Deltek

Deltek Costpoint Business Intelligence 8.2

Smart AI Guide

June 1, 2023

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Overview

Costpoint Business Intelligence leverages the power of AI-assisted BI in Cognos Analytics 11.2.4. The overall Structure of the Smart AI content is based on the use of Data Sets and Data Modules to provide streamlined access to key performance data.

To help customer's leverage Dashboards, AI Assistant, and Data Explorations, Costpoint BI introduces Smart AI, which is pre-built BI content that helps you take advantage of the AI technology and apply it to key business issues that affect Government Contractors.

Smart AI focuses on a single subject area where advanced data analysis can be easily obtained with the use of the built-in **AI Assistant** and other AI-related features.

With Smart AI, you can:

- Directly enter key business questions through the AI Assistant of which the data model supports
- Create a dashboard that reinforces the answers to those questions with recommendations on the most effective visualization to use in presenting data
- Create sample stories through the AI Assistant.
- Launch explorations with insights
- Utilize a data model that the AI Assistant and explorations can easily make use of

Note: This guide provides information about the different Smart AI areas. To set up Smart AI, system administrators can follow the instructions found in the Cloud Setup Guide or the Post Installation Guide. Instructions in copying the Smart AI folder to Company Content are found in these guides.

Smart AI in Company Content

To enjoy the benefits of Smart AI, it must be configured and made available in Company Content.

If Smart AI is missing in your Costpoint BI implementation, ask for assistance from your system administrator to perform the *Copy the Smart AI Folder to Company Content* procedure found in the Costpoint Business Intelligence 8.2 Post Installation and Configuration Guide or the Cloud Setup Guide.

Definition of Terms

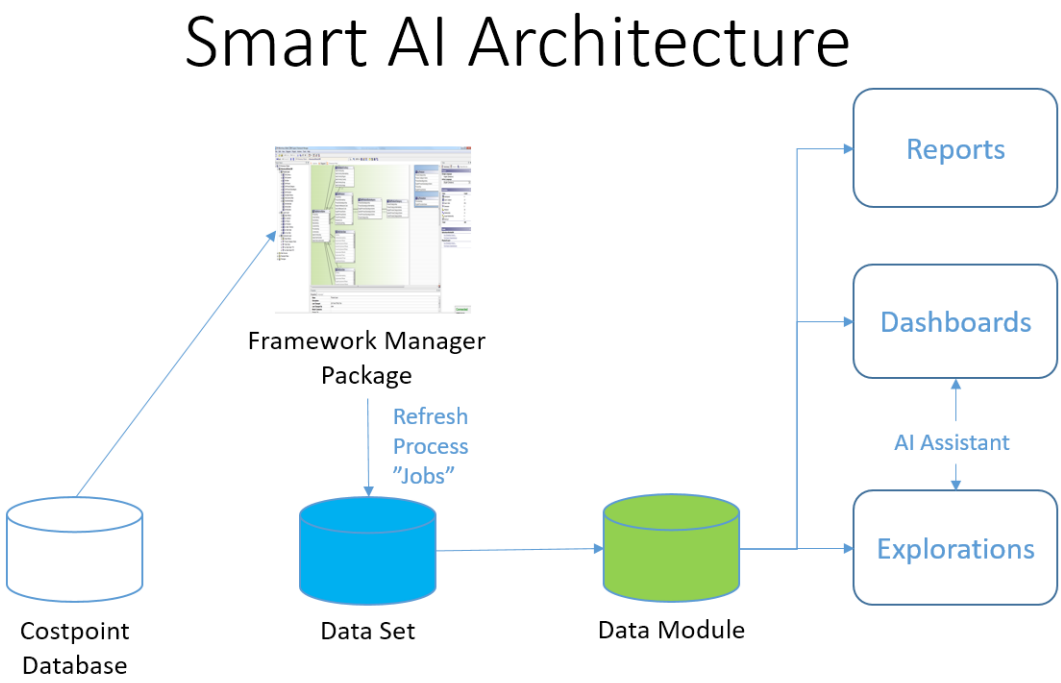
Glossary of terms.

Term	Definition
Artificial Intelligence	A computer system that can perform human tasks. Business Intelligence is a technology that collects and organizes data and provides tools for analyzing that data.
Business Intelligence	Comprises of the strategies and technologies used by enterprises for the data analysis of business information.

Term	Definition
AI-Assisted BI	**AI** enables **BI** tools to produce clear, useful insights from the data they analyze. In Costpoint BI, it helps BI by providing Smart Dashboards, AI driven exploration, machine learning and Natural Language Processing.
Smart AI from Deltek	Deltek provides pre-built BI content that can be used with the AI features. Each Smart AI offering will focus on a specific business issue/problem. In the first Smart AI offering in Costpoint 8.0, Deltek focused on Resource Management.

Smart AI Architecture

The Smart AI architecture includes data sets, data modules, pre-built dashboards, and other relevant content.



Data Set

You can leverage data sets when you have data that are frequently used in reports or dashboards.

Using data sets also improve performance when generating reports and dashboards, since data comes from in-memory processing and not directly from the database. An administrator can use the pre-built jobs that refresh the data of data sets or set schedules as to when to refresh the data that will align with your report generation activities.

You cannot create reports directly from data sets, but you can create a data module from a data set. And then, use that data module as source for your report. You can also use data sets for dashboards and explorations.

The key building blocks are data sets of two categories, dimensional and transactional. Data Sets are extractions of data from Costpoint into a file format, while it is called Parquet format, which is similar to a flat file, rows and columns of data that are stored in a highly compressed and indexed format. For Smart AI, the sources are the standard Costpoint BI packages.

The Parquet format is great for performance when querying this data for a report, dashboard or exploration. In the Smart AI model, dimensional data sets are based on the key architectural components (Project, Account, Company/Organization) of Costpoint as well as other attributes (Customer, Vendor, fiscal periods, and others) that will help define the actual data in Costpoint.

The actual data is contained in the transactional data sets which include the measures and metrics that are important to understand performance. Examples of transactional data sets are General Ledger detail, labor detail, PSR data, and so on. These data sets will include Hours and Dollars that relate to the dimensional data. So where a General Ledger line will have an account number, the dimensional Account data set will include fields such as the Account Name, Account Levels, and Active Flag to expand the analysis of the data.

Data Sets are refreshed on a regular basis, typically creating a job that is scheduled to update multiple data sets periodically which is usually on a daily basis. The job will run the data set update to query Costpoint and update the data.

To learn more about data set refresh, see Refresh Data Sets, Schedule Data Set Refresh, or Create a Job to Refresh Data Sets sections in this guide.

Dimensional Data Sets

The dimensional data sets are located in **Company content** » **[Your tenant folder]** » **Smart AI** » ***Data Sets*** » **Dimension**.

> **Note:** The tenant folder is available to cloud users only.

The different dimensional data sets in Smart AI are:

- Accounts
- Companies
- Customers
- Employee Certifications
- Employee Degrees

- Employee Salary Information
- Employee Skills
- Employee UDEFs
- Employees
- GL Financial Statement Lines
- Items
- Organizations
- Planning Project UDEFs
- Planning Projects
- Project UDEFs
- Projects
- Relative Fiscal Periods
- Resources
- Subperiods

Transactional Data Sets

The transactional data sets are located in **Company content** » **[Your tenant folder]** » **Smart AI** » ***Data Sets***.

> **Note:** The tenant folder is available to cloud users only.

The transactional data sets in Smart AI are:

- AR Summary Data
- GL Summary Data
- Labor History Data
- Planning Data
- Project Summary (PSR) Data
- Purchase Order Data
- Receipt Data
- Resource Management Data

Refresh Data Sets

If you only need to refresh one or few data sets and not all, you can do so by selecting the data sets individually. An alternative method to refresh all data sets is done through the pre-built jobs. See the Pre-Built Jobs to Refresh Data Sets section in this guide for details.

Log on as a Costpoint BI Administrator (CER__ADMIN) with full access to database tables.

To refresh individual data sets:

1. In Costpoint BI, go to the location of the data sets in Smart AI. For example: **Company content** » **[Your tenant folder]** » **Smart AI** » ***Data Sets***.

   Note: The tenant folder is available to cloud users only.

2. Right-click **AR Summary Data** and select **Refresh**.

   Note: You can also click **Properties** of the data set and refresh the schedule based on your desired frequency.

3. Repeat step 2 with the other data sets until you have refreshed those that you need.

   The other data sets are:

   - GL Summary Data
   - Labor History Data
   - Planning Data
   - Project Summary (PSR) Data
   - Purchase Order Data
   - Receipt Data
   - Resource Management Data

Schedule Data Set Refresh

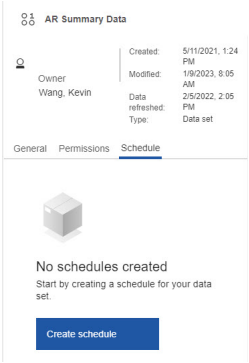
To avoid frequent data refresh, Deltek recommends to have a standard schedule to refresh data during off business hours.

To schedule data set refresh:

1. Go to the location of the data set that you like to apply a data set refresh schedule. For example, **Company content** » **[Your tenant folder]** » **Smart AI** » ***Data sets*** » **AR Data set**.

   Note: The tenant folder is available to cloud users only.

2. Right -click **AR Data set** and then select **Properties**.
3. Click the **Schedule** tab. Click **Create schedule**.



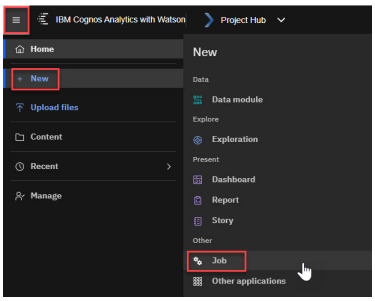
4. Enter the schedule of the data refresh and click **Save**.

Create a Job to Refresh Data Sets

You can create a job that refreshes one or more data sets. Schedules can be established so that the job can run automatically.

To create a job to refresh data sets:

1. On the main screen of Costpoint BI, click the **Open menu** icon (☰) and then click **+ New** and select **Job** .



2. On the **New job*** screen, click the **Start by adding some steps** icon.
3. On the **Add job step** dialog box, go to **Company content** » **[Your tenant folder] >** » **Smart AI** » ***Datasets***.

   Note: The tenant folder is available to cloud users only.

4. Select each data set that you want to include in the job to add in them in the **Job steps to add** field. Click the **Add job steps** button.
5. Leave the **Run options** with values:

   Run order = **Run in sequence** and **Continue on error** is **enabled**.
6. Click the **Save** icon on top of the screen to save your job.
7. On the **Create a new job** dialog box, select a location where you want to save the job and enter a name. Click **Save**.

   The **Run now** button and **Schedule** link display after saving. You have the option to either run the job or schedule it to run some other time.

Data Module

Data modules are containers that describe data and rules for combining and shaping data to prepare it for analysis and visualization.

They are similar to Framework Manager packages that you may be using to create reports. However, Data Modules are created in the browser within Cognos Analytics rather than a separate desktop program such as Framework Manager. Sources for Data Modules can be a Data Set, Framework Manager package, uploaded MS Excel files, or other Data Modules. Data Modules can also be built with a Data Server connection to a database like Costpoint, though this capability is not yet available in the Deltek Costpoint Cloud.

In Smart AI, we have created Data Modules using Data Sets. Also Data Modules are created using other Data Modules. We have created Data Modules using the Dimensional Data Sets which we call Dimensional Data Modules. The Dimensional Data Modules are accessed in the Transactional Data Modules along with the Transactional Data Sets. This architecture allows for making changes to the Data Sets such as, adding a new field or a filter to a data set, which are reflected in the Data Modules.

For example, we have a Projects Data Module that combines project information from both Costpoint Projects and Planning New Business projects. This created Projects Data Module can be used as building blocks in several Data Modules, like both the Planning and the PSR Data Module. So any changes to the underlying Data Sets will flow through to all the related Data Modules. Also, it is more efficient to reuse Data Sets for multiple Data Modules since you are only updating one Data Set versus many.

Dimensional Data Modules

The dimensional data modules in Smart AI leverage the dimensional data sets.

The list of dimensional data modules and their corresponding dimensional data sets are listed in the following table. We have created dimensional data modules to make it easier to make changes to the data sets and have them flow through to the Transactional Data Modules.

Dimensional Data Module	Dimensional Data Set
Accounts	Accounts
Companies	Companies
Customers	Customers
Employees	Employees
GL Financial Statement Lines	GL Financial Statement Lines
Items	Items
Organizations	Organizations
Performing Organizations	Performing Organizations
Project UDEFs	Projects and Planning Projects

Dimensional Data Module	Dimensional Data Set
	This is a union of Projects and Planning Projects and then Inner Join was used to Project UDEFs.
Projects	Projects, Planning Projects, Projects, and Organizations *Union of Projects and Planning Projects, then Inner Join of Projects and Organizations*
Resources	Resources
Subperiods	Subperiods

Transactional Data Modules

Transactional data modules in Smart AI use dimensional data modules and transactional data sets.

The transactional data modules in Smart AI are listed in the following table with their corresponding dimensional data modules and transactional data sets. These are the data modules that are the sources for reports, dashboards, and explorations

Transactional Data Module	Dimensional Data Modules	Transactional Data Sets
Accounts Receivable	▪ Projects ▪ Organizations	A/R Summary
General Ledger	▪ GL Financial Statement Lines ▪ Relative Fiscal Periods ▪ Performing Organizations ▪ Companies ▪ Accounts	G/L Summary data joined to Organization Security
HR Management	▪ Employee ▪ Employee Basic Info ▪ Employee Certifications ▪ Employee Education	Headcount - This can be calculated when Employee is joined to Fiscal Calendar.

Transactional Data Module	Dimensional Data Modules	Transactional Data Sets
	▪ Employee Skills ▪ Employee UDEF ▪ Calendar	
Labor History	▪ Relative Fiscal Periods ▪ Employees ▪ Projects ▪ Companies ▪ Owning Organization ▪ Performing Organization ▪ Employees ▪ Accounts	Labor History data set is joined to Project Security
Planning	▪ Projects ▪ Owning Organizations ▪ Performing Organizations	Planning data set is joined to Project Security
Project Summary (PSR)	Accounts Companies Projects Owning Organizations Relative Fiscal Periods Performing Organizations	PSR Summary joined to Project Security
Purchase Orders	▪ Performing Organizations ▪ Projects ▪ Owning Organizations ▪ Accounts ▪ Companies	▪ Purchase Order Data ▪ Receipt Data ▪ Items Data

Transactional Data Module	Dimensional Data Modules	Transactional Data Sets
Resource Management	▪ Resources ▪ Customers ▪ Projects ▪ Organizations ▪ Relative Time	Resource Management Data

Relative Time

Use Relative Time on your data modules in Costpoint BI when you want to compare data between time periods.

When you add the Relative Time data module in your analysis, it lets you select a filter that can correlate your data over a period of time. For example, if you like to identify the revenue for the same quarter of last year, a corresponding filter is available for use in the Fiscal Calendar for Relative Time.

The Relative Time data module is located in **Smart AI** » ***Data Modules*** » **Dimensions** » **Relative Time** » **Relative Time Datamodule**. Add this data module as a resource on the data module you are working on to use its filters.

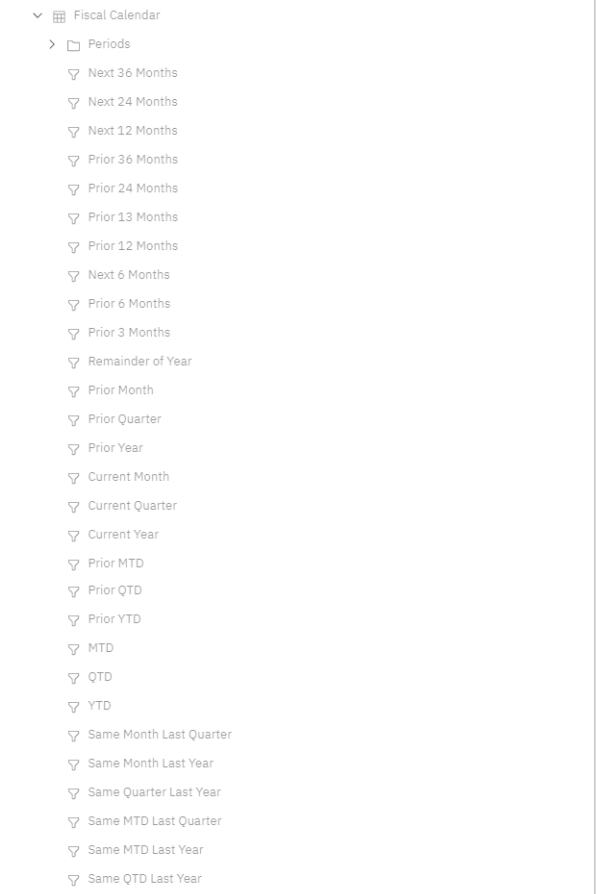
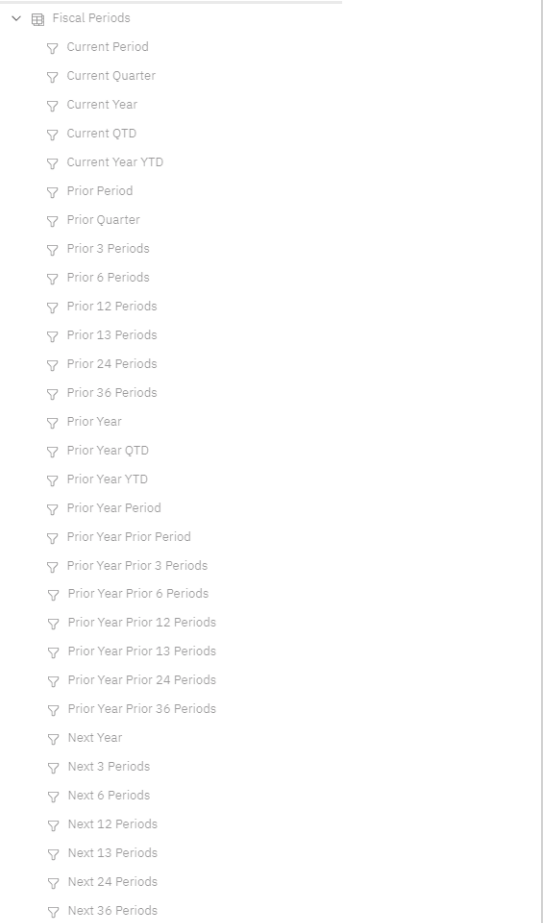
Types of Relative Time

There are two types of Relative Time in Costpoint BI: Relative Period and Relative Calendar.

- **Relative Calendar**: The reference date for this is the _as_of_date value found in My Parameters in Costpoint BI. This type of relative time is recommended for data modules that use transaction dates such as Purchase Order Date. The filters are mostly month-based such as **Prior Month**, **Current Month**, and **Next 12 Months**.
- **Relative Period**: It uses your BI configuration to identify current period. This type of relative time is recommended for data modules that use fiscal periods in their transactions. The filters are mostly by periods, such as **Prior 12 Periods**, **Prior 13 Periods**, **Next 12 Periods**.

Relative Time Filters

Use Fiscal Calendar filters for data modules that includes transactions dates. Use Fiscal Period filters for data modules that includes fiscal periods in their transactions.

Fiscal Calendar Filters	Fiscal Period Filters
	

How to Add Relative Time to a Data Module

Deltek recommends the use of Fiscal Calendar Relative Time for data modules that use transactions dates. For data modules that has fiscal periods, use the Fiscal Period Relative Time.

To add Relative Time to a data module:

1. Open the data module that you want to add Relative Time to. For example, **Smart AI** » ***Data Modules*** » **General Ledger**
2. On the data module, look for the date that you want to associate the Relative Time with. For example, **Period End Date**. Click the More icon (⋮) (**...**) adjacent to **Period End Date** and select **Properties**.

3. On **Properties** pane, open the **General** tab. On the **Lookup reference** field, select **Fiscal Periods**.

   Fiscal Periods is recommended for the **Period End Date** column since it relates to fiscal periods.

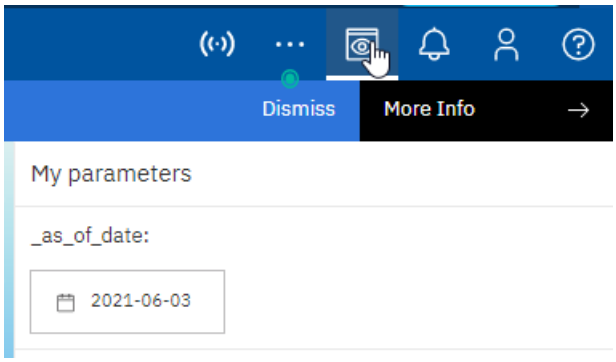
4. Click **Save**.

Smart AI Default Dates

There are two kinds of dates that are utilized in Smart AI. The current reporting period date and the **_as_of_dat**e.

The current reporting period date is displayed on the **Manage Current Reporting Period** screen found in **Reports & Analytics** » **BI Controls**. The system administrator sets the current reporting period date which is applied to all BI users.

To see the **_as_of_date,** click the **My Parameters** icon on the upper right-hand side of the Welcome screen of Costpoint Business Intelligence. The default date is the system current date which you can change. However, the changed date will only apply to you and not all BI users.



Most of the reports and dashboard in Smart AI use the current reporting period date. For reports that require calculation in aging, the **_as_of_date** is applied.

The data modules that use the current reporting period date are:

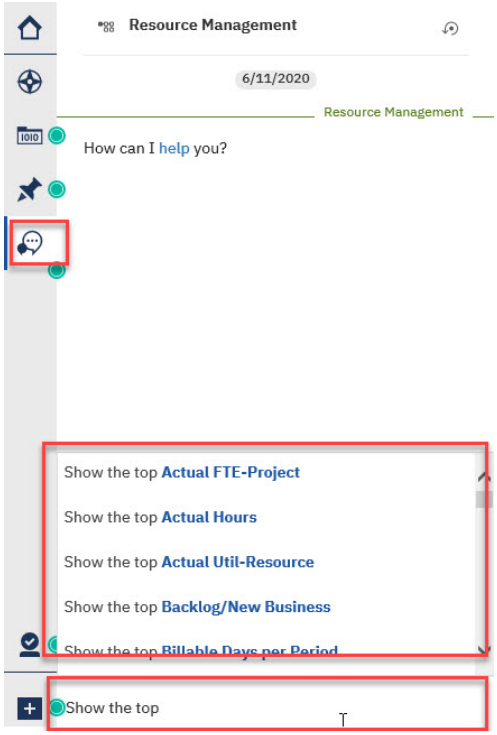
- General Ledger
- Labor History
- Project Summary (PSR)
- Planning
- Resource Management

The Purchase Orders and HR Management data modules have no date references. The Accounts Receivable data module uses **_as_of_date** to calculate aging.

AI Assistant

Use the **AI Assistant** when analyzing Smart AI content. This feature understands the natural human language and translates it to Costpoint BI so that you can make use of recommended visualizations to add to dashboards and explorations.

For example, when you create an exploration through the **Smart AI for Resource Management**, you can enter **Show the top** in the **AI Assistant** field provided. And then, the **AI Assistant** will display a list of suggested phrases based on your entry. Select one that fits your data analysis.



Regardless of your experience in creating reports, the **AI Assistant** is a great tool for everyone to get significant Smart AI content in creating reports and dashboards. The drag-and-drop capability in adding the charts from the AI Assistant also makes it easier for you in designing and creating reports and dashboards. It takes less time to adapt to Costpoint BI's Smart AI without compromising the value of information that it produces.

To know more, see the Assistant on the IBM website.

AI Assistant Commands

Use the AI Assistant when you create an exploration in your data set or data module.

A typical AI Assistant command starts with **show**. You can also enter the following commands.

Commands	Description
show source <*source name*>	This command will let you explore data for the source name that you specified. For example, **show source Resource Mgmt with dataset**
show <*measure*> by **<*category or attribute*>** for **<*time*>**	For example, **show Forecast Hours by Fiscal Year Period for fiscal year 2019**.
show <*aggregate commands*>	For example, **show total**, or **show average**, or **show minimum**, or **show maximum**.
what's my <*measure*> in **<*time*>**	For example: **what's my average Actual Hours in 2019**.
show <*filters*>	By geographical strings such as country or state - For example, **show count resource name where labor location includes VA and CA** By temporal strings such as month or year - For example, **show average actual hours for 2019 and 2020** By a combination of filters and aggregations - For example, **Show resource name where actual util-resource is <.75**
create dashboard or **create simple dashboard**	This will create a dashboard from scratch using the selected data source.
show data	This command will show all the available data sources you have access to such as packages, data modules, data sets, and uploaded MS Excel spreadsheets.

Explorations

Explorations is a workspace where you can examine and analyze data with the help of Cognos Analytics' artificial intelligence feature. Explorations is embedded into Cognos Analytics 11.1.x and beyond. You can leverage Explorations by uploading data sets or make use of existing data modules and explore them using this tool. It will then give you insights that are not normally provided when you manually create dashboards or reports.

There are different components in Explorations that makes this workspace a handy feature:

- **Relationship Diagram:** As default, a relationship diagram displays when you create a new exploration and specify a data source. The diagram shows a representative sample of your data including interesting items that you can use in your analysis. You will notice that there are lines in the diagram that suggests the relationships of the concepts or fields in your data with various thickness that are dependent on the strength of the relationships of such concepts.
- **Visualizations:** These are automatically generated insights based on the selected fields in your relationship diagram. The system suggests a description of the visualization and recommends charts to complement such descriptions. These visualizations is represented by "cards" that you can easily use and drag on your charts.
- **Comparison:** You can compare two visualizations or cards for a more comprehensive analysis of your data.

For more details, see Explorations on the IBM website.

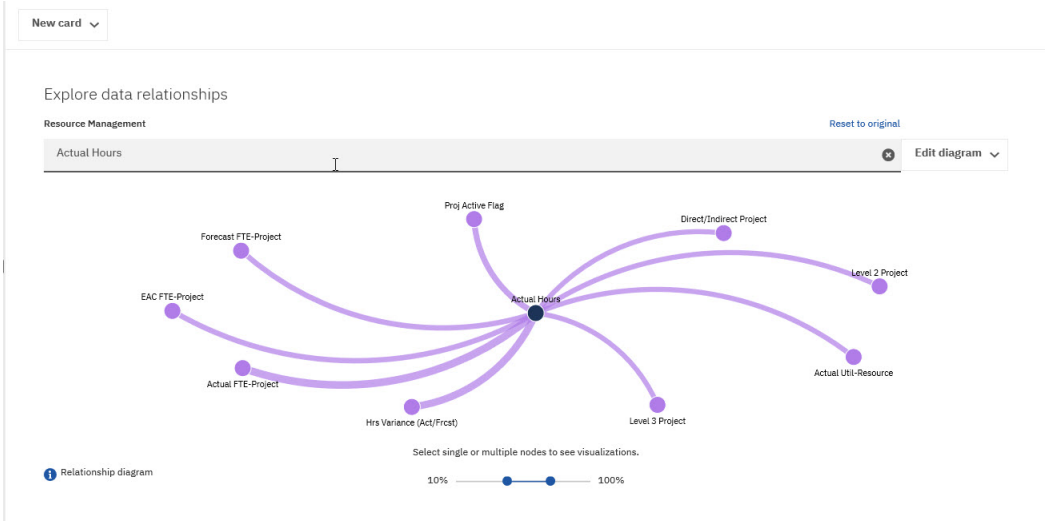
Explorations is a good tool to use for data modules where the number of fields have been streamlined. In Costpoint BI, the following data modules have been optimized and Explorations is a great tool to consider in analysis.

- Resource Management
- HR Management
- Supplier Performance

Relationship Diagram

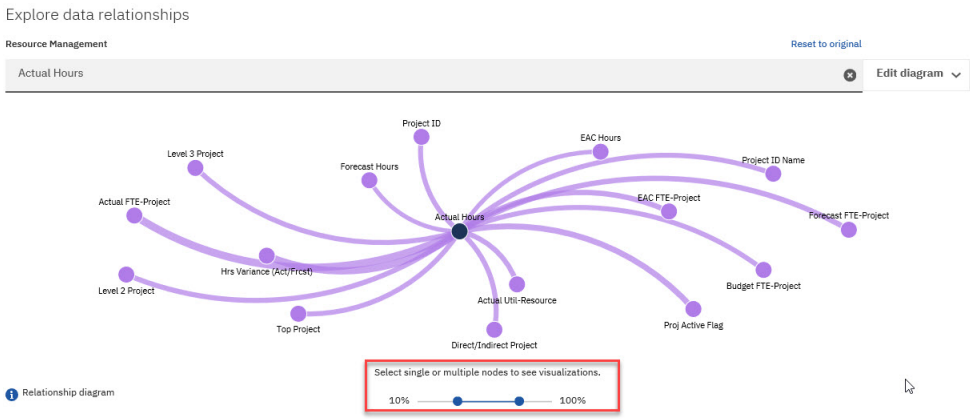
When you create an exploration, a relationship diagram displays after you choose a field from your data source.

The relationship diagram displays a statistical evaluation of items in relation to the selected field. In this case, the **Actual Hours** for resource management in Costpoint was chosen.



As default, there are 10 nodes that are displayed on the diagram. You can change the number of nodes when you indicate the percentage on the slider.

Here is the relationship diagram with 35% - 80% selected on the slider.



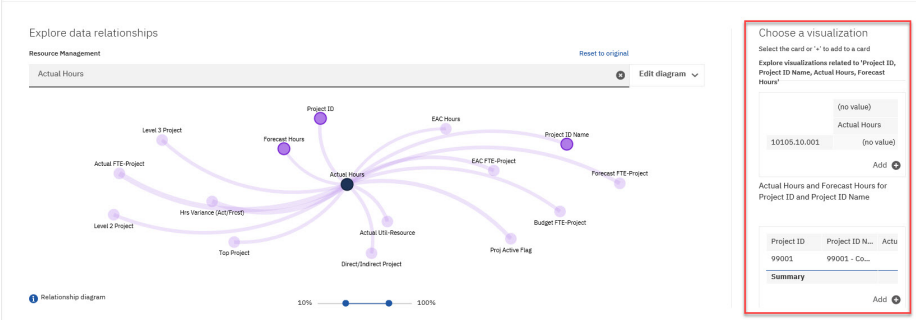
The thickness of the lines on the relationship diagram indicates the strength of the relationship to the selected field.

Visualizations in Exploration

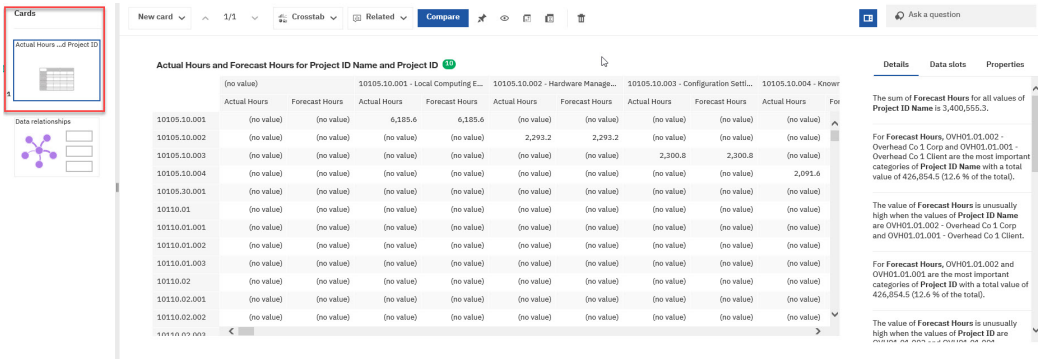
To further enhance your analysis, you can use the recommended visualization in Costpoint BI.

You can select fields from your relationship diagrams as starting points in your visualization.

For example, you can select **Actual Hours**, **Forecast Hours**, **Project ID**, and **Project ID Name** nodes in the relationship diagram.

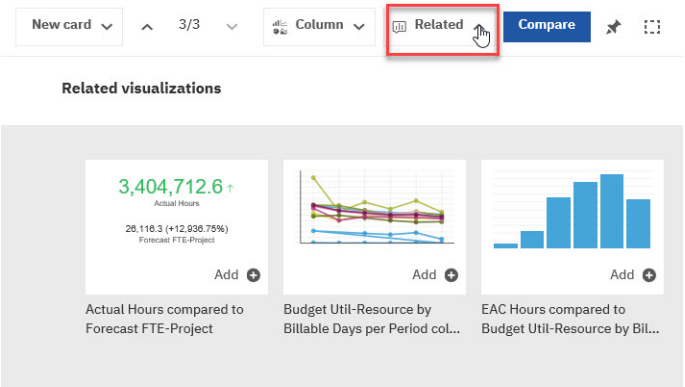


On the right-hand side of the screen, several recommended visualizations are displayed for you to choose from. When you select one of these, a **Card** on the left-hand side of the screen will be automatically created.



Drag the card on the center of the screen to see the created visualization. On the right-hand side, you will see Costpoint BI's analysis based on your selected data which is presented in easy-to-understand concepts through natural language processing.

You can explore other visualizations through the **Related** drop-down.



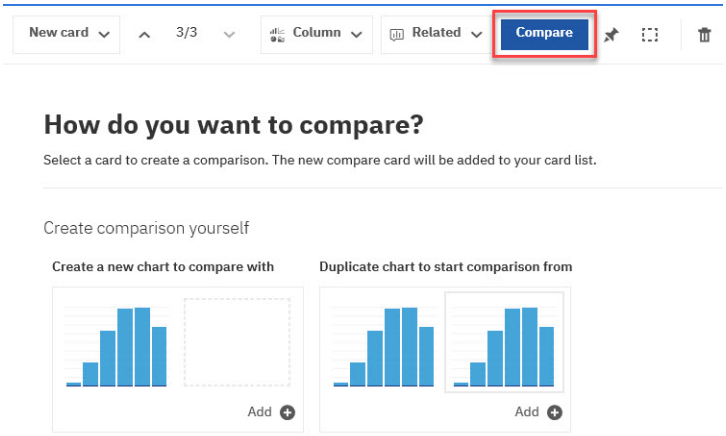
For example, the **Actual Hours compared to Budget Util-Resource by Billable Days per Period** chart is selected.

An analysis based on the chart is also displayed on the right-hand side of the screen.

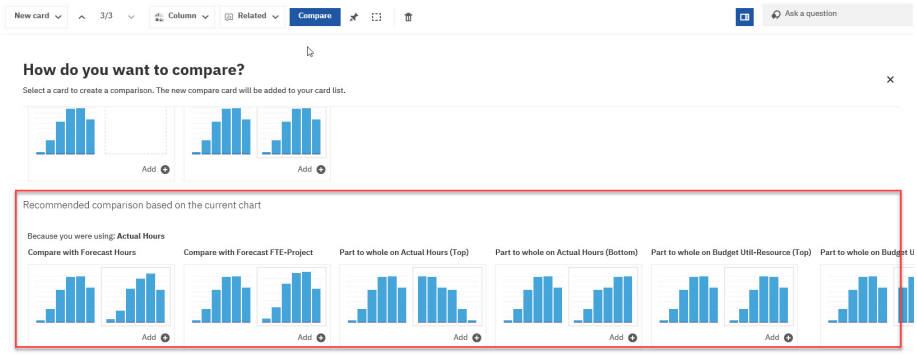
Comparisons

You can compare two visualizations with the **Compare** feature in Visualizations.

While an existing card or chart is on your Visualization screen, click **Compare**. The system will ask how you like to do the comparison which can either be by (1) creating a new chart with your current one or (2) duplicate the existing chart to start the comparison from.



Or another option for you to do the comparison is to select from the recommended comparisons by Costpoint BI based on your current chart.



Stories

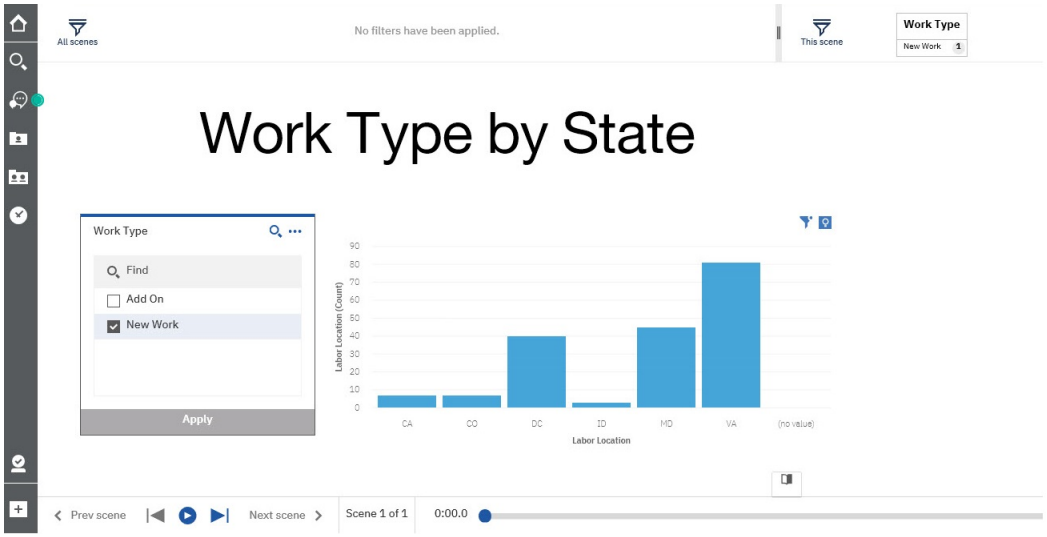
You can create a story to show analysis of your data. A story is a visual presentation of data from your dashboards or explorations which can be interactive for users.

Similar to animated presentations, you can adjust the different elements in a story such as the graphics, charts, add insights, that will make the data analysis easier to understand and have more impact to your users.

The process in creating a story may differ from each individual, but there are major components that you can consider in making one. Here are common elements in creating a story:

- **Create an outline through scenes:** A scene is similar to a slide in a generic presentation. Some of the common scenes are introduction, body, and conclusion that most stories have.
- **Enhance your scenes:** On each scene, add more graphical details such as data insights, shapes, charts, and other elements that can help convey the information in your story.
- **Adjust the timeline:** Similar to conventional video editing tools, you can adjust the timing of when the different widgets on each scene display. In this way, you can intensify the impact of an element during the presentation.
- **Add animations:** To further enhance the visual effect of the widgets, you can add animation.

Here is a sample interactive story. You can select a **Work Type** and the chart will display the associated count by **Labor Location**.

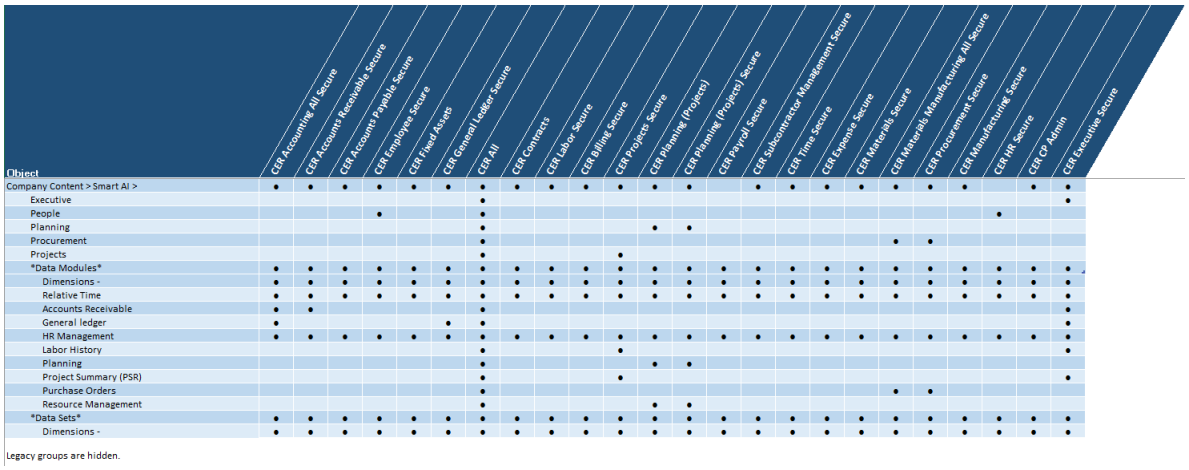


For more details about stories, see Dashboards and Stories on the IBM Knowledge Center website.

Smart AI Security

Smart AI covers different areas of Costpoint. Your access are configured by the system administration during installation.

The user groups and the Smart AI areas that are accessible to each are summarized below.



Object	CER Accounting All Secure	CER Accounts Receivable Secure	CER Account Payable Secure	CER Employee Secure	CER Fixed Asset	CER General Ledger Secure	CER All	CER Contracts	CER Labor Secure	CER Billing Secure	CER Projects Secure	CER Planning (Project)	CER Planning (Project) Secure	CER Payroll Secure	CER Subcontractor Management Secure	CER Time Secure	CER Expense Secure	CER Materials Secure	CER Materials Manufacturing All Secure	CER Procurement Secure	CER Manufacturing Secure	CER HR Secure	CER CP Admin	CER Executive Secure
Company Content > Smart AI >	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•
Executive							•																	•
People				•			•															•		
Planning							•					•	•											
Procurement							•												•	•				
Projects							•				•													
Data Modules	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Dimensions -	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Relative Time	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Accounts Receivable	•	•					•																	•
General ledger	•					•	•																	•
HR Management	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Labor History							•				•													•
Planning							•					•	•											
Project Summary (PSR)							•				•													•
Purchase Orders							•												•	•				
Resource Management							•					•	•											
Data Sets	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Dimensions -	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Legacy groups are hidden.

Smart AI Data Modules Security

Each Smart AI data module uses at least one of the security methods in Costpoint BI: Organization, Project, or Labor Suppression.

The following table displays the applied security for each transactional data module.

Smart AI Data Module Security Matrix

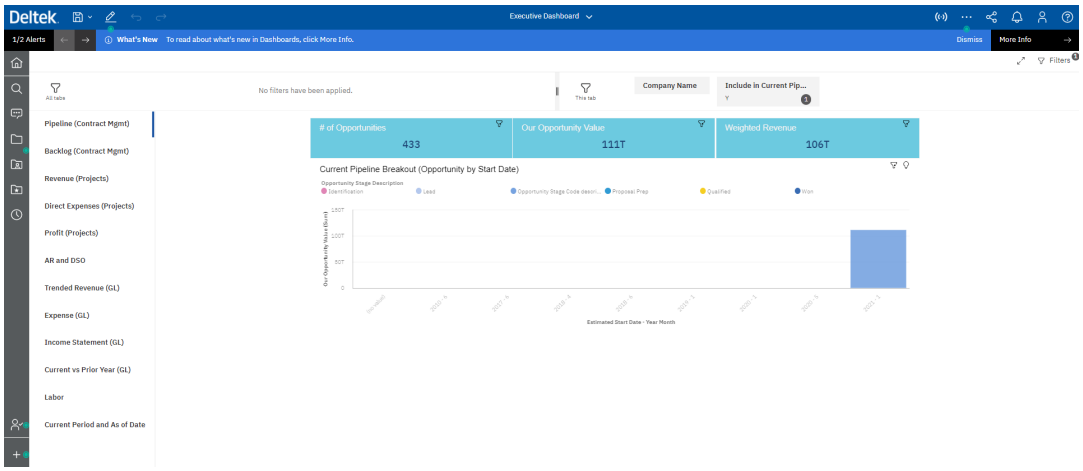
Package	Organization	Project/PM	Labor Suppression	Functional Role	
				BI	TE
Accounts Receivable	✓	✓	✓	✓	
General Ledger	✓		✓		
HR Management	✓		✓		
Labor History	✓		✓	✓	
Planning	✓	✓	✓		
Project Summary (PSR)	✓			✓	
Purchase Orders	✓				
Resource Management		✓			

Smart AI for Executives

The Smart AI for Executives provides a dashboard that includes high-level insight into overall contract information that is useful to senior management.

Executive Dashboard

Data on the Executive Dashboard come from multiple data modules including Projects, Contracts, Accounts Receivable, and General Ledger.



The Executive Dashboard includes:

- **Pipeline (Contract Mgmt)** and **Backlog (Contract Mgmt)**: This area shows information about the number of opportunities and their corresponding values as well as funding and contract backlogs.

  On the Backlog tab, the Funding Backlog (Target) by Contract Type and Contract Backlog (Target) by Contract Type dashparts drill through to Contract details. To view the drill through report, right-click on the dashpart and click the Drill Through icon.

- **Revenue (Projects), Direct Expenses (Project), and Profit (Projects)**: The information in these areas are categorized by owning organization and by project manager. The revenue, direct expenses, and profit against budget by project or project type are also displayed.

- **AR and DSO**: This area shows the outstanding accounts receivable and day sales outstanding by organization and by customer.

- **Trended Revenue (GL)**: This area shows the actual vs budgeted and current period vs year-to-date revenue over a period of time.

- **Expense (GL)**: This area shows information such as expenses by project classification and top expense type categories.

- **Income Statement (GL)**: This area is an overall Income Statement by quarter for the current fiscal year, providing line items based on the filtering criteria of Company Name, Org Level 2 ID Name, Org Level 3 ID Name, and Financial Statement Code set to P&L.

- **Current vs Prior Year (GL)**: This area provides bar charts comparing Prior Year Revenue, Direct Expense, Indirect Expense, and Profit to the Current Fiscal Year Revenue, Direct Expense, Indirect Expense and Profit.
- **Labor**: This area displays labor hours and amount by project class and organization as well as by project classification.
- **Current Period and As of date**: This area displays the current period and the 'as of' date used on the dashboard.

Users in the **CER__EXEC_SECURE** and **CER__ALL** user groups have access to the Executive Dashboard.

Smart AI for Human Resources

The Smart AI for Human Resources helps you analyze employee turnover, hiring, salaries, skills, and many others in planning for resource needs in the organization.

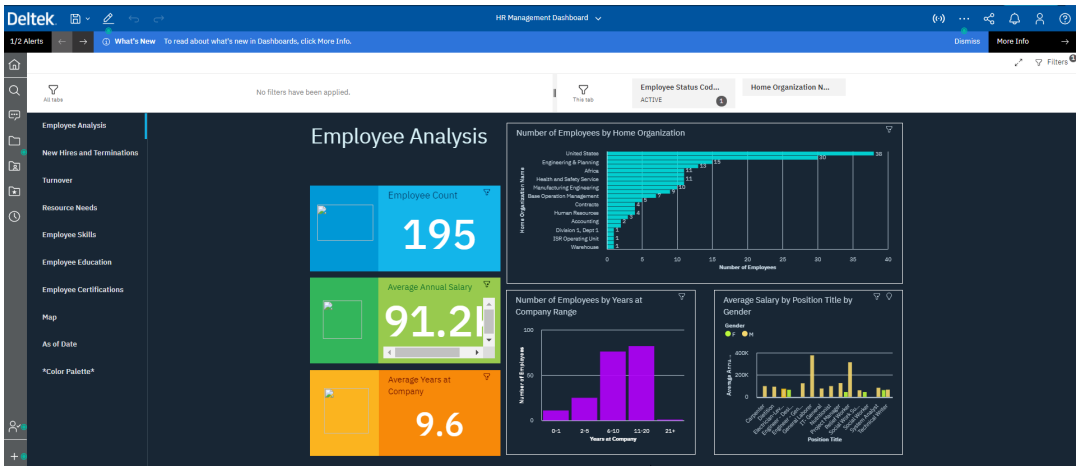
With Smart AI for Human Resources, HR users can have better information:

- about the employees' tenure and average salary by gender
- the number of employees in a location
- attrition and retention rate
- staffing needs
- employee skills

Even if you are not a user of Costpoint People, you can use the Smart AI for Human Resources data to assess and plan ahead in resource allocation and to see if your organization aligns with certain guidelines such as diversity and tax implementation. As an HR personnel, you also have the ability to forecast needed personnel for project backlogs or new business.

HR Management Dashboard

Data on the HR Management Dashboard is comes from the Employee model and Smart AI for Resource Management model forecast hours.



The HR Management Dashboard includes:

- **Employee Analysis**: This area displays overall metrics of the employee population with information that includes the number of employees, the average annual salary in the organization, average tenure of employees, the number of employees by home organization, average salary by position level and gender, and the number of employees by years of stay in the company.
- **New Hires and Terminations**: This area displays the employee count of new hires and terminations including a chart showing the figures per month and by home organization.

- **Turnover**: This area displays the percentage of turnover of employees per year and quarter including the headcount, number of terminations, and new hires.
- **Resource Needs**: This area displays the staffing needs with data coming from the Smart AI for Resource Management, using forecast hours. It includes information about the number of hours needed and the number of full-time employees required for the next 12 periods.
- **Employee Skills**: This are displays the employees' skills with details such as their home organization, skill description, skill level, and the years of experience in a particular skill.
- **Employee Education**: This area displays a chart that includes the major area of study and degree of employees. Employee education per employee also displays information about an employee's ID, home organization, degree, school, major area of study, and when the degree was achieved.
- **Employee Certifications**: This are displays a chart that includes the employees' certifications and professional organizations. The details of an employee's certification includes the ID, home organization, certification ID, professional organization, the state where they acquired the certification, the number of years of certified, and the expiration date of the certification.
- **Map**: The map displays the average salary and employee counts by geographic location.
- **As of Date**: This area displays the 'as-of' date used on the different date-sensitive computations on the HR Management dashboard such as the employees needed for the next 12 periods.
- ***Color Palette***: Here is where you can see the color palette used on the HR Management dashboard.

Note: The HR Management dashboard displays up to 36 months of historical data.

Because of the sensitive information on the HR Management Dashboard, it is only accessible to CER All, CER Employee Secure, CER HR, and CER People user groups.

Sample AI Questions for HR Management

Try these sample questions when you explore the HR Management Dashboard.

- Show Average Annual Amount by Home Organization
- Show count employee id by Employee Status Code Desc
- Show count employee id by Labor Location Desc is Virginia
- Show average Annual Amount by Labor Group Type Desc
- Show Turnover by Year DM and Home Organization Name
- Show Home Organization Name and Skill Description and average skill years
- Show average annual amount by Years at Company Range
- Show average Annual Amount by Labor Location Desc
- Show count employee id by Degree Description

- Show average annual amount by labor location state

Smart AI for Planning

There are several dashboards for Smart AI for Planning such as the Resource Management.

Org Mgr Planning Performance Analytics

The Org Mgr Planning Performance Analytics Dashboard provides consolidated metric views of the project analysis data, allowing you to view project performance, utilization, historical trends, and varying analysis.

This dashboard has 8 tabs that cover different views of the organization data.

- **Overview** - This tab shows year-to-date information based on the current year flag, so it will always show the YTD information through the current month which is controlled by your Costpoint Business Intelligence Administrator. The measures include Revenue, Profit, and Profit % as well as charts that compare actual revenue (at target rates) versus budgets.
- **Current Period Review Analysis** - This tab focuses on the current period performance showing revenue versus budget and gross profit (that is, revenue less direct expenses). Tab specific filters include Level Organizations (Owning), Current Period Flag, and Project Classification Code (Common Inventory, Direct, Inter-Company, and Work in Process).
- **ITD Revenue Analysis** - This tab shows Inception To Date revenue for all projects to get an idea of historical performance showing revenue versus budget and gross profit. The dashboard is filtered for Direct Projects only. Note that all projects are shown whether Active or Inactive.
- **Historical Trends** - This tab shows comparison trends of actual versus current budget for each Organization at Level 3.
- **Project Analysis** - This tab goes deeper than the organization level to show project performance by Project Manager and percentage completion for the largest 10 projects. The % complete chart shows the top 10 projects labor cost to date and determines % of the total EAC budget for labor.
- **Revenue Forecast** - This tab shows the revenue forecast over the next 12 periods. Since the chart is using the relative time dimension for Future 12 Periods Trend, the timeframe will automatically shift after the current period is changed. Data shown here is color coded by Organization and can be drilled down to get more precise information for each individual Organization. This chart is only available on the Planning Dashboard, the information is not available in Costpoint Projects.
- **Labor Analysis** - This tab leverages the "tree map" visualization where each block is a level 1 project, the size of the block represents the number of hours spent in the current period. The color of each block represents the hourly variance from budget, the darker the color the larger the variance.
- **Utilization** - This tab provides a bar chart to show Labor Hours by Organization color coded by Project Classification. The bar chart can be drilled into to drive the widgets at the top of the dashboard containing data for Direct Hours, Indirect Hours, Total Hours,

and % of Budget Hours Used. In the bar chart, Org level 3 is broken out by project classification to show the utilization by % of hours spent in each classification.

PM Planning Performance Analytics

Use the PM Planning Performance Analytics to review the performance of projects. If Project Security is applied, an individual will only see projects within the organizations they have access to.

When utilizing the Organization Security feature in Costpoint, you will only see projects that are a part of your organization.

When utilizing the Project Manager Security feature in Costpoint, users will only see the projects that they are assigned to as a PM.

There are 7 tabs in the dashboard that show different views of the project data. Note that all project results use Target Rates for actual results, and the budgets use the most current Budget or EAC version.

- **Overview**: This tab shows an incurred to date analysis for Revenue, Profit and Profit Percentages. It also provides a list report to show the Bottom 5 Projects based on profit and a bar chart to show the Top 5 Projects based on profit.
- **Current Period Revenue Analysis**: This tab focuses on the current period performance showing revenue versus budget and gross profit (that is, revenue less direct expenses).
- **ITD Revenue Analysis**: This tab shows Inception To Date revenue for all projects to get an idea of historical performance showing revenue versus budget and gross profit.
- **Historical Trends**: This tab shows comparison trends of actual versus budget for each project leveraging the Repeat (row) capability in Dashboards to automatically create a separate chart for each project at level 1.
- **Forecasted Trends**: This tab shows the revenue forecast for the next 12 periods based on the level 1 project. Since the chart is using the relative time dimension for Future 12 Periods Trend, the timeframe will automatically shift after the current period is changed.
- **Labor Analysis**: This tab leverages the "tree map" visualization where each block is an employee, the size of the block represents the number of hours spent on the project. The color of each block represents the hourly variance from budget, the darker the color the larger the variance.
- **BUD/EAC Compare**: This tab allows for an analysis of changes in the EAC or BUD versions.

Resource Management

The data for budget, forecast, and actual labor for Resource Management module comes from Costpoint Planning.

The overall goal of the Resource Management dashboard is to help you:

- understand your future resource needs
- analyze historical utilization

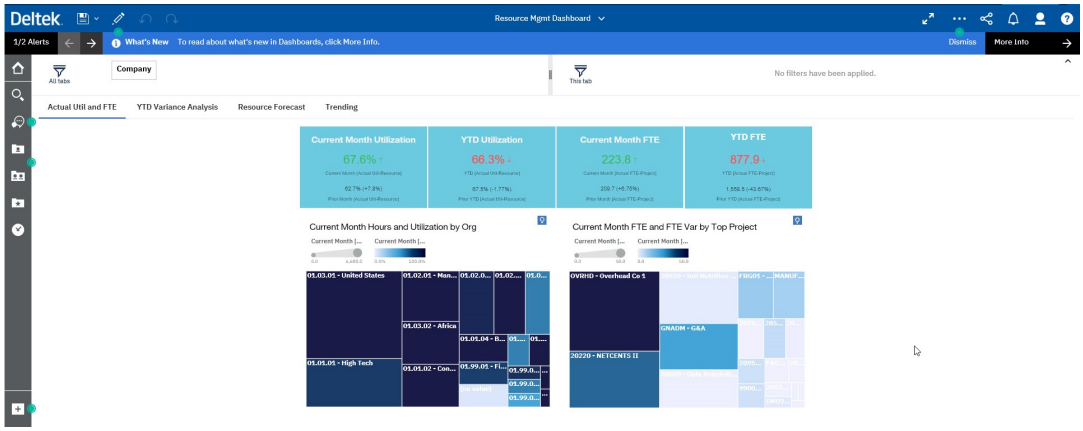
- optimize future utilization
- incorporate non-backlog (new business) projects with opportunity-type data

These factors can assist you to optimize planning of resources in your projects. For instance, you can identify the number of employees in a project so you can have a plan in place to fill that need. Or you want to determine the number of hours that subcontractors are scheduled for a project. You can also recognize projects in the next couple of months that do not have anyone assigned to them.

These are just examples that the Resource Management can help you in planning for your projects.

Resource Management Dashboard

You can view and use a sample dashboard after you copy Resource Management in **Company content** and refresh the data.



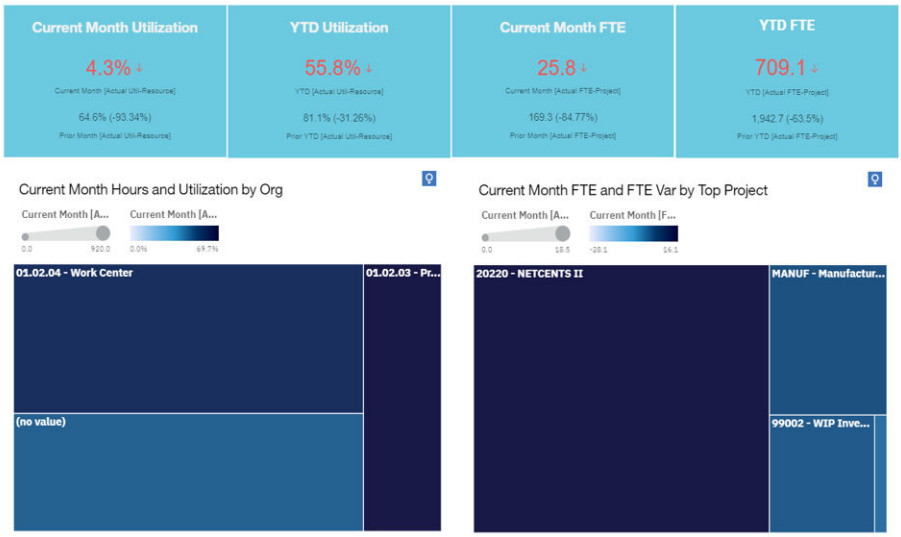
The **Resource Management Dashboard** uses data from Costpoint Planning for Projects and helps you understand the utilization of your resources. It tells you when there is not much work for your resources or too much work which can signify you to hire additional resource to meet your project obligations. The Resource Management Dashboard also provides insight on existing, backlog, and prospective projects or what are called new business projects in Planning.

The different dashboards on Resource Management are:

- Actual Util and FTE
- YTD Variance Analysis
- Resource Forecast
- Resource Trending

Actual Util and FTE

This dashboard uses relative time dimension to look at current period and year-to-date utilization.

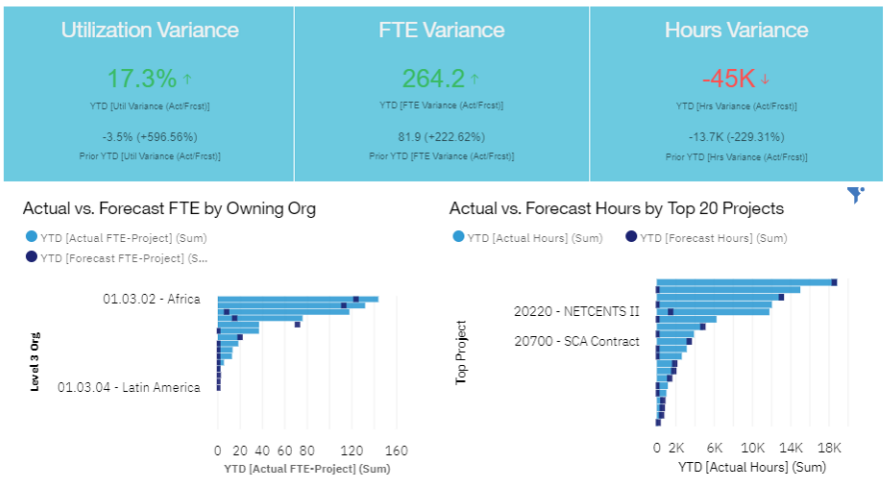


This dashboard gets year-to-date (YTD) utilization and full time equivalents (FTE) and compare them to prior periods. The magnitude of these utilizations and variances by organization and/or by projects are also displayed.

Note: The **Actual FTE-Project** measure is calculated by dividing the work hours in a period. All actual hours include both direct and indirect hours. All utilization are based on direct hours.

YTD Variance Analysis

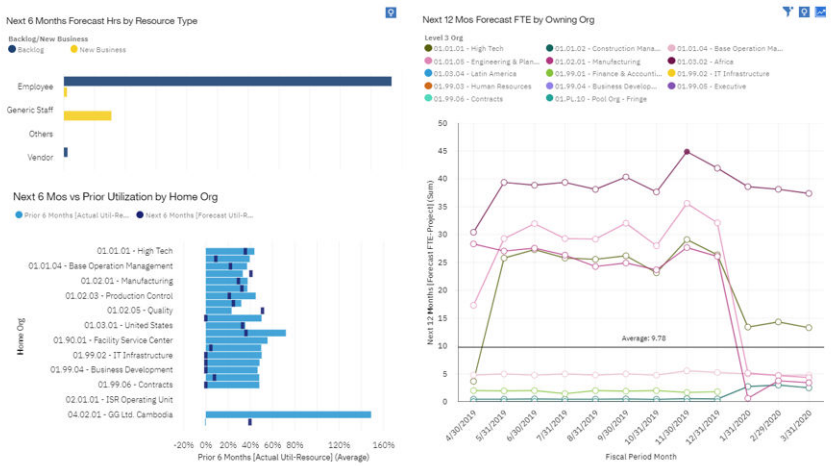
This dashboard shows the number resources that are performing compared to forecast.



The dashboard shows the variance in utilization in actual versus forecast.

Resource Forecast

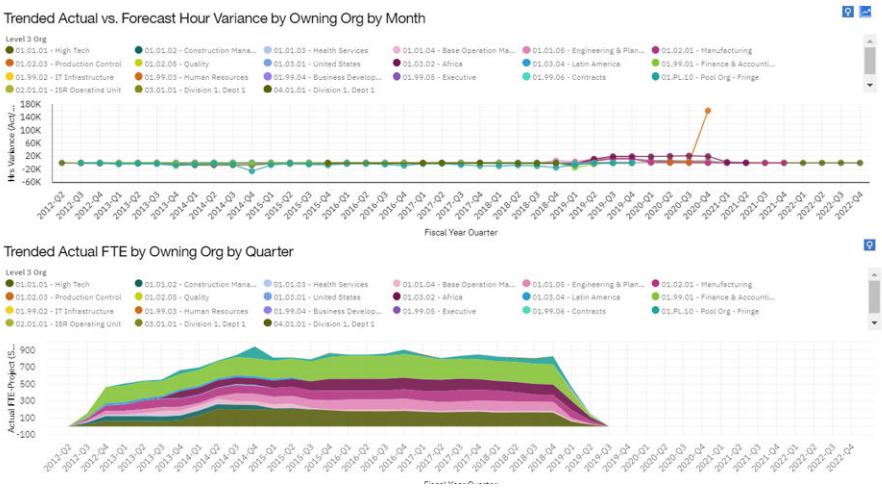
The Resource Forecast dashboard tells you the resources that you need in the future.



The Resource Forecast shows the next 6 to 12 months in terms of projects that you will be working on including the organization. This chart considers the current date parameter that is set so as to identify the current period to use as basis for the forecast.

Resource Trending

This dashboard shows the number of resources that were utilized over a time period by organization.



It shows the actual hour variance versus forecast by owning organization by month. It also shows the full time equivalents (FTE) by quarter to show you the charging for resources that has been done over time.

Sample Questions for AI Assistant for Resource Management

Try these sample questions or expand them when you explore data in Resource Management.

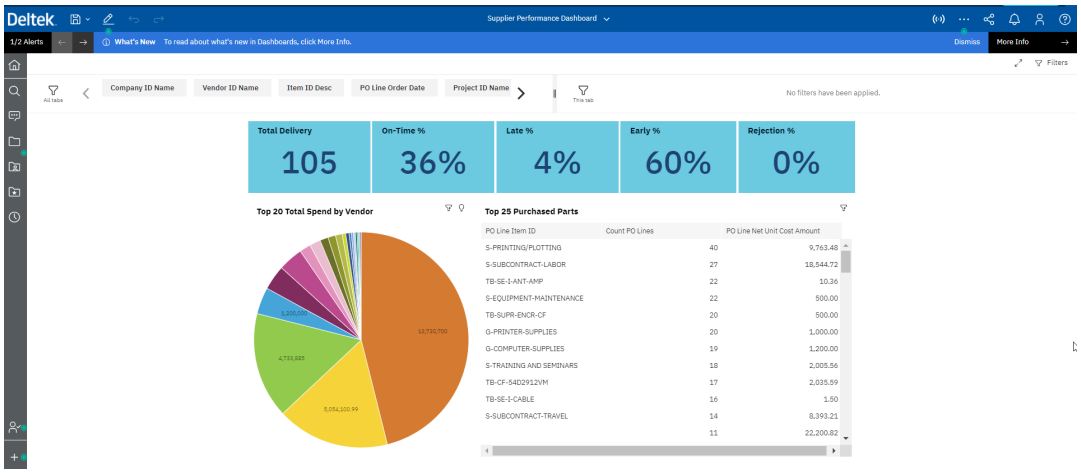
- Show Next 6 Months [Forecast Hours] by top project
- Show Forecast Hours by Fiscal Year Period for fiscal year 2019
- Show Next 6 Months [Forecast Util-Resource] by resource name where next 6 months [Forecast Utilization] is less than 0.7
- Show Next 6 Months [Forecast Hours] by resource type
- Show count resource name by labor location
- Show average total actual hours for fiscal year period for fiscal year 2018
- Show Actual to Forecast Variance Hours by Fiscal Year Period for 2019 by owning org
- Show revenue level project and Project Start Date and project end date by Project Manager
- Show top 5 top project and Actual FTE By Project and Fiscal Period Month
- Show Next 12 Months [Forecast Hours] and Backlog/New Business and Project UDEF 1
- Show Next 6 Months [Forecast FTE-Project] and Prior 6 Months [Actual FTE-Project] by Top Project
- Show EAC FTE-Project by fiscal year period in 2019 and 2020 by level 2 org
- Show Prior 12 Months [Util Variance (Act/Frcst)] and resource name by manager
- Show Prior 6 Months [FTE Variance (Act/Frcst)] and top project by Project Manager
- Show bottom 5 resource name and Prior Month [Hrs Variance (Act/Frcst)]
- Show Backlog/New Business Next 6 Months [Forecast Hours] by resource type
- Show Prior Month [Budget Hours] and prior month [actual hours] by level 3 org
- Show YTD [Actual Utili-Resource] and Prior YTD [Actual Util-Resource] by home org
- Show forecast hours and Backlog/New Business and work type by top project where probability is greater than .7 and less than 1
- Show Current Month [Actual Hours] by project classification by home org

Smart AI for Procurement

The Smart AI for Procurement includes a dashboard that displays the performance of suppliers such as information about deliveries. This is useful in the selection of suppliers for future transactions.

Supplier Performance Dashboard

The Supplier Performance Dashboard includes information such as the total number of deliveries, the mostly purchased parts, top 20 spending categorized by vendor.



Sample AI Questions for Vendor Performance

Here are sample AI questions to use when you explore vendor performance on the Supplier Performance Dashboard.

- Show Late % by Vendor Name
- Show On-Time % by Vendor Name
- Show early % by Vendor Name
- Show Rejection % by Vendor Name
- Show Total PO Line Amount by Vendor Name
- Show count Vendor Name by Item ID
- Show count Delivery status by Vendor Name
- Show count Purchase Order by Buyer Name
- Show count purchase order by PO Line Business Size Code
- Show count purchase order by Delivery Status
- Show Count Vendor Name by Delivery Status

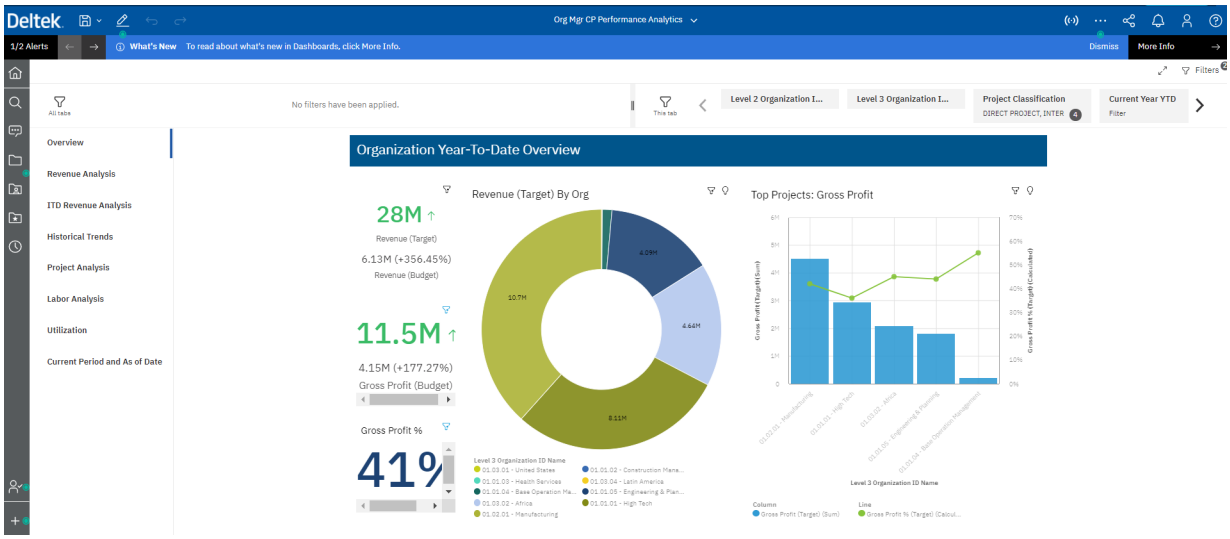
- Show PO Total Amount by Project Name

Smart AI for Projects

The Smart AI for Projects includes dashboards that displays the performance of the organization and projects in relation to measures such as revenue, profit, and actual revenue versus budgets.

Org Mgr CP Performance Analytics

The Org Mgr CP Performance Analytics is accessible to CER__PROJECTS, CER__PROJ_SECURE and CER_ALL user groups.



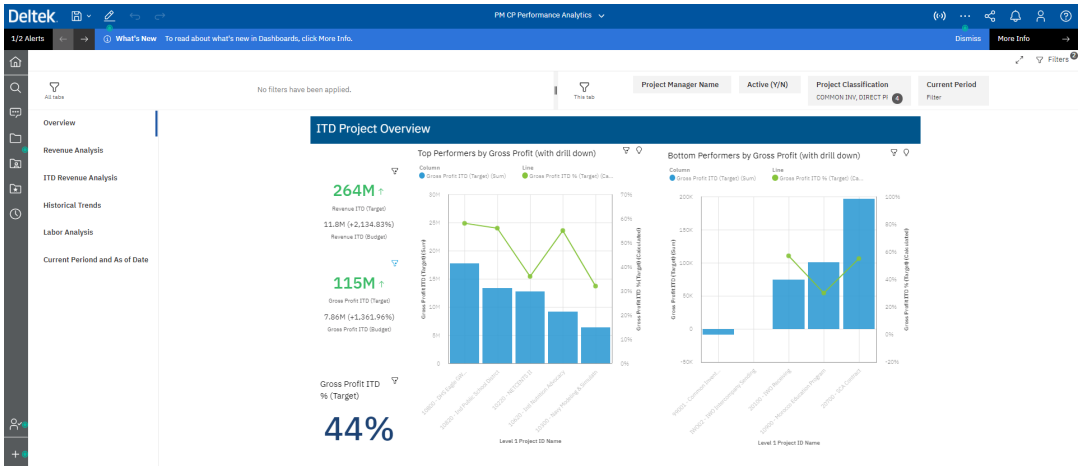
The Org Mgr CP Performance dashboard has 7 tabs that cover the different views of the organization data.

- **Overview**: This tab shows year-to-date information leveraging the current year flag, so it will always show the YTD information through the current month which is controlled by your CBI Administrator. Measures include Revenue, Profit, and Profit % as well as charts that compare actual revenue (at target rates) versus budgets.
- **Revenue Analysis**: This tab focuses on the current period performance showing revenue versus budget and gross profit (that is, revenue less direct expenses). The dashboard is filtered for Direct Projects only.
- **ITD Revenue Analysis**: This tab will show ITD revenue for all projects to get an idea of historical performance showing revenue vs. budget and gross profit. The dasbhoard is filtered for Direct Projects only. Note that all projects are shown whether Active or Inactive.
- **Historical Trends**: This tab shows comparison trends of actual versus budget for each Org at Level 3 leveraging the Repeat (row) capability in Dashboards to automatically create a separate chart for each Org at level 3.
- **Project Analysis**: This tab goes deeper than the org level to show project performance by Project Manager and % complete for largest 10 projects. The % complete chart shows the top 10 projects labor cost to date and determines % of the total EAC budget for labor.

- **Labor Analysis**: This tab leverages the "tree map" visualization where each block is a level 1 project, the size of the block represents the number of hours spent in the current period. Note that since budgeted hours are not available in Costpoint projects module, leveraging Deltek Project Planning can be used to track hour variances.
- **Utilization**: This tab breaks out the utilization by project classification. In aggregate, direct, indirect, total hours and average hourly rate are shown. In the bar chart, Org level 3 is broken out by project classification to show the utilization by % of hours spent in each category.
- **Current Period and As of Date**: This tab displays the current period date and as of date which are used as basis in date calculations on the dashboard.

PM CP Performance Analytics

The PM CP Performance Analytics dashboard is accessible to CER__PROJECTS, CER__PROJ_SECURE and CER_ALL user groups.



The PM CP Performance Analytics dashboard lets you see the projects performance. It includes 5 tabs with different views:

- **Overview**: This tab shows inception-to-date information leveraging the current period flag, so it will always show the Inception To Date information through the current month which is controlled by your CBI Administrator. Measures include Revenue, Profit, and Profit % as well as charts that show the top 5 and bottom 5 performing projects.
- **Review Analysis**: This tab focuses on the current period performance showing revenue versus budget and gross profit (that is, revenue less direct expenses).
- **ITD Revenue Analysis**: This tab will show Inception To Date revenue for all projects to get an idea of historical performance showing revenue versus budget and gross profit.
- **Historical Trends**: This tab shows comparison trends of actual versus budget for each project leveraging the Repeat (row) capability in Dashboards to automatically create a separate chart for each project at level 1.
- **Labor Analysis**: This tab leverages the "tree map" visualization where each block is an employee, the size of the block represents the number of hours spent on the project.

Note that since budgeted hours are not available in Costpoint projects module, leveraging Deltek Project Planning can be used to track hour variances.

- **Current Period and As of Date**: This tab displays the current period date and as of date that are used as basis for date calculations on the dashboard.

Troubleshooting

You may need to perform extra steps when addressing an error in your Smart AI. The following section describes a known issue and resolution.

Missing AI Assistant

After the Smart AI folder is copied and the job to refresh data was performed, the AI Assistant may be missing when exploring some data modules.

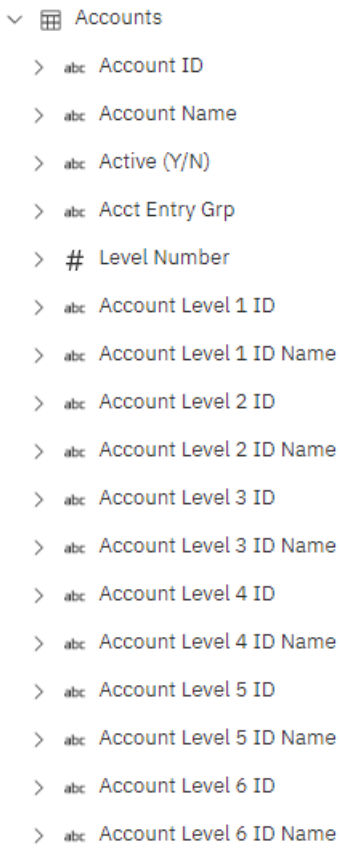
To fix this, the admin should open the data module with the missing AI Assistant and then save it. The save action should display the AI Assistant once again when the data module is reopened.

This issue has been reported to IBM awaiting solution.

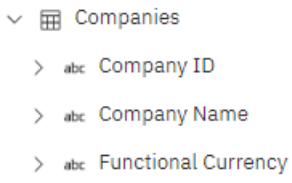
Appendix: Data Sets

This section includes the images of the data sets in Smart AI.

Accounts Dimensional Data Set



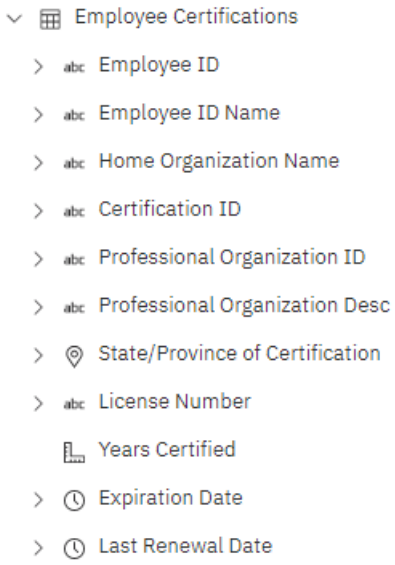
Companies Dimensional Data Set



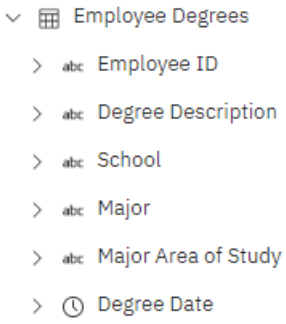
Customers Dimensional Data Set

- Customers
  - Customer ID
  - Company ID
  - Customer Long Name
  - Customer Name
  - Customer Type
  - Tax Exemption ID
  - Phone Number
  - Fax Number
  - Vendor ID
  - Vendor Name
  - Sales Grp Abbrv
  - Sales Contact First Name
  - Sales Contact Last Name
  - Sales Territory Cd
  - Credit Rating Cd
  - Annual Finance Rate
  - Credit Limit
  - Credit Rating Desc
  - Credit Status
  - Dflt Pay Currency
  - Dflt Rate Grp ID
  - Dflt Transaction Crncy Cd
  - Discount Pct
  - Credit Rating
  - Bill Payment Address Cd
  - Free On Board
  - Issued By Address Cd
  - Price Catalog Cd
  - Project ID Price Catalog
  - Related Customer ID
  - Sales Override Project ID
  - Acceptance Point (Y/N)
  - Acknowledgment Required (Y/N)
  - Apply Finance Chrg (Y/N)
  - Certificate of Conformance (Y/N)
  - Allow Discounts (Y/N)
  - Limit Pay Currency (Y/N)
  - Limit Transaction Crncy (Y/N)
  - Allow Overshipment (Y/N)
  - Partial Shipments (Y/N)
  - Source Inspection (Y/N)
  - Source Inspection (Y/N) (2)
  - Source Inspection (Y/N) (3)
  - User Defined Field 1
  - User Defined Field 2
  - Credit Rating Date
  - Grace Days
  - Approved Order Balance
  - Limit Amount
  - Customer ID Name

Employee Certifications Dimensional Data Set



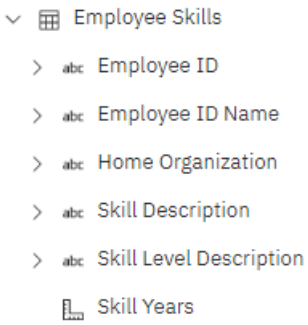
Employee Degrees Dimensional Data Set



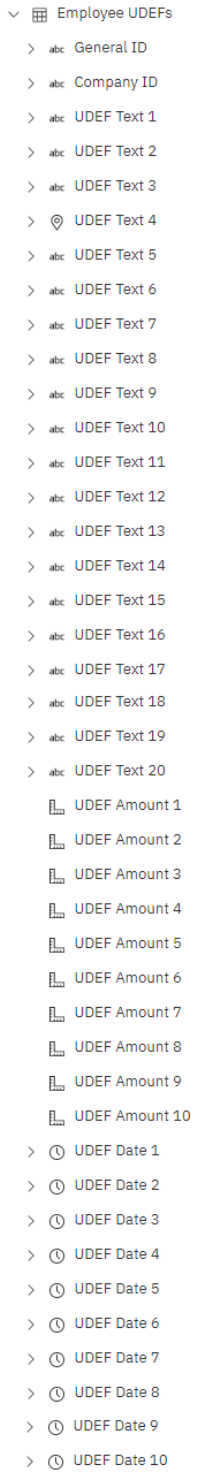
Employee Salary Information Dimensional Data Set

- Employee Salary Information
  - Employee ID
  - Current Record (Y/N)
  - Effective Date
  - End Date
  - Effective Hire Date Flag (Y/N)
  - Effective Term Date Flag (Y/N)
  - Work Hours in Year
  - Hourly Amount
  - Salary Amount
  - Annual Amount
  - Percent Increase
  - Employee Class Code
  - Hourly/Salary Code
  - Employee Type Code
  - Exempt Flag (Y/N)
  - Detail Job Code
  - Position Title
  - Evaluating Mana...rs Employee ID
  - Evaluating Manager Name
  - Supervisor
  - Supervisor Name
  - Labor Group Type Desc
  - Labor Location Desc
  - GLC Desc
  - PLC Desc
  - Home Organization
  - Home Organization ID Name

Employee Skills Dimensional Data Set



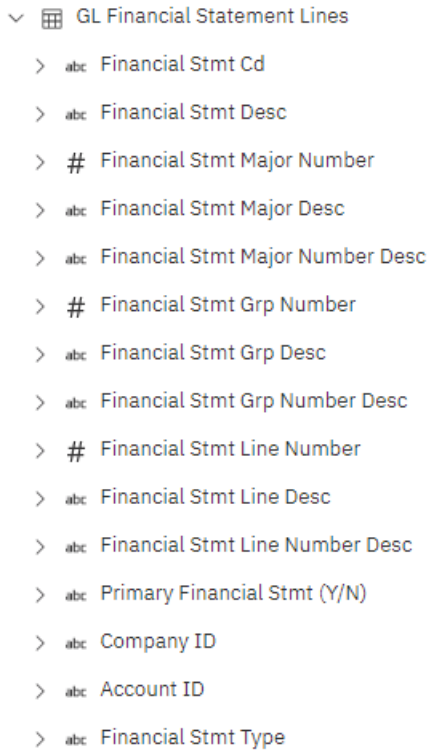
Employee UDEFs Dimensional Data Set



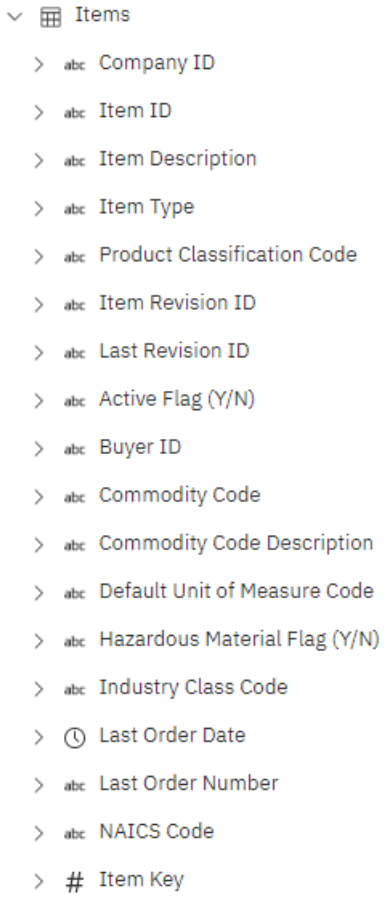
Employees Dimensional Data Set

- Employees
  - Employee ID Name
  - Employee ID
  - Company ID
  - Employee Status Code Desc
  - Home Organization
  - Home Organization Name
  - Manager Name
  - Supervisor Name
  - Labor Group Type Desc
  - Labor Location Desc
  - Annual Amount
  - Mail State
  - Zip Code
  - Age
  - Gender
  - Marital Code
  - Race Code
  - Original Hire Date
  - Adjusted Hire Date
  - Years at Company
  - Termination Date
  - Termination Type
  - Termination Reason
  - Termination Reason Desc

GL Financial Statement Lines Dimensional Data Set



Items Dimensional Data Set



Organizations Dimensional Data Set

- Organizations
  - Company ID
  - Company Name
  - Functional Currency
  - Organization ID
  - Organization Name
  - Org Abbrv
  - Level Number
  - Active (Y/N)
  - Org Level 1 ID
  - Org Level 1 ID Name
  - Org Level 2 ID
  - Org Level 2 ID Name
  - Org Level 3 ID
  - Org Level 3 ID Name
  - Org Level 4 ID
  - Org Level 4 ID Name
  - Org Level 5 ID
  - Org Level 5 ID Name

Planning Projects UDEFs Dimensional Data Set

- Planning Project UDEFs
  - Project ID
  - Company ID
  - Project UDEF Text 1
  - Project UDEF Text 2
  - Project UDEF Text 3
  - Project UDEF Text 4
  - Project UDEF Text 5
  - Project UDEF Text 6
  - Project UDEF Text 7
  - Project UDEF Text 8
  - Project UDEF Text 9
  - Project UDEF Text 10
  - Project UDEF Text 11
  - Project UDEF Text 12
  - Project UDEF Text 13
  - Project UDEF Text 14
  - Project UDEF Text 15
  - Project UDEF Text 16
  - Project UDEF Text 17
  - Project UDEF Text 18
  - Project UDEF Text 19
  - Project UDEF Text 20
  - Project UDEF Amount 1
  - Project UDEF Amount 2
  - Project UDEF Amount 3
  - Project UDEF Amount 4
  - Project UDEF Amount 5
  - Project UDEF Amount 6
  - Project UDEF Amount 7
  - Project UDEF Amount 8
  - Project UDEF Amount 9
  - Project UDEF Amount 10
  - Project UDEF Date 1
  - Project UDEF Date 2
  - Project UDEF Date 3
  - Project UDEF Date 4
  - Project UDEF Date 5
  - Project UDEF Date 6
  - Project UDEF Date 7
  - Project UDEF Date 8
  - Project UDEF Date 9
  - Project UDEF Date 10

Planning Projects Dimensional Data Set

- Planning Projects
  - Project ID (New)
  - Project Name
  - Project Abbreviation Code
  - Project Manager Name
  - Company ID
  - Company Name
  - Organization ID
  - Organization Name
  - Project Type Description
  - Project Classification
  - Project Start Date
  - Project End Date
  - Project Account Group Code
  - Active (Y/N)
  - Billable Project Flag (Y/N)
  - Level No
  - Opportunity ID
  - Country Code
  - Mail State
  - Customer ID
  - Customer Name
  - Customer Purchase Order ID
  - Incur Cost Submission Flag (Y/N)
  - Prime Contractor Flag (Y/N)
  - Prime Contract ID
  - Subcontract Flag (Y/N)
  - Subcontractor ID
  - Level 1 Project Segment
  - Level 1 Name
  - L2_ID
  - Level 2 Name
  - L3_ID
  - Level 3 Name
  - L4_ID
  - Level 4 Name
  - L5_ID
  - Level 5 Name
  - L6_ID
  - Level 6 Name
  - L7_ID
  - Level 7 Name
  - L8_ID
  - Level 8 Name
  - L9_ID
  - Level 9 Name
  - L10_ID
  - Level 10 Name
  - L11_ID
  - Level 11 Name
  - L12_ID
  - Level 12 Name
  - L13_ID
  - Level 13 Name
  - L14_ID
  - Level 14 Name
  - L15_ID
  - Level 15 Name

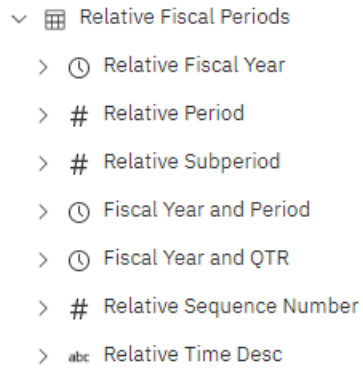
Project UDEFs Dimensional Data Set

- Project UDEFs
  - Project
  - Company ID
  - PJ UDEF Text 1
  - PJ UDEF Text 2
  - PJ UDEF Text 3
  - PJ UDEF Text 4
  - PJ UDEF Text 5
  - PJ UDEF Text 6
  - PJ UDEF Text 7
  - PJ UDEF Text 8
  - PJ UDEF Text 9
  - PJ UDEF Text 10
  - PJ UDEF Text 11
  - PJ UDEF Text 12
  - PJ UDEF Text 13
  - PJ UDEF Text 14
  - PJ UDEF Text 15
  - PJ UDEF Text 16
  - PJ UDEF Text 17
  - PJ UDEF Text 18
  - PJ UDEF Text 19
  - PJ UDEF Text 20
  - PJ UDEF Amount 1
  - PJ UDEF Amount 2
  - PJ UDEF Amount 3
  - PJ UDEF Amount 4
  - PJ UDEF Amount 5
  - PJ UDEF Amount 6
  - PJ UDEF Amount 7
  - PJ UDEF Amount 8
  - PJ UDEF Amount 9
  - PJ UDEF Amount 10
  - PJ UDEF Date 1
  - PJ UDEF Date 2
  - PJ UDEF Date 3
  - PJ UDEF Date 4
  - PJ UDEF Date 5
  - PJ UDEF Date 6
  - PJ UDEF Date 7
  - PJ UDEF Date 8
  - PJ UDEF Date 9
  - PJ UDEF Date 10

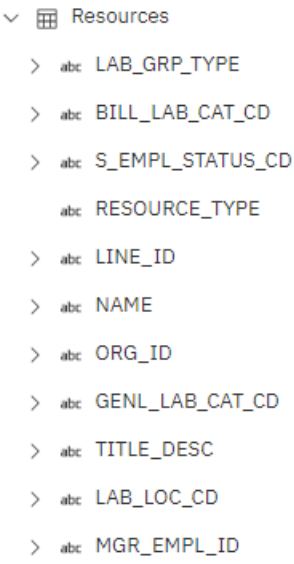
Projects Dimensional Data Set

- Projects
  - Project ID
  - Project Name
  - Project Abbrv
  - Project Manager Name
  - Company ID
  - Company Name
  - Organization ID
  - Organization Name
  - Project Type Desc
  - Project Classification
  - Project Start Date
  - Project End Date
  - Account Group
  - Active (Y/N)
  - Billable Project (Y/N)
  - Level Number
  - Country Cd - Project
  - Mail State - Project
  - Customer ID
  - Customer Name
  - Customer P/O ID
  - ICS (Y/N)
  - Prime Contractor (Y/N)
  - Prime Contract ID
  - Subcontractor (Y/N)
  - Subcontractor ID
  - Project Level 1 ID
  - Level 1 Project Name
  - Project Level 2 ID
  - Level 2 Project Name
  - Project Level 3 ID
  - Level 3 Project Name
  - Project Level 4 ID
  - Level 4 Project Name
  - Project Level 5 ID
  - Level 5 Project Name
  - Project Level 6 ID
  - Level 6 Project Name
  - Project Level 7 ID
  - Level 7 Project Name
  - Project Level 8 ID
  - Level 8 Project Name
  - Project Level 9 ID
  - Level 9 Project Name
  - Project Level 10 ID
  - Level 10 Project Name
  - Project Level 11 ID
  - Level 11 Project Name
  - Project Level 12 ID
  - Level 12 Project Name
  - Project Level 13 ID
  - Level 13 Project Name
  - Project Level 14 ID
  - Level 14 Project Name
  - Project Level 15 ID
  - Level 15 Project Name

Relative Fiscal Periods Dimensional Data Set



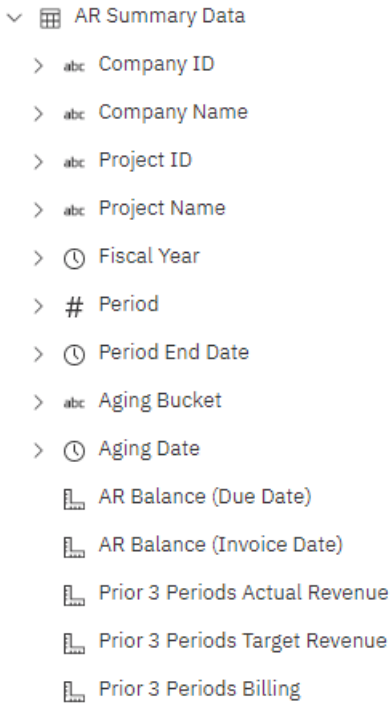
Resources Dimensional Data Set



Subperiods Dimensional Data Set

- Subperiods
  - Fiscal Year
  - # Period
  - # Subperiod
  - abc Status
  - Fiscal Year Desc
  - Subperiod Ending Date as String
  - Period End Date as String
  - Subperiod Ending Date
  - Period End Date
  - FY PD SUBPD Subperiod End Date
  - Fiscal Year End Date
  - abc Adjustment subperiod flag
  - abc Adjustment subperiod type code
  - Adjustment subperiod display end date

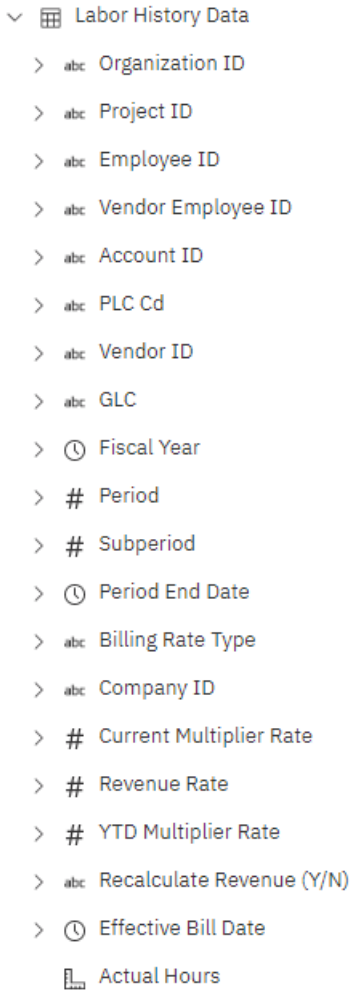
AR Summary Transactional Data Set



GL Summary Transactional Data Set

- GL Summary Data
  - Company ID
  - Fiscal Year
  - Period Number
  - Period End Date
  - Organization ID
  - Project Classification
  - Project Type
  - Account ID
  - Account Type
  - Account Type Desc
  - Actual Amount
  - Actual Hours
  - Budget Amount
  - Budget Hours
  - Variance Amount
  - Variance Hours
  - YTD Actual Amount
  - YTD Budget Amount
  - Blended Amount
  - Blended Hours
  - Actual Revenue
  - Actual Direct Labor Amount
  - Actual Direct Labor Hours
  - Actual Direct Non-Labor Amount
  - Actual Gross Profit
  - Actual Indirect Labor Amount
  - Actual Indirect Labor Hours
  - Actual Profit
  - Budget Revenue
  - Budget Direct Labor Amount
  - Budget Direct Labor Hours
  - Budget Direct Non-Labor Amount
  - Budget Gross Profit
  - Budget Indirect Labor Amount
  - Budget Indirect Labor Hours
  - Budget Indirect Non-Labor Amount
  - Budget Profit
  - Actual Indirect Non-Labor Amount
  - Blended Revenue
  - Blended Direct Labor Amount
  - Blended Direct Labor Hours
  - Blended Direct Non-Labor Amount
  - Blended Indirect Labor Amount
  - Blended Indirect Labor Hours
  - Blended Indirect Non-Labor Amount
  - Blended Profit
  - Blended Gross Profit

Labor History Transactional Data Set



Planning Transactional Data Set

- Planning Data
  - Project ID (Existing and New)
  - Company ID
  - Organization ID
  - Fiscal Year
  - Period Number
  - End Date
  - Current Budget Gross Profit
  - Actual Hours
  - Actual Revenue Amount
  - Target Revenue Amount
  - Revenue Variance
  - Target Total Cost
  - Current Budget Cost
  - Hours Variance
  - Current Budget Revenue
  - Current Budget Hours
  - Actual Total Hours
  - Unposted Labor Amount
  - Labor Amount
  - Unposted Hours
  - Target Gross Profit
  - Target Profit
  - Target Profit%
  - Target Gross Profit%
  - Unposted Amount
  - Unposted Revenue Amount

Project Summary (PSR) Transactional Data Set

- Project Summary (PSR) Data
  - Project ID
  - Account ID
  - Organization ID
  - Fiscal Year
  - Period
  - Period End Date
  - Pool Number
  - Company ID
  - Subtotal Type Number
  - Budget
  - Actual (at Actual Rate)
  - Variance (at Actual Rate)
  - Actual (at Target Rate)
  - Variance (at Target Rate)
  - Revenue (Actual)
  - Award Fee (Actual)
  - Direct Labor (Actual)
  - Direct Non-Labor (Actual)
  - Indirect Expenses (Actual)
  - Gross Profit (Actual)
  - Profit (Actual)
  - Revenue ITD (Actual)
  - Award Fee ITD (Actual)
  - Direct Labor ITD (Actual)
  - Direct Non-Labor ITD (Actual)
  - Indirect Expenses ITD (Actual)
  - Gross Profit ITD (Actual)
  - Profit ITD (Actual)
  - Revenue (Target)
  - Award Fee (Target)
  - Direct Labor (Target)
  - Direct Non-Labor (Target)
  - Indirect Expenses (Target)
  - Gross Profit (Target)
  - Profit (Target)
  - Revenue ITD (Target)
  - Award Fee ITD (Target)
  - Direct Labor ITD (Target)
  - Direct Non-Labor ITD (Target)
  - Indirect Expenses ITD (Target)
  - Gross Profit ITD (Target)
  - Profit ITD (Target)
  - Revenue (Budget)
  - Award Fee (Budget)
  - Direct Labor (Budget)
  - Direct Non-Labor (Budget)
  - Indirect Expenses (Budget)
  - Gross Profit (Budget)
  - Profit (Budget)
  - Revenue ITD (Budget)
  - Award Fee ITD (Budget)
  - Direct Labor ITD (Budget)
  - Direct Non-Labor ITD (Budget)
  - Indirect Expenses ITD (Budget)
  - Gross Profit ITD (Budget)
  - Profit ITD (Budget)

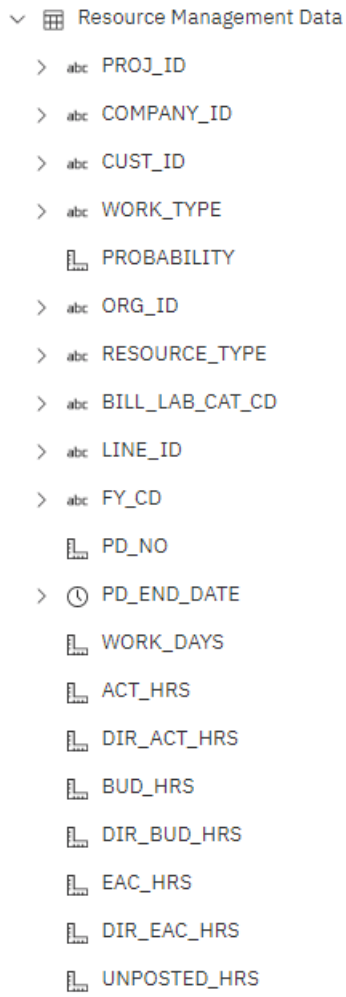
Purchase Order Transactional Data

- Purchase Order Data
  - Buyer ID
  - Buyer Name
  - Vendor ID
  - Vendor Name
  - PO Header Order Date
  - PO Header PO Total Amount
  - Purchase Order Type
  - Acknowledgment Date
  - PO Change Order Number
  - Purchase Order
  - PO Line Item ID
  - PO Line Item Key
  - PO Line Net Unit Cost Amount
  - PO Line Gross Unit Cost Amount
  - PO Line Discount Percentage Rate
  - PO Line Order Date
  - PO Line Approval Date
  - PO Line Accepted Quantity
  - PO Line Order Quantity
  - PO Line Total Amount
  - Purchase Order Release Number
  - PO Line Quality Cont...Operation Flag (Y/N)
  - PO Line Received Quantity
  - PO Line Rejected for Repair Quantity
  - PO Line Requisition ID
  - PO Line Business Size Code
  - PO Line Certificate ...nformance Flag (Y/N)
  - PO Line Source Inspection Flag (Y/N)
  - PO Line Desired Date
  - PO Line Requisition Line Key
  - PO Line Key
  - Account
  - Organization
  - Project
  - Company ID

Receipt Transactional Data Set

- Receipt Data
  - Purchase Order
  - Purchase Order Release Number
  - Item ID
  - Item Key
  - Item Revision ID
  - Vendor ID
  - QC Inspection Flag
  - Certificate of Conformance Flag (Y/N)
  - Accepted Quantity
  - Inspection Accepted Quantity
  - Received Quantity
  - Rejected Quantity
  - Receipt Line Rejected for Repair Quantity
  - Vouchered Quantity
  - Reason Code
  - Order/Payment Rejection Disposition Code
  - Rejected Disposition Code
  - Reason Where-Used Code
  - Source Inspection Flag
  - Company ID
  - Warehouse ID
  - Delivery Status
  - Rejection Status
  - PO Line Key
  - Receipt Key
  - Sub Line Key

Resource Management Transactional Data Set

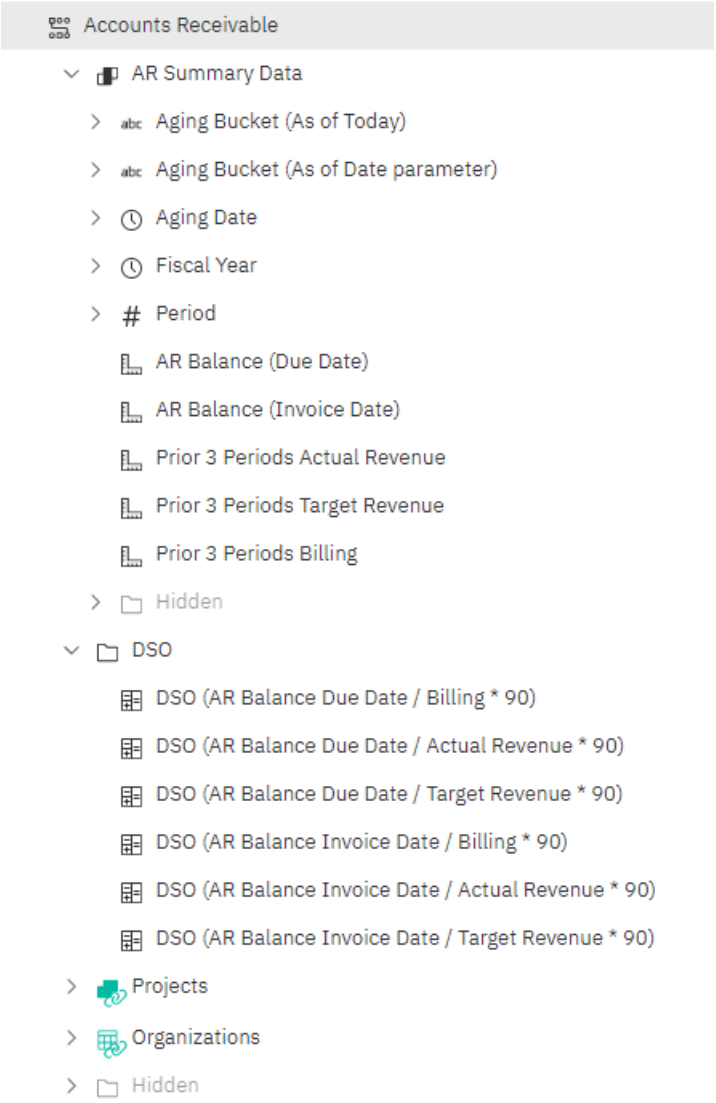


Appendix: Data Modules

This section includes images of the transactional data modules in Smart AI.

Accounts Receivable Data Module

The Accounts Receivable data module leverages the A/R Summary data set along with the Projects and Organizations data modules.



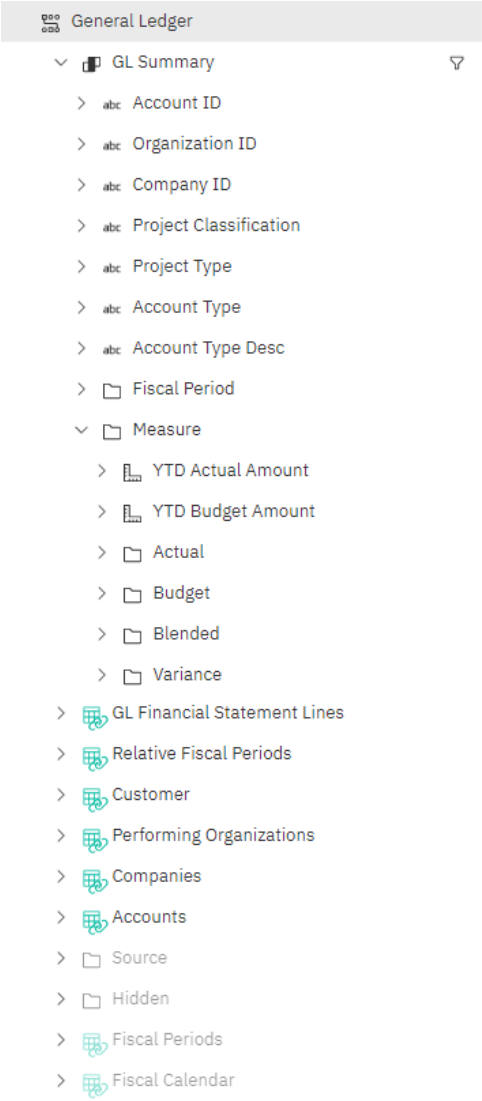
Note: The Accounts Receivable data module has summary data for analysis. Hence, you cannot view A/R data by invoice.

The features of the Accounts Receivable data module are:

- Supports the creation of aging buckets by using today's date or a date added to the parameter field. Go to the Costpoint BI Welcome screen and click **My Parameters** ( ) on the upper right-hand side to change the date.
- You can add A/R balances to the aging by due date or by invoice date.
- You can use prior 3 periods for revenue (actual or target) or billing to calculate DSO
- You can select 6 different Days Sales Outstanding (DSO) calculations based on Due Date vs. Invoice Date as well or using Actual Revenue, Target Revenue, or Billing as the denominator for the DSO calculation
- You can add analysis by Project Attributes and Organization
- Organization Security and Project Manager Security has been applied to the Accounts Receivable data module

General Ledger Data Module

The General Ledger data module allows for financial reporting G/L from the account/organization level.



Note: The General Ledger data module does not do down to the transaction level or project level.

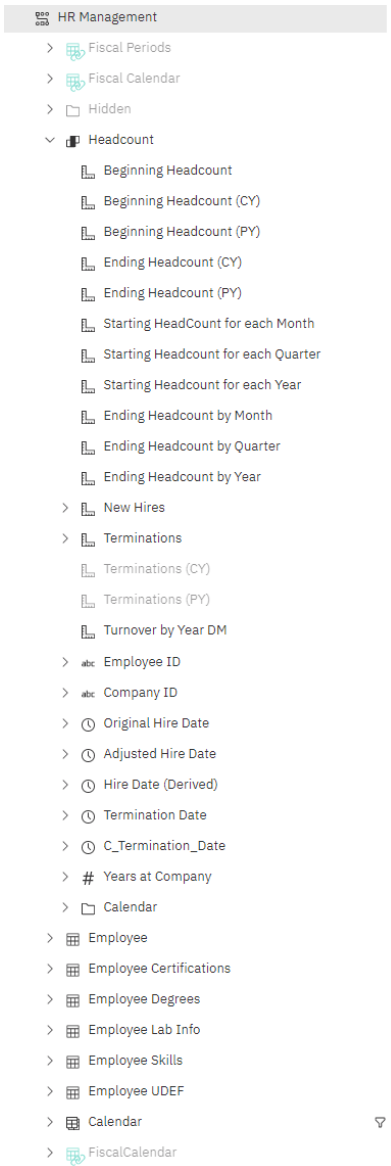
The General Ledger data module features are:

- Organization Security and Labor Suppression are enabled in the General Ledger module. The organization security is applied on the performing organization and labor suppression will hide the employee name versus the cost.

- Relative time is applied for easier comparison of reports on a year on year, quarter on quarter, and month on month basis.
- G/L budgets are available when they are entered in Costpoint for Budget to Actual comparisons.
- Project classifications of whether direct, indirect, Planning, and so on, are tracked to generate utilization data on the Executive dashboard.

HR Management Data Module

The HR Management data module allows HR professionals to analyze employee salary data, headcount, and turnover.

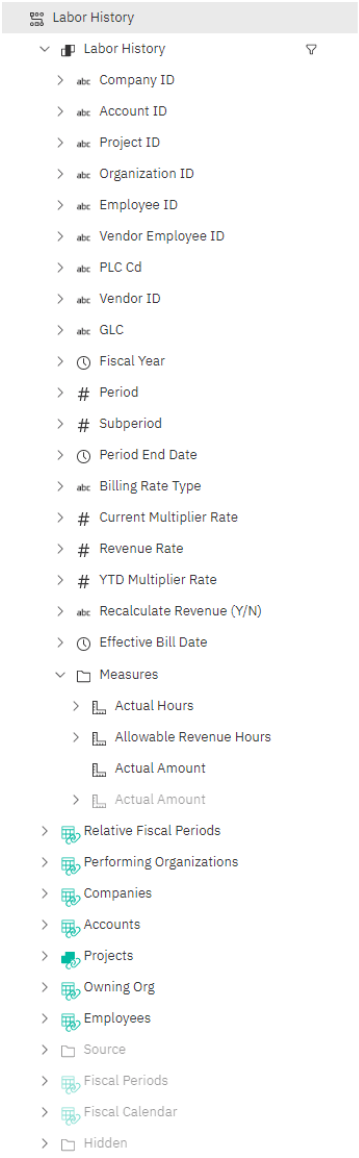


The features of the HR Management data module are:

- Supports the HR Management dashboard
- The headcount is calculated for past 3 years can be viewed by year, quarter, and/or month.
- New hires and terminations can be tracked by month from the past.
- Turnover is calculated by dividing the number of terminations by the average of the beginning and ending headcount.
- Labor suppression and Organization Security has been applied to the HR Management data module.
- Today's date is considered the current date for calendar.

Labor History Data Module

The Labor History data module is based on the Labor History table in Costpoint. Use it to analyze labor over time, hours, and cost by project, employee, and organization.



Note: The Labor History data module does not include data for Planning for Budgets and EACs.

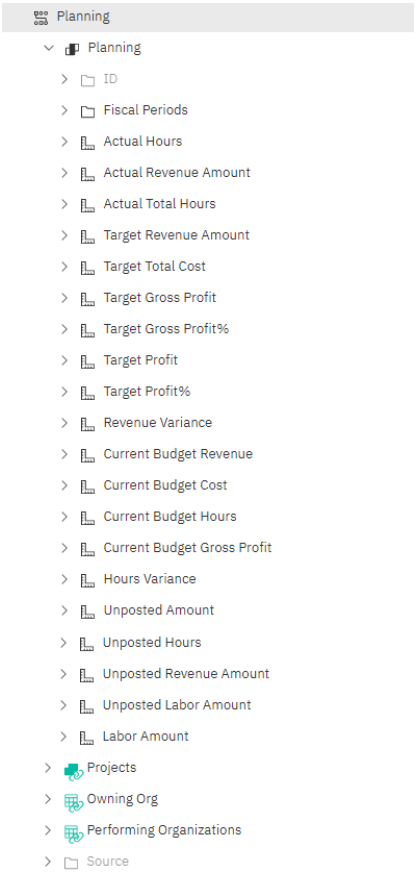
The features of the Labor History data module are:

- The Labor History data module uses Project Security, Organization Security, and Labor Suppression.
- You can slice and dice labor information

- Measures are Actual Hours, Allowable Revenue Hours, and Actual Amount

Planning Data Module

Use the Planning data module for comparison of Actuals, Current Budgets, or EAC from the Project Planning Module.

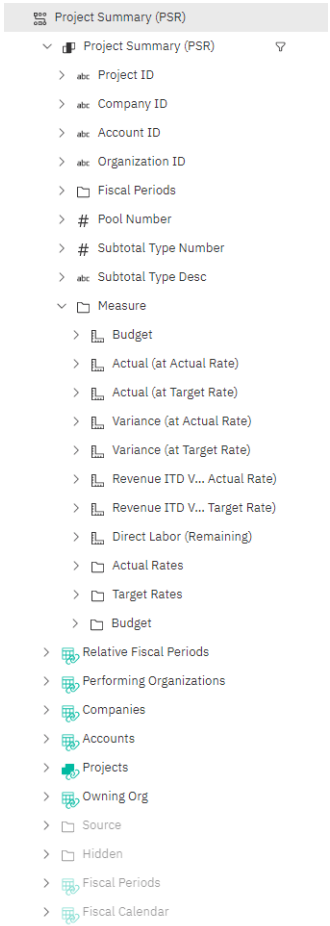


The features of the Planning data module are:

- All measures use the relative time dimension which is based on the Current Period setting on the Manage BI Settings (BIMCERSETTINGS) screen.
- The Planning data module includes Posted and Pending (unposted) Revenue, Cost, and Hours
- Data is aggregate, not by account or employee
- Calculates Gross Profit which is Revenue less Direct Costs (labor ODC)
- Budget is the version that has the "Current" setting so could be a budget or EAC
- Includes both existing and new business projects
- All periods are included to show ITD

Project Summary (PSR) Data Module

The PSR data module has summary level project information to analyze project performance.



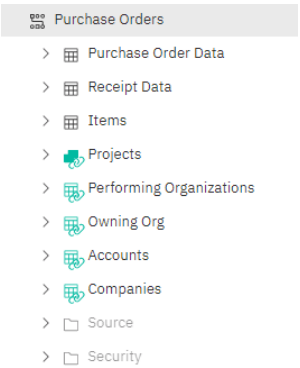
The features of the PSR data module are:

- Secured by Owning Organization and by Project Manager.
- Data by Performing Organization is available, but security is only applied to Owning Organization. For example, users who have access to an organization will see all data for projects including Performing Organizations that they do not have access to.
- Budgets are the project budgets entered into Costpoint and applied during the Update PSR Report Tables process.
- There are two ways to look at Measures:
  - One way is to use with Subtotal Types which breaks out Revenue, Direct Labor, Direct Expenses, Indirect Expenses, and so on, along with columns for Budget, Actual (Target or Actual Rate), and Variances. This is the standard reporting format for PSR.

- Another way is when you select specific measures under the Actual Rates, Target Rates, or Budget folders. In these folders, you can pick measures such as Revenue, Direct Labor, and Profit. When you expand each measure, you will see the relative time choices such Current Year, Current Quarter, and Same Quarter Last Year.

Purchase Order Data Module

The Purchase Order data module includes all data about PO's including receipts and Item data

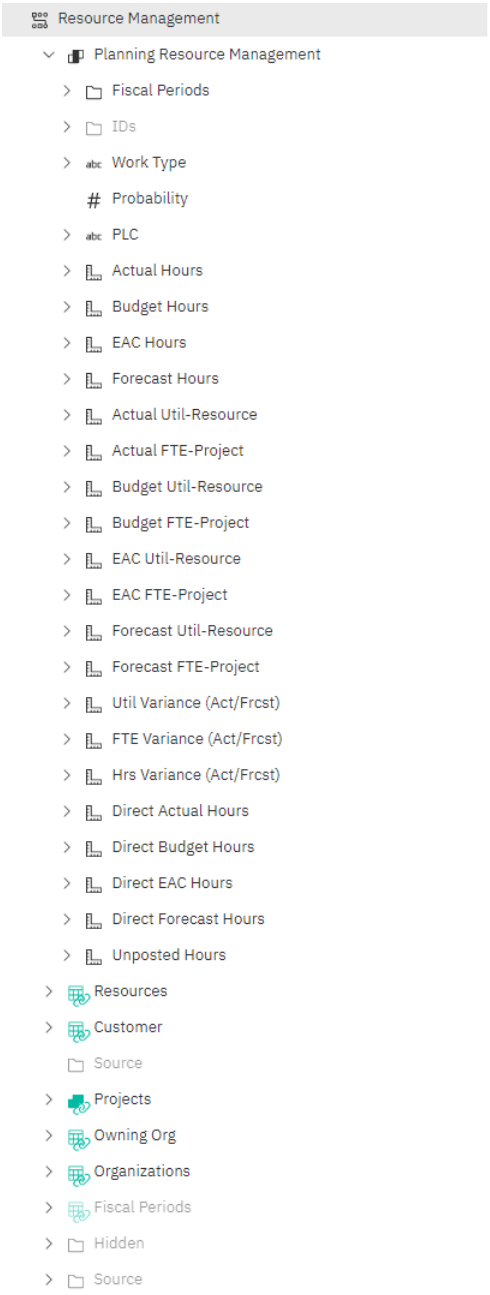


The features of the Purchase Order data module are:

- Organization Security is applied
- Metrics such as on time or late delivery are tracked in the Receipt data
- You can see data of items on the PO in the Items folder
- The PO data module is used for the Vendor Performance Dashboard

Resource Management Data Module

The Resource Management data module tracks Resource data both historical and planned to analyze and forecast utilization rates and Budget/EAC variances.



The features of the Resource Management data module are listed below.

- This data module is used for the Resource Management dashboard and Resource Planning tab on the HR Management Dashboard.

- The most current Budget and EAC data can be viewed.
- Planning Project Security is applied.
- Utilization is used with Organizations and calculates the percentage % based on direct hours to standard hours.
- FTEs are used with Projects so the number of Full Time Equivalents on a project have both historical and future figures.
- All measures can be expanded to use the Relative Time, which not only includes historical aggregations but future as well. You can view the next 3 periods as well as increments of 6, 12, 24, and 36 periods.
- New business and existing projects are included.
- All resource types such as employee and vendor are included.

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