Oracle Business Intelligence Enterprise Edition (OBIEE)
FORMULA PRACTICE

This document was created to help State of Oregon Datamart customers use formula within OBIEE. It provides some helpful notes around formula creation, as well as, provides some differences when using formula in OBIEE compared to Hyperion.

This information has been updated as of Dec 14, 2021.

OBIEE formula note: The best way I have found to start creating a formula field is to be in the 'Criteria' section of an Analysis. Add any subject area field to the 'selected columns' criteria section and select the wheel icon on the field then 'edit formula'. Once editing, you will need to update the 'folder' and 'column' heading names to be different than other fields. Finally, update the formula area.

OBIEE formula note: If you create a 'calculated measure' (formula) column within the 'Results' section, it is just like inputting a new formula field on the criteria section. This is different than Hyperion. Recommend creating the new formula in the criteria section as it is easier and has additional options.

OBIEE formula note: If you receive an error message when creating a formula, it is up to you to review and correct. The error message provided by the program is very technical. To learn what the error truly means, would take an extended amount of time for tech support to review the logs of the issue. From an end user perspective, the current best option would be some additional 'trial and error' to resolve the problem.

OBIEE formula note: Main formula issues can be summarized as needing minor alterations to resolve the issue. For example, the use of single quotes compared to double. Use double quotes when referencing a Datamart field (Ex. "GL Detail"."GL Acct"), use single quotes when the info is a text field (ex. 'None'), and use no quotes when you want the program to use the field as a true number (Ex. '0' compared to 0. If you have quotes around the zero then OBIEE will recognize it is a text field.)

OBIEE formula note: If creating a formula that contains multiple fields, you do not need to bring in each individual field into the criteria section. You are able to leave some fields out that are unnecessary for the final data view. Leaving these fields out will help lessen the amount of rows returned in the results section, which creates a condensed file.

OBIEE formula note: If new to formula creation, it is a good idea to use the insert "*f*(…)" formula help function. This function helps start the creation of a formula by including various formula aspects. It also provides definitions and examples of the available formula.

OBIEE formula note: OBIEE uses 'CASE' statements instead of 'If/then' statements as used in Hyperion. The following State of Oregon formula are examples of what the formula looks like in Hyperion and how different it will be in OBIEE.

OBIEE formula note: Do not copy and paste a formula from another program (such as Word), into OBIEE. The formatting will more than likely cause issues.

Various formula: (Some alternative formula are displayed to provide multiple ways of doing the same formula.)

Hyperion Version: if (Gl_Acct >= '3500' && Gl_Acct < '3600') Rpt_Mm_Act; else 0;

OBIEE Formula: CASE WHEN "GL Detail"."GL Acct" LIKE '35%' THEN "GL Detail"."Rpt Mm Act" ELSE 0 END

Hyperion version: if (Gl_Acct == 2734 || Gl_Acct == 3505) Rpt_Bi_Bal_Ytd; else 0;

OBIEE Formula: CASE WHEN "GL Detail"."GL Acct" = '2734' THEN "GL Detail"."Rpt Bi Bal Ytd" WHEN "GL Detail"."GL Acct"

= '3505' THEN "GL Detail"."Rpt Bi Bal Ytd" ELSE 0 END

OBIEE alternative formula: CASE WHEN "GL Detail"."GL Acct" = '2734' OR "GL Detail"."GL Acct" = '3505' THEN "GL Detail"."Rpt Bi Bal Ytd" ELSE 0 END

Hyperion Version: if (Gl_Acct == '2703' || Gl_Acct == '2704' || Gl_Acct == '2705') M13_Balance_Gl; else 0;

OBIEE Formula: CASE WHEN "GL Detail"."Gl Acct" = '2703' THEN "GL Detail"."M13 Balance Gl" WHEN "GL Detail"."Gl Acct" = '2704' THEN "GL Detail"."M13 Balance Gl" WHEN "GL Detail"."Gl Acct" = '2705' THEN "GL Detail"."M13 Balance Gl" ELSE 0 END

OBIEE alternative Formula: CASE WHEN "GL Detail"."Gl Acct" = '2703' OR "GL Detail"."Gl Acct" = '2704' OR "GL Detail"."Gl Acct" = '2705' THEN "GL Detail"."M13 Balance Gl" ELSE 0 END

Hyperion version: if (Gl_Acct == 2734 || Gl_Acct >= '3500' && Gl_Acct < '3600') Rpt_Bi_Bal_Ytd; else 0;

OBIEE Formula: CASE WHEN "GL Detail"."GL Acct" = '2734' THEN "GL Detail"."Rpt Bi Bal Ytd" WHEN "GL Detail"."GL Acct" like '35%' THEN "GL Detail"."Rpt Bi Bal Ytd" ELSE 0 END
Note: The Hyperion formula is looking for values that are in the 3500's, so in OBIEE, we can update the formula to use the 'Like' function to show 'begins with' in a formula.

OBIEE alternative formula: CASE WHEN "GL Detail"."GL Acct" = '2734' OR ("GL Detail"."GL Acct" >= '3500' AND "GL Detail"."GL Acct" < '3600') THEN "GL Detail"."Rpt Bi Bal Ytd" ELSE 0 END
Note: When using 'OR' and 'AND', you should use brackets to help keep aspects that go together, contained.

Hyperion version: if (Fiscal_Year == 2020 && Appn_Year != 2021) {'Y'} else {'N'}

OBIEE Formula: CASE WHEN "GL Detail"."Fiscal Year" = 2020 AND "GL Detail"."Appn Year" != 2021 THEN 'Y' ELSE 'N' END

OBIEE alternative formula: CASE WHEN "GL Detail"."Fiscal Year" = 2020 AND "GL Detail"."Appn Year" <> 2021 THEN 'Y' ELSE 'N' END
Note: You can use "!=" or "<>" to symbolize 'not equal to' in a formula.

OBIEE Case statement w/ multiplication: CASE WHEN "GL Acct"."D31 Gl Acct Dr Cr Ind"= 'D' THEN "GL Detail"."M13 Balance Gl" ELSE "GL Detail"."M13 Balance Gl"*-1 END

OBIEE formula variations: The quotes around the zero will alter how OBIEE uses the field (Number vs Text.)
CASE WHEN "GL Summary"."Gl Acct Dr Cr Ind" = 'D' THEN ("GL Summary"."M01 Balance Gs" - "GL Summary"."Py Balance Gs") ELSE 0 END

CASE WHEN "GL Summary"."Gl Acct Dr Cr Ind" = 'C' THEN ("GL Summary"."M01 Balance Gs" - "GL Summary"."Py Balance Gs") ELSE '0' END

Between function:

Hyperion version: if (Gl_Acct >= '3500' && Gl_Acct <= '3600') Rpt_Mm_Act; else 0;

OBIEE Formula: CASE WHEN "GL Detail"."GL Acct" BETWEEN '3500' AND '3600' THEN "GL Detail"."Rpt Mm Act" ELSE 0 END

Between formula sample that didn't work:

OBIEE: CASE WHEN "GL Detail"."GL Acct" = '2734' THEN "GL Detail"."Rpt Bi Bal Ytd" WHEN "GL Detail"."GL Acct"

BETWEEN '3500' && '3600' THEN "GL Detail"."Rpt Bi Bal Ytd" ELSE 0 END

Reason for failure: The '&&' is not used in OBIEE formula.

Sample of replacing data with names (Grouping help): The following formula helps add Titles/Names to various fields which can then provide separation of the data into groups.

OBIEE Formula: CASE WHEN "Agy Obj"."D11 Agency Obj Grp" = 10 THEN 'Revenues' WHEN "Agy Obj"."D11 Agency Obj Grp" = 30 THEN 'Personal Services' WHEN "Agy Obj"."D11 Agency Obj Grp" = 40 THEN 'Services and Supplies' ELSE 'None' END

Left & RIGHT Functions: Pulls data from the left or right of a field.

Hyperion: LEFT(All_Acct_Event.Cur Doc No, 4) ; RIGHT(All_Acct_Event.Cur Doc No, 4)

OBIEE: LEFT ("All Acct Event"."Cur Doc No",4) ; RIGHT ("All Acct Event"."Cur Doc No",4)

Substring Functions: Creates a new string starting from a fixed number of characters in the original string.

Hyperion: Substr(Agency, 2, 2)

OBIEE: SUBSTRING("GL Detail"."Agency" FROM 2 FOR 2)

Alternate way to include a 'Not equal' in a formula: If you want to create a more complex 'not equal' formula that contains a list of values, an alternative way to accomplish this task will be by using the 'Not in' function. Example:

CASE WHEN "GL Detail"."Compt Obj" NOT IN ('1401', '1402', '1403', '1404', '1405', '1407', '1408', '1429', '1435') THEN 'Y' ELSE 'N' END

Formula use with Filters: If you want to do a 'Not' filter in OBIEE, when the filter window does not contain a standard 'not' function, you will use the following formula example:

Here is an example for 'Not Between'. You will need to set up the filter as a 'Between' function, then click the "Convert this filter to SQL" check box.
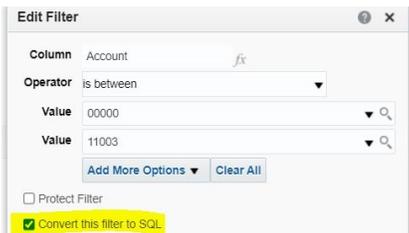
Click 'ok' and the below window will pop-up. Then type the word "NOT" before 'BETWEEN'.
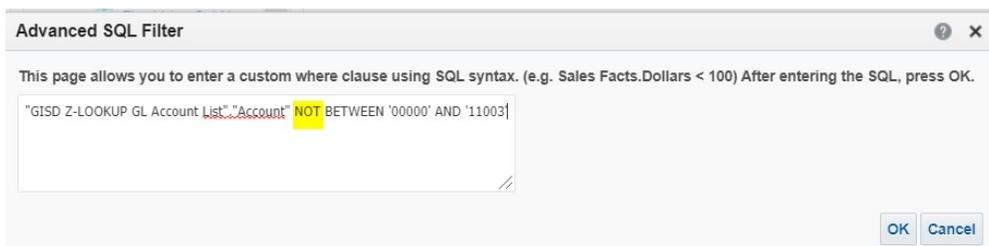
Then click 'OK' to finalize.

Formula using the concatenation function: If you desire to combine multiple fields together into one field, you can use the following concatenation features. There are two main ways to complete this function, which are shown below.

CONCAT: Function that allows you to concatenate <u>only two</u> columns/text.
Ex: CONCAT(column1, column2)

You will have to use || (two single pipes) to concatenate two or more columns.
Ex: "Subject Area.Column1" || "Subject Area.Column2" || "Subject Area.Column3"

You will have to use || (two single pipes) along with single quotes to concatenate a combination of text and columns.
Ex: "Subject Area.Column1" ||' - '|| "Subject Area.Column2"