# ESR Business Intelligence

Introduction

Within ESRBI, analyses are the backbone of each dashboard and organisations are able to view or create as an end product. Each graph or table seen in each dashboard is in effect an analysis which is created first, prior to it being placed on a dashboard. Each analysis is based on a subject area (or areas) e.g. 'absence' or 'workforce profile' which in turn are divided into dimensions and facts. These dimensions and facts are the selection criteria and data items upon which all graphs, tables, prompts and filters are based.

Column Properties/Formulas

Column Properties

The column properties option allows a user to alter various properties of either the dimension or fact (the column) they have selected to be part of an analysis. This guide will cover the various formatting functions but the column properties area also provides options for additional linked functionality that may be referred to in other guides.

Open the column properties by clicking on the column options to the right of each column and select Column Properties:
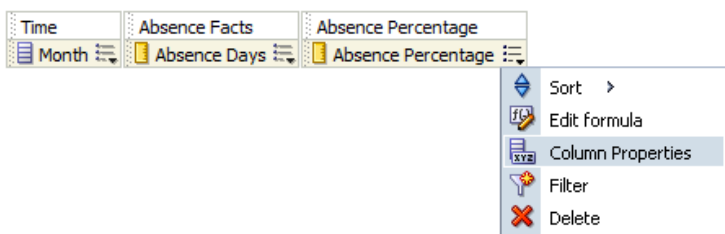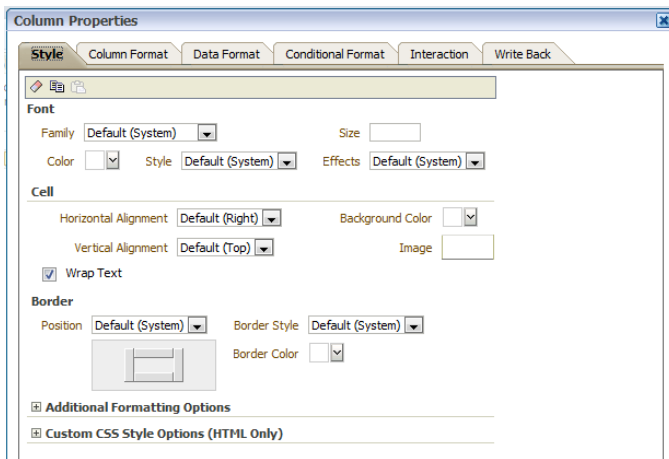

Style Tab

The column properties window will open on the 'Style' tab:

Within the Style Tab you are able to change the look of the columns when they are displayed as results. The font, font size and font colour, the cell border and cell fill colours and the position and style of the borders for the column can be changed.

By expanding the 'Additional Formatting Options' section you are able to change the width and height of the column by entering the number of pixels, as well as entering cell indents.

Here you can see how the column properties for the column Absence Days have been changed:

*Note: The column headers do not change when you alter the column properties. How to change the column headers can be found later in this document.*

Column Format

Within the Column Format Tab you are able to alter the folder heading (under which you can have multiple columns) and column heading. Tick the 'Custom Headings' tick box and enter the name of the folder and columns as required. The format of each can also be changed by clicking on the ▲ icon and setting the font, font colour etc as required.

You are also able to hide the column completely from the results, tick the 'Hide' tick box to ensure the column is not shown. *Note: It will still be available under the Criteria Tab of the*
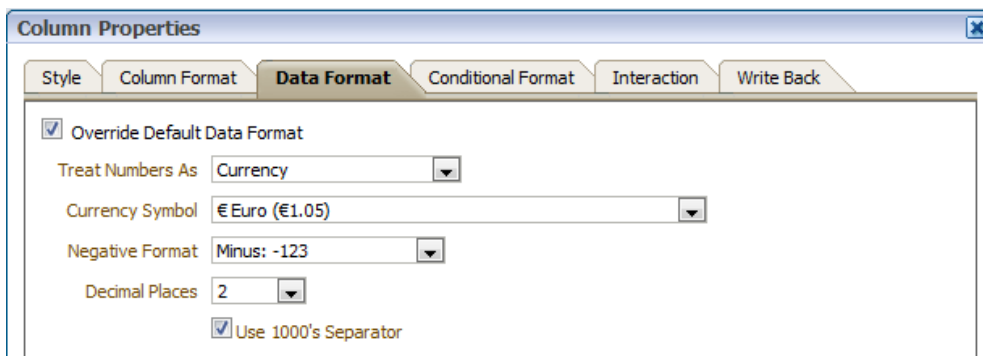
Analysis.
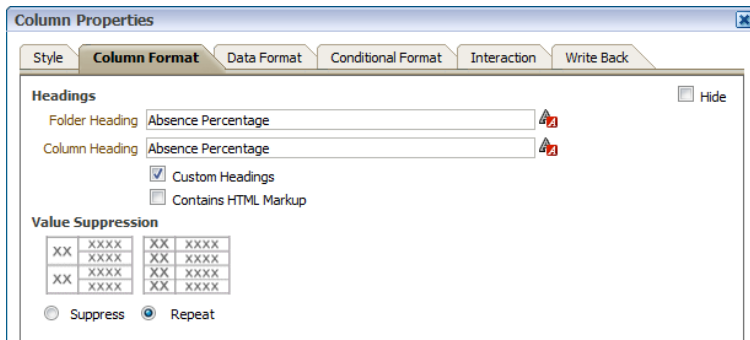
Under the Column Format Tab you are also able to change how the results of the analysis are shown when viewed as a table. Under 'Value Suppression' select 'Supressed' to shown one merged cell and one value where many values may be returned for it. Select Repeat to show a value for each line in the table.

Data Format

Under the Data Format Tab you are able to change the format of the data in a column to show it in a variety of data formats. Tick the 'Override Default Data Format' tick box and select the data type you would like the data to be converted to. There are then a number of parameters to change depending on the data format selected.
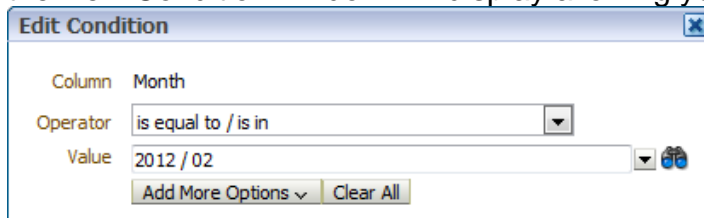

Here you can see an example of the data format for the Absence Days column as 'Currency'

Conditional Formatting

Use this tab to specify a condition to affect the formatting of values based on certain criteria. The formatting that you specify for a column or hierarchy level on this tab is visible in any view that can display data and its formatting, except for graphs, funnel graphs, and gauges.

Select the conditional format tab and click 'Add Condition', you are then presented with the columns available in the analysis. Select the column the condition is to be based on and the New Condition window will display allowing you to setup the condition.
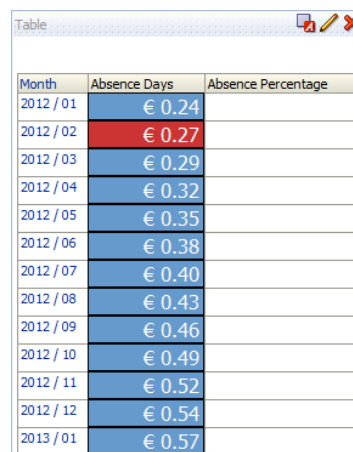

The column you selected to base the condition on will be shown, select an Operator (in the example above we have selected 'is equal to / is in') and enter a value that should trigger the condition. Clicking on the drop down box enables you to see all available values in the column selected, where you are then able to tick one or more values. By clicking on the 🔍 icon, you are presented with a search window enabling you to search the column for a specific value. In the example above we have selected '2012 / 02'.

Click 'Ok' and you are presented with the Format window where you can edit the format of the column cells depending on whether the condition returns a 'true' value. In the example below you can see the condition is placed against the 'Absence Days' column but is based on the Month column. Where Month is equal to '2012 / 02', the condition has turned the cell background colour red.


## Importing Formatting from another analysis

ESR BI enables users to quickly format new or existing analyses by importing the format of another analysis. For example, you applied a desired colour to the Employee Number column header in your existing (source) analysis and would like the same colour in the new analysis column headers without having to format all over again. This is particularly useful when working on medium to large analyses given the time it will save by not having to apply formatting to each column individually or one by one.

To import formatting to the new analysis, the source analysis will need to be formatted first as desired. This can be a single column analysis as per the below example showing the

Employee Number header formatted to NHS Blue (#0066cc):
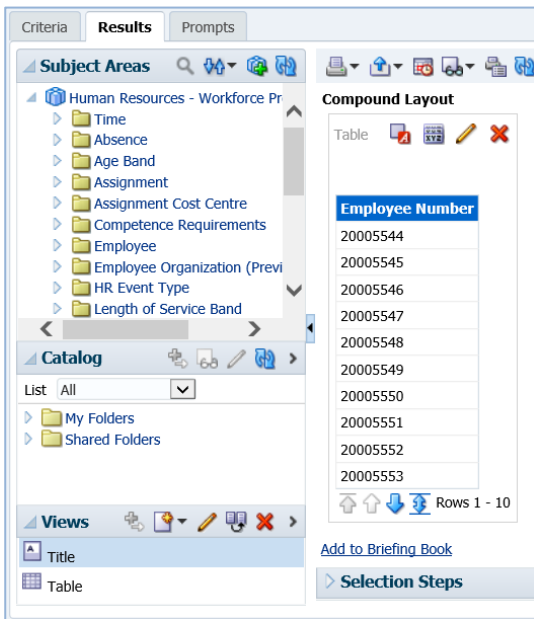
The above NHS Blue is the same colour desired in the new analysis for all the column headers. To import formatting click the 'Import Formatting' button in the Compound Layout toolbar of the new analysis as per the below example:
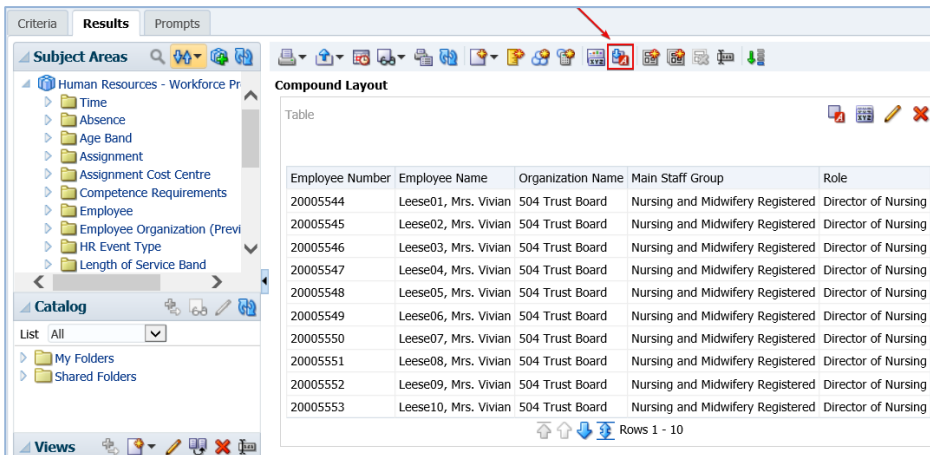

Selecting the 'Import Formatting' button will navigate to the ESR BI Catalog where you will be able to select the source analysis from the folder it is saved in. Once you have located your source analysis, double click on it and your formatting will be applied to the new analysis automatically as shown in the below example:

Please note that the ESR BI 'Import Formatting from another analysis' functionality is not limited to column header formatting only but also works with other Column Properties such as Style (Font family, size, colour etc.), Folder Heading and Value Suppression.

Edit Formula

The Edit Formula option helps the user to enter code (Logical SQL) to return data from the Dimensions and Facts under the Subject Area selected. Select 'Edit Formula' from the column options in the Criteria view.
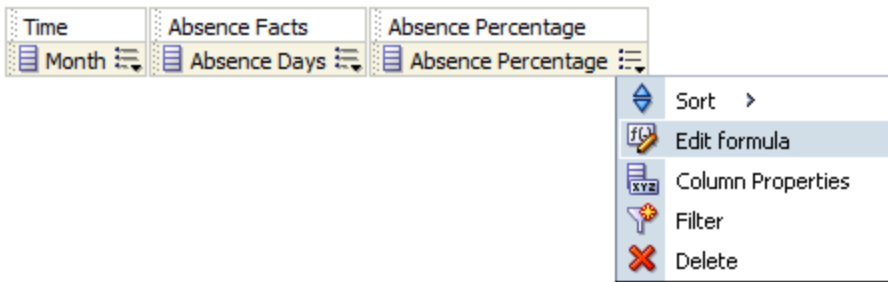

Within the 'Edit Column Formula' window there are a number of options to aid the user in completing the formula as required. In the example below we have simply expanded the Facts>Absence Facts folders and selected the 'Absence Days' fact. By clicking on the ⯈ icon the formula for returning the Absence Days fact is entered into the column formula window.
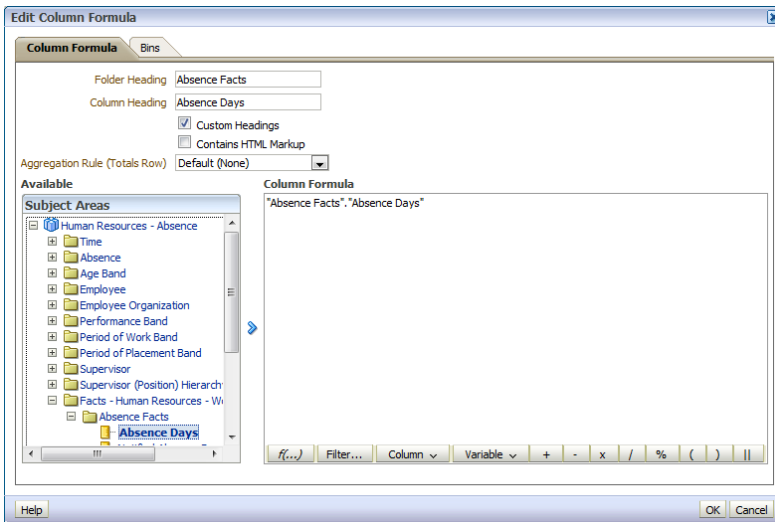
Note: You are able to alter the Folder and Column Headings in the Edit Column Formula window in the same way as through the Column Properties>Column Format. If they have already been customised, that will be reflected in the Edit Column Formula window.

Function

Along the bottom of the of the Column Formula window are a number of options to help a user build the formula required to extract the data they require the column to display. By clicking on the *f(...)* icon you are presented with a number of functions which when clicked on, are put into the code as intuitively as possible to aid the user when coding calculations.
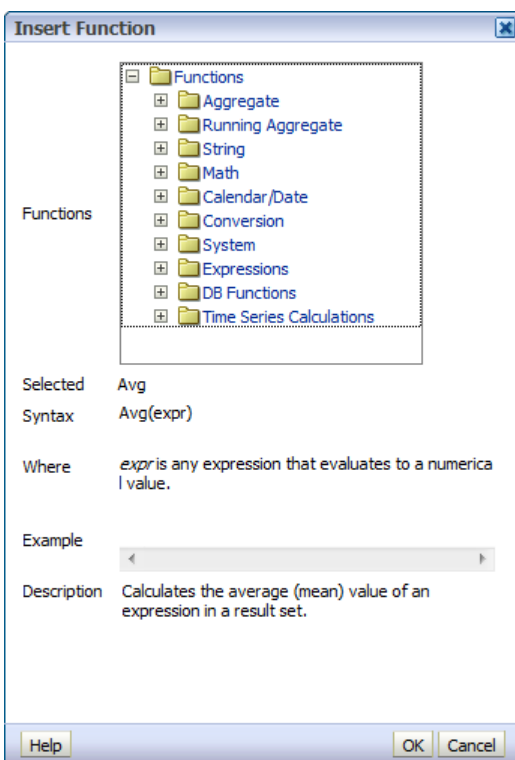

One or many functions can be selected depending on how the data is to be manipulated. A list and description of useful functions can be found in the ESRBI Quick Reference

Guide on the ESR Hub.

Filter

By clicking on the Filter... icon you are able to add a filer function to the code enabling a filter on a specific column rather than adding a filter in the criteria which would filter the entire analysis. Explode the dimension or fact folder until you reach the data item to be filtered and double click on it to open the filter criteria window where you are able to setup the filter.
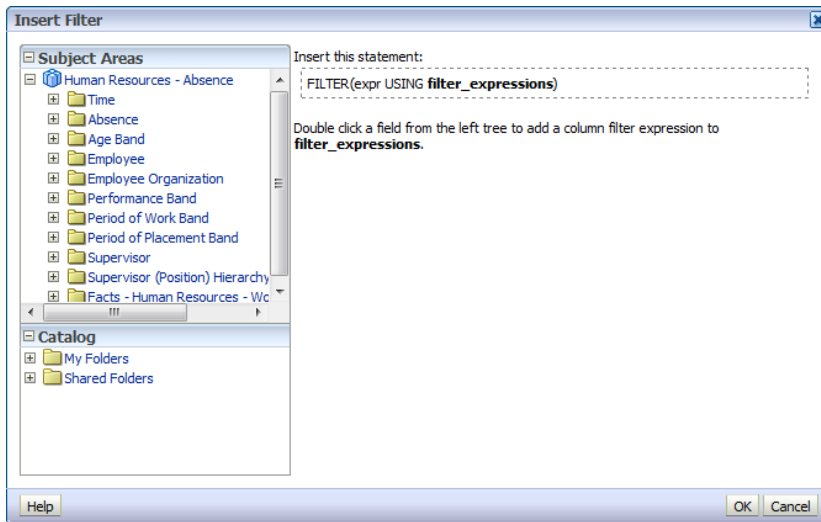
When setting up the filter you have the option to view and search all data items available under the column you have selected by either opening the drop down menu next to 'Value' or clicking on the 🔍 icon. You also have the option to 'Protect Filter'. Select this option to protect the filter's value from being overridden by either a prompt value or when the user navigates to another analysis. When the user navigates from one analysis to another analysis, any prompt values that were specified in the first analysis transfer to the second analysis.
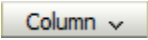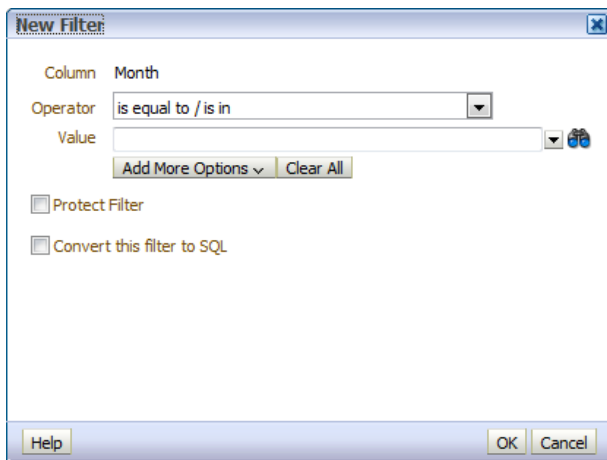

Enter the filter parameter as required, click 'OK' and the code for the filter will be entered into the Column Formula window. Below you can see the formula for filtering on an Absence Type of 'Sickness'.
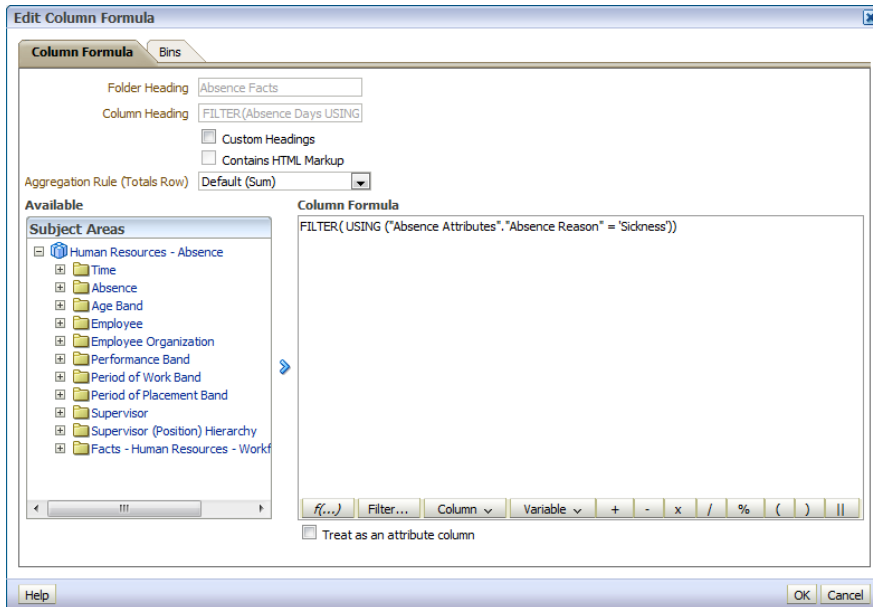
Note: If you already have a formula entered into the column formula window then the filter code will be applied as intuitively as possible.
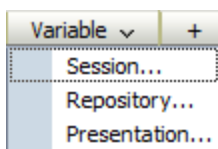
Column

The 'Column' button [Column ∨] is a shortcut to any column you have added to the analysis saving you time looking through the entire Subject Area for a column. By selecting a column from here, the formula to return that column data is automatically entered into the column formula.

Variable

Clicking on the Variable button gives three options to enter a variable in the column formula. 'Session' variables are fixed variables based on your current ESR BI session e.g. 'USER' is the variable to display the username of the current user.

Repository variables are global variables such 'CURRENT_YEAR' where all users see the same value.

Presentation variables are covered in a separate guide specific to dashboard functionality.

Aggregation Rule

The Aggregation Rule option allows the user to determine how grand totals and sub totals for the column are calculated. By selecting 'SUM' ESRBI returns a total sum of the values in that column. By selecting 'COUNT' ESR BI returns a count of the populated rows in the column. If you find a total is not being calculated correctly, you should try setting the aggregation rule to 'Server Complex Aggregate' which forces ESRBI to run a separate

query to calculate the total for example, a column is showing a running absence total by month. You would not want the grand total to be a SUM of each month (because it is a running total), rather just reflect what is held for the latest month (as the most recent value in a running total). The server complex aggregate option would resolve this problem.