before the quarter ends.

To Date Ago Measures

To date ago measures enable you to compare performance of a current period of time to the corresponding period of time in the past. For example, Quarter to date, Quarter Ago helps to compare current performance to a previous time period of equal duration.

Aging Measures

Aging measures enable you to identify objects (complaints or changes) that are in 'Open' state for long time periods. In comparison with other issues, there are chances of the Aging issues to be overlooked, primarily because of lower priority.

The Aging measures provide information on such issues with more focus on complex issues. The management can choose to take decisions that ensure closure of such prolonged issues.

The aging calculation is based on the difference between 'Current Date' and 'Originated Date'.

Agile PLM BI has the following types of Aging Measures:

- Open Aging
- Closed Aging
- Overdue Aging

Open Aging

This measure provides count of 'Open' objects in each Aging bucket. Age is based on Duration calculated from object 'Originate' date to 'Current' date.

Closed Aging

This measure provides count of 'Closed' objects in each Aging bucket. Age is based on the duration calculated from object 'Originate' date to 'Release' date.

Overdue Aging

This measure provides count of the 'Overdue' objects in each Aging bucket. The age is based on duration calculated from object 'Originate' date to 'Current' date. Overdue aging measures are available only for Customer Complaints and NCR.

Note Aging Measures cannot combine with Time Dimension.

Cycle Time Measures

Cycle time measures help you to identify processes that took long time to complete. This helps the management team to identify the reasons and take necessary process improvement actions.

Cycle time in-process measures enable you to identify processes that are running late and thereby help management team to allocate resources.

The Average Days Overdue measures provide the list of objects that are past the expected resolution or completion date. The calculations are as on the 'Current date' for 'Open' (or in-process) objects and as on 'Released Date' for objects in the 'Released' state.

Note The Cycle time calculations are based on System Dates. The PLM System auto-populates the Start dates (Originate or Submit) and End dates (Released or complete) on objects. Some of the measures enable you to obtain the Cycle time without including the 'Hold' duration.

Workflow Measures

Workflow cycle time provides cycle time for each of the statuses and thereby help identify the bottlenecks in the process. Cycle time combined with volume measures helps assess if high volume is causing the cycle time to tangentially deviate from the usual time.

There are two types of Workflow Measures:

- Workflow Status Cycle time
- Workflow Total Cycle time

Workflow Status Cycle time returns cycle time within a status, when used in combination with workflow status cycle time dimension. The Workflow Status cycle time in-process considers only 'Open' objects calculated as on date. When you analyze the workflow status cycle time for one object, the aggregation rule used in the reports is Average. If your analysis involves the total time taken by all the statuses for an object, then you need to use SUM as the aggregation rule.

Note Workflow Status Cycle time measures are to be used with Workflow Status Cycle time dimensions.

Workflow total cycle time returns cycle time between two selected statuses when used in combination with workflow total cycle time dimension. The Workflow Total cycle time in-process returns the cycle time between two selected statuses where the object is still in the second status. The aggregation rule used is the average of every combination of 'From' state and 'To' state. Use this measure to understand the cycle time between one 'From' state and multiple 'To' states. The report provides every valid combination of 'From' and 'To' state. You may want to use pivot table if you want to filter 'From' or 'To' by specific states.

Note The Workflow calculations are based on Workflow Dates. Workflow Total Cycle time measures are to be used with Workflow Total Cycle time dimensions.

Risk Measures

Risk Measures help to quantify risk carried by Product Lines or Part Families on various sectors such as Cost, Quality and Compliance. New Product Risks can be analyzed by risks on preliminary items and items with pending change.

Item risk measures are classified as follows:

- Preliminary
- Released

Preliminary measures provide count and percentage of Items in the 'Not Released' state that have or do not have a specific risk.

Example: % of items with PR in a Product Line.

Released measures provide count and percentage of Items in the 'Released' state that have or do not have a specific Risk.

Example: % of items with PR in a Product Line.

Risks on Items and Manufacturer parts can be analyzed separately and together when they are a part of AML.

In the Item AML subject area, Item risk measures quantify risk in terms of the Mfr part association,

the Mfr Part risk measures provide average manufacturer parts per item and number of manufacturer parts on items, and Mfr risk measures provide count of items that have only one approved manufacturer.

First Time Right Measures

First Time Right measures enable you to identify the number of objects that are currently in a 'Closed' state without a single rejection. When compared with the total number of objects in the 'Closed' state, this metric provides an insight on the agreement that the initiator and sign-off approver have on the routed document. Low FTR count indicates poor process adoption or training issues. The trend of FTR is an indicator of process adoption.

Agile PLM BI has the following types of FTR measures:

- Closed FTR
- Cumulative FTR
- Open FTR

Closed FTR measures provide a count of the FTR objects in the 'Closed' state. You can obtain information about the 'Closed' FTR objects which are in the 'Complete' and 'Released' state.

Cumulative FTR measures provide a cumulative count of the FTR objects. Cumulative counts are available for 'New', 'Complete', and 'Released' states.

Open FTR measures list the number of FTR objects which are in the 'Open' state. You can view the count of Open FTRs which are in the 'Not Complete' and 'Not Released' state.

Redline Measures

The Redline Measures provide a count of row modifications in the Bill of Material or Approved Manufacturers List. These measures provide the number of BOMs and AMLs added, modified, and deleted for a specific dimension. You can also obtain an average of the number of items that change as a result of a redlining activity. These Redline Measures convey the magnitude of change very accurately.

Sign-off Measures

Sign-off Measures enable you to identify the approval statistics on objects that are routed for approval in a workflow. These measures provide information on number of approvers, number of approvals, number of rejected objects, and number of reviewers and percentage of sign-off that is complete.

Number of Approvers

These measures help identify optimal number of approvers required to ensure process compliance without compromising on the turn around time.

Number of Rejects

The number of rejects helps study changes with high rejects for process changes or training issues.

Sign-off Complete

The percentage sign-off complete enables you to understand the current sign-off status of Open changes. The calculations are based on the number of sign-off users who have signed off or the total number of sign-off users in the 'Review' or 'Released' status type.

Sign-off cycle time

Sign off cycle time is the time taken for an object to be signed off. The time is calculated from the date on which the object in the workflow enters the signoff status. Sign off cycle time helps to identify sign off users and user groups that are taking too long to sign off and take necessary management actions. It takes into account, the sign-off users assigned to both 'Review' and 'Released' status types, even if objects are not currently in that status. Use Workflow status along with Sign-off Measures and Dimensions to understand the individual user sign-offs for an object. When you analyze sign-off cycle time of one object, the aggregation rule used is Average.

Note Sign-off cycle time measures are to be used with sign-off cycle time dimensions.

Sign-off cycle time in process

Sign off cycle time in process indicates the sign-off cycle time calculated for an object till it reaches the current state from any other state. The workflow is 'In progress' and the sign-off is 'Not Complete'. Sign off cycle time in-process helps identify sign-off users and user groups that are running late in signing off the currently open changes. This measure provides the average amount of time for which the object has been on pending sign-off with a specific sign-off user or user group.

Note Sign-off cycle time in-process shows value only when sign-off is pending from user.
 Sign-off cycle time is rounded off to days. $\text{Sign-off cycle time} = \text{Sign-off cycle time (days)} * 24$

Task Completion Rate

Task Completion Rate (TCR) measure is a ratio of number of tasks actually completed vs number of scheduled tasks for a Project. This gives you an idea of how well Projects are executing their tasks relative to each other.

Since these measures require you to combine Scheduled and Actual dates, which are normally not supported, special rules apply. When you use time dimension with these measures, you would always need to filter them by a Server variable such as 'CURRENT MONTH'.

Examples:

Use Scheduled activity end date and filter it by server variable = 'CURRENT MONTH'

Use Actual activity end date and filter it by server variable = 'CURRENT MONTH'

Note This measure does not provide right results unless you use these server variables.

Subject Area Matrices

The following tables provide the combination of measures and Product Change analysis area:

Subject Area > Measure	Change Orders	Manufacturer Orders	Change Requests	Stop Ships
Volume (New, Open, Closed)	X	X	X	X
Ago, To date	X	X	X	X
Cycle Time	X	X	X	X
Workflow Cycle Time	X	X	X	X
Sign-off Cycle Time	X	X	X	X
Aging	X	X	X	X
Expected Closed, Overdue				
Redlines	X	X		
First Time Right (FTR)	X	X	X	X

Note The X mark in the matrix indicates the availability of the measure in the subject area.

The following table provides the combination of measures and Product Quality analysis area:

Subject Areas > Measures	Customer Complaints	NCR	CAPA	Audit
Volume (New, Open, Closed)	X	X	X	X
Ago, To date				
Cycle Time	X	X	X	X
Workflow Cycle Time	X	X	X	X
Sign off Cycle Time				
Aging	X	X	X	X
Expected Closed, Overdue	X	X		
Redlines				
First Time Right (FTR)				

The following table provides the combination of measures and Product Risk analysis area:

Subject Areas > Measures	Product Performance	Item	Manufacturer Part	Item - AML	Item Changes	Item Quality
Volume	X	X	X	X	X	X
Affected Item Volume	X				X	X
Item Risk	X	X				
Mfr Part Risk			X			
AML Risk				X		
AML Split Measures				X		
Mean Time	X					
Age	X	X				

Item – AML Subject Area

Dimensions > Measures v	Item	Item.Lifecycle	Mfr	Mfr part	Item-Mfr Part junction Example: Preferred Status	Time
Item Measures						
Items (Released)	Count of the released items in the system.	Count of the life cycles that the released items have traversed.	Count of the released items associated with the manufacturers. The association is by an ECO or MCO.	Count of the released items associated with the manufacturer parts.	Count of the released items associated with a preference status.	Count of the items released over time. When you combine Time dimension with a dimension in a different group such as Mfr.Part, it gives the number of item and

Dimensions > Measures v	Item	Item.Lifecycle	Mfr	Mfr part	Item-Mfr Part junction Example: Preferred Status	Time
						revisions associated with this Mfr.Part.
	<p>Note:</p> <p>For all Dimensions, except Time, the revision data (Latest revisions or all revisions) about an item in the result is based on the recommended filters and dimensions used.</p>					
# Items with One Mfr only	Number of items associate d with a single Manufactu rer. When you combine with Product Line, it gives the number of Items within a Product Line that have only one Manufactu rer.	Life cycle of Items that have one Mfr only	Mfr associate d with the Item	Mfr Part associated with Item	Preferred status of the Mfr Part associated with the Item	
# Items with One Mfr Part Only (Released Items)	Number of Items associate d with a single Manufactu rer Part. When combined with Product line, it gives number of	Life cycle of Items that have one Manufacturer Part only	Manufactu rer associate d with the Item	Manufacturer Part associated with Item	Preferred status of the Manufacturer Part associated with the Item	

Dimensions > Measures v	Item	Item.Lifecycle	Mfr	Mfr part	Item-Mfr Part junction Example: Preferred Status	Time
	Items within a Product line that has only one Manufacturer Part.					
Mfr Part Measures						
# Mfr. Parts	Number of Mfr. Part associated with the Items belonging to a Product Line or any other Item dimension. Example: How many Mfr.parts are associated with the Product Line Leo?	Number of Mfr Part associated with each life cycle transition of Item. This includes the current and past data.	Number of Mfr parts by Mfr dimension . This number considers only the Mfr.Parts associated to an Item. Example: How many Mfr.Parts are manufactured by a specific manufacturer?	Number of Mfr.Parts by Mfr.Part dimension. Mfr.Part that is not associated with item is not considered. Example: How many Mfr.Parts are from Part family, 'Cable'?	Number of Mfr Part by Part preference status. Example: How many Mfr Parts are preferred?	
# Mfr. Parts in Released Item	Number of Mfr. Part associated with the Released Items belonging to a Product Line or any other Item dimension	Number of Mfr Part associated with each life cycle transition of Released Item. This includes the current and past data.	Number of Mfr parts by Mfr dimension . This count considers only the Mfr.Parts associated with a Released	Number of Mfr.Parts by Mfr.Part dimension. This count considers only the Mfr.Parts associated with a Released Item.	Number of Mfr Part by Part preference status. This count considers only the Mfr.Parts associated with a Released Item. Example:	

Dimensions > Measures v	Item	Item.Lifecycle	Mfr	Mfr part	Item-Mfr Part junction Example: Preferred Status	Time
	Example: How many Mfr.parts are associate d with the Product Line Leo?		Item. Example: How many Mfr.Parts are manufactu red by a specific manufactu rer?	Example: How many Mfr.Parts are from Part family, 'Cable'?	How many Mfr Parts are preferred?	
# Mfr. parts on more than one Item	Item or Product Line to which Mfr.Parts that are on more than one Item is associate d with.					
Average Mfr. Parts per Released Item	Average number of Mfr. Parts per released revision of the Item by a specific dimension . Example : Product Line	Average number of Mfr Parts per Released Item by Life cycle.	Do not use	Do not use	Do not use	
Mfr.Measures						
# Mfr	Number of Manufactu rers associate d with the Items belonging	Number of Manufacturers associated with each Life cycle transitions of one or more	Number of Mfr by Mfr dimension . Manufactu rers that	Number of Mfr by Mfr.Part dimension. Example: How many	Example: How many Manufacturers are preferred?	

Dimensions > Measures v	Item	Item.Lifecycle	Mfr	Mfr part	Item-Mfr Part junction Example: Preferred Status	Time
	to a Product line.	items. The revision data (Latest revisions or all revisions) about an item in the result is based on the recommended filters and dimensions used.	are not associated with Mfr.Parts or Manufacturers that are not associated with Mfr.Parts that have association with item are not included.	Mfr does Mfr Part family have?		
Item Mfr Part Measures						
AML Split by Item Create Date	AML split of Mfr Parts associated with Items by Product line	AML split associated with each life cycle.	AML split by Mfr	AML split by Mfr.Part	AML split by preference status	
Defined Measures						
Spend by Mfr by Item Create date	Spend on Mfr Parts associated with Items by Product line	What is spend by Item life cycle?	What is the spend by Mfr as on date?	Do not use	Do not use	
Note This measure requires Defined Fields Cost 1 and Quantity 1 to be configured to P2 or P3 attribute. The spent amount is calculated as Cost 1 x Quantity 1. This measure is not revision-specific. Use the 'Items with latest revision along with this measure.						
Spend by Mfr by Item Effective date						

Product Performance Subject Area

Dimensions > Measures v	Item	Item.Lifecycle
Mean Time Between Cycles (MTBC)		Recommend not to use with Life cycle since this is based on Item age.
Mean Time Between Design Failures (MTDF)		Recommend not to use with Life cycle since this is based on Item age.

For Mean Time between Cycles, use the recommended filter 1 for latest revision. When using recommended filter 2 for all revisions, use Item-age only in all cases except when exposing life cycle as a dimension. If there are two repeating life cycles on an Item, the duration of each life cycle is averaged (not summed) thereby providing an inaccurate Mean Time Between Cycles, Mean Time Between Design Failures for Life cycle.

Product Portfolio Analysis Area Matrices

The following table provides the combination of measures and subject areas in Product Portfolio analysis area:

Subject Areas > Measures v	PLM-PPM Phase - Gate	PLM-PPM Portfolio Summary	PLM-PPM Program Summary	PLM-PPM Project Detail	PLM-PPM Project Summary
Portfolio		X			
Cost	X	X	X	X	X
Phase	X				X
Gate	X			X	
Program			X		
Project					X
Activities				X	
Baseline					X
Snapshot					X
Revenue Forecast					X
Defined					X

The following table provides the combination of measures and dimensions for the Project Summary Subject Area:

	Measures	Project Measures	Phase Measures	Baseline Measures	Snapshot Measures	Cost Measure	Project Cost	Phase Cost	Baseline Cost	Snapshot Cost	Revenue Forecast Measures	Defined Revenue	Defined Measures
Dimensions													
Time													
Project Scheduled Start Date		X	X	X			X	X	X			X	X
Project Scheduled End Date		X	X	X			X	X	X			X	X
Project Actual Start Date		X	X	X	X		X	X	X	X		X	X
Project Actual End Date		X	X	X	X		X	X	X	X		X	X
Phase Scheduled Start Date			X					X					
Phase Scheduled End Date			X					X					
Phase Actual Start Date			X					X					
Phase Actual End Date			X					X					
Gate Scheduled End Date			X					X					
Gate Actual End Date			X					X					
Baseline Date				X					X				
Snapshot Date					X					X			
Product		X	X		X		X	X		X		X	X
Portfolio		X	X		X		X	X		X		X	X
Program		X	X		X		X	X		X		X	X
Project		X	X		X		X	X		X		X	X
Dependent Project		X	X		X		X	X		X		X	X
Phase			X					X					
Gate			X					X					
Baseline				X					X				

The following table provides the combination of measures and dimensions for the Phase-Gate Subject Area:

	Measures	Phase Measures	Gate Measures	Cost Measures	Project Cost	Phase Cost
Dimensions						
Time						
Project Scheduled Start Date		X	X		X	X
Project Scheduled End Date		X	X		X	X
Project Actual Start Date		X	X		X	X
Project Actual End Date		X	X		X	X
Phase Scheduled Start Date		X			X	
Phase Scheduled End Date		X			X	
Phase Actual Start Date		X			X	
Phase Actual End Date		X			X	
Gate Scheduled End Date			X			X
Gate Actual End Date			X			X
Product						
Product		X	X		X	X
Portfolio		X	X		X	X
Program		X	X		X	X
Project		X	X		X	X
Phase		X			X	
Gate			X			X

The following table provides the combination of measures and dimensions for the Project Detail Subject Area:

	Measures	Activities Measures	Gate Measures	Cost Measures	Activities Cost	Gates Cost
Dimensions						
Time						
Project Scheduled Start Date		X	X		X	X
Project Scheduled End Date		X	X		X	X
Project Actual Start Date		X	X		X	X
Project Actual End Date		X	X		X	X
Activity Scheduled Start Date		X	X		X	X
Activity Scheduled End Date		X	X		X	X
Activity Actual Start Date		X	X		X	X
Activity Actual End Date		X	X		X	X
Gate Scheduled End Date			X			X
Gate Actual End Date			X			X
Product		X	X		X	X
Portfolio		X	X		X	X
Program		X	X		X	X
Project		X	X		X	X
Dependent Project		X	X		X	X
Phase		X	X		X	X
Gate			X			X
Activities/Gates		X	X		X	X
Costs		X			X	

The following table provides the combination of measures and dimensions for the Portfolio Summary Subject Area:

	Measures	Portfolio Measures	Cost Measures
Dimensions			
Time			
Portfolio Scheduled Start Date		X	X
Project Scheduled End Date		X	X
Product		X	X
Portfolio		X	X

The following table provides the combination of measures and dimensions for the Program Summary Subject Area:

	Measures	Program Measures	Cost Measures
Dimensions			
Time			
Program Scheduled Start Date		X	X
Program Scheduled End Date		X	X
Product		X	X
Program		X	X