Analytics

Table Of Contents

1 Analytics

The solution enables users to run reports, create what-if analyses, and view granular details. The built-in Analytics functions also enable you to create reports to suit further business needs.

Features

Analytics encompasses the following sections:

- Business Background
- Business Analytics
  - Design Reports
  - Design Data Sources
  - Design Key Figures
  - Design KPIs
- Business Analytics and Collaboration Task Types

5

2 Business Background

2.1 Overview of Analytics

Analytics is integrated in the solution to support and monitor business processes, helping you to make informed decisions.

Using the extensive and flexible business analytics features, you can easily create custom reports using the guided procedures and then control the visibility of those reports by assigning them only to specific work centers as well as individual business roles. If you have defined custom fields in your solution, you can also add them to data sources or reports, your own or those delivered with the solution. In addition, you can join or combine heterogeneous data sources, again your own or those delivered with the solution, as well as create custom calculated measures and comparison metrics.

Reports can be accessed from the *Reports* work center view of work centers and are also embedded into *Overview* work center views, enabling transparency of data in system. The Analytics data in the solution is real time. There is no persistency in a separate Business Warehouse layer. Analytics data in the solution is also access context sensitive. This means that data sources are associated with access contexts to ensure that data is directed to users who are allowed to view the data.

Before You Get Started

- Determine whether or not you want to be able to assign reports to business roles. This option provides you more flexibility than just work center assignment alone. You have to enable role assignment during the fine tuning step of completing the activity list for your implementation. Refer to the guide for more information.

- If you want to see real data rather than just test data when you're creating and reviewing your custom reports, you must enable that option on the activity for *Administrator Analytics — Setting*.

- Also during *Administrator Analytics — Setting*, we recommend that you **do not** select the *Extended Access* checkbox, as this can cause reports to include and display data even if a user is not authorized to see that information.

Creating a Report

The graphic below represents the general process for creating a report:

For a detailed description of all the features and tasks available for business analytics, see the see the Individual sections in this guide.,
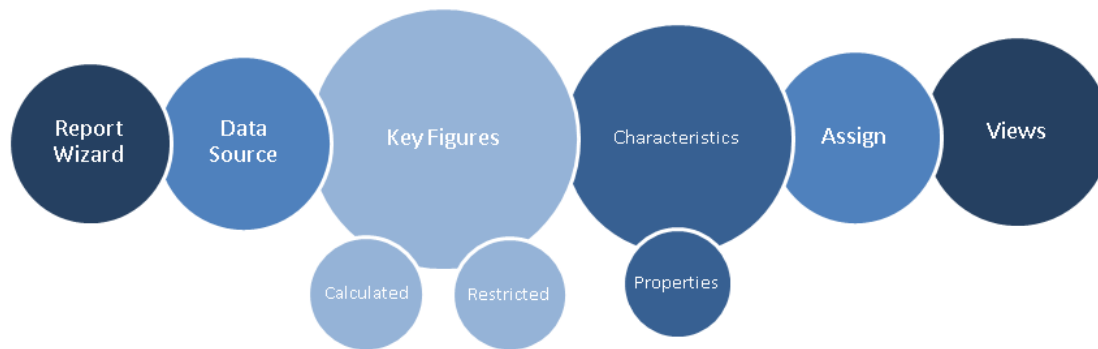
Creating a Report Using Business Analytics

Types of Objects in Analytics

Data Source

An object containing key figures and characteristics, which provides a multidimensional, analytical view of business data.

Data sources are associated with a specified access context or can be unrestricted.

7
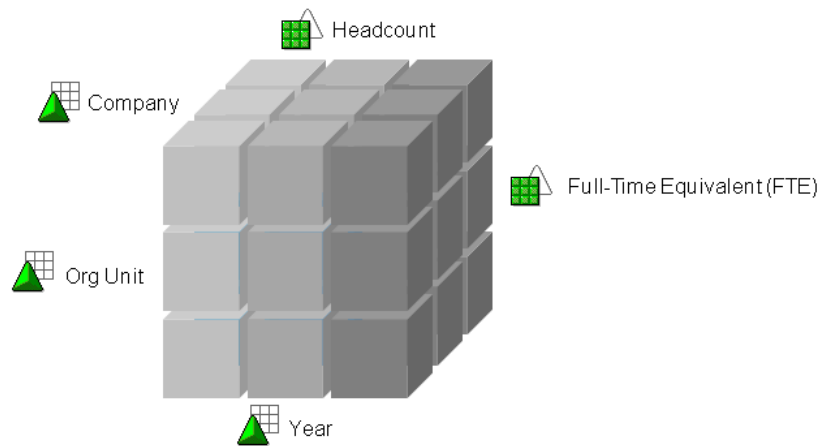
Example of a data source

When you start the report creation process with the Report Wizard the first step is to select a data source. The solution ships with several pre-defined data sources. You can create and edit your own data sources to suit your business requirements and processes and use your data sources for reporting. To create your data sources, you combine or join data sources to merge data into a new data source. You can also create a data source by importing external information, and this data source can be correlated with sales volume, or ticket processing.

Key Figure
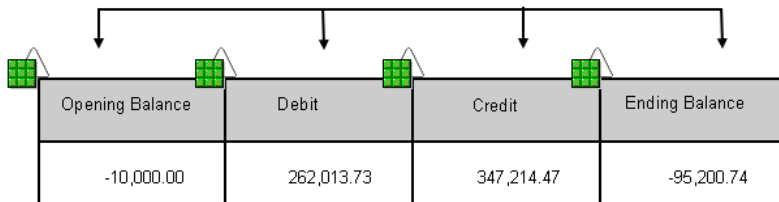
A field according to which values are selected. Key figures are data items with numeric values and have an associated unit of measure or currency assigned. Some examples are pipeline value, Invoice Net Value, Purchase Order Quantity or tickets in queue.

Key Figure Structure

A group of predefined key figures for reporting on one axis. Key figures in the structure can be calculated or restricted.

The access context of a key figure structure is that of the underlying data source.

Example of a key figure structure with data

You can refine the data appearing in key figures by setting up restricted or calculated key figures.

- A restricted key figure is a key figure restricted to a specified characteristic value, and is often created for comparison metrics.
- A calculated key figure is a key figure determined using calculation rules or formulas. You can create a calculated key figure from existing key figures in the selected data source.

Sales

- You choose an existing figure — revenue, and restrict to last year, in the US. When you run the report you can see total today compared to last year's US total revenue.
- You want to find the incremental revenue per day invested in a sales cycle, if the opportunity is worth 100K, and the sales cycle starts on 1 January and ends 20 February. You create a calculation to divide the total revenue (100K) by the fifty-one days in the time period.

Service

Suppose you have created your own set of user statuses (for example, pending engineering review) The key figure, counter, shows how many tickets are in this status

- Start from the existing key figure, counter. Restrict the new key figure to the status "pending engineering review". This restricted key figure can be used in your report that only shows the key figure, which can then be used as a dashboard tile.
- You want to know new or in process percentage pending engineering review. You create a new key figure, and calculate the percentage.

Key Figure Grid

A group consisting of a key figure structure and a characteristic structure for reporting on two axes.

The access context of a key figure grid is that of the underlying data source.

Headcount and FTE: Yearly

	2008		2007	
2 Year Comparison	Headcount	FTE	Headcount	FTE
Headcount and FTE				
	6	5.20	8	6.85

Example of a key figure grid with data

Characteristic

A field according to which values are selected. Characteristics are alphanumeric, numeric, or text values. Examples include Product ID, Supplier, and Purchase Order Status. Variables are often associated with specified characteristics. Variables restrict characteristics to one or more specified value selections.

Characteristic Structure

A group of predefined characteristic elements in a key figure grid. Characteristic elements are characteristics that can be calculated or restricted.

The access context of a characteristic structure is that of the underlying data source.

4 Year Comparison

Current Year	1 Year Ago	2 Years Ago	3 Years Ago
2008	2007	2006	2005
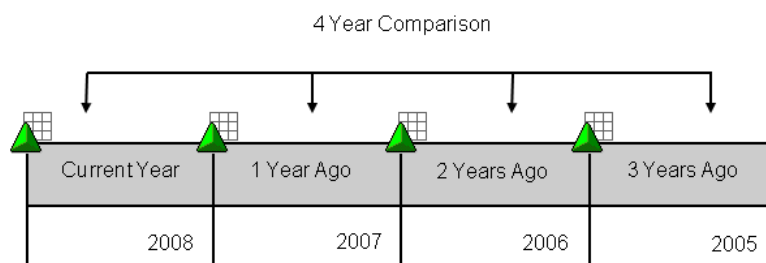
Example of a characteristic structure with data

You select characteristics for restricted key figures, for example: account, opportunity, country, or industry. You set properties to define additional behavior for a specific characteristic.

- **Display Settings**: Defines how the characteristic appears and is used in the report.
- **Value Selections**: Add restrictions to the characteristic values that appears in the report.
- **Hierarchy Settings**: Define how any hierarchical data associated with the characteristic is used in the report. For example, display the Customer characteristic by location.

Report

A compilation of data for analysis. Reports show values derived from key figures and characteristics in data sources, key figure structures, and key figure grids.

Example of a report

Report Assignment

You assign reports to specific work centers and roles in order to make them available for users.

- **Work Centers**: You assign a report to a work center when you create or edit a report. A report must be assigned to a work center to be available to users.
- **Roles**: If you have enabled the assignment of reports to roles in the fine tuning activity: *Administrator Analytics — Settings*, then you can also assign reports to roles. This restricts, by role, which users can view the report on the assigned work center.

Views

Views enable you to set up one or more variations on which key figures and characteristics appear in the report, and the type of chart that appears for the report. Once you assign a report to a work center, you can select the view which appears in the end user reports list. You create a view by choosing key figures and characteristics for columns and rows in a table, then selecting a chart type to best represent that data. When you create a view you can also define conditions and exceptions for key figures that alter how your data is presented based on rules and thresholds.

- **Conditions**: Create a condition to limit the data shown to that which fits the defined rules.
- **Exceptions**: Set a threshold beyond which the data display is altered to display an alert indicator.

2.2 Overview of Reports in SAP Business ByDesign

Overview

This document provides an overview of the reports available in SAP Business ByDesign.

The following documents list the reports and other information for the relevant areas.

- Overview of Reports in Supplier Relationship Management
- Overview of Reports in Supply Chain Management
- Overview of Reports in Executive Management Support
- Overview of Reports in Project Management
- Overview of Reports in Human Resources Management
- Overview of Reports in Financial Management
- Overview of Reports in Customer Relationship Management
- Overview of Reports in Application and User Management
- Overview of Reports in General Business Data

2.3 Reports View

Overview

SAP Business ByDesign delivers predefined content for reports that are defined in your scope. Reports can also be defined by administrators for business users. The *Reports* view is a central access point to reports associated with a work center.

The following report types are available.

- Browser-Based Reports
  Consists of a compilation of data for evaluation where analysis and drill-down is supported. You can open browser-based reports either in a Web browser or in Microsoft Excel®.

- Microsoft Excel®-Based Reports
  Using Microsoft Office Excel®, you can view and edit reports in spreadsheets.

  > **i** To view and work with Microsoft Excel®-based reports, ensure that the SAP add-in for Microsoft Excel® is installed.
  > The add-in is available from the Download Center. In the *Self-Services Overview* work center view of the *Home* work center, under *My Computer*, click *Install Additional Software from Download Center*.

- Formatted Reports
  Formatted reports have an optimized layout to facilitate printing and presentation. You can open reports using Crystal Reports Viewer. For more information about the Crystal Reports Viewer, see the help documentation. You can access the help documentation by clicking *Help* from the Crystal Reports Viewer menu.

> **i** To view formatted reports, ensure that the Crystal Reports Viewer is installed.
> The Crystal Reports Viewer is available from the *Self-Services Overview* work center view of the *Home* work center. Under *My Computer*, click *Install Additional Software*. On the following screen, click the download link.

- Mobile Reports
  Mobile reports are browser-based reports that are enabled for mobile devices.
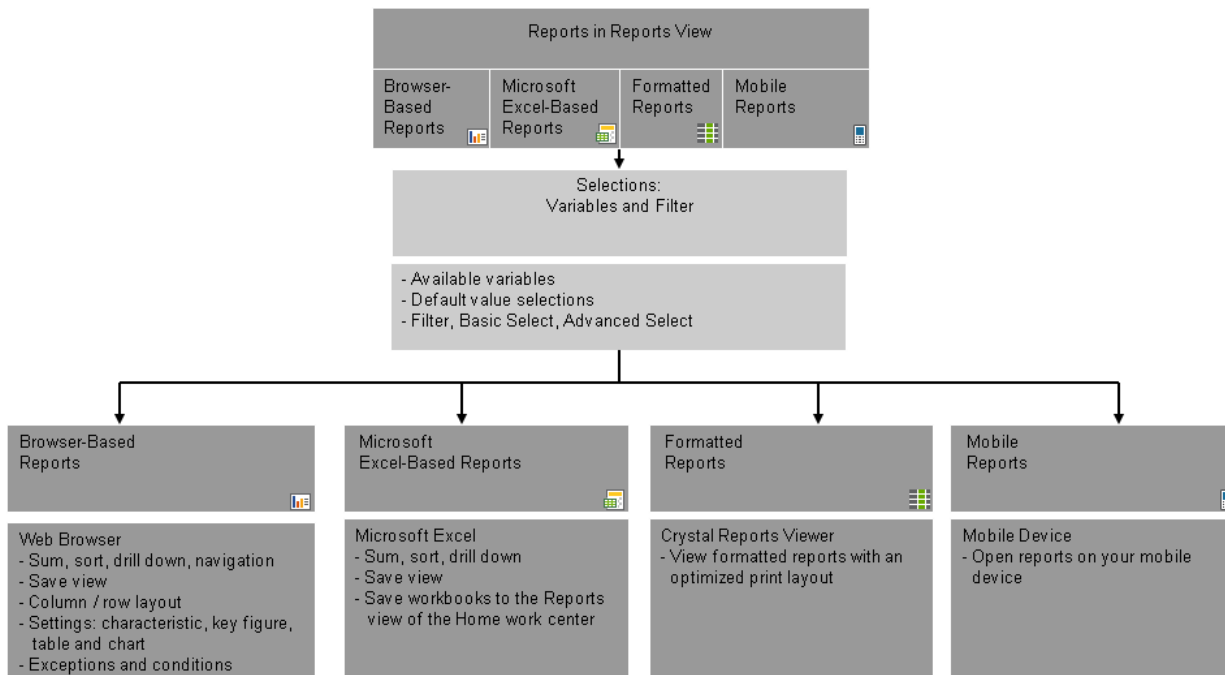
Overview

Features

Opening Reports

The report names are displayed as links. To open the report, click the relevant link . By clicking `View With`, you can open a report either in a Web browser or in Microsoft Excel®.

You can also open reports from the *Gallery* work center view in which you can browse reports.

Organizing Reports

By default, all reports associated with the work center are displayed and the *Advanced* find feature is closed.

From the *Show* dropdown list, you can choose whether to display reports by the following criteria:

- By Report Category
- My Priority Reports
  To include or remove a report from your priority list, select the report row, click `Priority`, and choose *Mark as Priority* or *Remove from Priority*.
- All Reports
- All Reports - Quick List
  Displays a list of reports, providing only the names and descriptions of reports.

By default, the system displays reports grouped by report category.

For the *Home* work center, the following additional criteria are available:

- My Microsoft Excel® Workbooks
  Shows workbooks that you save to the SAP Business ByDesign system. To create or delete a workbook from the *Home* work center, click `Excel Workbook ▮`, and then choose the relevant option.
- By Work Center
- Mobile Reports

Details

In the *Details* section below the reports list, you can find additional information about the selected report. There are three tab pages in the *Details* area of the *Reports* view.

- Report Views
  A report view is a modified view of the data available with a report. The *Report Views* tab page displays all existing views associated with a report. These are divided into three categories: views created by you; views created by a key user; views delivered by SAP Business ByDesign; views created by SAP Business ByDesign partners. and Report views are displayed as links and can be opened directly from this tab page by clicking the corresponding link.
- Report Details
  Displays general information about a report, including creation and change data. Under *Report Categories*, all of the report categories to which a report is assigned are listed, for example, Supply Chain – Physical Inventory.
- Report Assignment
  Displays the work center views and subviews with which the selected report is associated. Note that the list can also include views and subviews from work centers other than the work center in which the report is currently displayed. Note that in the *Home*, *Managing My Area*, and *Business Configuration* work centers, reports may be assigned although they are not displayed in the *Reports* view.

2.4 Working with Reports in a Web Browser

2.4.1 Working with Reports in a Web Browser

Overview

Working with reports in a Web browser allows you to execute ad hoc analyses. You can open reports from the reports list in the *Reports* view and from embedded reports.

The following two options are available to work with reports in a Web browser:

- Web Browser
  The *Web Browser* option provides standard functionality for working with reports.
  For more information, see Viewing Reports with the Web Browser Option.
- Web Browser — Quick Filter
  The *Web Browser — Quick Filter* option is an alternative display that is intended to allow you to quickly analyze report data by filtering characteristics.
  The *Web Browser — Quick Filter* option offers fewer functions compared to the standard option. For example, you cannot define the layout of the report data or add fields.
  For more information, see Viewing Reports with Web Browser — Quick Filter.

To preview data sources, administrators use a limited range of available functions. For more information, see Design Data Sources Quick Guide [page 63].

2.4.2 Working with Selections

Overview

When you open a report in a Web browser, the data displayed in the report is restricted to the value selections set using variables in the *Selection* area above the report and any saved filter values.

Selection

A selection consists of the set of variables available for the report and any defined value selections. The selection you define determines the data to be displayed in the report. The value selections you make using variables for the selection also determine the characteristic value selections that can be further restricted using the filter function.

Note that you must specify a value for all mandatory variables. In the system, mandatory variables are indicated by an asterisk (*).

The *Access Context* variable is mandatory for all reports. This variable is defaulted to the access context to which the you are assigned. The system fills the variable with the access context available for the report. In this case, only one access context is assigned, and therefore the variable is not displayed.

If the report supports multiple access contexts, you must specify which access context is to be used to select data.

> ℹ️ For reports opened with Microsoft Excel®, the system also fills the variable with the initially saved access context.

> For example, you open the *Project Cost – Overview* report in two work centers and have saved the *Access Context* variable with different value selections in both work centers: in the first work center, you saved the access context as *Company*; in the second work center, you saved the access context as *Project*. The system proposes one of the two access contexts.

Filter

The value selections you make using variables for the selection also determine the characteristic value selections that can be further restricted using the filter function.

Note that you can filter data for all characteristics available with the report regardless of whether they are shown in the report.

> ℹ️ If you change the values selections set in the selection and start the report again by clicking Go , the system resets any filter value selections you have made. Changes you make to the value selections for variables in the selection affect the value selections available to be filtered for characteristic.

> For example, for the *Product* variable in the selection, you select the following values: 10, 20, 30, 40, 50. These are the values available to be filtered with the *Product* characteristic after you start the report.
>
> You change the value selections set for the *Product* variable in the selection and make all values available. After clicking Go , you can now filter the *Product* characteristic to any available value selection.

Note that if you save a selection, the filter value selections you set are also saved.

General Functions

Making Value Selections

If you want to display the descriptions of values that you have selected, in the *Selection* area, click Show Text .

If you want to enter values manually, the system supports manual entry of only the ID of variable or characteristic values. For example, you know that you want to restrict the *Supplier* variable to `500001` (You cannot enter `Miller and Son`). You therefore enter `500001` in the *Supplier* variable field.

You can delete value selections by clicking the *X* icon. The delete function is always active.

Value Selection Help

By opening the value selection for a variable or for a characteristic, you can select single values, exclude values, set an interval, or a set of values, depending on how the content has been defined, or if you have set filter values.

You can also copy multiple values from an external source (such as, excel, notepad, word) and paste it in any of the fields in the Selection tab. Ensure that the copied content already exist in your reports for the pasting parameter. For example, for the *Account* selection, you can only copy valid Account IDs.

The following options are available depending on the variable or characteristic selected:

- Basic Select
  Allows you to restrict a specified characteristic to available values. Note that you can select multiple values by clicking the value and pressing CTRL .

- Advanced Select
  - You can to restrict a specified characteristic using relational operators, such as greater than and less than.
  - *Add More*
    You can enter a value or use the value selection to select a value.
  - *Relative Select*
    Allows you to restrict a specified characteristic to a relative variable selection. Relative selections are based on basic characteristics, such as Date, Week, Month, Fiscal Period, and Company. When you start the report, the system fills the cells in the report with the corresponding values. The following table provides examples of relative selections.

Variable	Relative Selection	Description
Posting Date	Today	Shows today's date.
Invoice Creation Date	Last 7 Days	Shows a time range of the last 7 days, including today.
Fiscal Month	Current Fiscal Period	Shows the current month.
Company	Multiple Default Companies	Derives multiple default companies based on the user's position.

Saving Selections

If you often restrict data in a report to specific value selections, you can save the selection. The selection is then available for reuse. Note that any set filter values selections are also saved. Saved selections are only available to the user who saved the selection.

You can save selections by clicking Selections ▮, and then choosing *Save As*.

1. Make value selections for the relevant variables and filters.
2. Click *Save As*.

3. Enter a name for the selection.

The selection is then available from the *Selection* dropdown list.

The selection is also available for embedded reports.

Managing Selections

You can a selection as default, rename, or delete a selections.

You can manage selections by clicking `Selections ▌`, and then choosing *Manage*.

Note that you cannot rename or delete the *Initial* selection.

See Also

2.4.3 Characteristic Settings

Overview

When you work with reports, you can make a range of characteristic settings, such as how characteristics are displayed.

Characteristic settings are available from *Settings*.

General Settings

On the `General` tab page, you can make settings that are applicable to characteristics displayed in the report.

Displaying Characteristics and Hierarchies

If hierarchies are enabled for the characteristic, you can decide how the hierarchy is displayed along with up to which level the hierarchy is displayed. Only when hierarchies are enabled for the characteristic is the dropdown list for the *Display Hierarchy* column enabled and is set by default to *Do Not Show*.

➡ For characteristics to be displayed in hierarchies, the hierarchy should be displayed in rows.

Under *Display As* and *Display Hierarchy*, you can specify whether and in which format the individual characteristic values of the characteristic are displayed. You can display characteristics and hierarchies as name, ID, or a combination thereof.

By choosing *Do Not Show* under *Display As*, the characteristic is hidden. This function is useful, for example, with currency characteristics, since the currencies are also displayed in the key figures. You select this option if you want to show attributes or sort by the characteristic but do not want it to be displayed.

Expansion Level

Choose the hierarchy level up to which the hierarchy is to be displayed when it is expanded. 3 is default.

Result Row

Using the values from the dropdown list, you can decide how the result is to be displayed:

- Show
A result row is displayed, starting at the characteristic following the selected characteristic.
- Do Not Show
No result row is displayed at the corresponding characteristic in the row.
- Show If More Than One Value
Results rows are displayed when there are at least two single values, and any results row that only aggregates one value is suppressed.

Attribute Shown

Under *Attribute Shown*, you can add additional rows and columns to the report.

> For the Company characteristic, you can display the Manager attribute. In the content area of the report, the system adds the Manager row, showing the corresponding manager of the respective company.

Sorting

The primary sorting sequence is set by the drilldown displayed in the report. The drilldown sets the order of the characteristics displayed in the report.

> **i** Key figure sorting overrules any settings for characteristic sorting.

On the Sorting tab page, you can sort characteristics displayed in rows and columns according to the description or ID in ascending or descending order.

If a characteristic has attributes, you can also sort the characteristic by attribute. The attribute specified does not have to be selected for display. Only if you set an attribute for a characteristic, and want to sort by the attribute, is sorting by attribute taken as sorting.

> You want to sort by the Cost Center characteristic using the Manager attribute. By default, the system sorts the Company characteristic by the ID of the manager.

Note that you can make any sorting under *Sort By* , independent of the display settings you set on the General tab page.

2.4.4 Key Figure Settings

Overview

When you work with reports, you can make a range of key figure settings, such as how key figures are sorted. Key figure settings are available from *Settings*.

General Settings

On the General tab page, you can make settings that are applicable to key figures displayed in the report.

Sorting

You can sort values in the report by a specified key figure in either ascending or descending order. From the *Sort By* dropdown list, choose the key figure. From the *Sort Order* dropdown list, choose either Ascending or Descending.

Sign

Use this function to specify how to display negative values that appear in your results. The following options are available:

- Minus Sign Before Value
- Minus Sign After Value
- Value in Parentheses

Display Currency - Conversion Date: Today

You can display the currency in your results in a different currency. The default conversion date is the current date (Today). The most recent conversation rate is used.

> **i** The display currency you set using this key figure setting overrides the display currency set using the *Display Currency* variable.

Zero Suppression

You can suppress columns or rows that contain zeros in your report. By default, zeros are displayed. The following options are available:

- Do Not Suppress
  Rows or columns with zeros are displayed.
- Suppress When All Values Equal Zero
  For key figures, columns or rows containing zero values are not displayed.
- Suppress When All Results Equal Zero
  Result rows or result columns containing zero values are not displayed.
- By default, the *Apply Suppression to Key Figure Group* indicator is selected.

Show Zeros

The following options are available for displaying zeros:

- With Currency/Unit
  Zeros are displayed with their respective currency or unit (for example, 0.00 EUR). This is the default setting.
- Custom String
  When you select *Custom String*, an additional input field appears, in which you can enter how you want zeros to be displayed
- Without Currency/Unit
  Zeros are displayed without a currency or unit entry, that is, 0.00.
- Do Not Show
  Cells containing a zero value are empty.

Specific Settings

On the ⟨Specific⟩ tab page, you can make settings that are applicable to all key figures available for the report.

Scale

Use the dropdown list to set a scaling factor of 1 to ten billion (10,000,000,000). As a result, the scaling factor is displayed in the column header for the key figure in the report.

> If you set a scaling factor of 1,000, the value 3,000 is shown in the report as 3.

Decimal Places

You use this dropdown list to specify the number of decimal places to be displayed, from 0 to 9.

Reverse Sign

By selecting the *Reverse Sign* indicator for a specified key figure, the value in the report is displayed accordingly.

> In some areas (for example, financial management), you may want to select whether the sign for a key figure should be reversed. For example, you have a report based on receipts and expenditure. According to accountancy logic, income is displayed with a negative sign and expenses are shown with positive sign. Adding these values produces the profit. Under certain circumstances, for example if income is to be displayed from a managerial point of view, it may be advisable to circumvent accountancy logic and display the report income with a positive sign.

2.4.5 Table Settings

Overview

When you work with reports in a Web browser, you can make a range of table settings, such as how result rows are displayed.

To make settings, from Settings ▮, choose the *Table* option.

Table Display

Freeze Header Columns

You can freeze the headers of columns so that the headers are still displayed while scrolling.

Table Design

Value	Description
Standard	A different background color is assigned to columns, rows, and results: • Columns are white • Rows are grey • Results are yellow
Alternating	Columns are displays in white and blue alternative rows.

Grid Lines

Value	Description
Both	Horizontal and vertical lines are displayed.
Horizontal	Horizontal lines are displayed.
None	The table has no grid lines.
Vertical	Vertical lines are displayed.

Show Result Row As

Value	Description
First Row	The values in a row are aggregated and displayed as the first entry for each row. If a row only has one entry, no result row is displayed.
Last Row	The values in a row are aggregated and displayed as the last entry for each row. If a row only has one entry, no result row is displayed.

Show Result Column As

Value	Description
First Column	The column values are aggregated for a row and are displayed in the first column.
Last Column	The column values are aggregated for a row and are displayed in the last column.

Content Display

Display Repeated Texts

You can specify whether every instance of a characteristic value is displayed in a row or column. By default, the setting is deactivated.

Hierarchy Display

Arrange As Hierarchy

The system arranges characteristics in rows and in columns as a hierarchy. The row or column further left serves as the tree structure into which characteristics to the right are inserted.

Hierarchy Design

Value	Description
Standard	Characteristics are arranged in a hierarchy; any characteristic attributes are arranged in rows or columns.
Cascading	Characteristics are arranged in a hierarchy; any characteristic attributes are arranged individual columns or rows.

Note that how characteristic attributes are displayed in the hierarchy depends on sorting sequence as specified by the characteristic settings. The sorting sequence is characteristic and then attribute.

Note that to display characteristic attributes in the hierarchy in either the standard or cascading design, characteristic attributes are to be added to the report as attributes. To add characteristic attributes, click

Settings ▮, then choose *Characteristics*. If you add characteristic attributes using Add Fields , characteristic attributes are added to the report as fields, that is, as characteristics.

Hierarchy Initial Expansion Level

> The hierarchy level up to which the hierarchy is to be displayed when it is expanded.

Invert Hierarchy

> The system inverts the hierarchy so that the hierarchy is displayed from bottom to top or from right to left. You can decide to invert a hierarchy in rows, columns, or both.

Data Display

Limit Data

> By default, the records of data displayed are limited to the value in the specified field. You can change this value. Note that this setting is only valid for reports displayed as a table.

See Also

Working with Reports in a Web Browser   [page 14]

Working with Reports and Plans in Microsoft Excel®   [page 36]

2.4.6 Chart Settings

Overview

When you work with reports in a Web browser, you can make a range of chart settings, such as providing a legend for the chart.

To make settings, from Settings ▮, choose the *Chart* option.

> 1 Not all reports are suitable to be displayed as a chart. For example, if the report to be displayed as a chart contains large amounts of data with multiple key figures and characteristics, you may want to restrict the number of characteristics and key figures in the report so that the display of data in the chart is comprehensible.

Chart Types

The examples in the chart type descriptions are based on the following set of hypothetical data.

Product Category	Net Sales 2002	Invoiced Quantity 2002	Sales/Quantity 2002
PC Software	1081271.23	820857004	0.001317247
Office Supplies	838037.56	153849431	0.005447128
PC Hardware	1023172.92	534755366	0.001913348
Product Category	Net Sales 2003	Invoiced Quantity 2003	Sales/Quantity 2003
PC Software	1076779.96	819754991	0.001313539
Office Supplies	1093672.49	201754225	0.005420816
PC Hardware	82022.07	475236004	0.000172592

Example of data in a report

Area

Shows trends of values over categories. The area between the axes and the values are filled in an area chart.

The data as shown in table format is displayed in an area chart as follows:

- The X axis shows values in rows.
- The Y axis shows values in columns.

> You want to visualize a trend in your net sales value for 2002.
> The X axis shows product categories.
> The Y axis shows net sales.
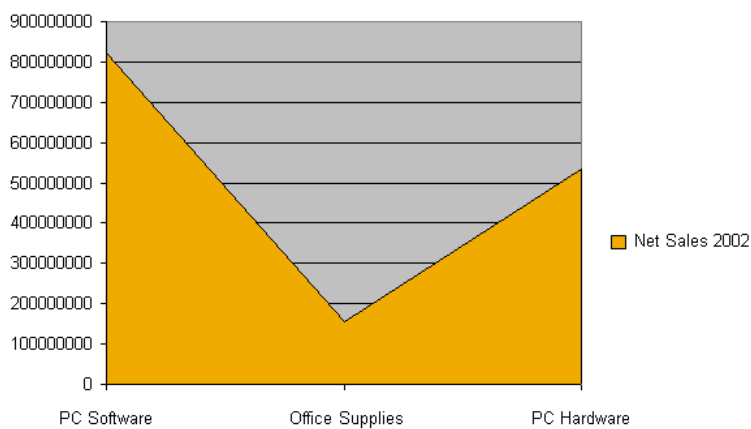
Example of an area chart

Bar

Shows comparisons between individual elements shown in a bar chart. Categories are arranged vertically and values are arranged horizontally. The emphasis is on the comparison of values and not on displaying a change during a period of time.

The data as shown in table format is displayed in a bar chart as follows:

- The X axis shows the values in columns.
- The Y axis shows the values in rows.

23

You want to visualize the difference in net sales value between 2002 and 2003 for each product category.

The X axis shows net sales for 2002 and 2003.

The Y axis shows product categories.
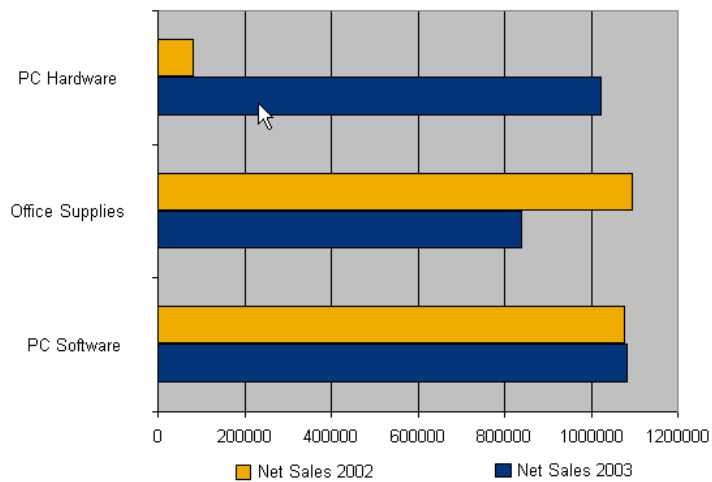
Example of a bar chart

Stacked Bar

Shows comparisons between individual elements in a category. Categories are arranged vertically and values are arranged horizontally. The emphasis is on the comparison of values in a category.

You want to visualize the net sales value for 2002 and for 2003 for each product category.

The X axis shows net sales for 2002 and 2003.

The Y axis shows product categories.
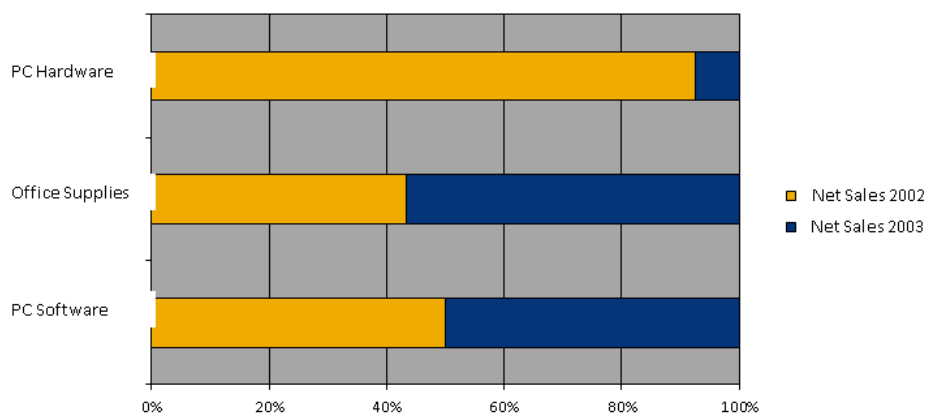
Example of a stacked bar chart

100 Percent Stacked Bar

Shows comparisons between individual elements in a category as a percentage. Categories are arranged vertically and values are arranged horizontally. The emphasis is on the comparison of values in a category as a percentage of the whole.

You want to visualize the net sales value for 2002 and for 2003 as a percentage of the total net sales for the two years for each product category.

The X axis shows net sales for 2002 and 2003.

The Y axis shows product categories.
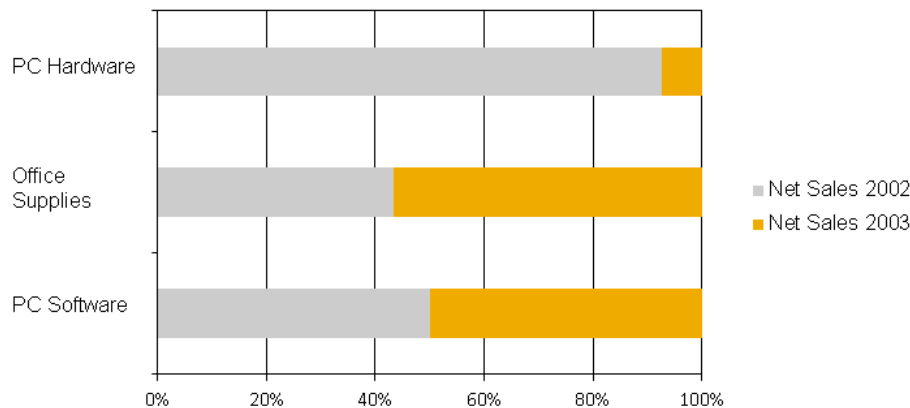
Example of a 100 percent stacked bar chart

Column

Shows comparisons between individual elements. Categories are arranged horizontally and values are arranged vertically. The emphasis is on comparing a change in value during a period of time for individual elements.

The data as shown in table format is displayed in a column chart as follows:

- The X axis shows the values in rows.
- The Y axis shows the values in columns.

You want to visualize the difference in net sales value between 2002 and 2003 for each product category.

The X axis shows product categories.

The Y axis shows net sales for 2002 and 2003.
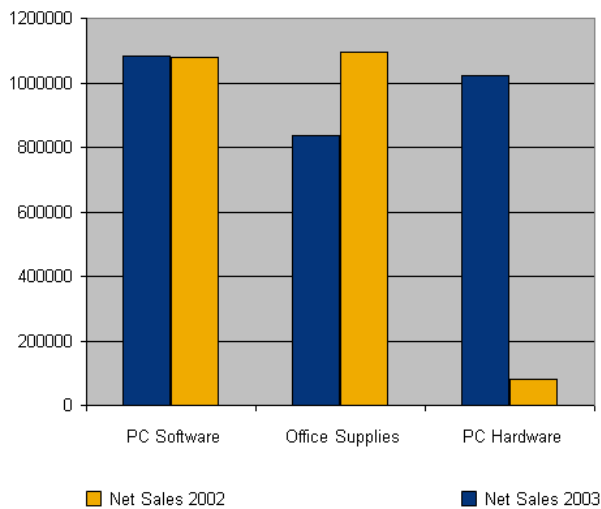
Example of a column chart

Stacked Column

Shows comparisons between individual elements in a category. Categories are arranged horizontally and values are arranged vertically. The emphasis is on the comparison of values in a category.

> You want to visualize the difference in net sales value between 2002 and 2003 for each product category.
>
> The X axis shows product categories.
>
> The Y axis shows net sales for 2002 and 2003.
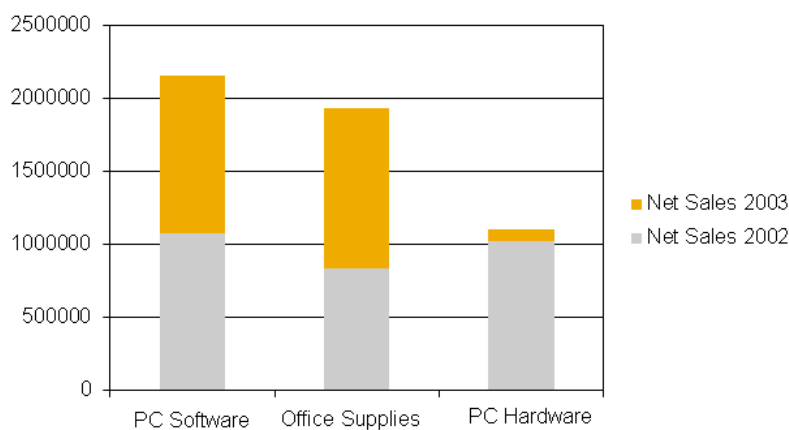
Example of a stacked column chart

100 Percent Stacked Column

Shows comparisons between individual elements in a category as a percentage. Categories are arranged horizontally and values are arranged vertically. The emphasis is on the comparison of values in a category as a percentage of the whole.

You want to visualize the difference in net sales value between 2002 and 2003 for each product category.

The X axis shows product categories.

The Y axis shows net sales for 2002 and 2003.
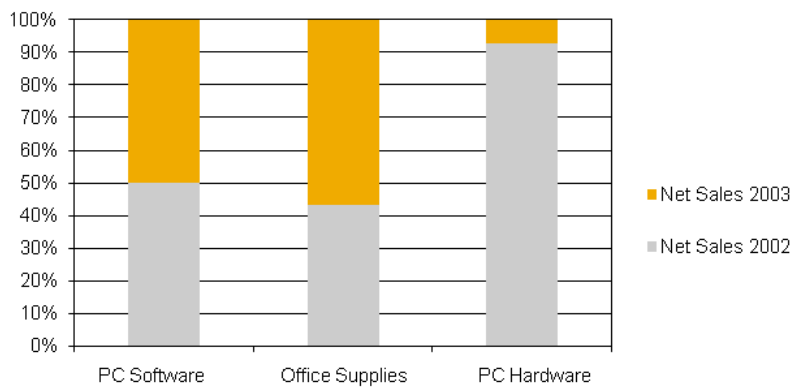
Example of a 100 percent stacked column chart

Line

Shows trends in your data over time. The data is entered at regular intervals. Points in lines represent the intersection of the X and Y axes.

The data as shown in table format is displayed in a line chart as follows:

- The X axis shows the values in rows.
- The Y axis shows the values in columns.

You want to visualize the trend in invoiced quantity for your product categories.

The X axis shows product categories.

The Y axis shows invoiced quantities for 2002 and 2003.
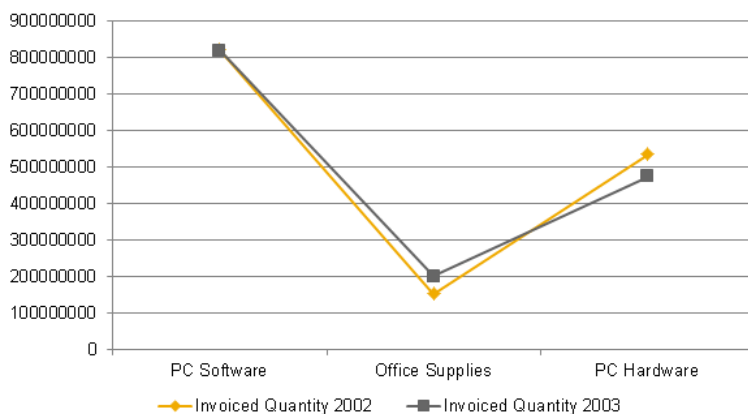
Example of a line chart

Pie

Shows values as pie segments. If the table contains more than one column, the additional columns are ignored when the table is converted into a chart. If the first column does not contain any values, the system does not convert the table into a chart.

The data as shown in table format is displayed in a line pie as follows:

- Segments represent values in rows.
- The size of the segments represent the values in columns as a percent.

> You want to visualize the percent of total net sales value for each product category in 2002.

Net Sales 2002

■ PC Software
■ PC Hardware
■ Office Supplies
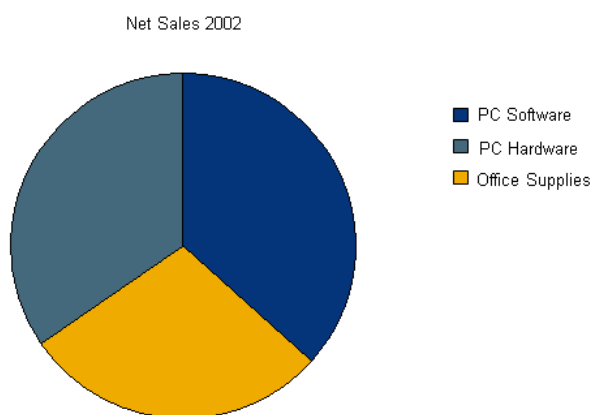
Example of a pie chart

Scatter

Shows relationships between values as displayed in several columns. Scatter charts are suitable for large sets of data.

The data as shown in table format is displayed in a scatter chart as follows:

- The X axis shows the values in columns.
- The Y axis shows the values in columns.

> You want to visualize the relationship between net sales value and invoiced quantity.
>
> The X axis shows net sales.
>
> The Y axis shows invoiced quantities.
>
> Points in lines represent the intersection of the X and Y axes for product categories.
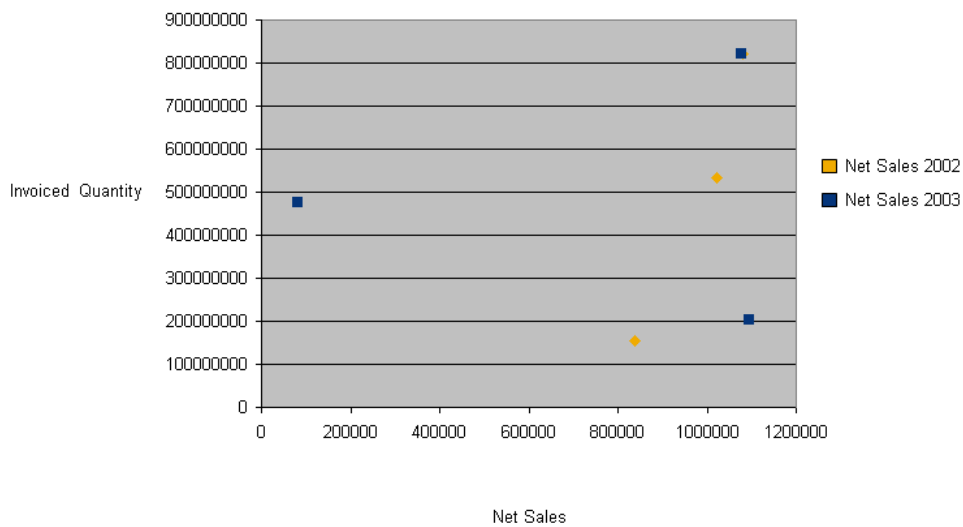
Example of a scatter chart

Other Settings

By default, all of the following indicators are not set.

Legend

You can show the legend as well as determine where in the content area the legend is to be displayed.

Axis

You can provide labels for the X and Y axes as well as descriptions. Note that descriptions are displayed as tool tips.

Values

- Show Results and Overall Results If Displayed in Table
  You use this indicator to specify whether the results and overall results are to be displayed. By default, these results are suppressed since the display of the chart may otherwise be adversely affected.
- Show Hierarchies If Displayed in Table
  You use this indicator to specify whether hierarchy nodes are to be displayed.

See Also

Working with Reports in a Web Browser   [page 14]

Working with Reports and Plans in Microsoft Excel®   [page 36]

2.4.7 Add a Field to a Report

Overview

When working with reports in a Web browser, business users can add characteristic attributes to and remove them from reports by clicking Add Fields . On the following screen, fields are group by specified criteria. For example, characteristics are grouped by dimensions.

Note that you cannot select all fields as characteristic or variable to add to or to remove from a report. Fields that you cannot select indicate that they are part of the report as it is defined, either as delivered content or as defined by administrators. Note that you also cannot override or extend any additions made by administrators. For example, business users cannot remove a characteristic that has been added by the administrator, nor can business users add a characteristic attribute to a variable that has been added by the administrator.

Note that hierarchies can only be added if available with the characteristic.

When you add and remove fields, the system modifies the current report. The characteristic attributes are then available from the *Not Currently Shown* list. You can then add the new fields to rows and columns and save the personalized report view.

Adding Date Fields

For characteristics that are based on calendar date, you can add fields to aggregate by quarter, month, and so on. This feature is available for characteristics based on calendar date, fiscal year, fiscal period, accounting period/year, and so on.

Examples of using such date fields are as follows:

- Aggregate by quarter, if your fiscal year equals calendar year.
- From the table settings, if you arrange the characteristics in a hierarchy, you can drilldown in the hierarchy from quarter to month to date.

Note that non-cumulated key figures, such as opening balance, ending balance, or inventory stock quantity, should not be aggregated using such date fields since this leads to unexpected total results.

> **Example**
>
> You are working with the *Invoice Volume* report. Invoice date is available as a field, but you want to view the data by quarter. You click Add Fields . Under the *Customer Invoice* dimension, you expand the *Invoice Date* characteristic, and add *Quarter*.

Adding Fields Versus Characteristic Settings

Note that by clicking Settings ▮ and then choosing *Characteristics*, attributes of characteristics are only shown in the report; they are not added as fields. This means that you cannot filter the characteristic by characteristic attribute values. You can only filter data in the report by characteristic attribute values if you add the characteristic attribute as a field to the report.

Adding Fields As an Administrator

When administrators start a report from the *Design Reports* work center view and click Add Fields , they see more fields related to the data source which serves as the basis for the report than business users. This includes more characteristics, characteristic attributes, and key figures.

> **i** Note that by adding fields to delivered reports and to your own reports you can thereby eliminate the need to copy a delivered report or edit your own report. The system automatically adds the field to the report; you do not have to save the report as a report view.

On the Key Figures tab page of the *Add Fields* screen, you can also add and remove key figures from reports, including your own restricted and calculated key figures. You can also create and edit your own key figures from the screen by clicking the corresponding button. For more information, see Create and Edit a Key Figure [page 70]. You can add any newly created key figures to the report.

The key figures that you have added are available from the *Select Key figures* dialog box of *Key Figures*.

By clicking Check , the system checks whether calculated and restricted key figures, for which the *Display in Report* checkbox is selected, are consistent. For example, the system checks if an extension field used as a basis for a calculated or restricted key figure has been deleted.

Extension Fields

You can also add extension fields as characteristics and key figures. The extension field must be added to the corresponding data source before it can be available using Add Fields . For more information, see Add an Extension Field to a Data Source or Report [page 119].

Adding Fields Versus the Report Wizard

When you create a report using the Report Wizard, specified characteristics and key figures are always available with the report as you defined; business users cannot add or remove them using Add Fields . Note that by using Add Fields you are not changing the actual report as you defined it; any added fields are not visible when editing a report. For more information, see Working with Reports Using the Report Wizard [page 50].

2.4.8 Analytical Navigation

Overview

To analyze data further, the navigation functions for Analytics in the solution enable you navigate from a source to a target. You can navigate from one report to another or view documents related to a value in a cell, either in rows or columns, by clicking the value and then choosing an entry from the dropdown list.

> **i** Analytical navigation is only available for browser-based reports.

The following graphic illustrates navigating in a report.

Example of navigation

The following types of analytical navigation are available.

- Report-to-report navigation
  The ability to navigate from one report to another. From the cell of the source report, a selection for the target report is determined. You can use report-to-report navigation to further analyze the details of a specific key figure value. For example, you can navigate from the overview report to the line item report by clicking the corresponding key figure value.

- Report-to-document navigation
  The ability to navigate to master data and to overview documents from a report. You can also navigate to documents that you can edit.

- Embedded report to document
  The ability to navigate from an embedded report to a report to or an overview document.

Context for Analytical Navigation in Source

When you navigate from a source to a target, such as from one report to another, the system checks what targets are available for the specified cell along with the context of the source.

The context of the source includes information, such as:

- Row, that is, the characteristics to the left of the specified cell.

- Column, that is, the characteristics above the specified cell.

- Any filter values set in the source

- Any value selections for variables

- The report ID

- The access context of the report

- The report view ID, if the source is based on a report view.

- The selection ID, if the source uses a set a value selections for variables.

Purchase Order Status	Purchase Order ID	Purchase Order Item	Supplier	Net Price
Sent	4685	1	MC4000	81.00 USD
	4686	1	MC20100	120.00 USD
		2	MC20100	0.00
	4688	1	MC17100	65.99 USD
	4689	1	MC17100	43.80 USD
	4697	1	MC7000	55.00 USD
	4730	1	MC20100	120.00 USD
		2	MC20100	0.00

Purchase Orders per Product
Purchase Orders per Supplier
Purchase Orders per Contract
Purchase Orders per Account Assignment

Supplier	Purchase Order ID	Purchase Order Item	Ordered Quantity (Base UoM)	Ordered Net Value/Limit in Company Currency
MC4000	4685	1	10.00 ea	810.00 USD
	4696	1	10.00 ea	100,000.00 USD
	4729	1	10.00 ea	100,000.00 USD
	4875	2	1.00 h	20.00 USD
		3	0.00	31.00 USD
		4	1.00 ea	41.00 USD
		5	1.00 ea	10.00 USD
		6	0.00	30.00 USD

Example of report-to-report navigation

The context of the specified cell determines the targets to which you can navigate. Therefore, depending on which cell you click, you have different targets available.

For example, the targets in a *Results* row may be different than the targets for individual values in the column since targets are also based on rows. The result value may be a different row than the individual values. Likewise, a cell in the same row may have different targets because the system also checks the column of the specified cell.

The targets available also depend on the access rights granted to the user. The reports for which users have no access right are not displayed in the context menu.

The following explanatory graphic shows the targets for two different cells; note that you can only check the targets for one cell at a time.

Profit Center	G/L Account (Origin)	Project	Plan Cost	Actual Cost
MC61500	450230 ⌐	MCN-0001 ⌐		19.40 USD
		Project Cost Estimate	Project Cost Estimate	19.40 USD
	40	Project Costs - Line Items	Project Costs - Line Items	25.80 USD
				25.80 USD
	51	Sales Documents - Line Items	Sales Documents - Line Items	50.00 USD
		Result	Project Profitability by Project Structure	50.00 USD
	518000	COC59	Project Costs and Revenues	5.45 USD
		Result		5.45 USD

Examples of targets

See Also

Working with Reports in a Web Browser [page 14]

2.4.9 Conditions

Overview

When you work with reports, you can create conditions to restrict the results area of a report in accordance with certain criteria. For example, you can create a condition so that you only see products that have net sales above a certain threshold value. You can also create a condition to display the five lowest selling products. In other words, you can use conditions to restrict the results area of a report so that you only see a part of the result area for which you are interested.

You create, edit, and delete conditions using the *Manage Conditions* dialog box. You can find the *Manage Conditions* dialog box by clicking *Key Figure*.

When you activate conditions for a report, you are not changing any values; you are just hiding the values that are not relevant for you. Conditions therefore have no effect on the values displayed in result rows. The result rows of a report with an active condition are the same as the result rows of a report without this condition.

You can define multiple conditions for a report.

> **i** Any conditions you define are only available with the report or report view in which you created the condition.

Simple Conditions

When you create a simple condition, you set thresholds for a specified key figure related to a characteristic using relational operators.

> You want to see all products for which invoiced net value is greater than 100 EUR. You set a condition on the Product characteristic for the Invoiced Net Value key figure. As an operator, you select Greater than, and enter 100 as the From Value. Result: The system returns a list of products for which invoiced net value is greater than 100 EUR and hides other values.

Ranked Conditions

The system compares all values for a specified key figure related to a characteristic that you set. All values that adhere to the rules that you define are displayed in a ranked list.

You use the following operators to define rules for ranked conditions:

- Bottom count / Top count
  The ranked list is arranged according to a specified number.

  > Top 5 Customers by Net Sales
  > The system displays a ranked list of the 5 customers having the highest net sales.

- Bottom percent / Top percent
  The ranked list is arranged according to a specified percent.

  > Top 25% of Customers by Net Sales
  > The system displays a ranked list of the highest net sales by customer until 25 percent of the total net sales is reached.

- Bottom sum / Top sum
  The ranked list is arranged according to a particular results value.

  > Customers - Top Total 20,000 EUR of Net Sales
  > The system displays a ranked list of customers, sorted by net sales in descending order, until an aggregated net sales total greater than or equal to 20,000 EUR is reached.
  > The result can be greater than 20,000 EUR if the system has to add another customer to the ranked list to reach the threshold value but whose net sales then makes the aggregated net sales result greater than 20,000 EUR.

2.4.10 Exceptions

Overview

When you work with reports, you can create exceptions for key figures. An exception is a deviation from defined threshold values. You create exceptions by setting threshold values or intervals, for which you set an alert. Using exceptions, the system emphasizes key figure values that deviate from or adhere to threshold values or intervals. Key figure values that deviate from or adhere to the threshold are indicated using symbols or are highlighted in color. This enables you to identify immediately all relevant values.

You create, edit, and delete exceptions using the *Manage Exceptions* dialog box. You can find the *Manage Exceptions* dialog box by clicking *Key Figure*.

When you activate exceptions for a report, the system applies the exception to the data in the report.

You can define multiple exceptions for a report.

> **i** Any exceptions you define are only available with the report or report view in which you created the exception.

Defining Exceptions

To define an exception, you select a key figure, decide how the exception is to be displayed and how it is to be applied.

Key Figure

From the dropdown list, you select the key figure for which you want to define an exception.

Alert Indicator

The following options are available for displaying exceptions in the report:

- Arrow
  The alert level is represented as an arrow with five varying degrees of slant, corresponding to different levels of priority.
- Background Color
  The alert level is represented by the value highlighted in various shades of green, yellow, and red. For each color, there are three shades, corresponding to different levels of priority.
- Traffic Light
  The alert level is represented as a traffic light.

Apply To

The following options are available for applying exceptions to values that deviate from thresholds:

- Data and Result
  The exception is applied to key figure values and result rows.
- Data
  The exception is applied to key figure values but not result rows.
- Result
  The exception is only applied to result rows.

Defining Thresholds

You can restrict a specified key figure using relational operators, such as greater than and less than.

> You want to emphasize all products for which invoiced net value is greater than 100 EUR, which is a good value. You create an exception for the Invoiced Net Value key figure. As an operator, you select Greater than, and enter 100 as the From Value with an alert level as green. You have defined the alert indicator as background color. Result: The system highlights in green all values in the Invoiced Net Value column that are greater than 100 EUR.

2.5 Working with Reports and Plans in Microsoft Excel®

Overview

The SAP add-in for Microsoft Excel enables you to execute ad hoc analyses, create workbooks, create plan data, and define sales targets.

- **Microsoft Excel-Based Reporting**
  You can open reports from the workbooks and reports list in a *Reports* work center view by clicking
  ⬚ View With ◼ and choosing the *Microsoft Excel* option. You can also open reports directly in Microsoft Excel by logging on the SAP system.
  Administrators can create design workbooks and make them available for business users from the *Business Analytics* work center.

- **Microsoft Excel-Based Planning**
  To overcome the limitations of the conventional approach of planning in spreadsheets, business planning consists of features to enable planners to efficiently obtain and work with planning data in business environments.

Analytic Features

> **i** To view and work with Microsoft Excel-based reports and plans, ensure that the add-in for Microsoft Excel is installed.
>
> Depending on your authorization, you can download the add-in from the following locations:
> - By clicking *Download* in the top right corner of the solution.
> - From the *Self-Services Overview* work center view of the *Home* work center under *Install Additional Software*.
> - From the *Download Center* work center view of the *Application and User Management* work center.

The analytic features in the add-in tab enables you to save workbooks to the solution system. You can also use available Microsoft Excel functions. Depending on your access rights, different workbooks and reports are available. Saved workbooks are then available from different work center views. Note that the functions available to you depend on your access rights and work center and work center view assignments; the reports you work with in a Web browser are also available using the add-in for Microsoft Excel.

Administrators

Administrators can create and edit public workbooks as follows:

1. Open the public or personal workbook.
2. Switch to design mode by clicking Design Workbook.
   If you want to view the workbook with generated test data, refresh the workbook.
3. Make any relevant changes and save.
4. Assign the workbook to the relevant work center views to make it public.
   Note that if the workbook has already been assigned and is public, you do not need to assign the workbook again.

Workbook Group

The workbook group provides functions to open and save workbooks and reports. You can also copy, remove, and protect reports and worksheets.

- Open
  Downloads and opens a workbook from the solution system.
- Save
  Saves the workbook back to the solution system as a public workbook. You have the following options to save workbooks to the solution system.
- Save All
  The following options are available
  - Save All
  - Save Workbook
  - Save Plan Data
  - Save Workbook As New
- Switch Workbook Type
  The follow table provides an overview of the workbooks available.

Workbook Type	Description
Personal workbook	A workbook that is adapted to the individual business needs of a user. A personal workbook is only available to the user who creates it. Any change to a personal workbook is saved back to the solution system.
Public workbook	A workbook that can be consumed by all users who have the corresponding work center views assigned. Public workbooks are read-only and can be adapted with personalized views and selections to the business needs of the user. Note that before a created workbook can be made public, administrators must first save the workbook as a design workbook.
Design workbook	A workbook that only includes the layout without data and is only available from the *Business Analytics* work center. Since administrators in general are not allowed to view business data, the data is deleted whenever you store a design workbook. As soon as a design workbook is assigned to a work center view, business users can use it as a public workbook with real data.

- Insert Report
  Inserts a report into the worksheet starting in the active cell.

  > **i** By selecting the *Paging* checkbox, the system displays the first 50 rows of the report including the column headers. Paging down shows the next 50 lines. This is useful if you want to start a report that has large amounts of data.
  > By limiting the number of rows displayed, the system can display the report more quickly. You can still filter or make value selections in order to display the data you want. Note that if you filter or make value selections, the system displays the first page with the specified number of rows.

- Copy Report
  Copies the report and any report views and variable values in order to paste it in a different location.
- Paste Report
  Pastes the report and any report views and variable values that was last cut or copied into the active cell.
- Remove Report
  Removes the report and any report views and variable values in order to paste it in a different location.

- Protect
  Uses the Microsoft Excel function to protect the worksheet to prevent changes to all cells containing data from the solution system.

Refresh Group

Refreshes the data in the report. You can also defer refreshing the report.

- Refresh
  Refreshes the data in the report.
  - Refresh Current Report
    Refreshes the data in the report that is currently selected.
  - Refresh Worksheet When Activated
    If this feature is active for a workbook, any reports on a sheet in the workbook are automatically refreshed when the sheet is activated.
  - Refresh Report
    You can select a report to refresh from the list.
  - Refresh All
- Defer Refresh
  Defers refreshing the report until you refresh it manually. This function is useful, for example, if you make multiple changes to a report, such as to the layout or you add another key figure or column.
- Paging
  You can enter the number of rows you want to display. For example, rows 10 to 40. If you click the down arrow, the system displays the next page with 30 rows, including the column headers.

View Group

Displays the report views that are available with a report. You can change the current report view.

In the view pane, you can save changes as a new report view. The view pane also enables you to select the characteristics and key figures that are shown in the report.

- Displaying Characteristics and Hierarchies
  For characteristics and hierarchies, you can specify in which format the individual characteristic values of the characteristic are displayed. You can display characteristics and hierarchies as name, ID, or a combination thereof.
- Sorting
  You can also specify how characteristic values are sorted. You can sort characteristics displayed in rows and columns according to the description or ID in ascending or descending order.
- Results Row
  Using the values from the dropdown list, you can decide how the result is to be displayed. You can decide if results are to be displayed or if results are to be displayed when there are at least two single values.

You can also activate and deactivate conditions that are either delivered with a report or that have been defined for the report or report view in a Web browser. For more information, see Conditions [page 33].

Selection Group

You can display the set of value selections for variables that are available with a report. You can change the current set of value selections. In the *Selection* pane, you can save changes as a new set of value selections for variables.

You can also set filter values by selecting values in the report and clicking the Filter icon in the *Selection* group. To remove the filter, click the corresponding icon.

> If you have multiple reports in a workbook and want to apply the same set of value selections, you can use values from dedicated cells.
>
> For example, you have multiple reports that all contain customers. You want to filter the data in the reports to show data related to customer 1001.
>
> On sheet 2, in cell D14, you enter `1001`. In the *Selection* pane of the report, in the Customer variable entry field, you enter `=Sheet2!D14`. After refreshing the report, data is filtered to customers 1001. Alternatively, using Microsoft Excel® functionality, you can define a name for the referenced cell, such as Customer, and enter the name instead of the address of the referenced cell in the Customer variable entry field; in this case, you enter `=Customer`.
>
> Note that this tip does not work for advanced restrictions, such as excluding a value or using intervals.
>
> Also note that data in the workbook is not automatically refreshed if you change the entry in the referenced cell.

Header Group

Enables you to insert a report header.

You can specify if the report name is to be displayed along with technical information about the report. The header can be inserted either as a range of cells above the report or as a text box.

Report Group

Enables you to make further display settings.

- Navigate
  Enables you to navigate to another report or to an overview document.
- Insert Chart
  Enables you to insert a chart using Microsoft Excel functions. For information about Microsoft Excel chart types and functions, see Microsoft Excel documentation.
- Switch Display Mode of Current Report
  - Grid Display
    Displays the report using the solution cell styles in the Microsoft Excel grid.
  - PivotTable Display
    Enables you to display the report as a PivotTable using Microsoft Excel functions. For information about Microsoft Excel PivotTable functions, see Microsoft Excel documentation.
  - Excel Table Display
    Enables you to display the report as a Microsoft Excel table. Note that if you select this display mode, the Microsoft Excel *Design* tab is displayed.
    This display mode is useful, for example, if you want to filter or to sort data using Microsoft Excel functions. For information, see Microsoft Excel documentation.
- Settings
  - Freeze Panes
    Uses the Microsoft Excel freeze pane function to fix the header columns and rows.
  - Format Report
    Formats the report using the default SAP Business solution cell styles as listed under the Microsoft Excel Home tab.
  - Adjust to Complete Column
    Adjusts the width of columns to the width of the longest value in each column.
  - Adjust to Report Result

Adjusts the column width to the width of the longest value in the column.

- ○ Use Outline for Hierarchies
  Uses the Microsoft Excel outline function to group characteristic hierarchies by expansion level.

- ○ Expand Rows to Level
  You can choose the hierarchy level up to which the hierarchy is to be displayed when it is expanded.

- ○ Merge Repeated Cells
  You can specify whether every instance of a characteristic value is displayed in a row or column.

- ○ Show Results First
  You can specify how results are to be displayed. You can decide if they are to be displayed above rows or to the left of columns.

- ○ Arrange As Hierarchy
  The system arranges characteristics in rows and in columns as a hierarchy. The row or column further left serves as the tree structure into which characteristics to the right are inserted.

- ○ Invert Hierarchies
  The system inverts the hierarchy so that the hierarchy is displayed from bottom to top or from right to left. You can decide to invert a hierarchy in rows and in columns.

- ○ Suppress Zero Values
  You can suppress columns or rows that contain zeros in your report.

- Show / Hide
  - ○ View
  - ○ Variables
  - ○ Planning
  - ○ Header
  - ○ Messages
    You can specify if all messages or only errors are displayed. You can also decide if messages are displayed on user request.
  - ○ Dynamic Paging
    You can retrieve report data in chunks rather than all at once. To do this, go to ▶ Show/Hide ◼▶ *Dynamic Paging* ◢. The system opens a dialog box. Select the *Dynamic Paging* checkbox and in the *Page Size* field, enter the desired number of data that you want to run at one go.
    .

Assigning Workbooks

Administrators can assign workbooks to work center views, make them available to business users.

For more information, access the *Help Center* from the relevant screen.

Planning Features

The planning features of the add-in tab enables you to create and edit plan data. Cells that are enabled for input have a white background and become yellow when you change their value. Cell that are gray are read-only.

Refresh Group

- Refresh
  Refreshes the data in the plan.
  Depending on the planning application you are using, when you make entries in cells, the changes you make are sent either synchronously or asynchronously.

○ Upload Input (Asynchronous Sending including save)
When you click *Upload Input*, the changes you make to the plan data are transferred to the system asynchronously, values are calculated, and the data is saved. You may need to wait before you can make further changes to the plan.
While the system is calculating and saving, the related data in the cells is locked and is read only. Although you can still change values in the sheet, you cannot upload the new values.
The only option is to refresh the data. If the system has completed the upload when you refresh, the system reads the data again and overwrites all values. In this case, cells are available again for entries. If the calculation is still in progress, a message about the progress of the upload is displayed.
Note that if you want all read-only cells to be protected against changes, click *Protect* in the *Workbook* group.

> **Tips and Tricks When Uploading Input**
> * When you create a plan, reduce the amount of data to the relevant characteristic value combinations, for example, account and cost center, that are required from a business perspective.
> * Before changing plan values, restrict the amount of data as much as possible by using selection criteria for characteristic values in the *Selection* pane.
> * If when changing plan values, the system takes a long time to transfer the data, consider changing less data at one time. For example, you want to change the plan data in 500 cells; change the data of the first 250 cells, upload, and then change the next 250 cells.
> * If not needed from business perspective, avoid changing rows containing the Not Assigned characteristic value. If the value is required, upload rows containing this value separately from the rest of the data.
> * If not needed from business perspective, avoid entering data on different aggregation levels, such as subtotals and totals in *Result* rows.

○ Send Input (Synchronous Sending excluding Save)
The changes you make to the plan data are sent to the system synchronously. You can continue to make changes to the plan as soon as the system has finished calculating and is ready for data entry again. Click *Save Plan Data* to save the data in the system.

○ Refresh Current Report
Refreshes the data in the report that is currently selected.

○ Refresh Worksheet When Activated
If this feature is active for a workbook, reports on a sheet in the workbook are automatically refreshed when the sheet is activated.

○ Refresh Report
You can select a report to refresh from the list.

○ Refresh All

* Defer Refresh
Defers refreshing the report until you refresh it manually. This function is useful, for example, if you make multiple changes to a report, such as to the layout or you add another key figure or column.

* Paging
You can enter the number of rows you want to display. For example, rows 10 to 40. If you click the down arrow, the system displays the next page with 30 rows, including the column headers.

Planning Group

Enables you to plan at different levels and adjust values accordingly.

- Mark Selected
  Marks cells that you select to be sent back to the system. By marking selected cells, you set the value for the cell. The value therefore does not change when you redistribute values by clicking *Refresh*.
- Unmark All
  Unmarks all selected cells.

The following example illustrates how values for sales and target planning can be distributed. Note that the characteristics available for financial planning may differ.

> You want to project revenue for your products and create a plan that contains the characteristics "Product" and "Customer". Each product is sold to several different customers but you only want to see how much money you received for each product. You therefore choose a view that displays the aggregated revenue for your products. Any changes that you make to the product revenue on this aggregated view are distributed down to the individual customers for the relevant product.

The following figures are used to illustrate how the data is distributed.
- The estimated revenue for your Product 1 is USD 1000, for Product 2 USD 2000, and for Product 3 USD 3000. In the system, this information is distributed down to the customer level:

Aggregated view on product level

Sales and Target Planning			
Product	Revenue		
Product 1	1000 USD		
Product 2	2000 USD		
Product 3	3000 USD		
Result	6000 USD		

Distributed down to customer level

Sales and Target Planning			
Product	Customer	Revenue	
Product 1	Customer 1	200 USD	
	Customer 2	200 USD	
	Customer 3	600 USD	
	Result	1000 USD	
Product 2	Customer 1	600 USD	
	Customer 2	600 USD	
	Customer 3	800 USD	
	Result	2000 USD	
Product 3	Customer 1	1000 USD	
	Customer 2	1000 USD	
	Customer 3	1000 USD	
	Result	3000 USD	
Result		6000 USD	

- You then change the value for Product 1 from USD 1000 to USD 3000. The system recalculates the result and again distributes all the values down to customer level in the same proportions:

Aggregated view on product level

Sales and Target Planning

Product	Revenue
Product 1	3000 USD
Product 2	2000 USD
Product 3	3000 USD
Result	8000 USD

Distributed down to customer level

Sales and Target Planning

Product	Customer	Revenue
Product 1	Customer 1	600 USD
	Customer 2	600 USD
	Customer 3	1800 USD
	Result	3000 USD
Product 2	Customer 1	600 USD
	Customer 2	600 USD
	Customer 3	800 USD
	Result	2000 USD
Product 3	Customer 1	1000 USD
	Customer 2	1000 USD
	Customer 3	1000 USD
	Result	3000 USD
Result		8000 USD

- You then double the total revenue. The system distributes this over the three products in the same proportions as at the beginning and also distributes this information down to customer level:

Aggregated view on product level

Sales and Target Planning

Product	Revenue
Product 1	6000 USD
Product 2	4000 USD
Product 3	6000 USD
Result	16,000 USD

Distributed down to customer level

Sales and Target Planning

Product	Customer	Revenue
Product 1	Customer 1	1200 USD
	Customer 2	1200 USD
	Customer 3	3600 USD
	Result	6000 USD
Product 2	Customer 1	1200 USD
	Customer 2	1200 USD
	Customer 3	1600 USD
	Result	4000 USD
Product 3	Customer 1	2000 USD
	Customer 2	2000 USD
	Customer 3	2000 USD
	Result	6000 USD
Result		16,000 USD

i Note that if you have a value for equal distribution on more than one level of a hierarchy, it may not appear to be distributed equally. The system distributes the value equally on the lowest level. The remainder is then distributed equally on the lowest level before the results are aggregated to the next highest level.

> For example, You have 11 items to be distributed equally (without decimal places) on multiple levels in a hierarchy.
>
> The higher level has two nodes; one node has one branch; the other node has two branches. Thus, the lowest level has three nodes.
>
> Equal distribution results in each lowest-level node having the value 3. The remainder is then distributed on the lowest level. This results in two lowest-level nodes having the value 4, and one lowest-level node having the value 3.
>
> Once aggregated to a higher level, one higher-level node has the value 4. The other higher-level node has the value 7.
>
> The result is displayed below.
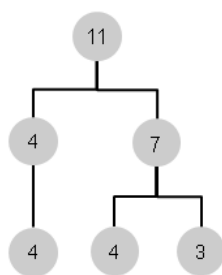
Further Notes

The functions of the add-in for Microsoft Excel are restricted or not available when using the Microsoft object linking and embedding (OLE) feature. We therefore recommend not using this feature.

2.6 Working with Embedded Reports

Overview

Embedded reports are reports that you can find in the *Overview* view of work centers or in overview documents.

Features

The following feature are available with embedded reports.

- Select different report views from the *View* dropdown list.
- Select different sets of saved value selections for variables from the *Selection* dropdown list.
- From Actions ▮, you can analyze the data of the report and set the refresh rate for the data. Note that by default, the refresh rate is every 6 hours.
- Switch between chart and table display.

Adding Embedded Reports

You can add reports as embedded reports to *Overview* work center views of work centers by personalizing the work center views. This is useful if you often open a particular report. To add a report to the *Overview* work center view, click *Personalize*, and choose *This Screen*. Under *Personalize Overview*, a list of reports are available that can be added. You can choose the report view and selection to be displayed.

Note that embedded reports can only be displayed as table or chart. Displaying both table and chart is only possible when viewing reports in a Web browser.

See Also

Working with Selections   [page 15]

Working with Reports in a Web Browser   [page 14]

2.7 Working with Mobile Reports

Overview

Mobile reports are browser-based reports that are enabled for mobile devices.

Note that mobile reports are by default not displayed in the reports list. You can view mobile reports by choosing *Mobile Report* from the dropdown list.

Adapting Mobile Reports

You can either open the default of the mobile report on your mobile device, or you can adapt it to your own requirements.

To adapt a mobile report, you have to save a view of the report as default in the system before opening it on your mobile device.

1. Open the relevant mobile report.

2. In the *Selection* area, make any relevant value selections for variables.
   For more information, see Working with Selections   [page 15].

   > **i** To optimize using the report on your mobile device, we recommend setting the start option to *Hide Selection Area and Start Report* .

3. Save the set of value selections for variables.

4. When the report is displayed in the Web browser, make any relevant changes to the layout and drilldown of the report.
   For more information, see Working with Reports in a Web Browser   [page 14].

5. Save the report view and set of value selections for Variables. To save the report view, from View , click *Save As*. To save the set of value selections for Variable, in the *Selection* area, select the Edit tab page, and click Save As .

6. Set both the report view and the Variables as default. To set the report view as default, from View , choose the *Manage Views*. To set the Variables as default, in the *Selection* area, select the Manage tab page.

7. In the Web browser, from the toolbar, click Set As Default .

The adapted report is now set as default for the mobile report.

Note for Administrators

To make a mobile report available to business users, administrators must assign the mobile report to a mobile-relevant work center and to a business-relevant work center. For more information, see Assign a Report.

3 Business Analytics

3.1 Design Reports View

3.1.1 Design Reports Quick Guide

In the *Design Reports* view, administrators can create and edit their own reports to suit their business requirements and processes.

You can access the *Design Reports* view from the *Business Analytics* or *Administrator* work centers.

Background

You use Analytics objects in the system to create your reports. Data from key figures and characteristics in a data source or a key figure group serves as the basis for your reports. For more information, see Overview of Analytics [page 6].

> You can decide whether report data sent by e-mail is to be encrypted. If you want to encrypt outgoing e-mails, you must make changes to your scoping. From the *E-mail Encryption and Signature Check* fine-tune activity, you can specify for the *Analytics - Send Report Data, Broadcasting* outgoing e-mail scenario whether outgoing e-mails are encrypted and whether they are signed.
>
> For more information, see Configuration: Load Certificates and Activate Signing and Encryption for E-Mails and Configuration: E-Mail Encryption and Signature Check.

Tasks

Create a Report

By clicking New ▮, the following options are available.

- Report
  Allows you to create a browser-based report based on a data source or key figure group using the Report Wizard.
  For more information, see Working with Reports Using the Report Wizard [page 50].

- Report As Copy
  Allows you to create a report based on a selected report using the Report Wizard. When you create a report based on a selected browser-based report, if you do not assign a valid report ID, the system generates a report ID.
  For more information, see Working with Reports Using the Report Wizard [page 50].

- Microsoft Excel-Based Report
  Allows you to create a Microsoft Excel-based report using Microsoft Excel.

For more information, see Working with Reports and Plans in Microsoft Excel [page 36].

- Report Navigation
  Allows you to create navigation targets in a selected target report to which business users can navigate from a source report. .
  For more information, see Create or Edit a Navigation Target [page 48]

Edit a Report

By clicking Edit With ▌▌ , the following options are available depending on the report type.

- Report Wizard
  Allows you to edit browser-based reports that you or other administrators have created. For more information, see Working with Reports Using the Report Wizard [page 50].
- Web Browser
  Allows you to execute ad hoc analyses and to change the layout of delivered reports and reports that you or other administrators have created.
  Note that when administrators open reports in a Web browser in the *Business Analytics* work center, only generated test data is displayed to ensure that they do not have access to sensitive data. Business users see real data when they open reports from the relevant *Reports* work center view.
  For more information, see Working with Reports in a Web Browser [page 14].
- Web Browser – Quick Filter
  Allows you to quickly filter data that can be displayed as a chart, table or both. You can open reports from the reports list in the *Reports* view and from embedded reports.
  For more information, see Viewing Reports with Web Browser — Quick Filter
- Microsoft Excel
  Allows you to execute ad hoc analyses and to edit Microsoft Excel-based reports.
  Note that when administrators open reports in Microsoft Excel in the *Business Analytics* work center, only generated test data is displayed to ensure that they do not have access to sensitive data. Business users see real data when they open reports from the relevant *Reports* work center view.
  For more information, see Working with Reports in Microsoft Excel [page 36].
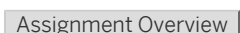
Assign a Report

After you have created a report, you must assign it to make it available to business users and other administrators.

You can create and maintain report assignments by clicking Assign .

For more information, see Assign A Report.

Review Report Assignments

From the *Design Reports* work center view, by clicking Assignment Overview , you can review the report assignments made by you and SAP by sorting, grouping, or filtering the list.

Note that from the list, you can only delete report assignments in the current version of the solution. You can remove up to 20 assignments at a time. To make assignments, see the Assign a Report section of the document.

If you require the report ID, you can personalize the list by clicking ▌▶ *Personalize* ❯ *This Screen* ❭.

See Also

Add an Extension Field to a Data Source or Report   [page 119]

3.1.2 Create and Edit a Navigation Target

Overview

From the *Design Reports* work center view, administrators can create navigation targets in a selected target report to which business users can navigate from a source report. You must also define how values are transferred to the corresponding characteristic or variable.

> Report-to-report navigation is useful for further analysis of report data. For example, a business user has the *Purchase Orders per Supplier* source report , containing purchase order IDs. When a business user clicks a purchase order ID in the report, such as 3141, the context menu displays the *Purchase Orders per Product* target report . The business user can then navigate to this report directly without returning to the *Reports* work center view. In this example, the business user can see what other purchase orders have the same product as in purchase order 3141.

For information about how business users navigate from a source report to a target report, see Analytical Navigation [page 31].

Procedure

1. From the *Design and Assign Report* object worklist, select the relevant target report and click
    Create Navigation .
    In the following screen, the target report and the corresponding characteristics and variables appear.
    You can also decide if you want to create navigation targets for characteristics and variables in a report view.

2. To select a source report, click Add Source Report .
    To remove a source report, click Remove Source Report .

3. From the *Select Source Report* dropdown list, select the corresponding source report.
    The source report along with the corresponding characteristics and variables are added.

4. From the list of target characteristics and variables, select the relevant source characteristics and variables from the dropdown lists in the relevant columns.

    > If you select a variable, you must change the transfer type to *Ranked Transfer*.

5. Define how value selections are to be transferred from the source report to the target report.
    Note that if you check the *Use Default Variable Value* checkbox, the default variable value in the target report is used if no value is available from the source report.

Source Report Variable	Target Report Variable
Variable is not filled	Default variable value is used, regardless of transfer type.

Source Report Variable	Target Report Variable
Variable is filled	Default variable value is not used.

The following table provides an overview of the available transfer types:

Transfer Type	Description
Not Transferred	The value selection of characteristic or variable of the source report is not transferred to the target report. Thus, the characteristic or variable of the target report is not restricted. For example, supplier IDs of the source report are not transferred to the target where no suppliers are listed. If you do not want a characteristic to be restricted, use this transfer type.
Transferred	The value selection of either the source characteristic or the source variable is transferred without modification to the target characteristic or target variable. You may transfer a source characteristic to a target variable. You may also transfer a source variable to a target characteristic. **i** ▪ It is not necessary that the characteristics or variables have the same name, but they must be semantically correct. For example, in your company, it may be correct to transfer value selections from a sales unit to a cost center if they are one and the same. **i** ▪ Note that an infinite selection cannot be checked by the system.
Ranked Transfer	Value selections (characteristic and variable) of the source report are transferred to either a target variable or characteristic. The system first checks if the source characteristic has a value selection. If this is the case, the target is filled with the value selection. If the system cannot find any value selection for the source characteristic, the system checks if the source variable has a value selection. If this is the case, the target is filled with the value selection. We recommend using this transfer type if you have both a characteristic and a variable defined for the specified characteristic in the source report.

i ▪ When deciding on how value selections are to be transferred for variables, you must also note the selection type for the variable.

For example, in the source report, you have a variable called *Company* for which a single value is allowed. You want to transfer values from the variable to the following variables in the target report:

- *Company*
  The selection type is defined for the variable as *Single Value*. Therefore, we recommend selecting *Transferred* as the transfer type.
- *Partner Company*
  The selection type is defined for the variable as *Multiple Value*. Therefore, we recommend selecting *Not Transferred* as the transfer type.

3.1.3 Working with Reports Using the Report Wizard

Overview

Administrators can create and edit reports that they create using the Report Wizard.

The Report Wizard guided activity is available from the following locations:

- From the *Design Reports* work center view by clicking New ▮ , and then choosing *Report* or *Report As Copy*.
- From the *Design Data Sources* work center view by clicking New ▮ , and then choosing *Report*.

After you have assigned reports to work center views, they are available in the *Reports* work center view of the relevant work centers. Business users can then create their own personal report views.

> **i** Administrators can create public report views and public selections, that is, a saved set of value selections for variables and filter values, in the *Business Analytics* work center. Administrators create public report views and public selections with the report in a Web browser.
>
> The public report views and public selections are then available with the corresponding reports. For more information, see Working with Reports in a Web Browser [page 14] and Working with Selections [page 15].

Procedure

1. Define Report and Select Data Source

   Note that due to the complexity of some SAP delivered Analytics content, not all data sources and the objects they include are available to administrators to create key figures, data sources, and reports.

   > **i** You do not have to complete all steps; only the first step is mandatory. This is indicated by an asterisk (*).
   >
   > You can create a report by entering a name, selecting a data source, and clicking Finish .

   a. Enter a name and description for the report.
      We recommend providing a description for the report so that the business user can identify the use of the report after you have assigned the report to the relevant work center views and corresponding work centers.

   b. Select a data source for the report. A data source provides the characteristics and key figures used in a report. It also serves as the basis for further reporting objects, such as key figure structures or grids. For more information about objects in Analytics, see Overview of Analytics [page 6].
      To select a data source, you can either enter the ID or select a data source from the value selection.

      > **i** When you select a data source, one or more supported access context are displayed. When you assign the report to a work center or work center view, the access context of the report and the work center or work center view should match.

   c. You can also set further properties for the report:
      - *Enable for Mobile Device*
        By selecting the checkbox, the report type is set to *Mobile Report*. For more information, see Working with Mobile Reports [page 45].
      - *Only for Master Data*

By selecting the checkbox, you can create a report without any key figures. The system then skips step 2. This is useful if you want to create list reports, such as a list of customers.

- If the report you want to create is a copy of a report that has navigation targets, the *Copy With Navigation* checkbox is also available. By selecting the checkbox, the system also copies the navigation targets in the source report to your report.
  For information about creating navigation targets, see Create or Edit a Navigation Target [page 48].
  For information about how business users navigate in reports, see Analytical Navigation [page 31].

2. Select Key Figures

   In this step, you select the key figures to be used in the report. From the *Show* dropdown list, you have the following options:

   - All
     All key figures and key figure groups available in a data source are displayed.
   - Customer Created Key Figures
     Key figures created by administrators are displayed.
   - Key Figure Group
     Using this selection option, you can choose either a key figure structure or a key figure grid.
   - Key Figures
   - Selected Key Figure Group / Key Figures

   You can also create calculated and restricted key figures by clicking Create . For more information, see Create and Edit a Key Figure [page 70].

3. Select Characteristics

   The characteristics that are available in the data source are listed. Dimensions, that is, the criterion by which characteristics are categorized, can assist you in selecting relevant characteristics. Characteristics may be selected by default.

   To determine whether the characteristic has a predefined restriction or if it has a variable associated with it, you can add the *Has Variable* and *Value Selection* columns.

   To add the columns, click *Personalize*, choose the *This Page* option, and select the fields from the list.

   If the characteristic has *No Value Selection*, there are no predefined restrictions. You can create restrictions or add a variable in the next step.

4. Define Characteristic Properties

   For each characteristic available, maintain the following properties.

   - Display Settings
     ○ The *Display in Report* checkbox shows whether a characteristic is displayed in the *Not Currently Shown* list in the navigation pane when the report is displayed in a Web browser. If the checkbox is not selected, the characteristic can still be used in the *Selection* area in the report and for restricted key figures.
     ○ To change the name of characteristics that are displayed to business users in a report, you can rename characteristics. In the *Rename Characteristic To* field, enter the new name of the characteristic.
     ○ By selecting the *Show Master Data Value* checkbox, you can display the values of a characteristic in the report regardless of whether there are key figure values.

       > By selecting the *Show Master Data Value* checkbox for the Customer characteristic, all customers are displayed in the report.

- Value Selections

  Any defined value selections are also listed. The following table describes the options available under *Value Selection*.

Value	Description
No Value Selection	The characteristic is not restricted.
Using Variable	The characteristic can be restricted using a variable. If you select *Using Variable*, the characteristic can be restricted to one or more value selections using a variable. In the *Define Variables* step, you can maintain properties for the variable. On the variable screen, you can restrict the characteristic using a variable or save a set of value selections for the selection.
Fixed Value Selection	You can set fixed value selections for the selected characteristics. Note that if the characteristic is already restricted to one or more fixed value selections you cannot change fixed value selections. If you select *Fixed Value Selection*, Set Fixed Value Selections is active.
Using Complex Restriction	The characteristic is restricted using one or more complex restriction rules that are defined in a key figure structure or key figure grid. You cannot change the restriction. For example, the One Year Ago characteristic that is used in the key figure grid belonging to the data source is restricted using a relative selection.
Using Inherited Variable	The characteristic is restricted using an inherited variable. You cannot change the restriction. For example, the characteristic is restricted using a variable from an underlying data source.

- Hierarchy Settings

  Any defined hierarchy settings are also listed. The following table describes the options available under *Hierarchy*.

Value	Description
No Hierarchy	No hierarchy is available for the characteristic.
Using Variable	The characteristic hierarchy can be restricted using a variable.
Fixed Hierarchy	The characteristic hierarchy is restricted to display the characteristic by an attribute. For example, to display the Customer characteristic by location.
Via Inherited Variable	The characteristic hierarchy is restricted using an inherited variable. You cannot change the restriction.

5. Define Variables

   For each variable available, maintain the selection type and any default values if necessary.

   The selection type indicates how values for the variable can be selected, such as single values, multiple values, interval, or any selection. You can also maintain default values.

6. Review and Confirmation

   Review the report. In the *Confirmation* step, you can display the report in a Web browser to create a layout for the report, assign the report to a work center view, or create another report.

> **i** In the *Business Analytics* work center, when you view reports, generated test data is displayed regardless of whether the report is assigned to a work center view to which you have access rights as a business user.
>
> To view the report with real data, you must open the report from a *Reports* work center view for which you have access rights as a business user.

See Also

Assign a Report

3.1.4 Overview of Data Sources in SAP Business ByDesign

Overview

This document provides an overview of the data sources available in SAP Business ByDesign.

The following documents list the data sources and other information for the relevant areas.

- Overview of Data Sources in Supplier Relationship Management
- Overview of Data Sources in Supply Chain Management
- Overview of Data Sources in Project Management
- Overview of Data Sources in General Business Data
- Overview of Data Sources in Human Resources Management
- Overview of Data Sources in Financials
- Overview of Data Sources in Customer Relationship Management
- Overview of Data Sources in Application and User Management

3.1.5 Assign a Report or KPI

Overview

After you have created a report, you can assign it to work centers and work center views, making it available to business users in the *Reports* view of the corresponding work center.

You can also assign key performance indicators (KPIs) to work center views. Information is also provided below for assigning KPIs.

Procedure

1. From the *Design Reports* work center view, select the relevant report with the status *Unassigned*.
   From the *Design KPIs* work center view, select the relevant KPI.
2. From the work center view, click Assign ▮.
3. For the report or KPI, select the work center views to which you want to assign the report or KPI and set the *Assign* indicator.

> **i** Note that the system checks whether the access context of the report or KPI and the access context of the work center view conflict. The *Conflict* column indicates whether a conflict exists.
>
> A check mark indicates that the access contexts match.
>
> An exclamation mark indicates that the access contexts conflict.
>
> If you want to assign reports to work center view regardless of conflicting access rights, you must make changes to your fine tuning in the *Business Configuration* work center using the optional activity *Administrator Analytics - Settings*.

For reports, the system assigns the report categories from the underlying data source to the report. You can change the report category assignment by selecting the corresponding work center view and making changes to the report category assignment in list.

4. For reports, select the report categories by which the report can be grouped in the *Reports* work center view.

> **i** Some delivered content has the *Hidden* status by default. For example, reports that are only displayed as embedded reports. If you want to have the report displayed in the *Reports* work center view, deselect the *Hide in Reports View* indicator.

Result

The report or KPI is available to business users who have been assigned to the work center views.

> **i** When you assign Microsoft Excel®-based reports, that is, workbooks, ensure that the reports embedded in the workbook are also assigned to the same work centers and work center views as the workbook to ensure that business users can view all reports embedded in the workbook. For each embedded report, note the report name and ID in the *Report Name* dropdown list of the workbook header and compare its assignment against the reports used in the workbook.

> For example, you have assigned a Microsoft Excel®-based report, that is, a workbook, to a work center view. The workbook is available to all users assigned to that work center view. A user executes the workbook but receives an error message, stating that she/he is not authorized to execute a report. The user received this error message because the report is not assigned to the same work center view as the workbook.

3.1.6 Add-In for Crystal Reports

Overview

The SAP Business ByDesign add-in for Crystal Reports allows you to access analytic data from the SAP Business ByDesign system to create or edit formatted reports.

> **i** For information about Crystal Reports 2008, see Crystal Reports 2008 help documentation. For additional information about Crystal Reports 2008, see help.sap.com . On the *SAP BusinessObjects* tab page, under *SAP BusinessObjects Overview*, click *All Products*. Select the relevant language version of Crystal Reports 2008 along with the relevant release.

Prerequisites

You have installed the following software:

Crystal Reports 2008 (version 12.2 or higher)

Crystal Reports 2008 must be purchased separately. You can purchase Crystal Reports 2008 from SAP BusinessObjects .

We recommend installing the latest service packs and hot fixes for Crystal Reports 2008. From SAP Service Marketplace , under the *For Customers* column, click *SAP Crystal Solutions Support*.

On the following page, under *Downloads*, click *Downloads*, and then click *Get SAP Crystal Solutions downloads*. On the following *Business Objects Support* page, after you have entered the following selection criteria, click *Search*.

- For service packs:
  - Software Product: Crystal Reports
  - Product Version: Crystal Reports 2008
  - Software Type: Service Pack

- For hot fixes:
  - Software Product: Crystal Reports
  - Product Version: Crystal Reports 2008
  - Software Type: Hot Fix

To install the service pack and hot fix, click the relevant file title.

Installing the Add-In for Crystal Reports

You can install the SAP add-in for Crystal Reports 2008 from the *Home* work center. From the *Self-Services Overview*, under *My Computer*, choose *Install Additional Software*. On the following screen, click the download link.

Procedures

1. Open Crystal Reports 2008 from your desktop.
2. From the Crystal Reports menu toolbar, click *File*, then *New* and choose the *Blank Report* option.
   Note that *Database Expert* screen is not applicable for working with the SAP add-in for Crystal Reports. Therefore, click *Cancel*.
3. The add-in is available from the menu under *Add-ins*, then *SAP Business ByDesign Add-In*. To make the add-in toolbar visible, from the menu under *View*, choose *Toolbars*, and select *External Command*.
4. To log on to the SAP Business ByDesign system, click one of the functions of the add-in, such as the icon with the *Open Formatted Report* tool tip.
   On the logon screen, enter your user ID and password that you use to log on to the SAP Business ByDesign system.
   The URL that should be displayed is the basis URL of your SAP Business ByDesign system.

Creating Formatted Reports

To create formatted reports, from the Crystal Reports menu toolbar, click *File*, then *New* and choose the *Blank Report* option.

Note that *Database Expert* screen is not applicable for working with the SAP Business ByDesign add-in for Crystal Reports. Therefore, click *Cancel*.

For more information about creating formatted reports, see the following document: Create or Edit a Formatted Report [page 56].

Crystal Report Add-In Toolbar Options

- **About**
  Provides the product version and technical information about the add-in.
- **Open Formatted Report**
  You can open SAP delivered or custom formatted reports from the list of available reports stored in the system.
- **Select Report**
  Select the reports to be used in a report from a list of available reports.
- **Select Characteristics**
  Select characteristics to be used in the report from list of available characteristics.
- **Refresh Formatted Report**
  The layout and data of the current report are refreshed.
- **Save Report**
  To save the report to the SAP Business ByDesign system, ensure that you select *Save Report* from the SAP add-in for Crystal Reports.
- **Save As**
  Save a report to the SAP Business ByDesign system under new name.
- **Log Off**
  Log off from the SAP Business ByDesign system.

3.1.7 Create or Edit a Formatted Report

Overview

In the *Business Analytics* work center, from the *Design Reports* work center view, you can view formatted reports. From Crystal Reports, you can create and edit formatted reports.

> **i** For information about Crystal Reports 2008, see Crystal Reports 2008 help documentation. For additional information about Crystal Reports 2008, see help.sap.com . On the *SAP BusinessObjects* tab page, under *SAP BusinessObjects Overview*, click *All Products*. Select the relevant language version of Crystal Reports 2008 along with the relevant release.

Prerequisites

To create and edit formatted reports, you must have Crystal Reports 2008 (version 12.2 or higher) installed, along with the SAP add-in for Crystal Reports. For more information, see Add-In for Crystal Reports [page 54].

Procedure

1. Access the add-in.

> ■ If you have the SAP add-in for Crystal Reports and the Crystal Reports Viewer installed, ensure Crystal
> **i** Reports is the default program that opens `.rpt` files.

To create or edit a formatted report, open Crystal Reports 2008 from your desktop.

> ■ Note that *Database Expert* screen is not applicable for working with the SAP add-in for Crystal Reports.
> **i** Therefore, click *Cancel*.

2. Log on to the SAP Business ByDesign system.

   To log on to the SAP Business ByDesign system, click one of the functions of the add-in, such as the icon with the *Open Formatted Report* tool tip.

   On the logon screen, enter your user ID and password that you use to log on to the SAP Business ByDesign system.

   The URL that should be displayed is the basis URL of your SAP Business ByDesign system.

3. Identify a report to be used as a basis for the formatted report.

   - By clicking the icon with the *Open Formatted Reports* tool tip, you can select a delivered or custom report. You can edit the report and save it as a new formatted report.

   - By clicking the icon with the *Select Report* tool tip, you can select delivered reports that are available in SAP Business ByDesign for use as a source of data in the SAP Business ByDesign add-in for Crystal Reports. For an overview of the reports available, see Overview of Reports in SAP Business ByDesign [page 12].

   - You can also create a report to be used a basis for the formatted report.

4. Make value selections for variables.

   If any mandatory variables are defined with the report, the variable screen appears, listing the available variables.

   Note that the *Access Context* variable always has the `9999` value. Since you may not always have access rights to data in a particular business area, this restriction enables you to preview the report with generated test data for further design and editing purposes.

   The columns that are displayed on the variable screen of the SAP add-in for Crystal Reports are describe below.

   - **Variable**
     Shows all the variables for the specified report.

   - **Sign**
     Enables you to include or exclude a specified value selection.

   - **Selection Option**
     The following operators are available to restrict value selections.

Selection Option	Description
EQ	Equals
LE	Less than
GE	Greater than or equal to
GT	Greater than
BT	Between

Selection Option	Description
CP	Contains pattern
NP	Not pattern
NE	Not equal
NB	Not between

- **Lower and Upper Value**
  Enables you to define values or value ranges. By clicking the button between the *Lower Value* and *Upper Value* columns, you can select values that are available with the corresponding variable.

You can also add and remove rows accordingly.

You can also check whether values you selected for variables are acceptable from a business logic perspective.

5. Define the report.

   To enable business users to identify the report, you can define the report or change existing report properties. For information, see Crystal Reports 2008 help documentation regarding adding summary information to the report.

6. Select fields.

   To select characteristics and characteristic attributes, you use the Select Characteristics function in toolbar of the SAP add-in for Crystal Reports. When you select characteristics using the Select Characteristics function, the characteristics are added to the Crystal Reports Field Explorer.

   To select characteristics and key figures to be displayed in the report, you use the Crystal Reports field explorer functions. For information, see Crystal Reports 2008 help documentation regarding the Field Explorer dialog box.

7. Create the layout.

   To create a layout and format the report, you use Crystal Report functions. For information, see the Crystal Reports 2008 help documentation chapter regarding formatting.

   For more information about Crystal Report functions that are often used when formatting reports, see the Crystal Reports 2008 help documentation chapter regarding command references, such as insert menu.

8. Save the report.

   To save the report to the SAP Business ByDesign system, ensure that you select *Save Report* from the toolbar of the SAP add-in for Crystal Reports.

   To save the report locally, use the Crystal Reports save function.

   - **Report ID**
     You must provide an ID for the report.
     Note the following conventions when creating a report ID:
     - The ID can only contain letters of the Latin alphabet, that is, A to Z.
     - The ID must start with an upper case Z.
     - The ID cannot contain any diacritical marks, such as acute accent (´) or umlaut (¨).
     - The ID can contain numbers, that is, 0 to 9.
     - The ID can contain an underscore (_).
     - The length of the ID is limited to 25 characters.

   - **Report Name**
     You must provide a report name. You can enter free text. The length of the report name is limited to 60 characters.

- **Report Description**
  A report description is optional. You can enter free text. The length of the report description is limited to 128 characters.

Result

You have created a formatted report that you can make available to business users. From the Design Reports work center view, select the formatted report and click Assign .

For more information, access the *Help Center* from the relevant screen.

Note that to view formatted reports, business users must have the Crystal Reports Viewer installed.

The Crystal Reports Viewer is available from the *Self-Services Overview* work center view of the *Home* work center. Under *My Computer*, click *Install Additional Software*. On the following screen, click the download link.

3.1.8 Custom Financial Reports

Overview

The *Design Reports* view in the *Business Analytics* work center enables you to create custom reports. You can create new reports either from scratch (*New > Report*) or by copying existing reports (*New > Report As Copy*).

> **i** In **financial accounting**, due to the interdependencies between the underlying data source and the key figure structures, it is strongly recommended that you create new reports **only by copying existing reports**.

This document provides guidelines and recommendations to help you successfully create custom financial accounting reports using the report wizard.

Prerequisites

You are familiar with the basic functionality of the report wizard.

For more information, see Working with Reports Using the Report Wizard   [page 50].

New Financial Report as Copy

Before copying a report, consider what type of report you require. Examine the standard financial accounting reports and select one that is as close as possible to your needs regarding:

- Data source
  The underlying data source for a report determines which **key figures** and **characteristics** are available. The data source also determines the **time frame** of the report.

  > **i** The time frame **cannot be changed** in the copy. For example, if the data source restricts the data to a single fiscal year, it is not possible to modify the copy to enable year-on-year comparisons.

  When you copy a report, it is **not** possible to select a different data source in the copy.
- Layout
- Selection variables

In the copy, you can change the layout, add or remove selection variables, or define different default values.

To ensure that your new report works as intended, observe the following guidelines and recommendations during each step of the process.

Step 1: Define Report and Select Data Source

When you create a new report as a copy, you cannot select a different data source. If the indicated data source is not appropriate for your needs, start with a different report.

Step 2: Select Key Figures

If you want to add a new calculated or restricted key figure to the report, click *Create* in the *Select Key Figures* step.

When you create a **restricted** key figure, note the following:

- The time frame of the report is based on the data source. For example, the **Financial Statements** report is restricted to one fiscal year, while the **G/L Accounts – Line Items** report allows multiple fiscal years. You cannot change the defined restriction for the key figure.
- It is recommended to use *Relative Select* to set the value selections (fixed or default) for the characteristic. The available Relative Select values are based on the time frame of the data source. Thus the values available for selection will vary depending on the data source of the report.

> Suppose you want the report to compare a cumulative amount for the current year to date with the corresponding time range last year. This would allow users to compare for example January to May 2011 with January to May 2010. To achieve this, you create the following key figures:
> - A **restricted** key figure for the current year's YTD amount, restricted to *Year to Date*
> - A **restricted** key figure for the previous year's YTD amount, restricted to *Last Fiscal Year (Year to Date)*
> - A **calculated** key figure for the difference: *Year to Date – Last Fiscal Year (Year to Date)*

When you have finished creating the key figure and have returned to the *Select Key Figures* screen, make sure to **select** the key figure (*Select* checkbox).

Step 3: Select Characteristics

To enable full and consistent data in financial accounting reports, the following characteristics are always required as fixed or variable selection criteria:

- Company
- Set of Books
- Accounting Period/Year
- Chart of Accounts
- Fiscal Year Variant

When you **copy** a financial accounting report, these characteristics run automatically in the background and therefore you do **not** need to select them in the *Select Characteristics* step.

You only need to select characteristics in the *Select Characteristics* step if you want to be able to **display** them in the report.

> For example, if you are creating a multi-company report, you will want to see the company names in the report so you select *Company* as a characteristic. For a single-company report, however, this characteristic is not necessary.

Step 4: Characteristic Properties

Reports that display **financial statement items** require a **hierarchy** so that the items are shown based on the appropriate financial reporting structure.

When you copy a report, however, the hierarchy information from the original report is lost. Therefore you always need to define how the hierarchy is selected in the *Characteristic Properties* step.

Make the following settings for the *Balance Sheet and Income Statement Item* characteristic:

- *Value Selection*
  Select *No Value Selection*.

- *Hierarchy*
  Select either *Fixed Hierarchy* or *Using Variable*.
  If you select *Fixed Hierarchy*:
  - Make sure to open the *Hierarchy* tab and enter a hierarchy.

    > **i** If you select *Fixed Hierarchy* but don't enter a hierarchy, your report will not display correct data.

  - Make sure that any default value you define for the financial reporting structure in the *Define Variables* step matches the hierarchy you select as the fixed hierarchy.

  If you select *Using Variable*:
  - The field for the balance sheet and income statement item will be shown on the variable selection screen when the report is run.
  - If you define a default value for both *Financial Reporting Structure* and *Balance Sheet and Income Statement Item* in the *Define Variables* step, the two default values should be identical.

> **i** **Recommendation:** If you have more than one structure, it is recommended that the fields for both the financial reporting structure and the balance sheet and income statement items be displayed on the selection variables screen. This helps ensure that users select the same structure for both when they run the report.

Step 5: Define Variables

In this step you can define default values for the variables with Maintain Default Values .

- If you define a default value for *Financial Reporting Structure*, and you selected a fixed hierarchy in the *Characteristic Properties* step, make sure that this default value matches the fixed hierarchy.

- You can optionally define a default value for *Financial Reporting Structure* and/or *Balance Sheet and Income Statement Item*.
  If you define a default value for both of these fields, make sure the values are identical:

Default value for Financial Reporting Structure	Default value for Balance Sheet and Income Statement Item	This combination is...
None	None	OK
Hierarchy X	None	OK
Hierarchy X	Hierarchy X	OK
Hierarchy X	Hierarchy Y	Not OK

Note also the following when defining the variables:

- When you copy a financial accounting report, the *Chart of Accounts* and *Fiscal Year Variant* characteristics run automatically in the background and therefore you do **not** need to add them as variables.
- *Company*, *Set of Books*, and *Accounting Period/Year* can appear here as variables even if you didn't select them as characteristics.
- The two variables *Display Currency* and *Display Currency – Conversion Date* always appear together at the bottom of the selection screen.

Step 6: Review

In the *Review* step, check all your settings against the guidelines in this document before saving the report. Also check that any new key figures you created for the report are listed here.

Further Activities

After saving the report, create a layout and define the settings for the characteristics under Settings ▮ > *Characteristics*. In the *Display As* column, it is recommended that you select *Description*.

When you have finished creating the new report and have defined its layout, assign it to a view in a financials work center, such as *General Ledger*.

Possible Causes of Incorrect Data

If the finished report does not display correct data, the cause could be:
- In the *Characteristic Properties* step, you selected *Fixed Hierarchy* in the properties of the *Balance Sheet And Income Statement Item* characteristic, but you did not select a hierarchy.
- You defined a default value for the *Financial Reporting Structure* variable that does not match the hierarchy you specified as the fixed hierarchy in the *Characteristic Properties* step.
- You defined different default values for the *Financial Reporting Structure* and *Balance Sheet And Income Statement Item* variables. If you choose to define default values for these variables, the values should be identical.

> **i** When you run the report, always make sure that the hierarchy selected for the *Financial Reporting Structure* is the same as that for the *Balance Sheet And Income Statement Item*.

See Also

3.2 Data Sources View

3.2.1 Design Data Sources View

3.2.1.1 Design Data Sources Quick Guide

In the *Design Data Sources* work center view, administrators can create and edit their own data sources to suit their business requirements and processes and to use the data sources for reporting.

You can access the *Design Data Sources* view from the *Business Analytics* or *Administrator* work centers.

Business Background

You use Analytics objects in the system to create your own reports. Data from key figures and characteristics in data sources serves as the basis for reports. For more information, see Overview of Analytics   [page 6].

For information about data sources, see Data Sources   [page 64].

Tasks

Create a Combined Data Source

For information about this task, see Create or Edit a Combined Data Source   [page 67].

Create a Joined Data Source

For information about this task, see Create and Edit a Joined Data Source   [page 69].

Preview a Data Source

You can preview the data of data sources in a Web browser. In the preview mode, administrators can view the data similar to how end users view the data in a report. From the preview mode, administrators can then navigate to the Report Wizard from which they can create a report based on the data source.

By default, key figures available with a data source are displayed in columns, rows are empty, and characteristics available with the data source are listed in the *Not Currently Shown* list.

Since you preview the data similar to how end users view the data in a report, the functions available are the same as those available when working with a report in a Web browser; the range of functions available however are limited to those required to preview data in the data source. For example, when previewing a data source, the functions available for saving and managing report views are not available. For more information, see Viewing Reports with the Web Browser Option.

Create a Key Figure

For information about this task, see Create and Edit a Key Figure   [page 70].

Create a Report

For information about this task, see Working with Reports Using the Report Wizard [page 50].

Download Template

The system gives you an option to download a template file for the selected cloud data source. The template has predelivered sample data and the format to assist you in filling your own data. Once you enter the data in the correct format, you can upload it to the selected cloud data source.

See Also

Add an Extension Field to a Data Source or Report [page 119]

3.2.1.2 Data Sources Business Concept

Overview

The same data is often available in different data sources. For example, the characteristic Product is available in different data sources, depending on how products are involved in business processes. Thus, you can find the characteristic in reports of different business areas, such as Purchasing and Financials.

From the *Design Data Sources* work center view, administrators can create their own combined and joined data sources that merge data from different data sources.

The following documents provides information about the types of data sources available.

Types of Data Sources

SAP Delivered Data Sources

Data sources delivered by SAP serve as the basis for the content of created data sources. Administrators can select data sources from a range of business areas for their own data sources.

Combined Data Sources

A combined data source is a type of data source that combines two or more data sources. The data sources of which the combined data source consists usually have a set of common characteristics but semantically different key figures.
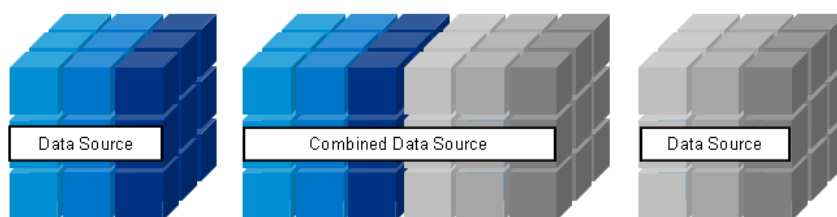
Depiction of a Combined Data Source

You usually combine data sources when the data sources that you want to combine have the semantically similar characteristics but key figures that are unique to each data source. Alternatively, you can combine data sources when the characteristics you require for a report are not available in one data source.

When you build a report using a combined data source, all characteristic values are displayed along with any key figure values. Combined data sources are therefore useful if you want to filter large amounts of data in a report. The following example shows a result set of a combined data source.

Data Source

Product ID	Supplier	Purchase Order ID
MCD-0001	1000010	1
MCD-0002	1000011	2
MCD-0022	1000012	3
MCD-0024	1000013	4
MCD-0005	1000014	5

Data Source

Product ID	Product Category	Supplier
MCD-0001	Service	1000010
MCD-0002	Service	1000011
MCD-0022	IT Equipment	1000012
MCD-0024	IT Equipment	1000013
MCD-0005	Service	1000014
MCD-0046	Office Supplies	1000215
MCD-0049	Office Supplies	1000215

Combined Data Source

Product ID	Supplier	Product Category	Purchase Order ID
MCD-0001	1000010	#	1
MCD-0001	1000010	Service	#
MCD-0002	1000011	#	2
MCD-0002	1000011	Service	#
MCD-0005	1000014	#	5
MCD-0005	1000013	Service	#
MCD-0022	1000012	#	3
MCD-0022	1000012	IT Equipment	#
MCD-0024	1000013	#	4
MCD-0024	1000012	IT Equipment	#
MCD-0046	1000215	Office Supplies	#
MCD-0049	1000215	Office Supplies	#

Example of a Result Set of a Combined Data Source

Joined Data Sources

A joined data source is a type of data source that contains characteristic values that match from the data sources to be joined along with any key figure values. You can have more than one join, that is, the characteristic that joins the data sources, in your joined data source. The more joins there are in a joined data source, the more restricted the data that is available for reports.

When you build a report using a joined data source, characteristic values that match in the joined characteristics in the data sources are displayed along with values that are in the same row. Joined data sources are therefore useful if you want to restrict the amount of data available for a report.

Depending on your business requirements, you can select from the following join types. Note that the anchor is displayed for both join types in the system but only affects the data in a joined data source that uses a left outer join.

Inner Join

An inner join is a join that selects only those characteristic values from the data sources to be joined that match in the joined data source field along with any key figure values. Characteristic values in the joined data source fields that do not appear in both data sources are excluded.
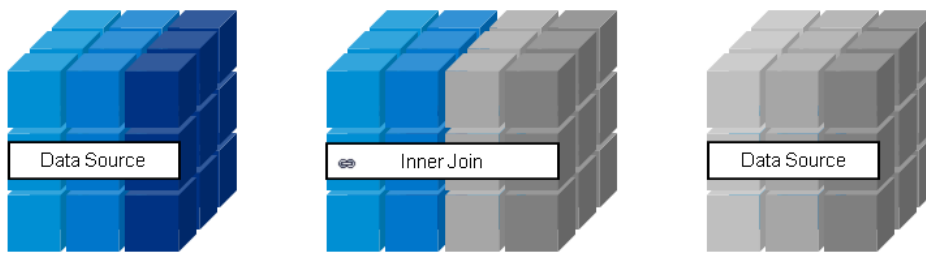
Depiction of an Inner Join

The following example shows a result set of a joined data source that uses an inner join.

Data Source

Customer ID	Last Name	First Name	City
1	Adams	Oliver	Chicago
2	Menson	Bob	Miami
3	Jacob	Kate	Boston

Data Source

Customer ID	Order Number	Order ID
3	55234	1
3	55233	2
1	55199	3
1	54987	4
7	55340	5

Left Outer Join

Customer ID	Last Name	First Name	City	Order Number	Order ID
1	Adams	Oliver	Chicago	55199	3
1	Adams	Oliver	Chicago	54987	4
3	Jacob	Kate	Boston	55234	1
3	Jacob	Kate	Boston	55233	2

Example of a Result Set of a Joined Data Source That Uses an Inner Join

Left Outer Join

A left outer join is a join that selects all characteristics values from the data source that is selected as the anchor and those characteristic values that match in the data sources that are added along with any key figure values. By default, the first data source that you select is the anchor.
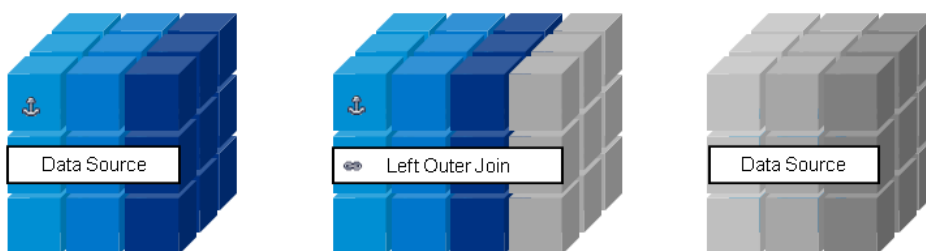
Depiction of a Left Outer Join

Note that setting the anchor to a different data source affects the values available since the joined data source fields may also change.
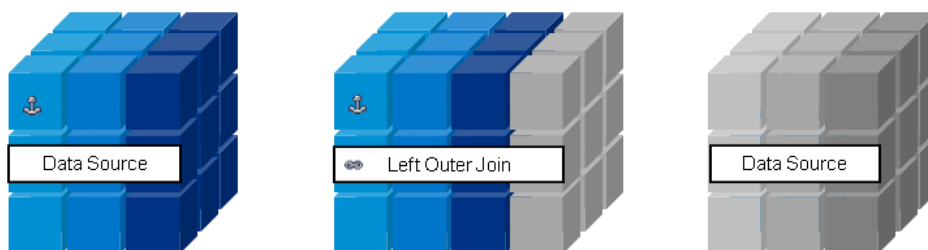
Depiction of an Anchor Change

The following example shows a result set of a joined data source that uses a left outer join.

Customer ID	Last Name	First Name	City
1	Adams	Oliver	Chicago
2	Menson	Bob	Miami
3	Jacob	Kate	Boston

Data Source

Customer ID	Order ID	Order Number
3	1	55234
3	2	55233
1	3	55199
1	4	54987
7	5	55340

Data Source

Left Outer Join

Customer ID	Last Name	First Name	City	Order Number	Order ID
1	Adams	Oliver	Chicago	55199	3
1	Adams	Oliver	Chicago	54987	4
3	Jacob	Kate	Boston	55234	1
3	Jacob	Kate	Boston	55233	2
2	Menson	Bob	Miami	#	#

Example of a Result Set of a Joined Data Source That Uses a Left Outer Join

See Also

Create and Edit a Combined Data Source   [page 67]
Create and Edit a Joined Data Source   [page 69]
Working with Reports Using the Report Wizard   [page 50]

3.2.1.3 Create and Edit a Combined Data Source

Overview

From the *Design Data Sources* work center view, administrators can create and edit combined data sources to suit their business requirements and processes and to use combined data sources for reporting.

For information about the types of data sources, see Data Sources   [page 64].

Procedure

1. In the *Design Data Source* work center view, from   New , choose the *Combined Data Source* option.

By default, the combined data source contains the Counter key figure. The Counter key figure counts the number of instances of a specified object.

2. On the *New Combined Data Source* screen, click `Add Data Source`.

3. On the *Add Data Source* dialog screen, select a data source from the dropdown list. You can then view which characteristics and key figures are available in the selected data source. The initial selections serve as a basis for the combined data source. The characteristics and key figures are then displayed in the *Combined Data Source Fields* column.

> **i** Only data sources that have compatible access contexts can be added to the combined data source. For example, a data source can be added if the data source and the combined data source have a common access context. Data sources that have unrestricted as an access context can always be added.
>
> Thereby the number of available data sources to be combined may be reduced.

4. Select one or more additional data sources for the combined data source and add the data sources accordingly.

> **i** When you add data sources to the combined data source, the system checks whether the characteristics and key figures in the additional data sources are also available in the data source that you selected as a basis for the combined data source.
>
> If the characteristic or key figure is already available in the combined data source, the system maps the characteristic or key figure and positions the characteristic or key figure in the same row across all data sources.
>
> If the characteristic or key figure is not already available in the combined data source, the system adds the characteristic or key figure to the combined data source.

Other Functions

- `Remove Data Source`
  The *Remove Data Source* dialog screen appears, showing the data sources that you have added. You can remove data sources by clicking the relevant checkbox.

- `Add Row`
  Adds a row to be defined by you. Once you have added a characteristic or key figure, the system adds the characteristic or key figure to the relevant field type group.

- `Remove Row`
  Deletes the selected row. Note that the selected characteristic or key figure is only removed from the combined data source.

- `Check Mapping`
  Checks whether characteristics and key figures semantically match in the selected data sources.
  Note you can change the mapping. It is not necessary characteristics have the same name, but they must match semantically. For example, in your company, sales units and cost centers are one and the same.

Result

The combined data source is available for reporting. You can create reports using data from the combined data source. For information about creating reports, see Working with Reports Using the Report Wizard [page 50].
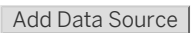
3.2.1.4 Create and Edit a Joined Data Source

Overview

From the *Design Data Sources* work center view, administrators can create and edit joined data sources to suit their business requirements and processes and to use joined data sources for reporting.

For information about the types of data sources, see Data Sources [page 64].

Procedure

1. In the *Design Data Source* work center view, from New ▌, choose the *Joined Data Source* option.

   By default, the joined data source contains the Counter key figure. The Counter key figure counts the number of instances of a specified object.

2. On the *New Joined Data Source* screen, click Add Data Source .

3. On the *Add Data Source* dialog screen, select a data source from the dropdown list. You can then view which characteristics and key figures are available in the selected data source. The initial selections serve as a basis for the joined data source. The characteristics and key figures are then displayed in the *Joined Data Source Fields* column.

   > ℹ️ You can view only the basic key figures when you are creating a joined data source.

4. Select one or more additional data sources for the joined data source and add the data sources accordingly.

   > ℹ️ When you add data sources to the joined data source, the system checks whether the characteristics and key figures in the additional data sources are also available in the data source that you selected as a basis for the joined data source.
   >
   > If the characteristic or key figure is already available in the joined data source, the system positions the characteristic or key figure in the same row across all data sources.
   >
   > If the characteristic or key figure is not already available in the joined data source, the system adds the characteristic or key figure to the joined data source.
   >
   > If you are joining a cloud data source with any other data source, ensure that the characteristics involved in join conditions are not compound characteristics.
   >
   > Note that if the characteristic is already available in the data source that is the anchor, the system creates a join. The more joins there are in a joined data source, the more restricted the data that is available for reports.

Other Functions

- Remove Data Source
  The *Remove Data Source* dialog screen appears, showing the data sources that you have added. You can remove data sources by clicking the relevant checkbox.

- Add Row
  Adds a row to be defined by you. Once you have added a characteristic or key figure, the system adds the characteristic or key figure to the relevant field type group.

- Remove Row

  Deletes the selected row. Note that the selected characteristic or key figure is only removed from the joined data source.

- Check

  Checks whether the joined data source is consistent.

- Set Anchor

  Sets the anchor to the selected data source.

  The data source that is the anchor is the basis for any joins. Depending on the type of join, changing the anchor to a different data source can change the joined data source fields.

- Set Access Context

  Sets the access context to the access context of the selected data source.

Result

The joined data source is available for reporting. You can create reports using data from the joined data source. For information about creating reports, see Working with Reports Using the Report Wizard   [page 50].

By default, all fields in the joined data source are visible. Note that you can further influence the visibility of characteristics and key figures. Under ▶ *Personalize* ❯ *This Screen* ◀, you can add the *Visibility* column to the table.

Value	Description
Visible for End User Personalization	Business users can add characteristics along with their attributes as well as key figures when working with reports in a Web browser using Add Fields .
Visible for Report Modeling	Only administrators can view characteristics along with their attributes as well as key figures. Characteristics and key figures for which this value is set are visible in the Report Wizard guided activity and when working with the report in a Web browser.
Always Hidden	Fields are not visible when creating or working with reports. This value is useful if you have a field in a joined data source that is only used to join two data sources; you are not interested in the actual data.

See Also

Add a Field to a Report   [page 30]

3.2.2 Create and Edit a Key Figure

3.2.2.1 Create and Edit a Key Figure

Overview

You can create your own calculated and restricted key figures for use in reports.

You can access this task from one of the following:

- Under *Common Tasks*
- From the *Design Reports* work center view, in the *Select Key Figures* step of the *Report Wizard*
- From the *Design Key Figures* work center view

> **i** You do not have to complete all steps in the New Key Figure task: only the first two steps are mandatory. This is indicated by an asterisk (*).
>
> You can create a key figure by entering a name, selecting a data source, defining a restriction or calculation, and clicking [Finish].

Procedure

1. Define Key Figure and Select Data Source

   We recommend providing a name and description for the key figure so that the business user can identify its use in reports.

   Select a data source from which the key figure is to be selected. Note that if you have navigated to this activity from the *Report Wizard*, the data source is prefilled with the selection you made.

   Depending on the type of key figure you want to create, make the appropriate selection.

2. Restrict/Calculate Key Figure

   - **Create a Restricted Key Figure**
     A restricted key figure is a key figure that is restricted to a specified characteristic value.
     For the key figure you have selected to restrict, make settings for the relevant characteristics. Different restriction settings are available depending on the restriction type you choose for the selected characteristic. The following restriction types are available:
     - Variable
       Restricts the selected characteristic using the variable you have specified.

Restriction Setting	Description
Variable Name	You must select the variable with which the specified characteristic can be restricted.
Hierarchy	For the specified variable, you can choose if hierarchy values are available using the *More* option to the left the variable entry field on the variables screen.
Selection Type	If you have decided that hierarchy value can be displayed, you can choose whether single or multiple hierarchy nodes can be selected. If you choose no hierarchy, the following options are available for value selections: • Any Selection • Interval • Multiple Values • Single Value
Mandatory	You can choose whether the business user has to make a value selection for the specified variable
Default Value	You can make default value selections using variables that business users can change.

     - Fixed
       Restricts the selected characteristic to a fixed value selection.
       You make fixed restrictions using the *Restriction* field.

> **i** You can configure a UI label for restricted key figures so that when you run a report, the system dynamically changes the column header to reflect the values that you have defined in the system. For more information, see Create a Dynamic UI Label for Restricted Key figures

- **Create a Calculated Key Figure**
  A calculated key figure is a key figure that is determined using calculation rules or formulas.
  You can create a calculated key figure derived from existing key figures in the data source you have selected.
  For example, you can create a formula to determine the number of customers for which zero activity has been recorded: EQ(Number of Customers, 0)
  For more information, see Formulas [page 73].

3. Properties

> **i** This is only an optional step for advanced business cases.

For information about the functions available in this step, see the following:
- Local Calculation [page 78]
- Conversion [page 80]
- Cumulate
  You can use this function to cumulate the individual cells in an area. The first value is added to the second value, and the result is added to the third value, and so on. In columns, cells are cumulated from top to bottom. In rows, cells are cumulated from left to right. With blocks of single values, that is, a drilldown in both the rows and the columns, values are cumulated from top to bottom and from left to right.
- Exception Aggregation [page 77]
  The following table provides some examples of when you could use exception aggregation.

Use Case	How to Define		Result
You want to display, for example, the minimum, maximum, or average net value by product.	Key Figure:	Net Value	Minimum Net Value by Product
	Exception Aggregation:	Minimum	
	Characteristic:	Product	
You want to know how many customers you have.	Key Figure:	Count	Number of Customers
	Exception Aggregation:	Total	
	Characteristic:	Customer	

4. Review

   Review your details. If you need to make any changes, you can go back to one of the previous steps. Click Finish to save your key figure.

5. Confirmation

   The system gives you a message that the key figure has been saved. Create a new key figure or click Close to go back to the *Design Key Figures* overview screen.

Result

The calculated or restricted key figure is available for reporting.

See Also

3.2.2.2 Formulas

Overview

Using the formula editor, you can create calculated key figures derived from existing key figures, such as basic key figures, restricted key figures, and calculated key figures using the available operands, operators, and a numeric keypad. For more information, see Create and Edit a Key Figure   [page 70].

Only numerical values are compared without taking units into account.

> **i** The system only checks the syntactic correctness of the formula. The system does not check whether the formula makes sense semantically.

Basic Functions

- Add (+)
  Calculates the sum of operand 1 and operand 2.
- Subtract (-)
  Subtracts operand 2 from operand 1.
- Multiply (*)
  Calculates the product of operand 1 and operand 2.
- Divide (/)
  Divides operand 1 by operand 2.
- Power (^)
  Returns the value of operand 1 raised to the power operand 2.
- Percentage Deviation (%)
  Calculates the percentage deviation between operand 1 and operand 2.

  > `Plan Sales % Actual Sales` shows the difference between the plan sales and the actual sales expressed as a percentage.

- Percentage Share (%A)
  Calculates the percentage share of operand 1 and operand 2.

  > `Fixed Costs %A Costs` shows fixed costs as a percentage share of total costs.

- Parentheses
  Groups and sets the order of operators.
- Comma
  Denotes a series in a list

Boolean Operators

A boolean value is one that can be either true or false. No other values are allowed.

For relational operators, such as Greater Than, the result is 1 if the relationship denoted by operator between operand 1 and operand 2 is true. Otherwise, the result is 0.

> `Costs < Sales` returns 1 if sales are greater than costs, and returns 0 if costs are greater than or equal to sales.

- EQ
  Equal To
- GE
  Greater Than or Equal To
- GT
  Greater Than
- LE
  Less Than or Equal To
- LT
  Less Than
- NE
  Not Equal To
- AND
  Logical AND
  The result is 1 if both operand 1 and operand 2 do not equal 0. Otherwise, the result is 0.
- NOT
  Logical NOT
  The result is 1 if the operand is 0. Otherwise, the result is 0.
- OR
  Logical OR
  The result is 1 if operand 1 or operand 2 does not equal 0. Otherwise, the result is 0.
- XOR
  Logical Exclusive OR
  The result is 1 if either operand 1 or operand 2 (but not both) does not equal 0. Otherwise, the result is 0.
- LEAF
  Values in Hierarchy
  The result is 0 for results rows or real (inner) nodes of a hierarchy, and the value 1 for elementary rows or the leaves of a hierarchy. This operator allows you to carry out various calculations on results rows and elementary rows.

Mathematical Functions

- ABS
  Absolute Value
  Returns the value of the operand irrespective of its sign (+/-).
- SIGN
  Sign of Operand
  Returns the value of the operand along with its sign (+/-).

- CEIL
  Ceiling
  Returns the next smallest integer value that is greater than the operand.
- DIV
  Division
  Integer division operator: for example, 6 DIV 4 returns 1.
- EXP
  Exponential
  An operand is raised to a variable power.
- FLOOR
  Floor
  Returns the next greatest integer value that is less than the operand.
- FRAC
  Fraction
  Returns decimal part of the X.
- LOG
  Logarithm
  Returns the natural logarithm of X.
- LOG10
  Base 10 Logarithm
  Returns the logarithm to the base 10 of X .
- MAX
  Maximum
  Returns the greatest value in a range.
- MAX0
  Maximum of 0 and the Operand
- MIN
  Minimum
  Returns the smallest value in a range.
- MIN0
  Minimum of 0 and the Operand
- MOD
  Remainder
  Integer remainder operator: for example, 6 MOD 4 returns 0.5.
- SQRT
  Square Root
  Returns the square root.
- TRUNC
  Truncate
  Returns the integer part of X.

Data Functions

- COUNTER
  Count
  Value equals 1 if operand equals 0. Otherwise, the result is 0
- NDIV0

Divide by Zero

Equals 0 when divided by 0. Otherwise, the result is the value of the operand.

- NOERR

  Zero If Error

  Equals 0 if the calculation of operand leads to an arithmetical error. Otherwise, the result is the value of the operand.

- %CT

  Percentage Share of Result

  Shows results as a percentage share of the overall result.

- %GT

  Percentage Share of Overall Result

  Shows values as a percentage share of the overall result.

- %RT

  Percentage Share of Report Result

  Calculates a result similar to (%GT).

- DATE

  Value as Date

  Returns the integer value in date format.

- DELTA

  Delta

  Returns the value 1 if the expression is 0, else 1.

- NODIM

  No Unit or Currency

  Returns numeric values of the operand and suppresses units and currencies.

- SUMCT

  Sum of Result

  Returns the result of the operands to all rows or columns.

- SUMGT

  Sum of Overall Result

  Returns the overall results of the operands.

- SUMRT

  Sum of Report Result

  Returns the report result of the operand.

- TIME

  Value As Time

  Returns the integer value in time format.

  The system cuts off the decimal places, interprets the value as seconds, and displays the value in the form +-hh:mm:ss. For example, 4812 is displayed as 1:20:12.

Trigonometric Functions

- ACOS

  Arc Cosine

- ASIN

  Arc Sine

- ATAN

  Arc Tangent

- COS
  Cosine
- COSH
  Hyperbolic Cosine
- SIN
  Sine
- SINH
  Hyperbolic Sine
- TAN
  Tangent
- TANH
  Hyperbolic Tangent

See Also

Working with Reports Using the Report Wizard   [page 50]

3.2.2.3 Aggregation

Overview

To enable the calculation of key figures, the system has to aggregate key figure values from the data source, and formulas may also need to be calculated. The system aggregates key figure values for multiple characteristics. The system can also aggregate key figure values for a specified characteristic; this is referred to as exception aggregation..

The system aggregates key figure values according to a specified order.

1. Standard aggregation is executed. Possible aggregation behaviors are summation, minimum, and maximum. Minimum and maximum can, for example, be used for date key figures.

2. Exception aggregation using a selected characteristic. Cases for exception aggregation include warehouse stock, for example, that cannot be totaled over time, or counters that count the number of characteristic values for a certain characteristic.
   For more information, see Exception Aggregation   [page 77].

3. Aggregation using currencies and units is executed. The system outputs * when two numbers that are not equal to zero are aggregated with different currencies or units.
   For more information, see Conversion   [page 80].

3.2.2.4 Exception Aggregation

Overview

Administrators can define exception aggregation behavior for key figure values when they create a calculated key figure. For more information, see Create and Edit a Key Figure   [page 70].

The deviation to the standard aggregation behavior is only valid in combination with a specified characteristic.

Value	Description
Average	The average of all values is displayed.
Average of Detailed Values That Are Not Zero, Null, or Error	The average of the column value not equal to zero is displayed in the results row.
Average Weighted with Calendar Days	The average of the column value weighted with the number of days is displayed in the results row.
Average Weighted with Working Days	The average of the column value weighted with the number of workdays is displayed in the results row.
Counter for All Detailed Values	The number of existing values is displayed in the results row.
Counter for All Detailed Values That Are Not Zero, Null, or Error	The number of values <> zero is displayed in the results row.
Exception If More Than One Record Occurs	No aggregation
Exception If More Than One Value <> Occurs	No aggregation
Exception If More Than One Value Occurs	No aggregation
First Value	The first value in relation to the reference characteristic is displayed in the results row.
Last Value	The last value in relation to the reference characteristic is displayed in the results row.
Maximum	The maximum value of all values displayed in this column is displayed in the results row.
Minimum	The minimum value of all values displayed in this column is displayed in the results row.
No Aggregation Along Hierarchy	
No Aggregation of Posted Nodes Along Hierarchy	
Standard Deviation	The standard deviation of the displayed values is displayed in the results row.
Total	The sum of all values displayed in this column is displayed in the results row.
Variance	The variance of the displayed values is displayed in the results row.

See Also

3.2.2.5 Local Calculation

Overview

Administrators can recalculate single values and results of a report based on certain criteria. For example, you can create ranked lists, or you can calculate the total for a Top 10 product list locally.

Calculate Results and Single Values As

You use the following functions to recalculate results rows and single values.

Value	Description
Counting All Detailed Values	All values for a characteristic are counted and numbered.
Counting All Detailed Values That Are Not Zero, Null, or Error	Excluding the values that are equal to zero, all values for a characteristic are counted and numbered.
First Value	The highest value or the value furthest to the left of the corresponding area is displayed as the result. *
Hide	The result is not displayed.
Last Value	The lowest value or the value furthest to the right of the corresponding area is displayed as the result. *
Maximum	The largest value for the corresponding area is displayed as the result.
Minimum	The smallest value for the corresponding area is displayed as the result.
Moving Average	The system calculates the average of all values.
Moving Average For All Values That Are Not Zero, Null, or Error	Excluding the values that are equal to zero, the system calculates the average of all values.
Normalize According to Next Group Level Result	The data is displayed as a percentage of the result of the next group level. The values of the results row and the overall results row are not displayed as percentages but as absolute values. If there is only one characteristic in the drilldown, the result of a group level is the same as the overall result. **
Normalize According to Overall Result	The data is displayed as a percentage of the overall result. The values of the results row and the overall results row are not displayed as percentages but as absolute values. If there are multiple characteristics in the drilldown, there are different results, which are combined to form an overall result. **
Olympic Rank Number	The olympic ranked list differs from the basic ranked list as follows: In the olympic ranked list, when a value occurs more than once, the next smallest value is not assigned the rank incremented by one, but the rank that corresponds to the number of previous characteristic values (including the current value). For example, there are three products with a higher rank than product D, therefore D has rank 4 and rank 3 is not assigned since B and C have the same rank (2). **
Rank Number	The characteristic values are sorted according to the selected structure element and are given a ranking. The order of the ranked list is based on the size of the value for the structure element, where the largest value has rank 1 and the smallest value has the last rank. If a value occurs more than once, the corresponding characteristic values are assigned the same rank. In a basic ranked list, the next smallest value is assigned this rank incremented by one. **
Standard Deviation	Statistical deviation is a measure of the distribution of the values with respect to the mean value (average). Statistical deviation = root from the variance: SQRT (variance). *
Summation of Rounded Values	If you have set a scaling factor, it is useful to calculate the total sum of rounded values locally since the total sums can differ considerably (in particular with high scaling factors). *

Value	Description
Total	The sum total of the values for the corresponding area is displayed as the result. *
Variance	Variance is a measure of the distribution of the values with respect to the mean value (average). *

* Denotes the options that are valid only for **Calculate Results.**
- First Value
- Last Value
- Variance
- Standard Deviation
- Summation of Rounded Values
- Total

** Denotes the options that are valid only for **Single Values As**
- Normalize According to Next Group Level Result
- Normalize According to Overall Result
- Olympic Rank Number
- Rank Number

See Also

3.2.2.6 Conversion

Overview

Administrators can define conversion for calculated key figures that they create. For more information, see .
The following conversion types are available.

Unit Conversion

Unit conversion allows you to convert the quantity unit of key figure values that represent a quantity to another unit.
You apply unit conversion when you define the key figure.

> You have a key figure, representing ordered stock quantities.
>
> You require this function, for example, if you want to report on key figures, such as ordered stock that use quantities in units common to different countries or industries. By converting the quantity unit to a common unit, such as kilograms for weight, you can compare ordered stock.

Currency Conversion

Currency conversion allows you to convert the currency unit of key figure values.

Note that you do not apply currency conversion when creating the calculated key figure but rather define that currency conversion can be applied to the key figure if the key figure is used in reports.

When you define that currency conversion can be applied to the key figure, the system creates variables that are available with reports in which the key figure is used. The variables enable users to apply currency conversion to the key figure. Depending on how the report is defined, the variables may already exist.

The variables are as follows:

- *Display Currency*
  Depending on how the underlying data is defined, the variable may be defaulted to the company currency.

- *Display Currency - Conversion Date*

> For example, you want to report on key figures, such as net sales that balance in a different currency. By converting the currency unit to a common currency, such as the company currency, you can compare net sales.

3.2.3 Relative Selections View

3.2.3.1 Relative Selections Quick Guide

In the *Relative Selections* work center view of the *Business Analytics* work center, administrators can create relative selections for reports.

Relative selections are useful if you do not always want to change your filter or selection values every time business users start a report.

Business Background

There are two types of relative selections: SAP-delivered and admin-created, both of which are available from the value help of fields in the *Selection* area of reports under *Relative Select*.

SAP-delivered relative selections are useful if you do not want to always change your filter or selection values every time business users start a report. The values are calculated and filtered according to specified criteria.

- SAP-delivered

  > Let's take the example of relative selection *Last Week*.
  > It is calendar week 27; last week is therefore 26. If it were in calendar week 26, last week would be 25.
  > In a report, for *Calendar Week* , a user chooses the relative selection *Last Week*, the system therefore filters data accordingly, depending on the current calendar week.

- Admin-created
  Admin-created relative selections are created by you and are useful if you want to make a specific value or range of values available and want to be able to change them centrally.

> Let's take the example of the relative selection *Financial Reporting Quarter*.
> Your fiscal quarters are the same as calendar quarters, and your reports always show the data of the current quarter.
> You create a relative selection called *Financial Reporting Quarter* and set the available values to the current quarter. In the next quarter, you can change the value to the following quarter; the system therefore filters data accordingly.

Create and Edit Relative Selections

1. Click *New* or select the relative selection and click *Edit*.
2. Enter a name and description for the relative selection.
3. Select an appropriate type.
   The type determines in which basic time characteristic the relative selection is available.

   > The relative selection is available in all data sources in which the time characteristic or currency variable is available.

   > If you select *Data Source* as type, you make the relative selection only available with data sources that you specify.
   > Under *Data Sources*, the first data source you choose is the primary data source. If you choose to add the relative selection to further data sources, the data type of the characteristics in the further data sources must match that of the primary data source.
   > The characteristic of primary data source also determines the values that are available for the relative selection.

4. Select a value entry.
   The value entry type determines how the user can make the value selections.
5. Under *Values*, select the relevant value entries to make available to business users.

Tips and Tricks

You want to add a relative selection to a specific report.

In the **Selection** area of a report, you have a specific field for which you want to create a relative selection.

1. Note the data source that serves as a basis for the report.
2. Decide if you want to add the relative selection only to the data source or if you want the relative selection to be added to all applicable data sources.
3. Once you've created the relative selection, go to the report and start it. From Add Fields , select the corresponding characteristic and click **Display in Selection Area**.
   The field is added to the **Selection** area.
4. Open the value selection help of the field. Click **Relative Select**. Your relative selection is available from the **Select** dropdown list box.

You want to find out if your relative selection might be available in a specific data source.

1. From the **Design Data Sources** work center view, check the documentation of the specific data source.
2. In the documentation, check whether one or more characteristics with an appropriate data type are available.

3. Start a report that uses the data source.
    If you do not know of a report, you can find a report from the **Design Reports** work center view. You can see the name of the underlying data source in the **Data Source** column.

4. From `Add Fields`, select the corresponding characteristic and click **Display in Selection Area**.
    The field is added to the **Selection** area.

5. Open the value selection help of the field. Click **Relative Select**. Your relative selection is available from the **Select** dropdown list box.

3.3 Design Key Figures View

3.3.1 Design Key Figures Quick Guide

In the *Design Key Figures* work center view, administrators have an overview of calculated and restricted key figures and key figure structures available in data sources.

You can access the *Design Key Figures* view from the *Business Analytics* or *Administrator* work centers.

Business Background

An overview of calculated and restricted key figures in the system enables administrators to determine which data sources suit the business requirements for reports. It also enables administrators to determine whether they need to create any restricted or calculated key figures. For more information, see Overview of Analytics   [page 6].

Tasks

Create and Edit a Key Figure

For more information about this task, see Create and Edit a Key Figure   [page 70].

3.3.2 Create and Edit a Key Figure

Overview

You can create your own calculated and restricted key figures for use in reports.

You can access this task from one of the following:

*   Under *Common Tasks*
*   From the *Design Reports* work center view, in the *Select Key Figures* step of the *Report Wizard*
*   From the *Design Key Figures* work center view

> **i** You do not have to complete all steps in the New Key Figure task: only the first two steps are mandatory. This is indicated by an asterisk (*).
>
> You can create a key figure by entering a name, selecting a data source, defining a restriction or calculation, and clicking Finish .

Procedure

1. Define Key Figure and Select Data Source

   We recommend providing a name and description for the key figure so that the business user can identify its use in reports.

   Select a data source from which the key figure is to be selected. Note that if you have navigated to this activity from the *Report Wizard*, the data source is prefilled with the selection you made.

   Depending on the type of key figure you want to create, make the appropriate selection.

2. Restrict/Calculate Key Figure

   - **Create a Restricted Key Figure**
     A restricted key figure is a key figure that is restricted to a specified characteristic value.
     For the key figure you have selected to restrict, make settings for the relevant characteristics. Different restriction settings are available depending on the restriction type you choose for the selected characteristic. The following restriction types are available:
     - Variable
       Restricts the selected characteristic using the variable you have specified.

Restriction Setting	Description
Variable Name	You must select the variable with which the specified characteristic can be restricted.
Hierarchy	For the specified variable, you can choose if hierarchy values are available using the *More* option to the left the variable entry field on the variables screen.
Selection Type	If you have decided that hierarchy value can be displayed, you can choose whether single or multiple hierarchy nodes can be selected. If you choose no hierarchy, the following options are available for value selections: • Any Selection • Interval • Multiple Values • Single Value
Mandatory	You can choose whether the business user has to make a value selection for the specified variable
Default Value	You can make default value selections using variables that business users can change.

     - Fixed
       Restricts the selected characteristic to a fixed value selection.
       You make fixed restrictions using the *Restriction* field.

> ℹ You can configure a UI label for restricted key figures so that when you run a report, the system dynamically changes the column header to reflect the values that you have defined in the system. For more information, see Create a Dynamic UI Label for Restricted Key figures

- **Create a Calculated Key Figure**
  A calculated key figure is a key figure that is determined using calculation rules or formulas.
  You can create a calculated key figure derived from existing key figures in the data source you have selected.
  For example, you can create a formula to determine the number of customers for which zero activity has been recorded: EQ(Number of Customers, 0)
  For more information, see Formulas [page 73].

3. Properties

> ℹ This is only an optional step for advanced business cases.

For information about the functions available in this step, see the following:

- Local Calculation [page 78]
- Conversion [page 80]
- Cumulate
  You can use this function to cumulate the individual cells in an area. The first value is added to the second value, and the result is added to the third value, and so on. In columns, cells are cumulated from top to bottom. In rows, cells are cumulated from left to right. With blocks of single values, that is, a drilldown in both the rows and the columns, values are cumulated from top to bottom and from left to right.
- Exception Aggregation [page 77]
  The following table provides some examples of when you could use exception aggregation.

Use Case	How to Define		Result
You want to display, for example, the minimum, maximum, or average net value by product.	Key Figure:	Net Value	Minimum Net Value by Product
	Exception Aggregation:	Minimum	
	Characteristic:	Product	
You want to know how many customers you have.	Key Figure:	Count	Number of Customers
	Exception Aggregation:	Total	
	Characteristic:	Customer	

4. Review

   Review your details. If you need to make any changes, you can go back to one of the previous steps. Click Finish to save your key figure.

5. Confirmation

   The system gives you a message that the key figure has been saved. Create a new key figure or click Close to go back to the *Design Key Figures* overview screen.

Result

The calculated or restricted key figure is available for reporting.

See Also

3.4 Broadcasts View

3.4.1 Broadcasts Quick Guide

In the *Broadcasts* work center view, you can immediately broadcast reports by e-mail and create schedules for when you want reports to be broadcast.

You can access the *Broadcasts* work center view from the *Business Analytics* work center.

Business Background

Broadcasting reports by e-mail enables business users to frequently analyze report data without necessarily having to log on to the system and navigate to the report.

There are two scenarios:

- Periodic Scheduling
  Periodic scheduling is useful if you want to broadcast a report on a regular basis.
  For example, a sales manager want to send sales reports to his field sales representatives on a monthly basis. He informs his administrator to set up a schedule by which the report is broadcast each month.

- Ad-Hoc Broadcasting
  Ad-hoc broadcasting is useful if a specific report requires the attention of multiple users.

Note that you can decide if report data sent by e-mail is to be encrypted. If you want to encrypt outgoing e-mails, you must make changes to your scoping. From the *E-mail Encryption and Signature Check* fine-tune activity, you can specify for the *Analytics - Send Report Data, Broadcasting* outgoing e-mail scenario whether outgoing e-mails are encrypted and whether they are signed.

For more information, see the following documents: Configuration: Load Certificates and Activate Signing and Encryption for E-Mails and Configuration: E-Mail Encryption and Signature Check.

Tasks

Create a Broadcast

1. From the *Broadcasts* work center view, click   New
2. On the following screen, enter a name for the broadcast and select the relevant report.
3. Add recipients.

> **ℹ** For recipients who have a user in the solution, you can decide if the recipients are to receive data according to their authorizations or according to the authorizations of the user who creates the broadcast by checking the *User specific* indicator.
> Note that if the report is to be broadcast using the authorizations of the user who creates the broadcast, ensure that the user has access rights to the work center views to which the report is assigned in order to start the report.

> **ℹ** Using Broadcast Bursting
> Bursting feature allows you to broadcast reports to multiple recipients by e-mail. If you have maintained the addresses of the recipients in the master data, you can select a characteristic in which the e-mail addresses are maintained. The system can determine the recipients from this information.
> When you select the checkbox *Use Broadcast Bursting*, the section to add e-mail addresses of the recipients is hidden. For the new field *Attribute For Email*, select a characteristic, in which you have maintained the email address. Now, the report will be automatically sent to all the relevant recipients, without you having to add each individual e-mail addresses separately.
> **Unlike a normal broadcast, entire data is not sent to all recipients.** The report data is filtered for each recipient based on their e-mail addresses, which is identified by the values of the attribute you select. This ensures that every recipient only receives the data filtered for their e-mail address.
> If you wish to send the entire data to all the recipients, create a regular broadcast.

4. Under *Format and Content*, select if the report is to be broadcast as an attachment or as a link.
   - If you want to broadcast the report as an attachment, note that reports broadcast in XML and CSV format open by default using Microsoft Excel®.
   - If you want to broadcast the report as a URL, you must also specify how the report is to be viewed. Reports can viewed in one of the Web browser options or using Microsoft Excel®.
   - If the broadcast report is to be viewed on a mobile device, we recommend the HTML format.

5. Decide if the report is to be broadcast now or if it is to be broadcast periodically.
   - If you want broadcast the report ad-hoc, select *No Schedule*.
   - If you want to schedule the broadcast for the report, select *Periodically*, and set how frequently the report is to be broadcast along with the start and end date for the schedule.
   The system saves the broadcast or schedule. You can then view the broadcast or schedule from the *Broadcasts* work center view.

Manage Broadcasts and Schedules

From the *Broadcasts* work center view, under *Actions*, you can edit, delete, or change the status of a schedule. You can start, pause, or resume broadcasts and schedules.

You can also edit broadcasts and schedules by clicking Edit . In addition, you can click View Logs and check all the logs related to a selected broadcast.

3.5 Design KPIs View

3.5.1 Quick Guide for Design Key Performance Indicators (KPIs)

The *Design KPIs* view enables you to check the characteristics and rules that a KPI uses to perform a calculation. You can choose default KPI evaluations from the evaluation catalog, or you can to use previously created evaluations. You can also create your own evaluations to suit further business requirements.

You can access the *Design KPIs* work center view from the *Business Analytics* work center.

Tasks

Create or Edit a Public Evaluation

You can create a key performance indicator (KPI) evaluation based on an existing KPI or edit an existing KPI evaluation.

For more information, access the *Help Center* from the relevant screen.

For an overview of key performance indicators in SAP Business ByDesign, see the following document: Overview of Key Performance Indicators (KPIs).

Edit Key Performance Indicator (KPI) Properties

The properties that you can edit determine how often the KPI evaluation value is be recalculated.

To edit KPI Properties, from Edit ▮, choose *KPI Properties*.

Depending on the KPI, the following options are available.

- Daily
- Weekly
- Monthly
- Yearly

You can also set the daily recurrence pattern so that the KPI evaluation value is recalculated every set number of days or is recalculated each weekday.

Activate and Deactivate Key Performance Indicators

You can activate and deactivate key performance indicators accordingly.

Active KPIs can be assigned to work centers views, and you can create evaluations based on the KPI.

Assign Key Performance Indicators

After you have created a KPI evaluation, you can assign it to work centers and work center views, making it available to business users.

1. Select the relevant key performance indicator with the status *Active*.
2. Click Assign .

3. Select the work center views to which you want to assign the KPI and set the *Assign* indicator.

> **i** Note that the system checks whether the access context of the KPI and the access context of the work center view conflict. The *Conflict* column indicates whether a conflict exists.
> A check mark indicates that the access contexts match.
> An exclamation mark indicates that the access contexts conflict.

For more information, see the following document: Assign a Report or KPI.

3.5.2 Create or Edit a Public Evaluation

Overview

You can create a new key performance indicator (KPI) evaluation based on an existing KPI or edit an existing KPI evaluation.

- From the *Business Analytics* work center, you can create a new evaluation using one of the following ways:
  - In the left navigation pane under *Common Tasks*, click *New Public Evaluation*.
  - From New ▊, choose *Public Evaluation*.
  - To edit an existing evaluation, select the KPI that is relevant to the evaluation you want to edit. From Edit ▊, choose *Public Evaluation*, then click Quick Edit .

Procedure

1. Select Key Performance Indicator

   If you want to create a new KPI evaluation, select the key performance indicator on which you want to base a new evaluation along with setting the access context for the public evaluation.

   If you want to edit an existing KPI evaluation, select the relevant KPI evaluation.

2. Define Evaluation

   Define the evaluation condition and the dependent threshold definitions for the selected key performance indicator.

   - Define a Dimension
     A dimension is a general criteria by which values are grouped and are available from the *Evaluation Value* field. To select a dimension, use the value selection help to the right of the *Dimension* field.
     For example, for the *Time* dimension, values such as Yesterday, Today, and so on are available. If you select *Supplier* as a dimension, a list of suppliers is available.
     Note that the default setting for condition depends on the direction of improvement for the corresponding KPI. For example, if the direction of improvement is *Is Lower Than*, the default condition is the same.

   - Define an Evaluation Value
     The evaluation value is the value that is compared to a target value.

   - Define a Condition
     The condition shows the direction of improvement for the evaluation.
     The following table provides a description of the available conditions.

Value	Description
Is Higher Than	The key performance indicator value improves the higher the value is.
Is Lower Than	The key performance indicator value improves the lower the value is.
Is Within Range	The key performance indicator value improves the closer it is to a specified value range.

- Define a Target Value
  From the *Target Value* list, choose whether to evaluate against a reference value or an absolute value, and select the target value. Depending on the dimension and evaluation condition, the target value may or may not be a percentage.

  > ℹ️ If you do not provide a target value, the evaluation is incomplete. However, you can still use an incomplete evaluation since it shows an evaluation value. Note if you do not provide a target value, a status not displayed in the KPI monitors of the *Corporate Performance* and *Managing My Area* work centers.

- Define a Threshold
  Define the threshold values to use for alerts in this evaluation. The thresholds that must be defined depend on the evaluation condition you specify.
  Depending on whether you want to use reference or target values, the threshold is expressed as follows:
  - With reference target values, thresholds are expressed as a percentage.
  - With absolute target values, thresholds are expressed as either time, currency, or percentage.

  - If you specify *Is Lower Than* as the condition, you must define medium and critical thresholds.
  - If you specify *Is Greater Than* as the condition, you must define medium and critical thresholds.
  - If you specify *Is Within Range* as the condition, you must define lower critical, lower medium, upper medium, and upper critical thresholds.

3. Define Dimension Details

   Define dimension details for all mandatory dimensions, and define further restrictions for other dimensions. This sets the granularity of how the KPI evaluation is measured.

   The condition defined in the previous step is displayed with the restriction *Used in Condition*.

   To restrict a dimension, select the relevant dimension and click Restrict Values . You can then select one or more relevant values by which the dimension is to be restricted.

   To delete any restrictions for the dimension, click Clear Restrictions .

4. Define Properties

   Define how and when subscribers of a KPI evaluation are to be alerted of a change of status in an KPI evaluation, and define how you want KPI evaluations to be grouped in the monitor.

   - Under *Evaluation Name*, a name for the KPI evaluation is provided by default. You can enter a different name for the KPI evaluation. If you overwrite the name, but you want to go back to the name provided by default, click Reset to Default .
   - Under *Evaluation Description*, you can enter comment. We recommend explaining the purpose of public evaluations or corporate evaluations because both evaluation types are available to other users.
   - Under *Evaluation Behavior*, from *Alert Activation Event*, choose the option that determines how subscribers are to be alerted.
     - None
     - If status changes
     - If status disimproves
     - If status is critical

- Under *Evaluation Behavior*, from *Evaluation Type*, choose the option that determines for whom the KPI evaluation is displayed.
  - Personal
    Personal KPI evaluations are only visible to the user who creates them.
    For example, in the *Managing My Area* work center, a personal evaluation is only visible to the manager who creates it. The evaluation type in the KPI monitor is *Personal*.
  - Public
    This evaluation type is visible to all users who have the corresponding access rights.
  - Corporate
    In the *Corporate Performance* work center , a corporate evaluation is visible to all users who have the *Corporate Performance* work center assigned to them.

> **i** Depending on your access rights, one or more evaluation types is available.
> - For users assigned to the *Business Analytics* work center, public is available.
> - For users assigned to the *Managing My Area* work center, personal and public are available.
> - For users assigned to the *Corporate Performance* work center, public and corporate are available.

- Grouping in Monitor
  The following options are available, indicating how often a KPI evaluation is monitored.
  - Frequency
    Depending on the KPI, the following options are available that determine how often the KPI evaluation value is be recalculated from a business perspective.
    - Daily
    - Weekly
    - Monthly
    - Yearly
  - Perspective
    The perspective is in regard to the balanced scorecard.

Value	Description
Financial Perspective	Balanced scorecard perspective for the financial performance of an organization.
Customer Perspective	Balanced scorecard perspective representing objectives that have a direct impact on customers.
Internal Process Perspective	Balanced scorecard perspective for the performance of internal processes.
Learning & Growth and Employees Perspective	Balanced scorecard perspective in regard to self-improvement and employees.

  - Importance
    Indicates the importance of the KPI evaluation to the enterprise and its employees.
    - Very High
    - High

- Medium
- Low
- Review
Review the conditions, dimensions, and properties that you have set for your new or edited KPI evaluation.
  - If you need to change the condition, dimensions, and properties that you have set for the KPI evaluation, click `Previous` and go back to the relevant step.
  - To confirm the new or edited KPI evaluation, click `Finish`.

3.5.3 Overview of Key Performance Indicators (KPIs)

Overview

This document provides an overview of the key performance indicators (KPIs) available in SAP Business ByDesign. The following documents list the KPIs in the relevant areas.

Supplier Relationship Management

- Purchasing Demand Fulfillment Ratio
- Purchase Order Creation Time
- Maverick Spend Ratio
- Contract Spend Ratio
- Purchasing Volume
- Ratio of Automatically Created Purchase Orders

Human Resources

- Actual Utilization
- Forecast Utilization
- Time Recording Completion Rate
- Employee Turnover Rate
- Terminations
- Entries
- Full-Time Equivalents (FTE)
- Headcount

Financials

- Net Incoming Orders
- Cost of Goods Sold – Earned
- Operating Profit Margin – Earned
- Operating Profit – Earned
- Gross Profit Margin – Earned
- Gross Profit – Earned
- Net Revenue – Earned
- Liquidity Situation

Customer Relationship Management

- Average Call Closure Time
- Opportunity Success Rate
- Return Rate

3.6 Upload and Download an Object

Overview

You can upload from and download to a source, such as your computer or an external storage device. You can upload and download Analytics objects that you have created, such as data sources, key figures, and reports.

This function is useful, for example, if you want to upload objects from your test system to your productive system.

Depending on your solution, you can access this function from the *Common Tasks* of the *Business Analytics* and/or *Administrator* work center.

> ℹ️ Note that uploading and downloading customer- and partner-created extension fields is not supported.

> ℹ️ Note that when you upload or download an object, related objects you have created are also downloaded or uploaded. That is, objects used to create the object in question or objects that are built using the object in question.
>
> For example, you created a data source and built a report using the data source. When you download the data source, the report is also downloaded.

The following table provides an overview of objects that can be uploaded or downloaded. Note that when you upload or download an object, related objects are also downloaded or uploaded. That is, objects used to create the object in question or objects that are built using the object in question. For example, you created a data source and built a report using the data source. When you download the data source, the report is also downloaded.

Object	Possible Related Objects
Data Source	- Data source - Report - Key figure
Key figure	None
KPI KPIs are relevant if you use the SAP Business in Focus app.	- Report view - Selection
Report	Data source - Report views - Selections - Personalization Personalization objects are report views or selections that you have personalized.

Object	Possible Related Objects
Dashboard Dashboards are relevant if you use the SAP Business in Focus app.	• Data source • Report • Report view • Selection

Download an Object

You can download objects that you have created from your system to a source.

Steps

1. Choose the *Download* screen.
2. From the *Object Type* dropdown list, select the object type to be downloaded.
3. In the *Name* field, click the value selection help to select the relevant object.
4. Click Download .
5. Select a location to which the object and any related objects are to be downloaded.
6. Enter a name for the file.
   Note that the system only creates one file for each object type.

Upload an Object

You can upload objects that you have created from a source to your system.

Note that you can also delete objects that you have uploaded on the *Delete Upload* screen.

Steps

1. Choose the *Upload* screen.
2. Click Upload Object .
3. Select the file that contains the object and any related objects to be uploaded.
4. To save the objects and make them available in the system, click Save .

Result

The object and any related objects are available in the system. You can view the objects in the corresponding work center views.

Tips

• If you upload an object that already exists, the existing object is overwritten.
• If you upload an existing cloud data source, the data of the existing Cloud data source is deleted.

- If you change an existing data source, any reports using the data source may be inconsistent if you upload the changes.
  For example, the report has 5 characteristics in its layout; these 5 characteristics are no longer in the changed data source. If you upload the changed data source and try to start the report, the report cannot display the correct data.

4 Extension Fields for Analytics

4.1 Data Sources Enabled for Extension Fields

Overview

The following list provides the data sources per business context that are enabled for extension fields. Note that unless otherwise indicated, data sources are only extensible by characteristics.

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Account - Bank Data	HOUSEBANK	My Bank Master Data	
	BPSPPB	Supplier Details	X
	BPCSFINB	Account Financial Data	X
	BPCSDB	Account Details	X
	BPARTNER	Business Partner Master Data	
Account - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
Account - Payment Data	BPCSFINB	Account Financial Data	X
Account - Sales Data	BPCSDB	Account Details	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Activity Task - General Information	CRMTKAHB	Activity Task	X
	CRMOTKAHB	All Tasks with Predecessor Opportunities	X
	CRMACTU	All Activities	X
Appointment - General Information	CRMOAPAHB	All Appointments with Predecessor Opportunities	X
	CRMAPAHB	Appointment	X
	CRMACTU	All Activities	X
Baseline - General Information	PROPRJU05	Projects, Baselines, and Snapshots	
	PROPRJU04	Projects, Baselines: Tasks and Staffing	
	PROBSLB	Baseline Project	X
Baseline - Task	PROPRJU05	Projects, Baselines, and Snapshots	X
	PROPRJU04	Projects, Baselines: Tasks and Staffing	X
Baseline - Work Package	PROPRJU05	Projects, Baselines, and Snapshots	X
	PROPRJU04	Projects, Baselines: Tasks and Staffing	X
Business Partner - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
Campaign - General Information	CRMCPGHB	Campaign Header	

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Clearing House - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
Compensation File - Compensation Structure Assignment	HCMCMPB02	Compensation Structure Details	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Competitor - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
	PRODUCT	Product Master Data	X
	MATERIAL	Material Master Data	X
Competitor Product - General Information	PRODUCT	Product Master Data	X
	MATERIAL	Material Master Data	X
Competitor Product - Own Product Information	PRODUCT	Product Master Data	X
	MATERIAL	Material Master Data	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Contact - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
	CRMRVFU	Revenue Forecast Data	
	CRMCCOIPB	Customer Contract Item Period Values	
	CRMCCOIB	Customer Contract Item	
Contract - Item	CRMRVFU	Revenue Forecast Data	
	CRMCCOIPB	Customer Contract Item Period Values	
	CRMCCOIB	Customer Contract Item	
Customer and Supplier Account (Cash Flow Management) - General Information	BPCSFINB	Account Financial Data	X
Customer Demand - Order Line Item	SCMODPB01	Outbound Delivery Performance Details	
Customer Invoice - General Information	GLOCIU01	Customer Invoice Item with Tax Details	
	CRMCIVIB	Customer Invoice Item	
	CRMCIVHB	Customer Invoice Header	X
Customer Invoice - Item	GLOCIU01	Customer Invoice Item with Tax Details	
	CRMCIVIB	Customer Invoice Item	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Customer Return - General Information	CRMRVFU	Revenue Forecast Data	
	CRMCRTU	Customer Returns	
	CRMCRTIB	Customer Returns Item	
	CRMCRTHB	Customer Returns Header	X
Customer Return - Item	CRMRVFU	Revenue Forecast Data	
	CRMCRTU	Customer Returns	X
	CRMCRTIB	Customer Returns Item	X
E-Mail - General Information	CRMEMAHB	E-Mail	X
	CRMACTU	All Activities	X
Employee - Biographical Data	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Employee - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
Entitlement - General Information	ENTITLEMENT	Entitlement Master Data	X
Fax - General Information	CRMFXAHB	Fax	X
	CRMACTU	All Activities	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Financial Data of Cost Object - Financial Data of Cost Object - General Information	FINPRFU24	Sales Ledger Line Items	
	FINPRFU20	Profitability : Earned Profit	
	FININVU03	Purchase Ledger Account Line Items	
	FININVU02	Production Ledger Account Line Items	
	FININVU01	Material Ledger Account Line Items	
	FINGLAU03	Journal Entries	
	FINGLAU02	G/L Account Items	
	FINFXAU03	Fixed Assets Line Items	
	FINCOBU02	Free Cost Object - Line Items	
	FINCOBU01	Free Cost Object Master Data	
	FINCOBMDB	Free Cost Object	
	FINCACU04	Project Cost and Revenue - Aggregated	
	FINCACU02	Project Line Items	
	FINCACU01	Cost Center - Line Items	
Fixed Asset - General Information	FINFXAU04	Fixed Assets Master Data	
	FINFXAU03	Fixed Assets Line Items	
	FINFXASSB	Fixed Asset	

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
General Information	PRODUCT	Product Master Data	X
	MATERIAL	Material Master Data	X
	CRMSRSOCU	Service Order, Sales Order & Service Confirmation Item	
	CRMSRSCIB	Service Order Item & Service Confirmation Item	
	CRMSROU	Service Order Header and Item	X
	CRMSOSPB	Assigned KB Articles for Service Order	
	CRMSOSCB	Service Order Header	X
	CRMSORIPB	Service Order Item period values	
	CRMSORIB	Service Order Item	
	CRMSORHHB	Service Order History	
	CRMSORHB	Service Order Header	X
	CRMSOCU02	Used Service Categories	X
	CRMSOCU01	Service Order and Service Confirmation	
	CRMSHSCIB	Service Order Header & Service Confirmation Item	
	CRMSCU	Used Service Categories	X
	CRMRVFU	Revenue Forecast Data	
	CRMKBU	Used Knowledge Base Articles	
	CRMSRSPB	Assigned KB Articles for Service Request	
	CRMSRSCB	Service Request	X
	CRMSRQHHB	Service Request History	
	CRMSRQHB	Service Request	X
Goods and Activity Confirmation - General Information	SCMCFJU01	Confirmation Journal	
Goods and Activity Confirmation - Product Item	SCMCFJU01	Confirmation Journal	X
Hire - Hire	HCMPAU01	Employee Turnover	
Identified Stock - General Information	SCM_ISTOCK	Identified Stock	X
	SCMCFJU01	Confirmation Journal	
Inbound Delivery - General Information	SCMCIDB01	Inbound Delivery Details	

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Inbound Delivery - Item	SCMCIDB01	Inbound Delivery Details	X
Inbound Delivery Notification - General Information	SCMIDNB01	Inbound Delivery Notification Item for Purchase Orders	
Inbound Delivery Notification - Item	SCMIDNB01	Inbound Delivery Notification Item for Purchase Orders	
Inspection - General Information	PLMQINU01	Inspection Analysis	X
	PLMQDFU01	Defect Analysis	
Journal Entry - General Information	FINACCDHB	Journal Header	X
Journal Entry - Item	FINACCDIB	Journal Entry Item	X
Knowledge Base Article - General Information	CRMCPASB	Knowledge Base Article	X
Lead - General Information	CRMSLOIB	Sales Order Item	
	CRMOPPHB	Opportunity Header	
	CRMLEFU	Lead Funnel	X
	CRMLEAHB	Lead	X
	CRMCQTIB	Sales Quote Item	
Letter - General Information	CRMLTAHB	Letter	X
	CRMACTU	All Activities	X
Location - General Details	SCM_LOCATION	Location	X
Logistics Area - General Information	SCM_PROD_LOT	Production Lot	
	SCM_LOG_AREA	Logistics Area	X
	SCMYASU01	Yield & Scrap	
Logistics Unit - General Information	SCM_LU	Logistics Unit	X
Material - Customer Information	CUST_PART_NUM_PRODUCT	Product Customer Part Number Master Data	
	CUST_PART_NUM_MAT	Material Customer Part Number Master Data	X
Material - General Information	PRODUCT	Product Master Data	X
	MATERIAL	Material Master Data	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
My Bank - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
Opportunity - General Information	CRMSLOIB	Sales Order Item	
	CRMRVFU	Revenue Forecast Data	
	CRMOPQU	Sales Analysis Pipeline	X
	CRMOPPU	Opportunity Header and Item	X
	CRMOPPIB	Opportunity Item	
	CRMOPPHPB	Opportunity Header Period Values	
	CRMOPPHB	Opportunity Header	X
	CRMOPFU	Opportunity Funnel	X
	CRMLEFU	Lead Funnel	X
	CRMCQTIB	Sales Quote Item	
Opportunity - Item	CRMOPPU	Opportunity Header and Item	X
	CRMOPPIB	Opportunity Item	X
Outbound Delivery - General Information	SCMODSOU01	Order – Delivery / Complete View	
	SCMOBDB01	Outbound Delivery Header Details	X
	SCMCFJU01	Confirmation Journal	
Outbound Delivery - Item	SCMODSOU01	Order – Delivery / Complete View	
	SCMOBDU01	Outbound Delivery Item Details	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Partner - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
Phone Call - General Information	CRMPCAHB	Phone Call	X
	CRMACTU	All Activities	X
Point-of-Sale Transaction - Sales Item	CRMPOSTVB	Sales Transaction Header	X
Point-of-Sale Transaction - Sales Transaction	CRMPOSTVB	Sales Transaction Header	
	CRMPOSTLB	Point-of-Sale Transaction Header	X
Production Confirmation - Product Item	SCMCFJU01	Confirmation Journal	X
Production Lot - Output Product	SCMPPTB02	Resource Utilization	
Production Lot - Resource Utilization	SCMPPTB02	Resource Utilization	X
Production Order - General Information	SCM_PROD_ORDER	Production Order	X
	SCMYASU01	Yield & Scrap	
	SCMPPTU01	Production Processing Times	
	SCMPPTB01	Resource Requirement	
Production Order - Material Output Details	SCM_PROD_ORDER	Production Order	
	SCMYASU01	Yield & Scrap	X
	SCMPPTU01	Production Processing Times	
	SCMPPTB01	Resource Requirement	

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Production Order - Material Output Details	SCMPPTB01	Resource Requirement	
Production Order - Operation Details	SCMPPTU01	Production Processing Times	
	SCMPPTB02	Resource Utilisation	
	SCMPPTB01	Resource Requirement	
Production Requests - General Information	SCMPRFU01	Production Request Fulfillment	
	SCMPRFB02	Production Request Fulfillment - Actual Data	
	SCMPRFB01	Production Request Fulfillment - Expected Data	
Production Requests - Production Segments	SCMPRFU01	Production Request Fulfillment	
	SCMPRFB02	Production Request Fulfillment - Actual Data	
	SCMPRFB01	Production Request Fulfillment - Expected Data	
Project - General Information	PROPRJU05	Projects, Baselines, and Snapshots	
	PROPRJU04	Projects, Baselines: Tasks and Staffing	
	PROPRJU02	Projects	
	PROPRJU01	Project Snapshots	
	PROPRJB	Project	X
	PROCPIU01	Project Invoicing OBSOLETE	
	FINPRFU30	Profitability Management	
	FINPRFU24	Sales Ledger Line Items	
	FINCACU04	Project Cost and Revenue - Aggregated	
	FINCACU03	Project Plan Values	
	FINCACU02	Project Line Items	
	FINCACU01	Cost Center - Line Items	
Project - Material	PROPRJU05	Projects, Baselines, and Snapshots	X
	PROPRJU02	Projects	X
	PROPMTB	Project Task Material	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Project - Task	PROPRJU05	Projects, Baselines, and Snapshots	X
	PROPRJU04	Projects, Baselines: Tasks and Staffing	X
	PROPRJU02	Projects	X
	PROPRJU01	Project Snapshots	
	PROPOBB	Project Task (MD)	X
	PROCPIU01	Project Invoicing OBSOLETE	
Project - Team Member	PROPPAB	Project Team Member	X
Project - Work Package	PROPRJU05	Projects, Baselines, and Snapshots	X
	PROPRJU04	Projects, Baselines: Tasks and Staffing	X
	PROPRJU02	Projects	X
	PROPRJU01	Project Snapshots	
Purchase Order - General Information	SRMPR_B04	Purchase Request Fullfillment	
	SRMPO_U03	Purchase Order Item Details	
	SRMPO_U02	Purchase Order Delivery Reliability	
	SRMPO_B03	Purchase Order Account Assignment	
	SRMPO_B02	Purchase Order Item Details	
	SRMPO_B01	Purchase Order Header Data	X
Purchase Order - Item	SRMPR_B04	Purchase Request Fullfillment	X
	SRMPO_U03	Purchase Order Item Details	X
	SRMPO_U02	Purchase Order Delivery Reliability	X
	SRMPO_U01	Purchase Order Items with Extended Tracking Details	X
	SRMPO_B03	Purchase Order Account Assignment	X
	SRMPO_B02	Purchase Order Item Details	X
	SCMIDNB01	Inbound Delivery Notification Item for Purchase Orders	
Purchase Request - Item	SRMPR_U01	Purchase Request Item Details	X
	SRMPR_B04	Purchase Request Fullfillment	
	SRMPR_B03	Purchase Request Account Assignment	X
	SRMPR_B02	Purchase Request Item Details	X

109

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Purchasing Contract - General Information	SRMCT_B03	Purchasing Contract Item Release	
	SRMCT_B01	Purchasing Contract Header Data	X
Purchasing Contract - Item	SRMCT_U01	Purchasing Contract Analysis	X
	SRMCT_B03	Purchasing Contract Item Release	X
Registered Product - General Information	INDV_MATR	Individual Material Master Data	X
Registered Product - Service Process Information	INDV_MATR	Individual Material Master Data	X
Resource - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Sales Order - General Information	PROCPIU01	Project Invoicing OBSOLETE	
	SCMODSOU01	Order – Delivery / Complete View	
	CRMSRSOCU	Service Order, Sales Order & Service Confirmation Item	
	CRMSLSCIB	Sales Order Item & Service Confirmation Item	
	CRMSLOISB	Sales Order Item Schedule Line	
	CRMSLOIPB	Sales Order Item Period Values	
	CRMSLOIHB	Sales Order Item Historical Data	
	CRMSLOIB	Sales Order Item	
	CRMSLOHB	Sales Order Header	X
	CRMRVFU	Revenue Forecast Data	
	CRMQUFU	Sales Quote Funnel	
	CRMOPFU	Opportunity Funnel	
	CRMLEFU	Lead Funnel	
	CRMCRTU	Customer Returns	
Sales Order - Item	SCMODSOU01	Order – Delivery / Complete View	X
	CRMSLSCIB	Sales Order Item & Service Confirmation Item	
	CRMSLOISB	Sales Order Item Schedule Line	
	CRMSLOIPB	Sales Order Item Period Values	
	CRMSLOIHB	Sales Order Item Historical Data	
	CRMSLOIB	Sales Order Item	X
	CRMRVFU	Revenue Forecast Data	
	CRMQUFU	Sales Quote Funnel	X
	CRMCRTU	Customer Returns	X
Sales Quote - General Information	CRMSLOIB	Sales Order Item	
	CRMQUFU	Sales Quote Funnel	
	CRMOPFU	Opportunity Funnel	
	CRMLEFU	Lead Funnel	
	CRMCQTIB	Sales Quote Item	
	CRMCQTHB	Sales Quote Header	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Sales Quote - Item	CRMSLOIB	Sales Order Item	
	CRMQUFU	Sales Quote Funnel	X
	CRMOPQU	Sales Analysis Pipeline	X
	CRMCQTIB	Sales Quote Item	X
Service - Customer Information	CUST_PART_NUM_SERVICE	Service Product Customer Part Number Master Data	X
	CUST_PART_NUM_PRODUCT	Product Customer Part Number Master Data	
Service - General Information	SERVICE	Service Master Data	X
	PRODUCT	Product Master Data	X
Service Agent - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
Service Category Catalog - General Information	/CCAT/SICTG	Service Category Catalog	X
	/CCAT/SICAT	Service Category	
Service Category Catalog - Product Location	/CCAT/SICAT	Service Category	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Service Confirmation - Affected Product	CRMSOCU02	Used Service Categories	
	CRMSLSCIB	Sales Order Item & Service Confirmation Item	
	CRMSCU	Used Service Categories	
	CRMSCSCB	Service Confirmation Header	
	CRMSCFIB	Service Confirmation Item	
	CRMSCFHB	Service Confirmation Header	
Service Confirmation - General Information	CRMSRSOCU	Service Order, Sales Order & Service Confirmation Item	
	CRMSRSCIB	Service Order Item & Service Confirmation Item	
	CRMSOCU02	Used Service Categories	X
	CRMSOCU01	Service Order and Service Confirmation	
	CRMSLSCIB	Sales Order Item & Service Confirmation Item	
	CRMSHSCIB	Service Order Header & Service Confirmation Item	
	CRMSCU	Used Service Categories	X
	CRMSCSCB	Service Confirmation Header	X
	CRMSCFIB	Service Confirmation Item	
	CRMSCFHB	Service Confirmation Header	X
Service Confirmation - Item	CRMSRSOCU	Service Order, Sales Order & Service Confirmation Item	X
	CRMSRSCIB	Service Order Item & Service Confirmation Item	X
	CRMSOCU01	Service Order and Service Confirmation	X
	CRMSLSCIB	Sales Order Item & Service Confirmation Item	X
	CRMSHSCIB	Service Order Header & Service Confirmation Item	X
	CRMSCFIB	Service Confirmation Item	X
Service Level Objective - General Information	CRMSLEB	Service Level	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Service Order - Affected Product	CRMSROU	Service Order Header and Item	
	CRMSOSCB	Service Order Header	
	CRMSORIB	Service Order Item	
	CRMSORHHB	Service Order History	
	CRMSORHB	Service Order Header	
	CRMSOCU02	Used Service Categories	
	CRMSOCU01	Service Order and Service Confirmation	
	CRMSHSCIB	Service Order Header & Service Confirmation Item	
	CRMSCU	Used Service Categories	
Service Order - General Information	CRMSRSOCU	Service Order, Sales Order & Service Confirmation Item	
	CRMSRSCIB	Service Order Item & Service Confirmation Item	
	CRMSROU	Service Order Header and Item	X
	CRMSOSPB	Assigned KB Articles for Service Order	
	CRMSOSCB	Service Order Header	X
	CRMSORIPB	Service Order Item period values	
	CRMSORIB	Service Order Item	
	CRMSORHHB	Service Order History	
	CRMSORHB	Service Order Header	X
	CRMSOCU02	Used Service Categories	X
	CRMSOCU01	Service Order and Service Confirmation	
	CRMSHSCIB	Service Order Header & Service Confirmation Item	
	CRMSCU	Used Service Categories	X
	CRMRVFU	Revenue Forecast Data	
	CRMKBU	Used Knowledge Base Articles	

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Service Order - Item	CRMSRSCIB	Service Order Item & Service Confirmation Item	
	CRMSROU	Service Order Header and Item	X
	CRMSORIPB	Service Order Item period values	
	CRMSORIB	Service Order Item	X
	CRMSOCU01	Service Order and Service Confirmation	X
	CRMRVFU	Revenue Forecast Data	
Service Request - Affected Product	CRMSRSCB	Service Request	
	CRMSRQHHB	Service Request History	
	CRMSRQHB	Service Request	
Service Request - General Information	CRMSRSPB	Assigned KB Articles for Service Request	
	CRMSRSCB	Service Request	X
	CRMSRQHHB	Service Request History	
	CRMSRQHB	Service Request	X
	CRMSOCU02	Used Service Categories	X
	CRMSCU	Used Service Categories	X
	CRMKBU	Used Knowledge Base Articles	
Service Request - Solution Proposal	CRMSRSPB	Assigned KB Articles for Service Request	X
Service Order - Solution Proposal	CRMSOSPB	Assigned KB Articles for Service Order	X
	CRMKBU	Used Knowledge Base Articles	X
Snapshot - General Information	PROSNAB	Project Snapshot	X
	PROPRJU05	Projects, Baselines, and Snapshots	
	PROPRJU01	Project Snapshots	
Snapshot - Task	PROPRJU05	Projects, Baselines, and Snapshots	X
	PROPRJU01	Project Snapshots	X
Snapshot - Work Package	PROPRJU05	Projects, Baselines, and Snapshots	X
	PROPRJU01	Project Snapshots	X

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Social Insurance Fund - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
Supplier - Bank Data	HOUSEBANK	My Bank Master Data	
	BPSPPB	Supplier Details	X
	BPCSFINB	Account Financial Data	X
	BPCSDB	Account Details	X
	BPARTNER	Business Partner Master Data	

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Supplier - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
Supplier - Payment Data	BPCSFINB	Account Financial Data	X
Supplier - Purchasing Data	BPSPPB	Supplier Details	X
Supplier Invoice - General Information	SRMIX_U01	Supplier Invoice and Supplier Invoice Exception Analysis	
	SRMIV_U01	Supplier Invoice Item Details	
	SRMIV_B03	Supplier Invoice Item Details	
	SRMIV_B01	Supplier Invoice Header Data	X
Supplier Invoice - Item	SRMIX_U01	Supplier Invoice and Supplier Invoice Exception Analysis	X
	SRMIV_U01	Supplier Invoice Item Details	X
	SRMIV_B03	Supplier Invoice Item Details	X
Target Group - Details	CRMTGPMB	Target Group Member	
	CRMTGPHB	Target Group Header	

Business Context	Data Source ID	Data Source Name	Extensible by Key Figures
Tax Authority - General Information	SUPPLIER	Supplier Master Data	
	HOUSEBANK	My Bank Master Data	
	HCMTLMU01	Employee Times	
	HCMTLMB01	Employee Time Accounts	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	
	HCMEMPB	Employee Master Data	
	CUSTOMER	Account Master Data	
	CLRHOUSE	Clearing House Master Data	
	BPSPPB	Supplier Details	X
	BPCSDB	Account Details	X
	BPCONTB	Contact Master Data	
	BPARTNER	Business Partner Master Data	
	/ITSAM/SAPSRB	Incidents Analysis	
Warehouse Confirmation - Product Item	SCMCFJU01	Confirmation Journal	X
Warehouse Request - General Information	SCMCFJU01	Confirmation Journal	
Work Agreement - Clauses	HCMTLMB01	Employee Time Accounts	
Work Agreement - Work Agreement	HCMTLMU01	Employee Times	
	HCMRPMU03	Actual Utilization	
	HCMPAU01	Employee Turnover	
	HCMPAB01	Headcount	

4.2 Extension Fields as Key Figures

Overview

On the *Data Sources and Reports* tab of the *Further Usage* screen, you may not have any data sources or reports when you want to add an extension field as a key figure to data sources.

The system only allows you to add an extension field as a key figure to a data source and to corresponding reports when the aggregation of the key figure and data source match. The system thereby prevents incorrect results from being displayed in reports.

Hypothetical Example

The following example shows why the system does **not** allow you to add key figures to every report.

While in adaptation mode, you add the *Freight Cost* field to the sales order. Freight costs are due for the entire sales order and not for individual sales order items.

For Analytics usage, this extension field is a key figure since it displays an amount with a currency.

You now want to add the key figure to a report.

The first table shows what would be the expected result (`1100 EUR`).

The second table shows what would be the actual result (`3300 EUR`).

The reason why the actual result would be `3300 EUR` is because the aggregation of the key figure and that of the report are different. Since you added the key figure to the sales order, it is aggregated on header level. The report is aggregated on item level.

If the system were to allow you to add the key figure to the report, the system would aggregate the results for the *Freight Cost* key figure on item level. The result is that the key figure would be aggregated incorrectly.

Order ID	Freight Cost	Net Value
4711	1100 EUR	4800 EUR

Order ID	Sales Order Item	ID	Freight Cost	Net Value
4711	Training	10	1100 EUR	1200 EUR
	Boiler Installation	20	1100 EUR	1300 EUR
	Gas Boiler	30	1100 EUR	2300 EUR
	Result		3300 EUR	4800 EUR

Hypothetical example of incorrect aggregation

4.3 Add an Extension Field to Data Sources and Reports

Overview

Administrators can add an extension field to a data source that is based on the same business context as the extension field. You can then add the field to any reports based on the data source.

The following table shows whether an extension field can be used as a key figure or characteristic.

Analytics Usage for Extension Fields

Extension Field Type	Analytics Usage
Amount	Key Figure
Date	Characteristic
Decimal Number	Key Figure
E-Mail Address	Characteristic
Indicator	Characteristic
List	Characteristic
Text	Characteristic
Time	Characteristic
Quantity	Key Figure
Web Address	Characteristic

Prerequisites

- You are an administrator and are assigned to the *Business Analytics* work center.
- You have created an extension field in the relevant business context.

> ➡ Since data in data sources might contain data from multiple business contexts, you may want to add the same extension field to screens in additional business contexts.

> ⬖ For example, you have created an extension field as a characteristic in the *Customer Return - General Information* business context and want to add this extension field to the *Customer Returns* data source. Since this data source contains data from sales orders, the *Sales Order - General Information* business context is also available as an additional business context.
> To avoid reporting twice on the same business data, add the extension field as a characteristic in the relevant additional business context. If you were to create an another field with the same business logic in the *Sales Order - General Information* business context, and also add this field to the data source, two separate fields as characteristics appear in the data source.

Procedure

1. Navigate to a screen on which the extension field is available and select *Enter Adaptation Mode* from the *Adapt* menu. In adaptation mode, select *Edit Screen* from the *Adapt* menu.
2. In the adaptation panel, under *Extension Fields*, select the extension field from the list and, under *Field Properties*, click the *Further Usage* link.
3. On the Data Sources and Reports tab, you can view all data sources available for the business context in which you created the field. When you select a data source, all reports based on that data source are displayed in the lower table.

   Additional business contexts are listed on the Additional Business Context tab.
4. To add the field to a data source, select the data source and click Add Field .
5. You have the following options:
   - To add the field to an existing report based on this data source, select the report from the lower table and click Add Field .
     The report opens in an administrator mode. In the *Add Fields* dialog box, select the *Display in Report* checkbox next to the extension field. Characteristics are added to the report under *Not Currently Shown* and key figures are available under *Columns*. Click OK and close the report without saving. The field will be available to all business users when they next access the report.
     Note that if you want to make further changes to the report, such as changing the layout, you need to create a new report view. For more information, see Working with Reports in a Web Browser [page 14].
   - To create a new report based on the data source, navigate to the *Business Analytics* work center, *Design Reports* view and create a new report that uses this extension field.
     For more information, see the Design Reports Quick Guide [page 46].

> ℹ If an error occurs while adding the extension field to the data source, the *Field Status* column displays a red icon. Click Repair to fix the error.

Result

The extension field as a characteristic is added to the data source or report.

The extension field as a key figure is only added to the data source or report if the aggregation of the extension field as a key figure and of the data source or report match. For more information about extension fields as key figures, see Extension Fields as Key Figures [page 118].

5 Business Analytics and Collaboration Task Types

5.1 Task — Check KPI Evaluation: Status Has Become Critical

Overview

The system raises this task if the result of a key performance indicator (KPI) evaluation critically deviates from the reference value.

This type of task always has very high priority.

If a new calculation of the evaluation determines that the status of the evaluation has changed again, the status of any uncompleted tasks is set to *Clarified*.

Relevance

This task is relevant for subscribers of the key performance indicator (KPI) evaluation. The subscriber is a user who monitors a KPI evaluation. This user receives this task in the *Inbox* subview of the *Work* view in the *Home* work center.

Response

To respond to this task, check the result of the KPI evaluation and manually complete tasks.

Configuration

The attributes of this task type are fully predefined and cannot be configured.

See Also

Business Task Management

5.2 Task — Check KPI Evaluation: Status Has Changed

Overview

The system raises this task if the result of a key performance indicator (KPI) evaluation has changed compared to the previous result.

This type of task always has very high priority.

If a new calculation of the evaluation determines that the status of the evaluation has changed again, the status of any uncompleted tasks is set to *Clarified*.

Relevance

This task is relevant for subscribers of the key performance indicator (KPI) evaluation. The subscriber is a user who monitors a KPI evaluation. This user receives this task in the *Inbox* subview of the *Work* view in the *Home* work center.

Response

To respond to this task, check the result of the KPI evaluation and manually complete tasks.

Configuration

The attributes of this task type are fully predefined and cannot be configured.

See Also

Business Task Management

5.3 Task — Check KPI Evaluation: Status Has Disimproved

Overview

The system raises this task if the result of a key performance indicator (KPI) evaluation has become worse compared to the previous result.

This type of task always has very high priority.

If a new calculation of the evaluation determines that the status of the evaluation has changed again, the status of any uncompleted tasks is set to *Clarified*.

Relevance

This task is relevant for subscribers of the key performance indicator (KPI) evaluation. The subscriber is a user who monitors a KPI evaluation. This user receives this task in the *Inbox* subview of the *Work* view in the *Home* work center.

Response

To respond to this task, check the result of the KPI evaluation and manually complete tasks.

Configuration

The attributes of this task type are fully predefined and cannot be configured.

See Also

Business Task Management

www.sap.com/contactsap