

OneDealer BI SAP Lumira Designer



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Revision History

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Introduction

The reason of this document is to describe the SAP Lumira Designer dashboards in terms of data source and functionality and the way these are embedded in OneDealer.

Note

In some cases, you may encounter problems during loading dashboards in iPad devices. To solve these problems please do the following:

1. Go to iPad Settings
2. Safari settings
3. Enable 'Prevent Cross-Site' Tracking

Environment

The environment consists of a development and a productive SAP BI Server (Current installed version is SAP BusinessObjects BI Platform 4.2 Support Pack 7).

Also, Lumira Server Services are installed on both servers in order to support Lumira Designer dashboards.

The development is done by using the Lumira Designer (Current installed version is Release 2.3 SP1 (Version: 23.1.0)).

The data sources are SAP HANA Calculated Views defined on the SAP BI Platform as OLAP Connections.

Lumira Designer Solution

All existing dashboards are under the Lumira Designer solution named 'OneDealer'. Each dashboard exists as a Lumira Designer application.

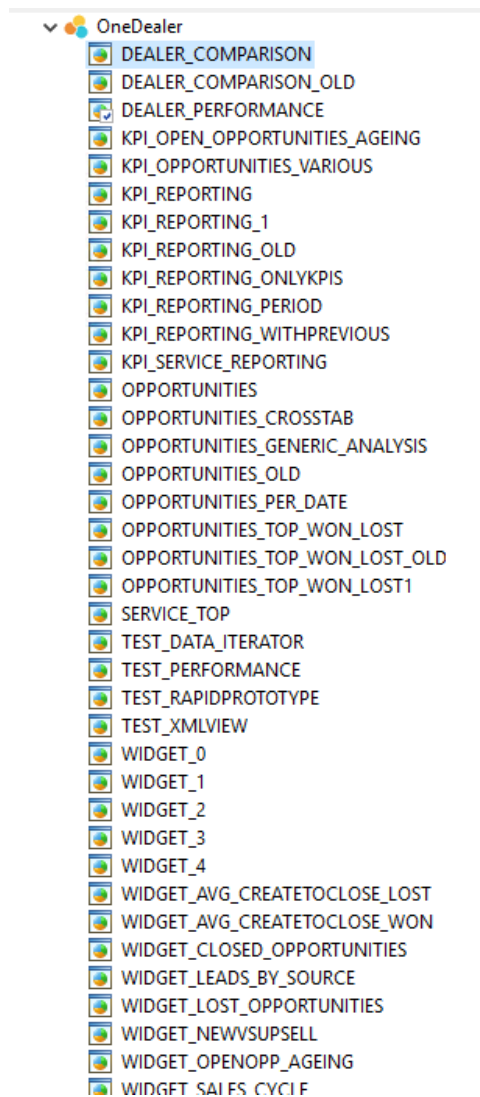


Figure 1. Lumira Designer Solution

The solution applications are synchronized to the SAP Lumira Server in one folder for all OneDealer Lumira installations. The data sources that bring data to these dashboards are defined per OneDealer installation in the table “@IDMS_BI_DASHBOARD”.

Connection between OneDealer and Lumira dashboards

The Lumira dashboards are generated by the SAP BI Apache Tomcat application server. OneDealer embeds these dashboards under an iframe in an OneDealer page.

The list of dashboards that will be listed in this page is defined in the OneDealer table named “@IDMS_BI_DASHBOARD” and where the value of the field “U_IDMS_BIProduct” is ‘Lumira’.

When a dashboard is selected to be displayed several parameters are passed to the dashboard. These parameters are of 3 kinds:

1. Data source connection parameters.

For each dashboard two main data source connections can be supported (at least one must be declared and passed), one filter connection (mandatory), one translation connection (mandatory) and one KPI Master connection (not mandatory). These are defined in the “@IDMS_BI_DASHBOARD” table.

- a. "U_IDMS_CalculationView" (1st main data source name)
- b. "U_IDMS_CalculationViewCUID" (1st main data source CUID)
- c. "U_IDMS_CalculationView1" (2nd main data source name)
- d. "U_IDMS_CalculationView1CUID" (2nd main data source name)
- e. "U_IDMS_FilterCalculationView" (Filter data source name)
- f. "U_IDMS_FilterCalculationViewCUID" (Filter data source CUID)
- g. "U_IDMS_TranslationsCUID" (Translation data source CUID)
- h. "U_IDMS_KPIMasterCUID" (KPI Master data source CUID)

2. Filter parameters

- a. "U_IDMS_PeriodFilter". This is defined in the “@IDMS_BI_DASHBOARD” table and can take values ‘CY’ (Adds a Dashboard Filter for Current Year), ‘CQ’ (Adds a Dashboard Filter for Current Quarter), ‘CM’ (Adds a Dashboard Filter for Current Month), ‘CW’ (Adds a Dashboard Filter for Current Week).
- b. OneDealer Dimensions (Company, Branch, Location, Make). Based on the logged in user profile the dimensions that the user has access are passed.
- c. Current Logged in User
- d. Current logged in user’s manager user id.

3. Other parameters

- e. "U_IDMS_DashboardCode". This is the CUID of the dashboard (solution) that exists on the SAP BI Server.
- f. "U_IDMS_LumiraAppToLaunch". This is the application name that exists under the Lumira Solution and refers to the connected dashboard.
- g. "U_IDMS_Title". The dashboard title.
- h. Language. The logged in user language is passed as parameter in order to translate the dashboard labels in the user’s language.
- i. Site Url. Is passed from OneDealer in order to support the drill-in dashboard functionality to OneDealer pages.
- j. Current Schema. Is passed from OneDealer in order to support the assignment to the correct calculation view.

General information about the dashboards

Lumira dashboards are listed in a OneDealer page that can be opened from the menu entry 'Analytics'

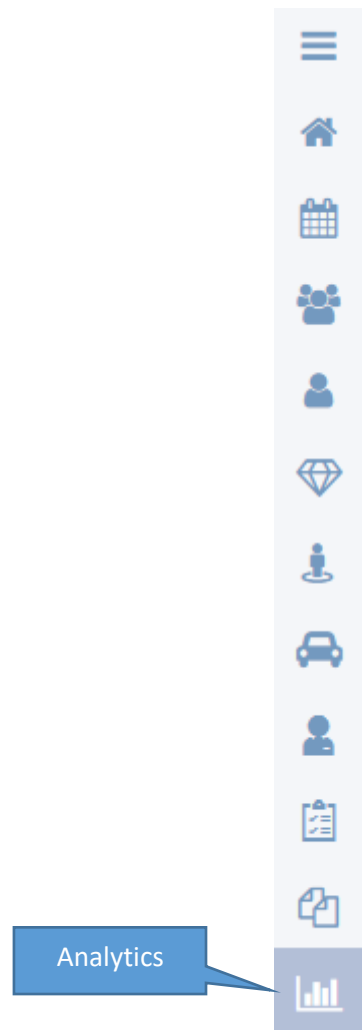


Figure 2. Lumira Dashboards Widget

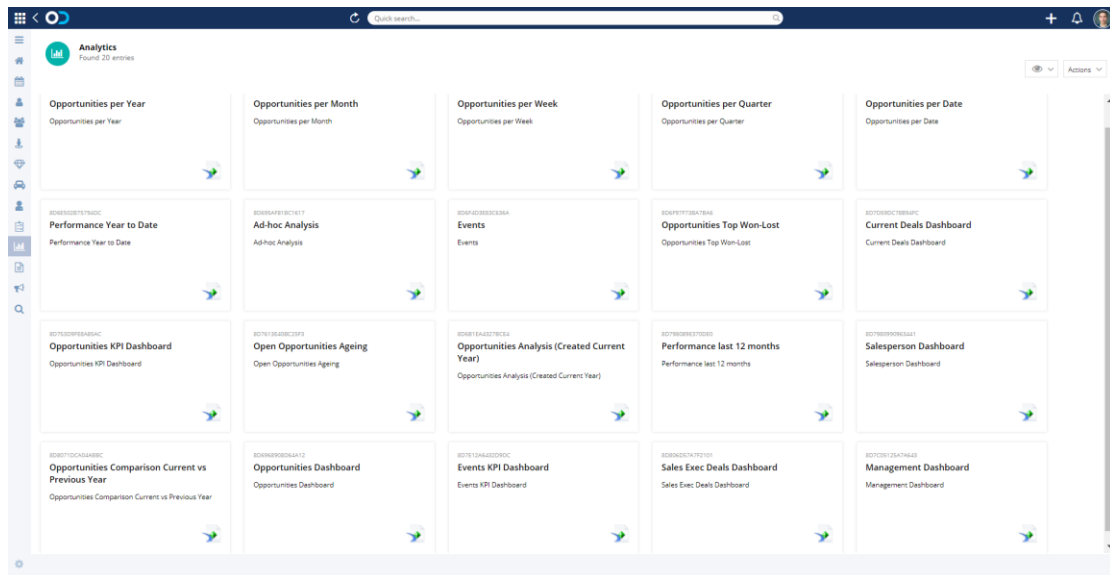


Figure 3 Lumira Dashboards

All dashboards can be rendered in desktop, tablet and mobile phone devices.

Filter Line

On top of all dashboards below the dashboard title exists the filter line. The added filters affect the whole dashboard.

Drill-In

In some dashboards there is the functionality to drill-in to OneDealer pages by just clicking on a pivot cell or a chart area.

Drop down filter boxes

On top of some dashboards exist drop down filter boxes populated with all data for each dimension they represent. The selection filters the whole dashboard. For example, the selection of a Company will filter data for this company.

Drop down selection boxes

On top of some dashboards exist drop down selection boxes populated with all data for each dimension they represent (Salesperson) or with specific data (Period). The selection changes tiles of the dashboard in order to display data containing the selected values.

Filtering by data on tiles

In some dashboards, clicking on a tile area, filters data on another tile based on the data selected.

Popup pages

Popup pages are designed to appear in some dashboards in order to add functionality to these dashboards.

Data sources

The data sources are categorized under the following categories:

1. Main Data Sources.
2. Filter Data Sources.
3. Translation Data Sources.
4. Other Data Sources.

Main data Sources

These are the data sources that bring the data in dashboards. The main data source calculation views used in Lumira dashboards are:

1. IDMS_BI_OPPORTUNITY_LUMIRA. For Leads and Opportunities.
2. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED. For Leads and Opportunities.
3. IDMS_BI_EVENTRESULT_LUMIRA. For Events.
4. IDMS_BI_SERVICE_LUMIRA. For Service.
5. IDMS_KPI. For Leads and Opportunities.
6. IDMS_KPI_OPPORTUNITY. For Leads and Opportunities.
7. IDMS_KPI_OPPORTUNITY_SF. For Leads and Opportunities.
8. IDMS_KPI_OPPORTUNITY_VARIOUS. For Leads and Opportunities.
9. IDMS_KPI_KPI_SERVICE. For Service.
10. IDMS_KPI_SERVICE. For Service.
11. IDMS_ISVALIDSALESPERSON_NEW. For validating the logged in users.

Filter Data Sources

These are the data sources that support the filter line functionality. The filter data source calculation views used in Lumira dashboards are:

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA. For Leads and Opportunities.
2. IDMS_BI_EVENTRESULT_FL_LUMIRA. For Events.
3. IDMS_BI_SERVICE_FL_LUMIRA. For Service.

Translation Data Sources

These are the data sources that support the dashboard translation functionality. One translation data source is enough to support all dashboards. The calculation view behind this data source is named 'IDMS_BI_TRANSLATION'.

Other Data Sources

To support the KPI type tiles there is a data source that contains master data related to the design and the way each tile is displayed. The calculation view behind this data source is named 'IDMS_KPI_MASTER'.

Dashboards

Below are described the Lumira dashboards.

Opportunities KPI Dashboard

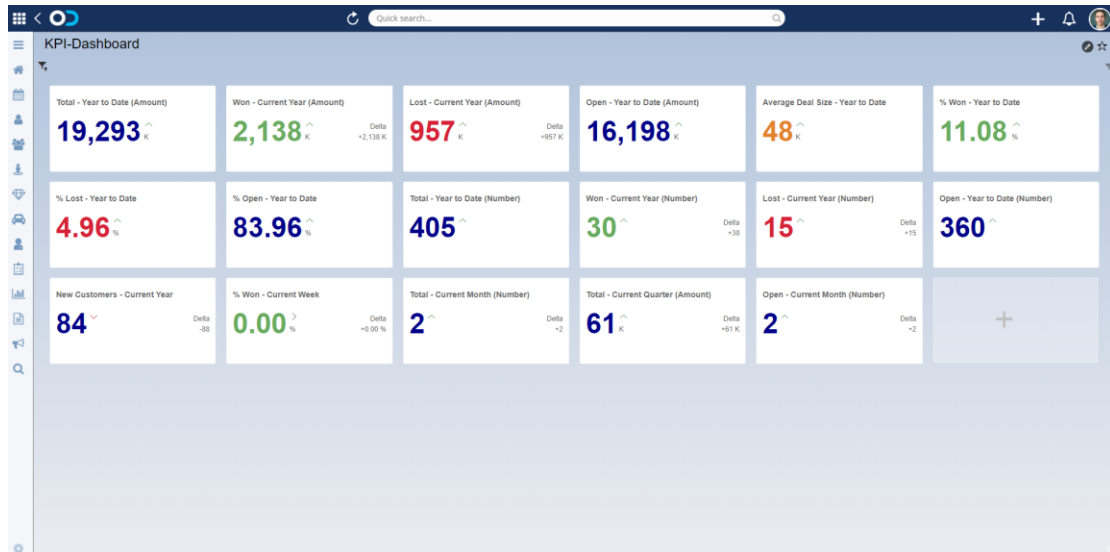


Figure 4 Opportunities KPI Dashboard

Lumira Application Name: KPI_REPORTING_ONLYKPIIS

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_KPI_MASTER (other)
4. IDMS_KPI

Functionality

Contains KPI tiles added by the logged in user. By clicking the empty tile containing the '+' sign a tile can be added from the list of existing tiles. This way the user can build his own main dashboard with the tiles he is interesting in.

If the user wants to remove all the tiles from his main tab, he can do this by clicking on the top right button with the asterisk icon.

If the user wants to remove just one tile from his main tab, he can do this by clicking on the pen button icon and then on the asterisk button icon top on the tile he wants to remove. Then he must click on the pen icon tile in order to disable the editing functionality.

Clicking on a tile a popup window appears containing information concerning the source tile.

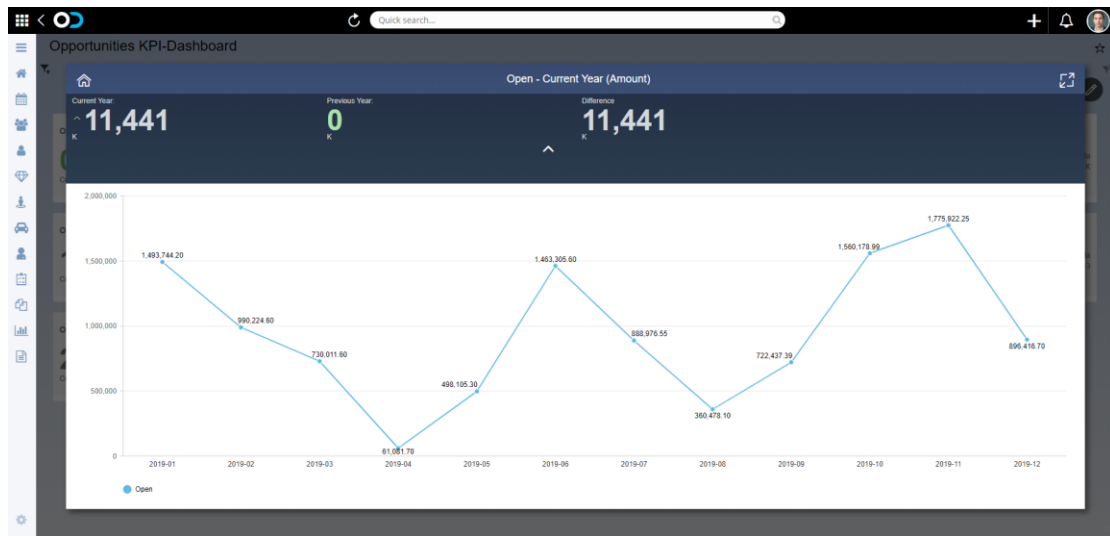


Figure 5 KPI Popup Analysis

Opportunities Analysis (Created Current Year)

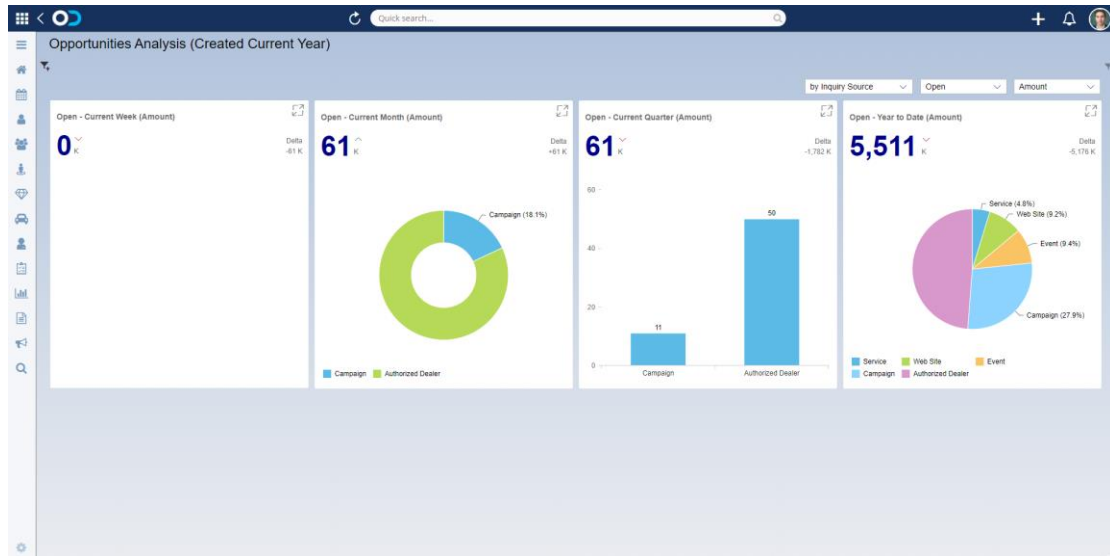


Figure 6 Opportunities Analysis

Lumira Application Name: KPI_REPORTING

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_KPI_MASTER (other)
4. IDMS_KPI
5. IDMS_KPI_OPPORTUNITY

Functionality

Contains KPI tiles added by the logged in user. By clicking the empty tile containing the '+' sign a tile can be added from the list of existing tiles. This way the user can build his own main dashboard with the tiles he is interesting in.

If the user wants to remove all the tiles from his main tab, he can do this by clicking on the top right button with the asterisk icon.

If the user wants to remove just one tile from his main tab, he can do this by clicking on the pen button icon and then on the asterisk button icon top on the tile he wants to remove. Then he must click on the pen icon tile in order to disable the editing functionality.

Clicking on a the KPI area of a tile a popup window appears containing information concerning the source tile.



Figure 7 Opportunities Popup Analysis

Clicking on the chart area of a tile a popup window appears containing a pivot table with analytical data that form the source chart. The pivot will be filtered based on the chart area clicked.

Salesperson	Customer	CreateDate	Value
Agustin Marcos	Herman Steffen	1/22/19	27,200.00
Agustin Marcos	Schroder Sebastian	1/22/19	56,882.70
Alexis Dumaguing Aveclia	Montesa Julia	2/15/19	59,737.50
Anastasios Papargris	Dodik Josip	2/17/19	22,100.00
Andreas Herb	Rentschler Gabriele	1/9/19	66,705.70
Josip Dodik	Josip Dodik	2/5/19	27,200.00
Josip Dodik	Loco-Soft Vertriebs GmbH	1/28/19	27,200.00
Josip Dodik	Makarich Lee	1/18/19	22,100.00
Korina Charokopou	Federabend Christine	2/15/19	53,050.00
Korina Charokopou	Fjines Maros	3/13/19	27,200.00
Marcus Faraji	Grunewald Sophie	1/10/19	65,945.50
Marcus Faraji	Weiss Ralph	5/30/19	28,000.00
Marcus Faraji	Fara Mark	1/28/19	18,300.00
Maria Andrianakou	Beckenbauer Felix	3/8/19	54,760.70
Maria Andrianakou	Berg Ursula	1/11/19	55,108.70
Maria Andrianakou	Boehm Wolfgang	1/14/19	61,470.70
Maria Andrianakou	Decker Lukas	3/12/19	55,682.70
Maria Andrianakou	Frey Jennifer	1/11/19	61,176.70
Maria Andrianakou	Grunewald Sophie	1/10/19	77,384.50
Maria Andrianakou	Hertzog Tom	2/5/19	55,108.70
Maria Andrianakou	Probst Sebastian	3/8/19	54,953.70
Maria Andrianakou	Wurfel Luca	3/14/19	55,881.70
Maria Andrianakou	Zimmer Wolfgang	3/8/19	54,560.70
Nikos Ioannou	Abeid Michael	5/31/19	74,553.50
Nikos Ioannou	Alzi Florian	6/13/19	27,200.00
Nikos Ioannou	Achen Ulrich	1/10/19	61,176.70
Nikos Ioannou	Agathokles Kotoulas	2/8/19	58,543.70
Nikos Ioannou	Bachmeier Florian	5/24/19	62,732.70
Nikos Ioannou	Boehm Andreas	7/10/19	28,000.00

Figure 8 Pivot table analysis

There is also, drill-in to OneDealer page functionality by clicking on a pivot table amount type cell.

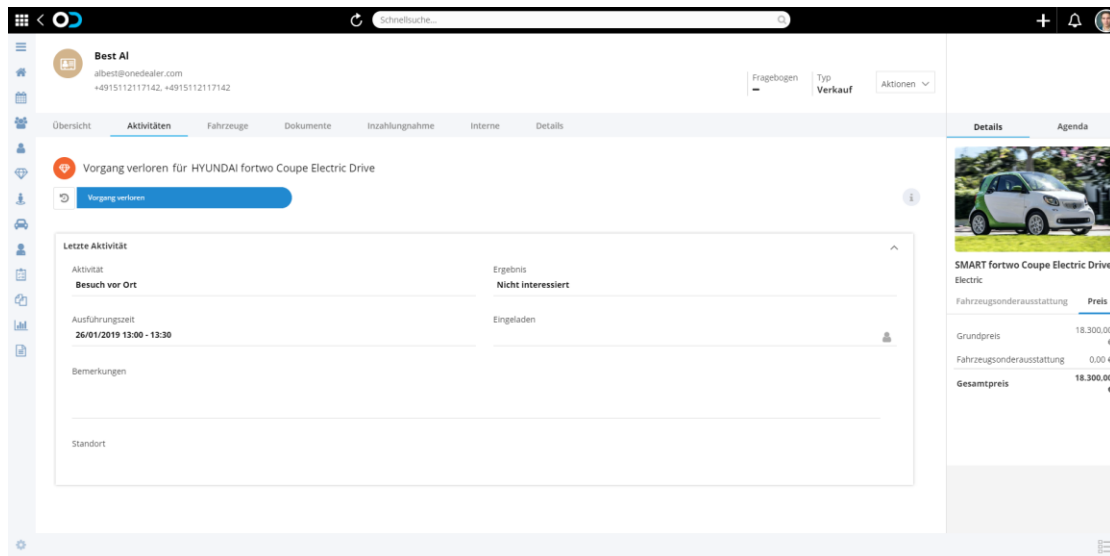


Figure 9 Drill-in to OneDealer page

Opportunities per period

There are four dashboards referring to this based on the period parameter ('CY', 'CQ', 'CM', 'CW'):

1. Opportunities per Year
2. Opportunities per Quarter
3. Opportunities per Month
4. Opportunities per Week

Salesperson	Customer	Model	Total	Total Open	Total Won	Total Lost
Herman Steffen	KODIAQ STYLE 1.4 TSI ACT 150HP 4x4		27.200,00	27.200,00	0,00	0,00
Schroder Sebastian	GLC 350 E 4MATIC		56.892,70	56.892,70	0,00	0,00
Result			84.092,70	84.092,70	0,00	0,00
Best AI	fortwo Coupe Electric Drive		18.300,00	0,00	0,00	18.300,00
Lemzakov Alexander	GLC 350 e 4MATIC Coupe		64.897,70	0,00	0,00	64.897,70
KODIAQ STYLE 1.4 TSI ACT 150HP 4x4			27.200,00	0,00	0,00	27.200,00
Papargiris Anastasios	KODIAQ STYLE 1.4 TSI ACT 150HP 4x4		27.200,00	0,00	0,00	27.200,00
Result			137.597,70	0,00	0,00	137.597,70
Montesa Julia	COUNTRYMAN COOPER 1.5 ALL4		62.732,70	0,00	0,00	62.732,70
E 350 e Limousine			59.737,50	59.737,50	0,00	0,00
GLC 350 e 4MATIC Coupe			62.732,70	0,00	62.732,70	0,00
Prueba Onedealet	GLC 350 e 4MATIC Coupe		62.732,70	0,00	0,00	62.732,70
Result			310.868,30	59.737,50	125.465,40	125.465,40
Dodik Josip	COUNTRYMAN COOPER 1.5 ALL4		22.100,00	22.100,00	0,00	0,00
Result			22.100,00	22.100,00	0,00	0,00
Rentschler Gabriele	GLC 350 E 4MATIC		66.705,70	66.705,70	0,00	0,00
Result			66.705,70	66.705,70	0,00	0,00
Eichenberger Steffen	MX-5 ROADSTER 1.5 SKYACTIV-G PETROL 131PS 131 (96) PS (KW)		29.558,81	0,00	29.558,81	0,00
Result			29.558,81	0,00	29.558,81	0,00
COUNTRYMAN COOPER 1.5 ALL4			22.100,00	0,00	22.100,00	0,00
KODIAQ STYLE 1.4 TSI ACT 150HP 4x4			27.200,00	27.200,00	0,00	0,00
KODIAQ STYLE 1.4 TSI ACT 150HP 4x4			27.200,00	27.200,00	0,00	0,00
COUNTRYMAN COOPER 1.5 ALL4			22.100,00	22.100,00	0,00	0,00
Result			98.600,00	76.600,00	22.100,00	0,00
e-Golf 136PS E-Experience SD			29.200,00	0,00	29.200,00	0,00
C 350 e Limousine			53.050,00	53.050,00	0,00	0,00
E 350 e Limousine			62.807,50	0,00	0,00	62.807,50
KODIAQ STYLE 1.4 TSI ACT 150HP 4x4			27.200,00	27.200,00	0,00	0,00
GLE 500 e 4MATIC			81.058,50	0,00	0,00	81.058,50
C 350 e T-Model			57.931,00	0,00	0,00	57.931,00

Figure 10. Opportunities per period

Lumira Application Name: OPPORTUNITIES_CROSSTAB

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)

3. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED (main)

Functionality

There is drill-in to OneDealer page functionality by clicking on a pivot table amount type cell.

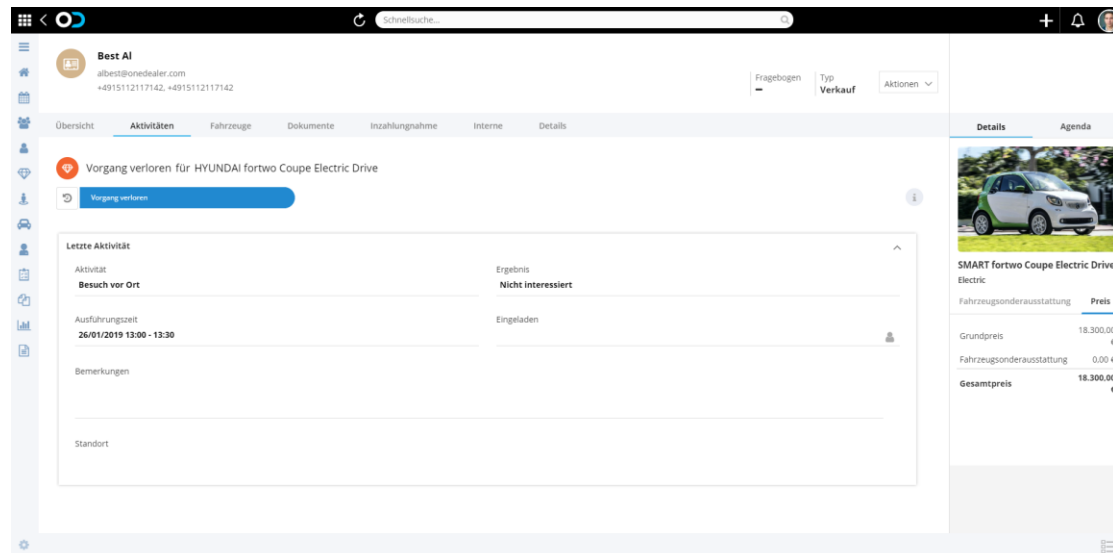


Figure 11. Drill-in to OneDealer page

The pivot's table data can be exported to Excel by clicking the 'Export' icon.

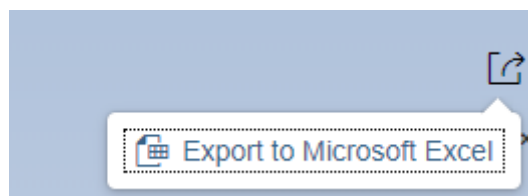


Figure 12. Export to Excel

Performance Year to Date

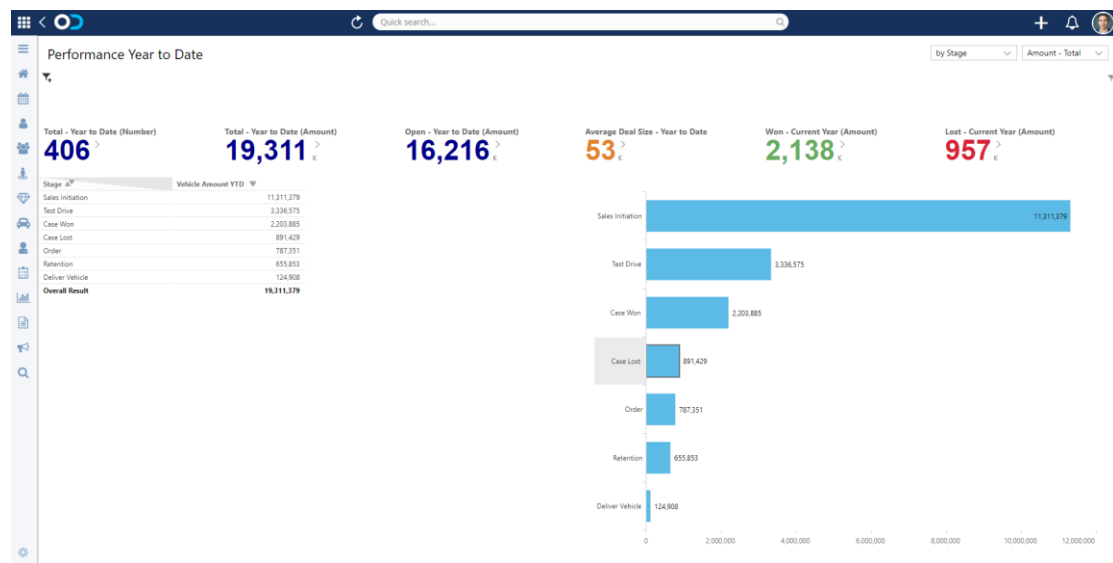


Figure 13. Performance Year to Date

Lumira Application Name: DEALER_PERFORMANCE

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_KPI_MASTER (other)
4. IDMS_KPI (main)
5. IDMS_KPI_OPPORTUNITY (main)
6. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED (main)

Functionality

Contains KPI tiles and two chart tiles.

The 'Dimensions' drop-down selection box ('by City', 'by Make' etc.) changes the dimensions shown in the chart tiles.

The 'Measures' drop-down selection box ('Amount - Total' etc.) changes the measures shown in the chart tiles.

Opportunities per Date



Figure 14. Opportunities per Date

Lumira Application Name: OPPORTUNITIES_PER_DATE

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED (main)

Functionality

Contains three chart tiles.

The 'Dimensions' drop-down selection box ('by City', 'by Make' etc.) changes the dimension of the bottom left chart tile.

The 'Measures' drop-down selection box ('Amount - Total' etc.) changes the measures shown in the chart tiles.

The 'Period' drop-down selection box ('by Year' etc.) changes the period shown in the top chart tile. The period shown is the current period ('Year', 'Quarter' etc.).

Clicking on the top right icon (on – off button) the user can add more measures to the top chart tile for comparison reasons. Click again disables the multi-measure selection functionality.

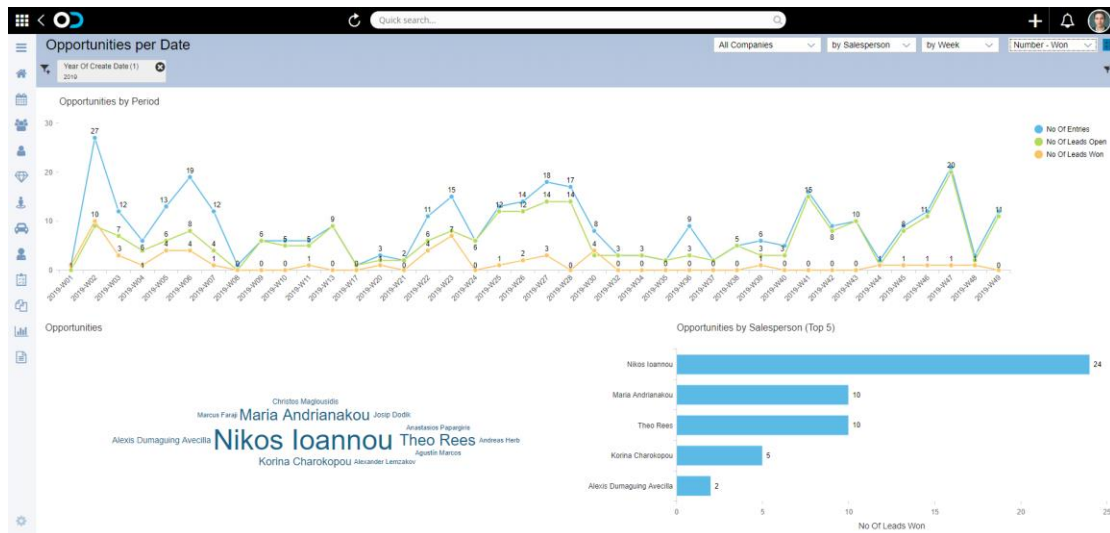


Figure 15. Comparison between measures

Clicking on any salesperson data bar on the bottom right chart tile a pivot grid appears containing the selected Salesperson data per selected dimension and measure.

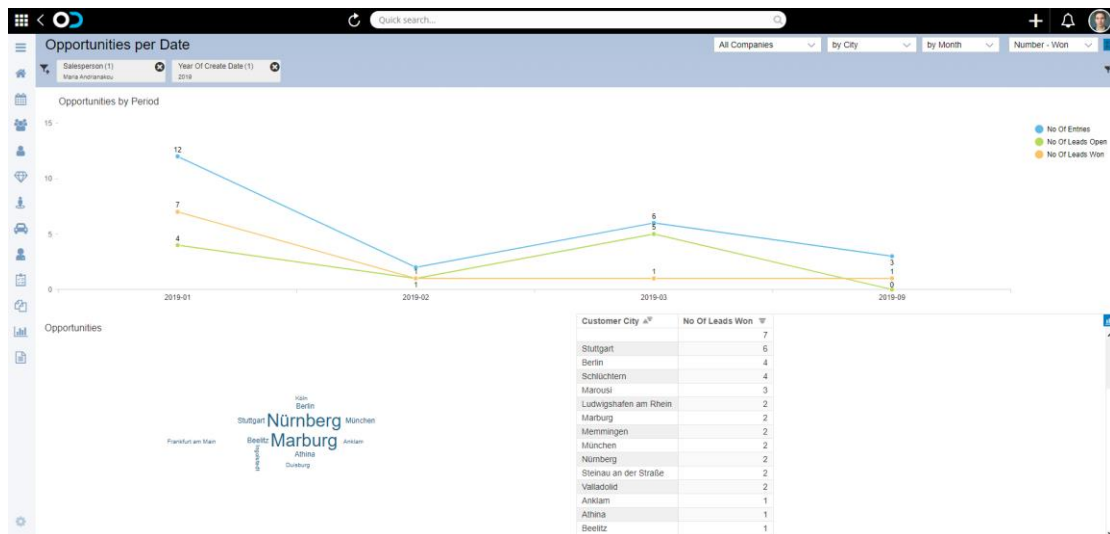


Figure 16. Selected Salesperson data per selected dimension and measure

By clicking the chart icon next to the pivot table, the chart will appear again in the place of the pivot table.

Events

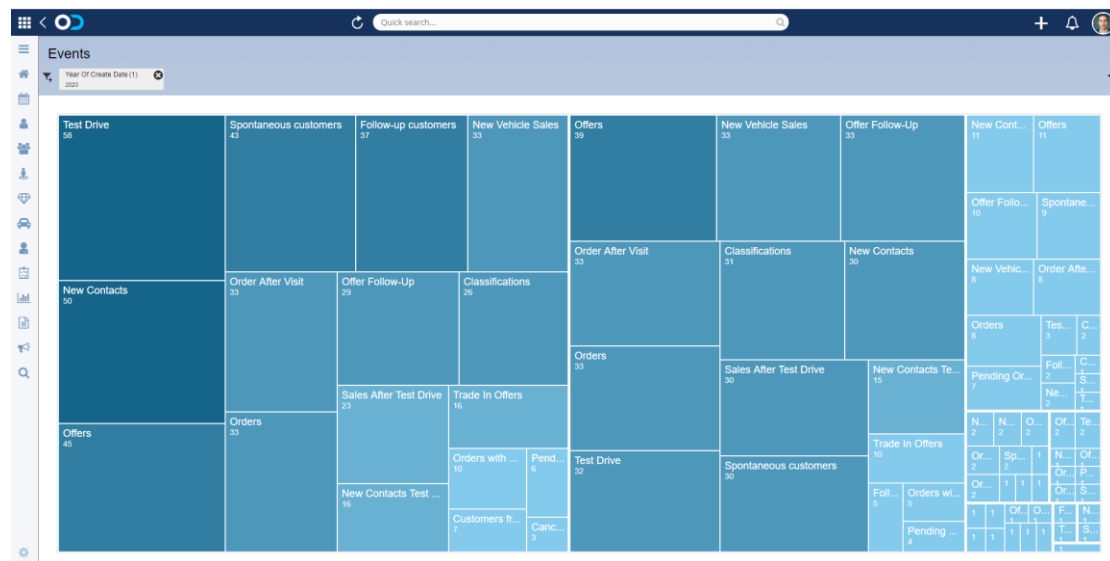


Figure 17. Events

Lumira Application Name: DEALER_COMPARISON

Data Sources

1. IDMS_BI_EVENTRESULT_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_BI_EVENTRESULT_LUMIRA (main)

Functionality

Contains a heat map .

Opportunities Top Won-Lost



Figure 18. Opportunities Top Won-Lost

Lumira Application Name: OPPORTUNITIES_TOP_WON_LOST

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED (main)

Functionality

Contains three chart tiles.

The 'Dimensions' drop-down selection box ('by City', 'by Make' etc.) changes the dimension of the top chart tile.

The 'Measures' drop-down selection box ('Amount', 'Number') changes the measure shown in the top chart tile.

There is also drill-in to OneDealer page functionality by clicking on any bar chart area.

Ad-hoc Analysis

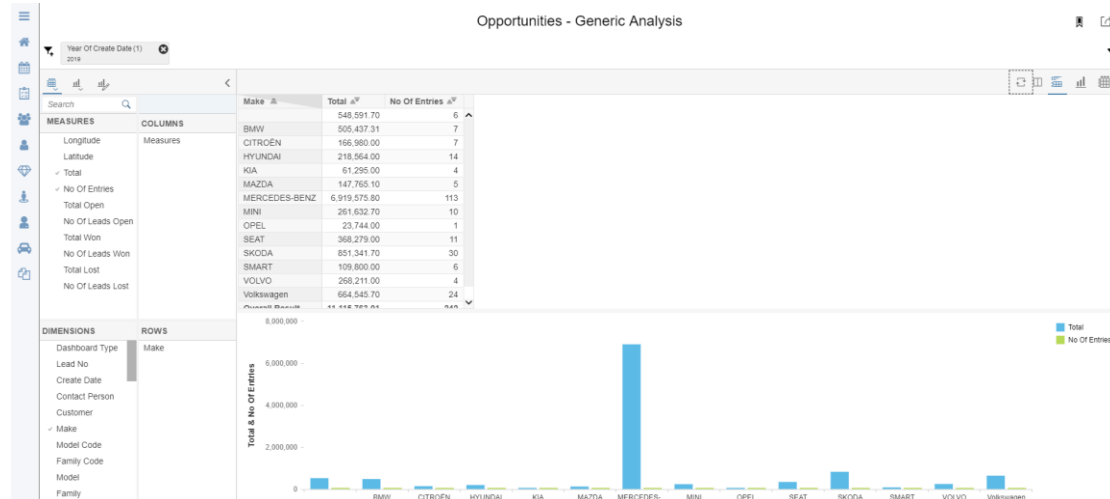


Figure 19. Ad-hoc Analysis

Lumira Application Name: OPPORTUNITIES_GENERIC_ANALYSIS

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED (main)

Functionality

Gives the user the way to do an ad-hoc analysis.

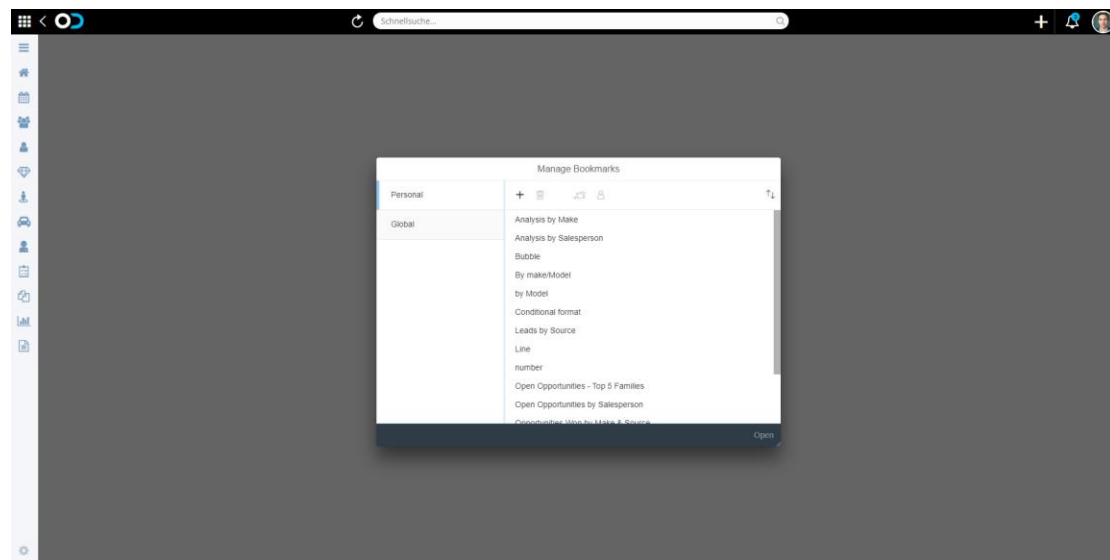


Figure 20. Ad-hoc Analysis Bookmark page

Ad-hoc analysis works with bookmarks. A user can build and save a dashboard that can contain a pivot and a chart connected to the selected data source.

When the user selects the Ad-hoc analysis the bookmarks page appears containing the dashboards created by him and the dashboards created by another user and marked as public (added to the 'Global' folder).

The user can do the following with the bookmark page:

1. Create a new dashboard by clicking the 'Add bookmark' ('+' sign).
2. Select a dashboard and click 'Open' will open the selected dashboard.
3. Select a dashboard and click 'Delete bookmark' will delete the selected dashboard.
4. Select a dashboard and click 'Move to folder' will move the selected dashboard to another bookmark folder.

Create a new dashboard

The user must give a name to the dashboard and select folder (not mandatory) and datasource.

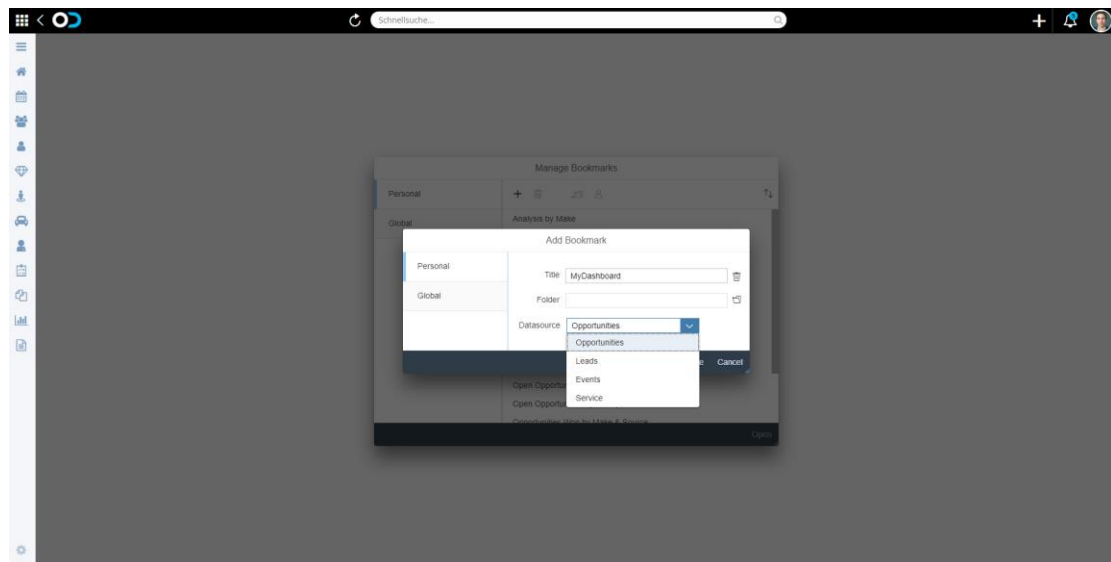


Figure 21. Create ad-hoc analysis dashboard

Then by pressing the 'Save' button the dashboard will be created.

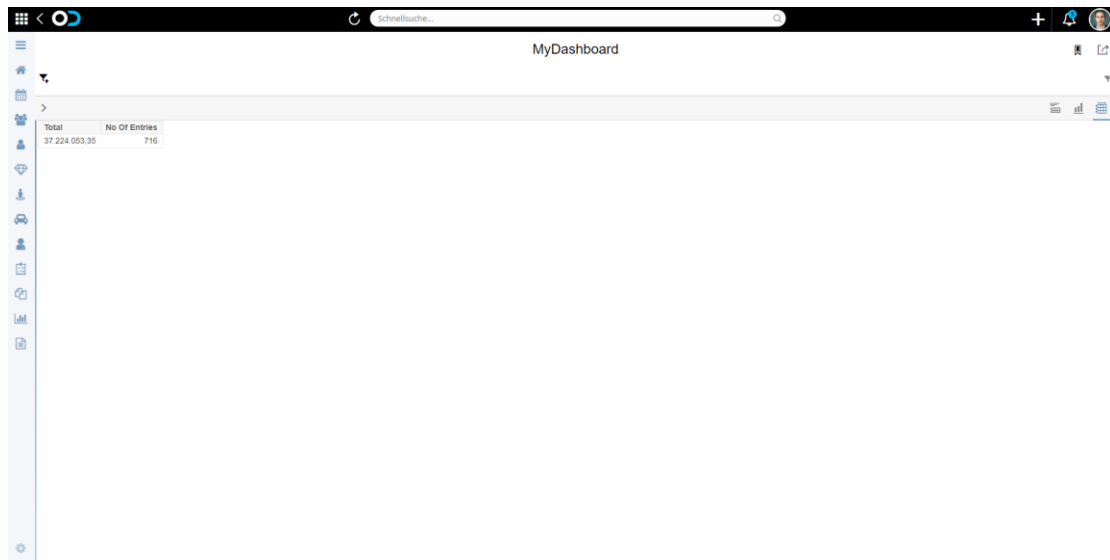
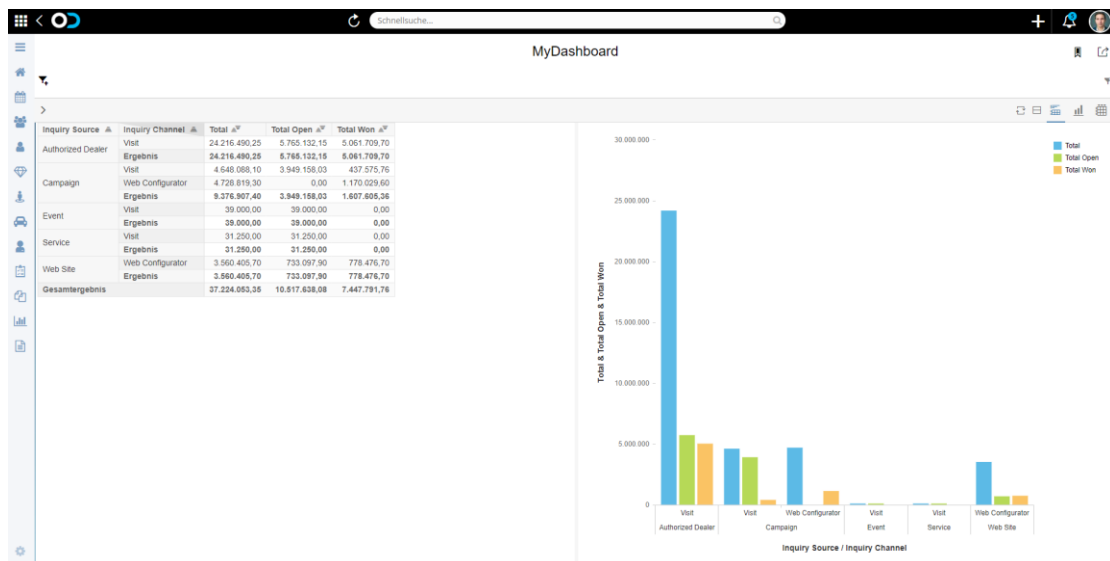


Figure 22. New ad-hoc analysis dashboard

Then by pressing the 'Save' button the dashboard will be created, and the user can customize it by adding measures, dimensions, filters and select the view (pivot only, chart only, chart and pivot) and the chart type.



Once the dashboard is ready the user must save the dashboard by clicking the 'Save Bookmark' button (top right).

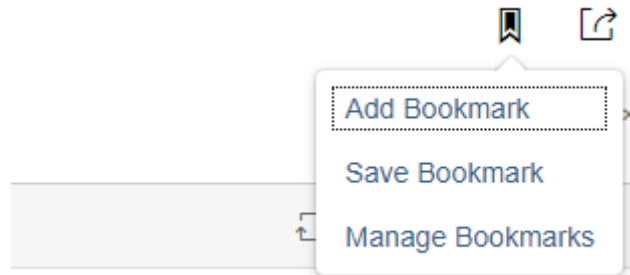


Figure 23. Save ad-hoc analysis dashboard

There are a lot of customization settings to use by right clicking on the chart or the pivot areas. All these settings will be saved in the dashboard.

Inquiry Source	Inquiry Channel	Total	Total Open	Total Won
Authorized Dealer	Visit	24.216.490,25	5.765.132,15	5.061.709,70
	Ergebnis	24.216.490,25	5.765.132,15	5.061.709,70
Campaign	Visit	4.648.088,10	3.949.158,03	437.575,76
	Web Configurator	4.728.819,30	0,00	1.170.029,60
	Ergebnis	9.376.907,40	3.949.158,03	1.607.605,36
	Event	Visit	39.000,00	39.000,00
	Ergebnis	39.000,00	39.000,00	0,00
	Service	Visit	31.250,00	31.250,00
	Ergebnis	31.250,00	31.250,00	0,00
	Web Site	Web Configurator	3.560.405,70	733.097,90
	Ergebnis	3.560.405,70	733.097,90	778.476,70
	Gesamtergebnis	37.224.053,35	10.511.151,03	5.061.709,70

- Filter
- Filter und Dimension entfernen
- Ausschließen
- Filter entfernen
- Drilldown...
- Bedingte Formatierung
- Drill Up
- Currency Conversion
- Totals Position >

Figure 24. Ad-hoc analysis pivot table customizations

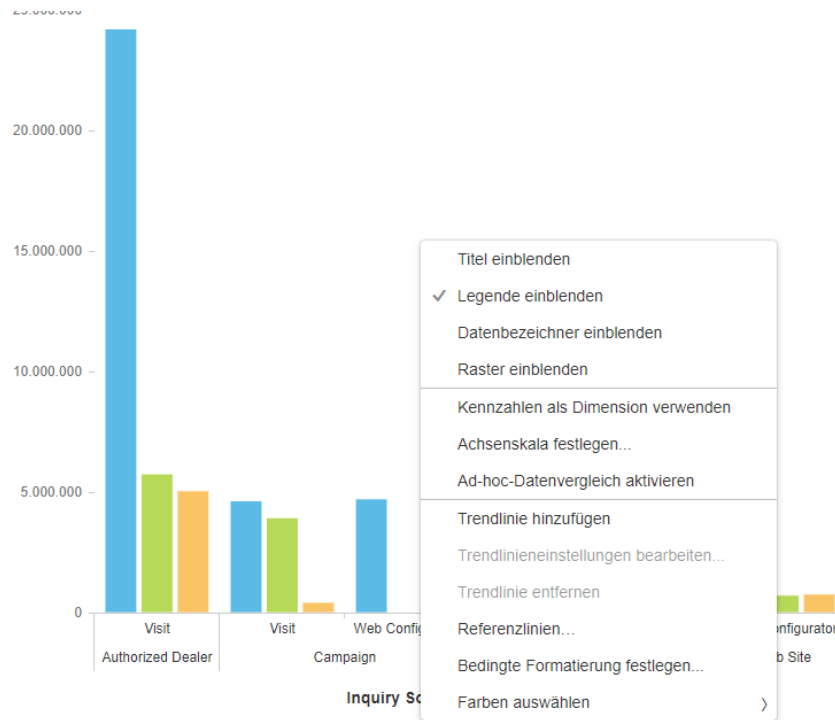


Figure 25. Ad-hoc analysis chart customizations

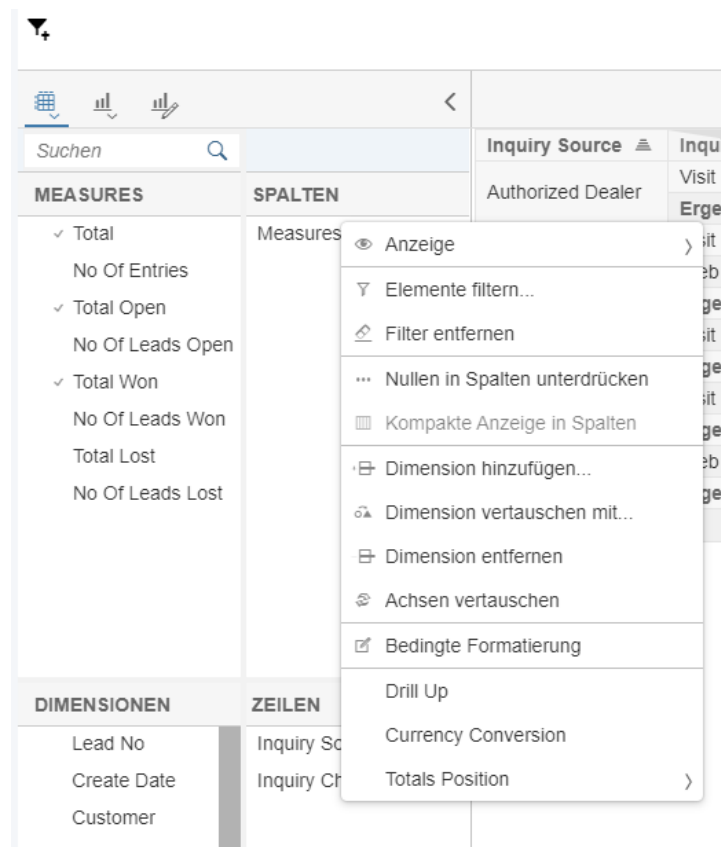


Figure 26. Ad-hoc analysis data source selections

Open Ad-hoc dashboard

In the bookmark page the user selects a dashboard and clicks open.

The dashboard appears and the user can further customize it and 'Save' the latest changes.

The pivot's table data can be exported to Excel by clicking the 'Export' icon.

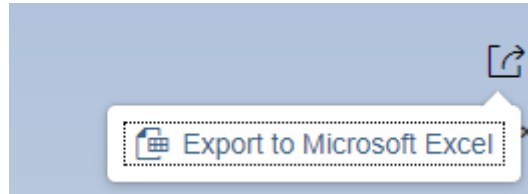


Figure 27. Export to Excel

Current Deals Dashboard

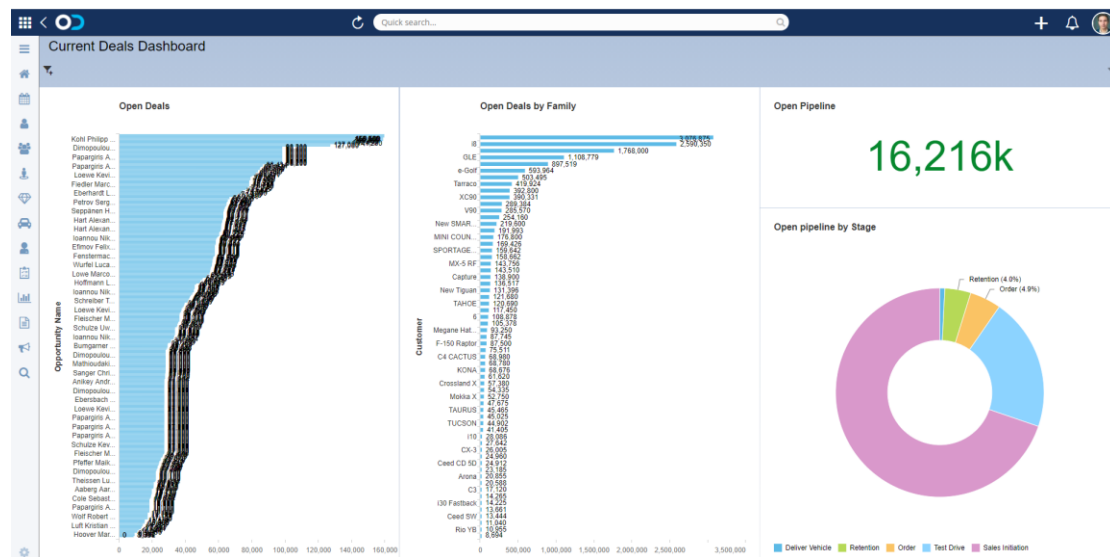


Figure 28. Current Deals Dashboard

Lumira Application Name: CURRENT_DEALS_DASHBOARD

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED (main)

Functionality

Contains two bar charts a numeric point and a donut chart.

Open Opportunities Ageing

The screenshot shows a SAP Lumira Designer interface with a pivot table titled 'Open Opportunities Ageing'. The table is filtered by 'By Make'. The columns represent the number of open opportunities categorized by age ranges: 'Open Opportunities', '<= 90 Days', '90 - 180 Days', and '> 180 Days'. The rows list various car makes. The overall result shows 549 total opportunities, with 3 in the 90-180 day range and 48 in the >180 day range.

Make	Open Opportunities	<= 90 Days	90 - 180 Days	> 180 Days
MERCEDES-BENZ	477	0	5	472
SKODA	94	0	5	89
BMW	72	0	14	58
Volkswagen	57	0	1	56
MAZDA	36	1	4	31
	34	0	2	32
SEAT	26	0	1	25
MINI	23	0	0	23
VOLVO	21	0	5	16
HYUNDAI	20	1	0	19
SMART	19	1	1	17
RENAULT	15	0	1	14
CITROËN	14	0	0	14
KIA	14	0	1	13
OPEL	9	0	1	8
CHEVROLET	8	0	2	6
FORD	5	0	2	3
CADILLAC	3	0	2	1
LINCOLN	2	0	1	1
Overall Result	549	3	48	898

Figure 29. Open Opportunities Ageing

Lumira Application Name: KPI_OPEN_OPPORTUNITIES_AGEING

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_KPI_OPPORTUNITY_VARIOUS(main)

Functionality

Contains a Crosstab.

The 'Dimensions' drop-down selection box ('by Salesperson', 'by Make' etc.) changes the dimensions shown in the pivot table.

Performance last 12 months



Figure 30. Performance last 12 months

Lumira Application Name: SALESPERSON_PERFORMANCE

Data Sources

1. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED (main)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_KPI_MASTER (other)
4. IDMS_KPI (main)

Functionality

Contains a stacked column chart and a hidden pivot table

The 'Companies' drop-down selection box can filter data based on specific company or show all companies data.


The 'Make' drop-down selection box can filter data based on specific manufacturer or show all manufacturers data.

The 'Salesperson' drop-down selection box can filter data based on specific salesperson or show all salespersons data.

In the upper right corner, clicking the icon  switches the chart to a pivot table.



Figure 31 Performance last 12 months pivot table

Clicking the  icon the pivot table switches back to a stacked column chart.

Salesperson Dashboard

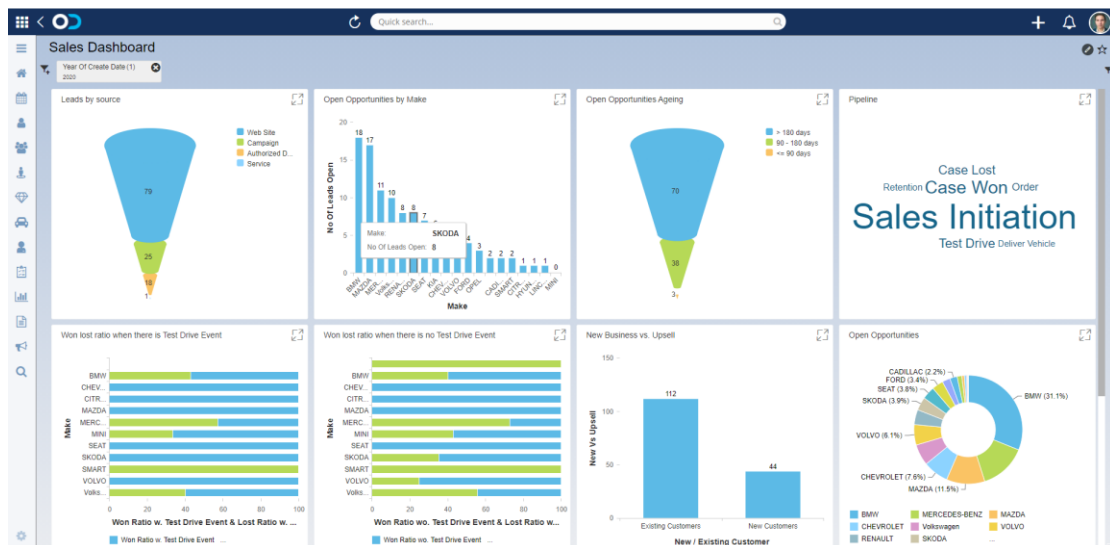


Figure 32. Salesperson Dashboard

Lumira Application Name: WIDGET_REPORTING

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_KPI_OPPORTUNITY_SF
4. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED

Functionality

Contains multiple charts in tiles. Every tile in the upper right corner can be maximized to a popup window. When maximized by clicking the arrow in the left corner user can customize the type of chart used for the selected key figure.

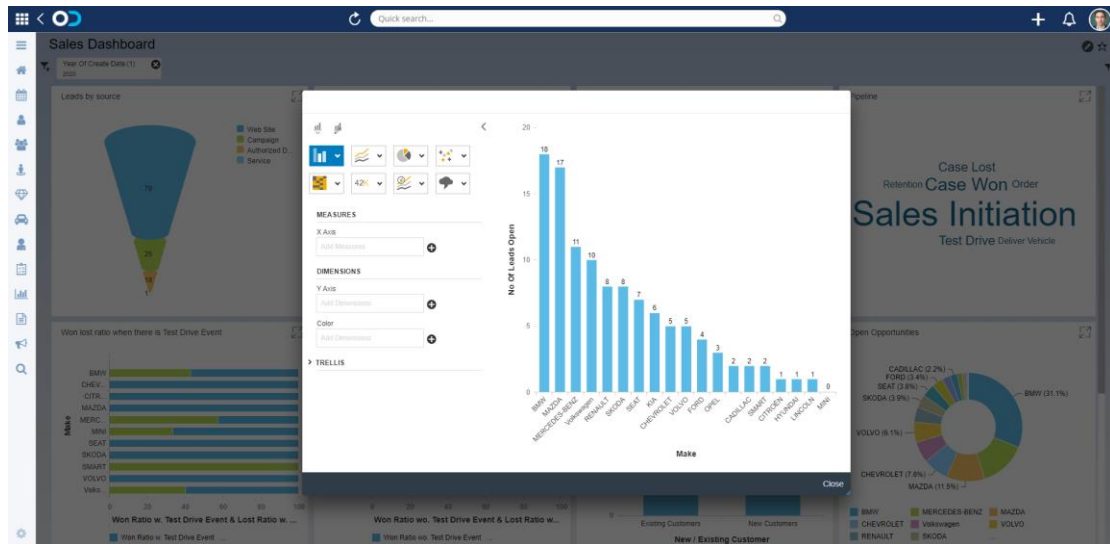


Figure 33 Chart customization

Clicking inside a chart a popup window with a crosstab table appears. The user can return to the Dashboard by clicking the Home icon in the upper left corner of the popup window or maximize it clicking the icon in the upper right corner.

The screenshot shows a 'Sales Dashboard' with a popup window displaying a crosstab table. The table has columns for 'Make', 'Total', 'No Of Leads', 'Total Open', 'No Of Leads Open', 'Total Won', 'No Of Leads Won', 'Total Lost', and 'No Of Leads Lost'. The data is sorted by 'Total' in descending order. The overall result row shows a total of 8,824,837.93, 156 leads, 5,629,324.52 total open, 111 no of leads open, 2,138,464.91 total won, 30 no of leads won, 966,849.40 total lost, and 15 no of leads lost.

Make	Total	No Of Leads	Total Open	No Of Leads Open	Total Won	No Of Leads Won	Total Lost	No Of Leads Lost
BMW	3,344,612.39	33	1,719,487.99	18	1,122,598.00	10	502,427.00	5
MAZDA	742,096.98	20	653,171.67	17	108,856.31	3	0.00	0
MERCEDES-BENZ	966,563.10	14	772,989.00	11	62,732.70	1	130,841.40	2
Volkswagen	496,008.00	13	348,058.00	10	28,000.00	1	120,450.00	2
RENAULT	246,650.00	8	246,650.00	8	0.00	0	0.00	0
SKODA	244,800.00	9	217,600.00	8	27,200.00	1	0.00	0
SEAT	305,099.00	10	212,340.00	7	56,415.00	2	36,344.00	1
KIA	153,244.00	7	131,212.00	6	0.00	0	22,032.00	1
CHEVROLET	621,495.00	7	419,875.00	5	201,620.00	2	0.00	0
VOLVO	607,117.00	9	336,115.00	5	226,804.00	3	44,198.00	1
FORD	242,345.00	5	187,300.00	4	0.00	0	55,045.00	1
OPEL	123,837.46	5	76,681.46	3	23,744.00	1	23,412.00	1
	0.00	2	0.00	2	0.00	0	0.00	0
CADILLAC	221,400.00	3	121,680.00	2	99,720.00	1	0.00	0
SMART	36,600.00	2	36,600.00	2	0.00	0	0.00	0
CITROEN	114,745.00	5	17,120.00	1	97,625.00	4	0.00	0
HYUNDAI	11,040.00	1	11,040.00	1	0.00	0	0.00	0
LINCOLN	124,515.00	2	41,405.00	1	83,110.00	1	0.00	0
MINI	22,100.00	1	0.00	0	0.00	0	22,100.00	1
Overall Result	8,824,837.93	156	5,629,324.52	111	2,138,464.91	30	966,849.40	15

Figure 34 Popup crosstab

The user can add a widget in the dashboard by clicking the '+' icon in the bottom of the page selecting the key figure from a list.

Opportunities Comparison Current vs Previous Year

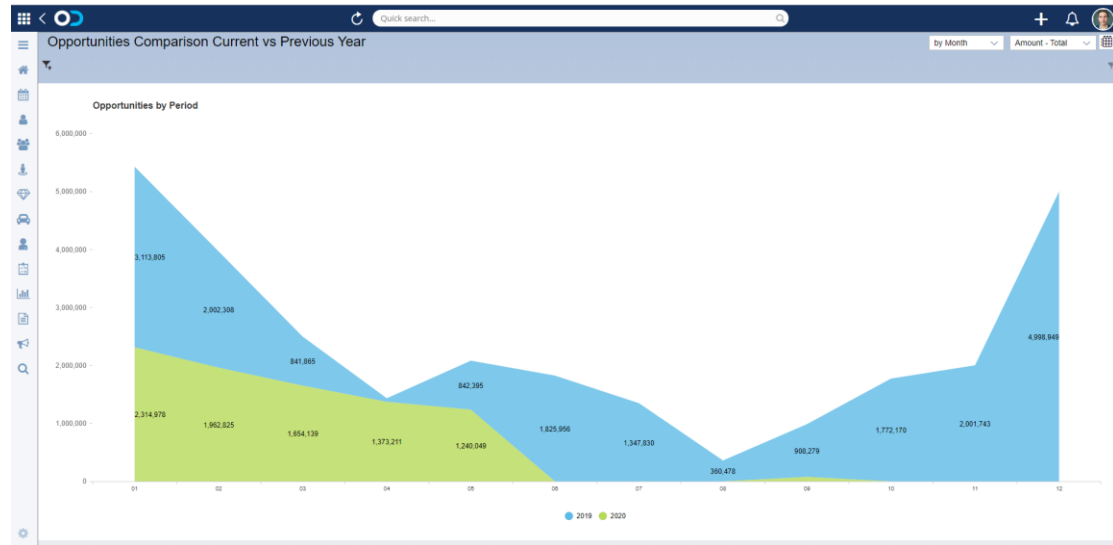


Figure 35. Opportunities Comparison Current vs Previous Year

Lumira Application Name: OPPORTUNITIES_COMPARISON_CURRENT_VS_PRYEAR

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_NOTIME_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_KPI_OPPORTUNITY (main)

Functionality

Contains an Area chart.


The 'Measures' drop-down selection box ('Amount - Total' etc.) changes the measures shown in the chart tiles.

The 'Period' drop-down selection box ('by Year' etc.) changes the period shown in the KPI tiles and the chart tiles. The period shown is the current period ('Year', 'Quarter' etc.).

In the upper right corner, clicking the icon  switches the chart to a pivot table.

Month Year Of Create Date	2019	2020	Result
01	3,113,805	2,314,978	8,428,783
02	2,002,308	1,962,825	3,962,132
03	841,865	1,654,139	2,496,004
04	61,082	1,373,211	1,434,293
05	842,395	1,240,049	2,082,444
06	1,825,956		1,825,956
07	1,347,830		1,347,830
08	350,478		350,478
09	908,279	79,435	987,719
10	1,772,170		1,772,170
11	2,001,743		2,001,743
12	4,998,949		4,998,949
Overall Result	20,076,860	8,624,638	28,701,498

Figure 36 Opportunities Comparison Current vs Previous Year pivot table

Clicking the  icon the pivot table switches back to an area chart.

Opportunities Dashboard

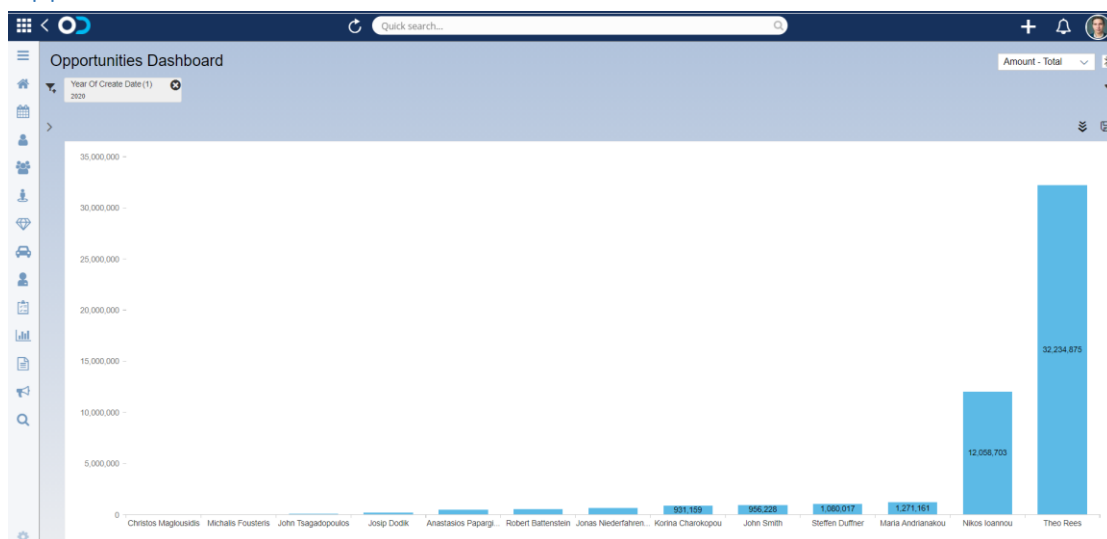


Figure 37. Opportunities Dashboard

Lumira Application Name: OPPORTUNITIES

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED (main)

Functionality

Contains a chart and a hidden pivot table.

To drill-in to the pivot table the user has first to enable the drill-in functionality by clicking the ‘Drill-In to Pivot’ icon.

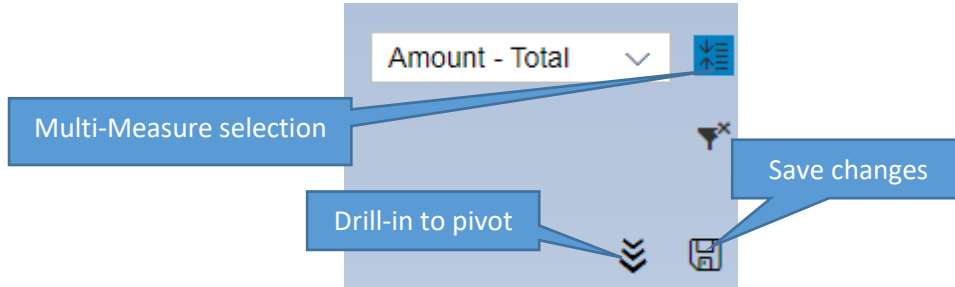


Figure 38. Drill-in to pivot

Click again disables the drill-in to pivot functionality.

To save personalized changes the user must press the ‘Save’ icon.

By clicking on the chart area, the pivot appears filtered based on the selected data.

Salesperson	Customer	Model	No Of Leads Won
Beyer Niklas	C5 Aircross 1.2 PureTech 130 S&S Manual 6 - Live		1
Bumgamer Robert	CX-9 Active 2.5 skyactiv-g 6 at 4wd (231 hp)		1
Chen Lukas	MX-5 ROADSTER 1.5 SKYACTIV-G PETROL 131PS 131 (96) PS (KW)		0
Ehrensbach Klaus	KODIAQ STYLE 1.4 TSI ACT 150HP 4x4		0
Eichmann Tim	GLE 500 e 4MATIC		1
Feierabend Mathias	XC90 Momentum		1
Frey Uwe	6 EXECUTIVE 2.0 SKYACTIV-G PETROL 148PS 145 (107) PS (KW)		0
Frey Uwe	MX-5 ROADSTER 1.5 SKYACTIV-G PETROL 131PS 131 (96) PS (KW)		0
Fruehauf Manko	Q 120Ah		0
Glockner Stephan	V90 R-Design		1
	2019 CORVETTE ZR1 RWD Coupe 12R 6.2L supercharged V8 DI and PFI engine		0
	2020 TAHOE 2WD LT 5.3L EcoTec3 V8 engine		0
	2020 TRAVERSE FWD RS 3.6L V6 engine		0
Nikos Ioannou	6 EXECUTIVE 2.0 SKYACTIV-G PETROL 148PS 145 (107) PS (KW)		1
	ATECA 1.5 TSI 150HP ACT XCELLENCE		1
	Arona 1.0 EcoTSI 85 KW DQ Start/Stop (115 HP) FR		1
	C3 Aircross 1.5 BlueHDi 120 S&S EAT 6 - Shine		1
	C3 Feel 1.5 BlueHDi 100 S&S Manual 6		0
Ioannou Nikos	C4 Cactus 1.2 PureTech 130 S&S Manual 6 - Feel		1
	C5 Aircross 1.2 PureTech 130 S&S Manual 6 - Live		1
	CX-9 Active 2.5 skyactiv-g 6 at 4wd (231 hp)		0
	Capture Initiale Paris T Ce 130		0
	GLC 350 e 4MATIC Coupe		0
	Ibiza 1.6 TDI 80HP Start/Stop (80 HP) Reference		0
	MX-5 RF 1.5 SKYACTIV-G PETROL 131PS 131 (96) PS (KW)		1
	Mokka X 120 Edition 1.6t CDTI S/S 130hp		0
Jaeger Peter	CX-9 Active 2.5 skyactiv-g 6 at 4wd (231 hp)		0
Etter Frank			0

Figure 39 Pivot table in Opportunities Dashboard

The ‘Measures’ drop-down selection box (‘Amount - Total’ etc.) changes the measures shown in the chart tiles.

Clicking on the top right icon (on – off button) the user can add more measures to the top chart tile for comparison reasons. Click again disables the multi-measure selection functionality.

There is also, drill-in to OneDealer page functionality by clicking on a pivot table amount type cell.

Events KPI Dashboard

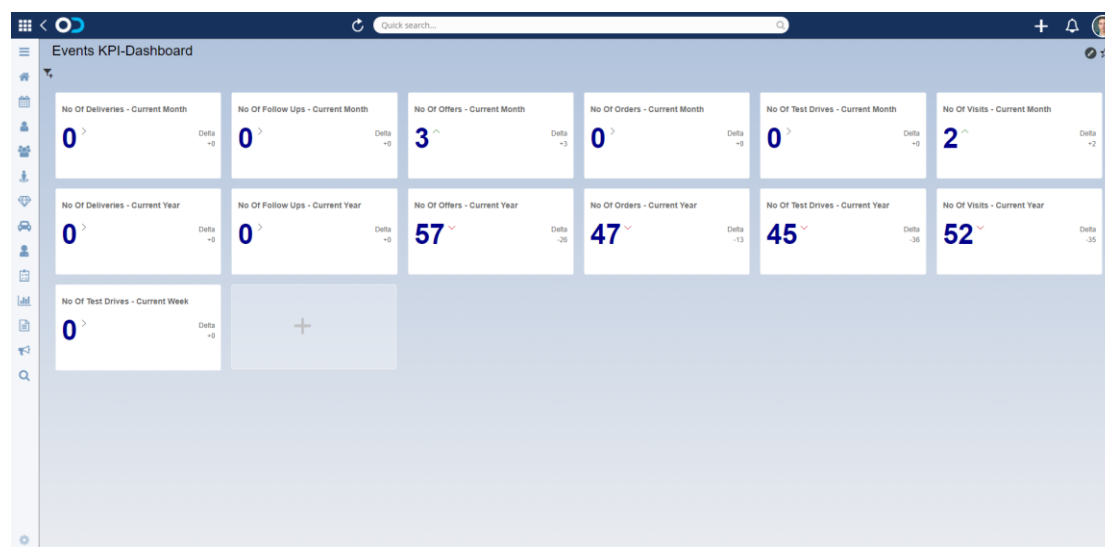


Figure 40. Events KPI Dashboard

Lumira Application Name: KPI_REPORTING_EVENTS_ONLYKPIIS

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_KPI_MASTER (other)
4. IDMS_KPI

Functionality

Contains KPI tiles added by the logged in user. By clicking the empty tile containing the '+' sign a tile can be added from the list of existing tiles. This way the user can build his own main dashboard with the tiles he is interesting in.

If the user wants to remove all the tiles from his main tab, he can do this by clicking on the top right button with the asterisk icon.

If the user wants to remove just one tile from his main tab, he can do this by clicking on the pen button icon and then on the asterisk button icon top on the tile he wants to remove. Then he must click on the pen icon tile in order to disable the editing functionality.

Sales Exec Deals Dashboard

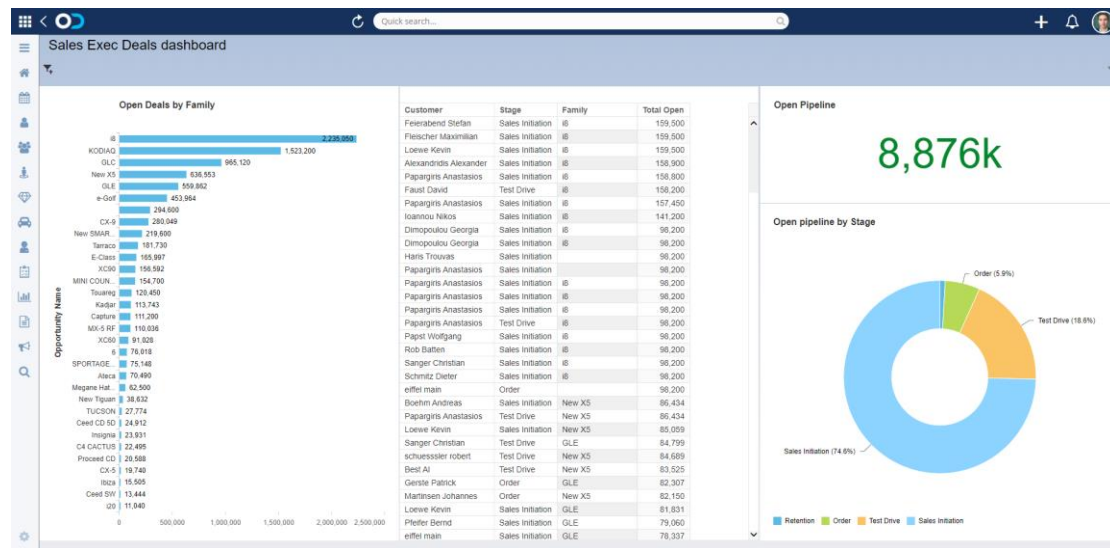


Figure 41. Sales Exec Deals Dashboard

Lumira Application Name: SALES_EXEC_DASHBOARD

Data Sources

1. IDMS_BI_OPPORTUNITY_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_BI_OPPORTUNITY_LUMIRA_MINIFIED (main)

Functionality

Contains a bar chart, a crosstab, a numeric point and a donut chart.

Management Dashboard



Figure 42. Management Dashboard

Lumira Application Name: MNGMNT_DASHBOARD

Data Sources

1. IDMS_BI_OPPORTUNITY_EVENTRESULT_FL_LUMIRA (filter)
2. IDMS_BI_TRANSLATION (translation)
3. IDMS_KPI_OPPORTUNITY
4. IDMS_BI_OPPORTUNITY_EVENTS_LUMIRA_MINIFIED

Functionality

Contains four charts. The upper three charts in the upper right corner can be maximized to a popup window.

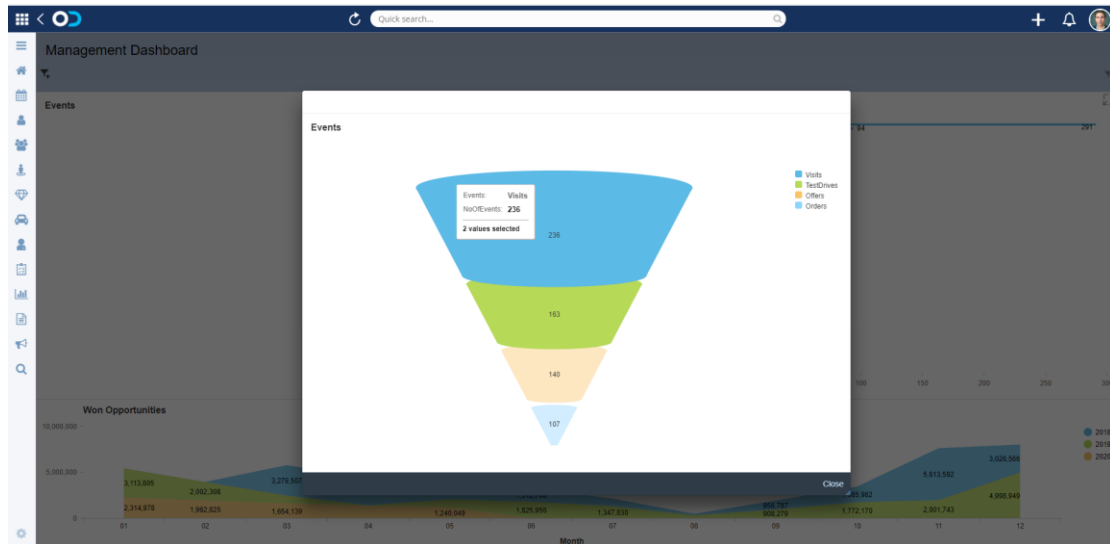


Figure 43 Management Dashboard popup chart

Appendix A. Working with the Crosstab

Adjusting Column Width in Crosstab for Desktop Applications

You can adjust the column width in crosstabs.

Context

If the content of a column in the displayed crosstab is larger or smaller than the calculated column width, you can adjust the column width to the length of the cell content.

Procedure

1. Hover over the column header cell that you want to adjust, to show the clickable area in the right cell margin (column separator).
2. Double-click this area to adjust the column width. You can also pull the column separator with the mouse device to the left or the right to adjust the column width.

Calculating New Measures at Runtime

Based on measures that are available in your crosstab, you can calculate new measures. There are two types of calculations.

For simple calculations, you use two or more available measures as operands and an operator to create a new measure. The new measure is the sum of two available measures, for example.

For dynamic calculations, you only use one available measure as an operand, and you create a new measure based on this operand. For example, if you use sales volume per region as the operand, you can add a new measure that displays the rank of each region according to sales volume. If you now filter out or add new regions to your analysis, the rank numbers are changed dynamically. These calculations are therefore called dynamic calculations. The newly created measures are added to the crosstab. You can edit the name and delete measures by using the context menu for these measures.

Depending on the data source you can also use calculations that are based on dialog boxes where you can specify your calculation.

Adding (Simple) Calculations

Context

By adding a (simple) calculation, you can create a new measure based on two or more available measures in your crosstab. The menu entry **Add Calculation** in the context menu of the crosstab is only available if the **Selection Type** property of the crosstab component has been set to **Multi** at design time.

Procedure

Select the measure headings that you want to use.

The first measure that you select is the first operand. Use the CTRL key to select the next measure that is the second operand. You can also select more than two operands for your calculation.

In the context menu, choose **Add Calculation [Operator]**.

The following operators are available:

Add

Subtract

Multiply

Divide

Percentage Difference

The new measure calculates the difference between operand 1 and operand 2 as a percentage. For example, operand 1 has the value 80 and operand 2 has the value 20. The new measure displays the value 300%, as the difference is 60 and 60 is 300% of 20. If operand 2 has a higher value than operand 1, the result is negative. For example, operand 1 has value 20 and operand 2 has value 80. The new measure displays the value -75%, as the difference is -60 and -60 is -75% of 80.

Percentage Share

The new measure calculates the share of operand 1 in comparison with operand 2 as a percentage. For example, operand 1 has the value 20 and operand 2 has the value 80. The new measure displays the value 25%, as 20 is 25% of 80.

Results

The new calculated measure is added to the crosstab.

A measure value displayed with sign reversal is used in calculations as displayed.

Example A measure value is 200. If you have selected the sign reversal property in the query definition, the value is displayed as -200 in the crosstab. For calculations in Lumira Designer, the value 200 is used. If you select this checkbox, the value -200 is used for calculations.

Adding Dynamic Calculations

Context

By adding a dynamic calculation, you can create a new measure based on one measure in your crosstab that works as operand. Or depending on the data source and context you can use calculations that are based on dialogs.

Procedure

1. Select the measure heading that you want to use.

2. Choose **Add Dynamic Calculation [Operator]**.

The following operators are available:

Operator	Description
Moving Minimum Value	<p>The new measure displays the lowest value available up to this point.</p> <p>For example, there are ten rows with values in your crosstab. The new measure starts in the first row with the same value as the original measure. If the second row in the original measure has a higher value than the first, the value of the first row is repeated in the second row of the new measure and so on.</p>
Moving Maximum Value	<p>The new measure displays the highest value available up to this point.</p>
Accumulative Sum	<p>The new measure displays the sum of all values up to this point.</p> <p>For example, the original measure has eight rows with values. In the fourth row of the new measure, the sum of first four rows is displayed.</p>
Accumulative Sum of Rounded Values	<p>The new measure displays the sum of all rounded values up to this point.</p>
Accumulative Count of All Values	<p>The values per measure are counted and numbered starting with 1 for the first value. If there are 8 rows with values, including zeros, which contribute to the total, the new measure displays the numbers 1 to 8 for the 8 values.</p>
Accumulative Count of All Values that are Not Zero, Null or Error	<p>The values per measure are counted and numbered starting with 1 for the first value, excluding values that are equal to zero.</p> <p>For values that are equal to zero, the last number is repeated.</p>
Moving Average	<p>The new measure calculates the average of all values up to this point.</p> <p>For example, if there are five rows with values in the crosstab, the new measure calculates in row 2 the average of the values in row one and two, and so on.</p>

Operator	Description
Moving Average that is Not Zero, Null or Error	The new measure calculates the average of all values up to this point, excluding values that are equal to zero.
Rank Number	<p>The new measure displays a rank number for each value of the original measure. The highest value in the original measure has the rank number 1.</p> <p>If a value occurs more than once, the values are assigned to the same rank number. If there are two identical values with rank number 4, the next smallest value has rank number 5.</p>
Olympic Rank Number	<p>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 lowest value is not assigned the rank incremented by one, but the rank that corresponds to the number of previous values (including the current value).</p> <p>For example, if the rank 4 occurs twice, the new measure displays number 6 for the next lowest value rank.</p>
Percentage Contribution	The new measure calculates the percentage contribution of a value in the original measure to the overall result of the original measure.

Depending on the data source and context you can also use the following calculation dialogs:

- Counter
- Running Calculations
 - Average
 - Count
 - Minimum
 - Maximum
 - Sum
- Moving Average

- Percentage Of
- Difference From
- Custom Calculation

Results

The new measure is added to the crosstab.

Creating Filters by Measure

By using the **Filter by Measure** entry in the context menu on a dimension in the crosstab, you can define filters to get the Top N or Bottom N values of a specified dimension, based on their measure values.

This means the filter is applied to the members of the selected dimension and does not affect totals or subtotals in your crosstab.

Filtering measures is a dynamic action. Whenever you change the view of your data, the filter is applied again. For example, if you add a Top 5 filter, five members are shown in your analysis. If you then add members that you previously removed from the crosstab, some of these newly added members could match the Top 5 criteria and replace some of the previously displayed members.

Prerequisites

This function is only available for SAP BW data sources or data sources based on SAP HANA HTTP connections via SAP HANA Info Access Service (InA).

SAP HANA data sources

SAP HANA data sources (via InA / HTTP connection) only offer a restricted feature set:

Only one measure-based filter is supported per data source. Therefore, the menu entry is automatically deactivated as soon as the data source has one measure-based filter and will only be activated again if this filter is removed

If one dimension in the drilldown (rows or columns) contains an active hierarchy, measure-based filters are not supported Therefore this menu entry is deactivated.

Creating a measure-based filter

1. Right-click on a dimension header or dimension member in your crosstab and choose **Filter by Measure**. A new dialog box opens.

2. In the dialog box, perform the following steps:
 - Choose the measure that you want to use as the basis for filtering.
 - Choose the operator (**Top N** or **Bottom N**).
 - Enter a value for the operator (filter criteria), for example, 5 for Top 5.
 - Choose **OK**.

A new measure-based filter is created for the dimension you have chosen. This means that the filter only filters the values for this dimension, for example, you filter the Top 5 customers based on their revenue by choosing the customer dimension.

If you have additional dimensions in the drilldown, they are not filtered.

Editing a measure-based filter

1. Right-click on a dimension header or dimension member in your crosstab.
2. Chooses **Filter by Measure Edit** to edit an existing measure-based filter. A new dialog box opens.
3. Choose the measure, the operator and value for filter criteria according to your needs.
4. Choose OK. The measure-based filter is changed according to your input.

Deleting a measure-based filter

1. Right-click on a dimension header or dimension member for which you have created a measure-based filter.
2. Choose **Filter by Measure Clear** to remove the measure-based filter that you have created for this dimension.

If you have multiple filters defined for multiple dimensions, you need to repeat this procedure for every dimension that contains a measure-based filter.

(De)activating predefined conditions

Measure-based filters that were created in another tool (for example, BEx conditions created in BEx Query Designer or filters created in SAP BusinessObjects Analysis, edition for Microsoft Office) can only be (de)activated in Lumira Designer.

1. Right-click on a dimension header or dimension member in your crosstab.
2. Choose **Predefined Measure Filters** and click on any of the listed filters to activate or deactivate them.

Defining New Conditional Formatting Rules Based on Measures for BEx Query Exceptions

You can define conditional formatting rules for measures at runtime, in addition to the BEx Query Exceptions defined in the BEx query.

Context

If the application designer has set the crosstab property **Conditional Formatting Visible** to true, you can define additional conditional formatting rules for BEx query exceptions based on measures (key figures in SAP BW). When you change these rules, you cannot change the content of existing BEx query exceptions, but you can change their visualization.

Procedure

1. Right-click somewhere in your crosstab, open the context menu and select **Conditional Formatting**.
2. In the **Conditional Formatting Manager** dialog box, select **New** to define new conditional formatting.
3. In the **New Conditional Formatting** dialog box enter a name for your conditional formatting rules set and choose in the **Based-On** list the measure that this rule should be applied to.
4. Choose a formatting option in the **Format** list.

The following options are available:

- **Background**
 - **Value**
 - **Status Symbol**
 - **Trend Ascending**
 - **Trend Descending**
 - **Trend Gray**
5. Under **Definition**, define the rule by selecting which style should be applied and which comparison operator should be used to evaluate the cell value.

6. Click **Add** when you have finished defining the rule.

The rule is listed in the **Defined Rules** area of the dialog box, where you can edit and delete the rule. To define further rules, repeat steps 4 and 5.

7. Click **OK** when you have finished defining the rules for the conditional formatting rules set.

In the **Conditional Formatting Manager** dialog box, your conditional formatting catalog is displayed. Here you can delete, copy or edit it again or create a new one.

8. Click **OK** in the **Conditional Formatting Manager** dialog box.

Results

The conditional formatting you defined is automatically applied to the dataset in the crosstab.

The screenshot shows the 'Edit Measure Rule' dialog box. At the top, the title is 'Edit Measure Rule'. Below the title, there are two input fields: 'Name:' with the value 'red' and 'Based On:' with a dropdown menu showing 'Total Open'. Below these fields is a section titled 'Defined Rules' with a plus sign icon on the right. Under 'Defined Rules', there is a 'Preview' button, a dropdown menu showing 'less than or e...', a text input field with '30,000', and a 'Fill:' dropdown menu showing a red color swatch. Below the 'Defined Rules' section is a section titled 'Apply Formatting for Crosstab' with a checked checkbox labeled 'Data Cells'. At the bottom right of the dialog, there are 'OK' and 'Cancel' buttons.

Figure 44. Conditional Format Rule

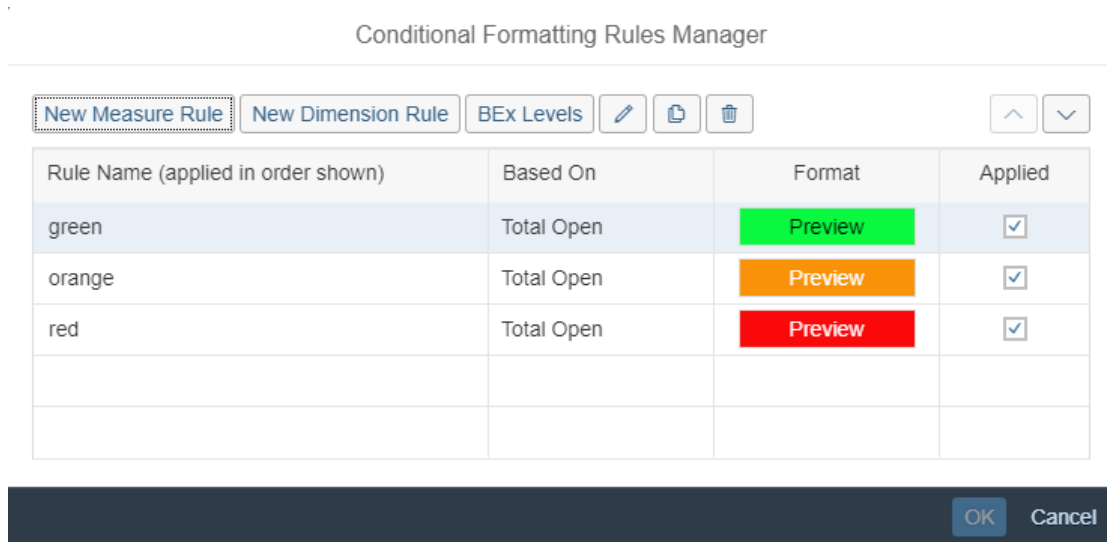


Figure 45. Conditional Format Rules List

Salesperson	Make	Total Open	Total Won	Total Lost
Theo Rees	SMART	18,300.00	0.00	0.00
	MINI	44,200.00	0.00	0.00
	SKODA	159,576.09	27,200.00	0.00
	Volkswagen	322,905.00	0.00	22,132.00
	BMW	589,200.00	0.00	0.00
	Result	1,134,181.09	27,200.00	22,132.00
Overall Result		1,134,181.09	27,200.00	22,132.00

Figure 46. Conditional Format Result

Changing Existing Conditional Formatting Rules Based on Measures for BEx Query Exceptions

You can change existing conditional formatting rules for BEx query exceptions that have been defined when the query has been created.

Context

If the application designer has set the crosstab property **Conditional Formatting Visible** to true and your crosstab has an underlying data source with BEx query exceptions, you can change existing conditional formatting rules for BEx query exceptions based on measures (key figures in SAP BW). When you edit existing rules, only the visualization of existing BEx

query exceptions can be changed, not their content. If you copy them first, you can change the copy in all respects and deselect the original rule.

Procedure

- Right-click somewhere in your crosstab, open the context menu and select **Conditional Formatting**.
- In the **Conditional Formatting Manager** dialog box, select one of the existing rules and select **Copy** or **Edit** to change the conditional formatting.
 - If you edit an existing rule by selecting the original rule and choosing **Edit**, you can only change the visualization of the rule under **Format** and not its content.
 - If you copy an existing rule, the copy is displayed right under the original rule. Select the copy and change it by following steps 3 to 7. Afterwards you can deselect the original rule and select the copy to be applied.
- In the **New Conditional Formatting** dialog box enter a name for your conditional formatting rules set (overwrite the copy's name) and choose in the **Based-On** list the measure that this rule should be applied to.
- Choose a formatting option in the **Format** list.

The following options are available:

- **Background**
- **Value**
- **Status Symbol**
- **Trend Ascending**
- **Trend Descending**
- **Trend Gray**
- Under **Definition**, define the rule by selecting which

Working with Large Filter Selections

You can copy many member keys and paste them to an input-enabled filter component (filter panel, dimension filter and prompt Dialog).

When you copy a valid member, a token is generated in the corresponding input field. When

members are pasted, they are also selected in the **Value Help** dialog.

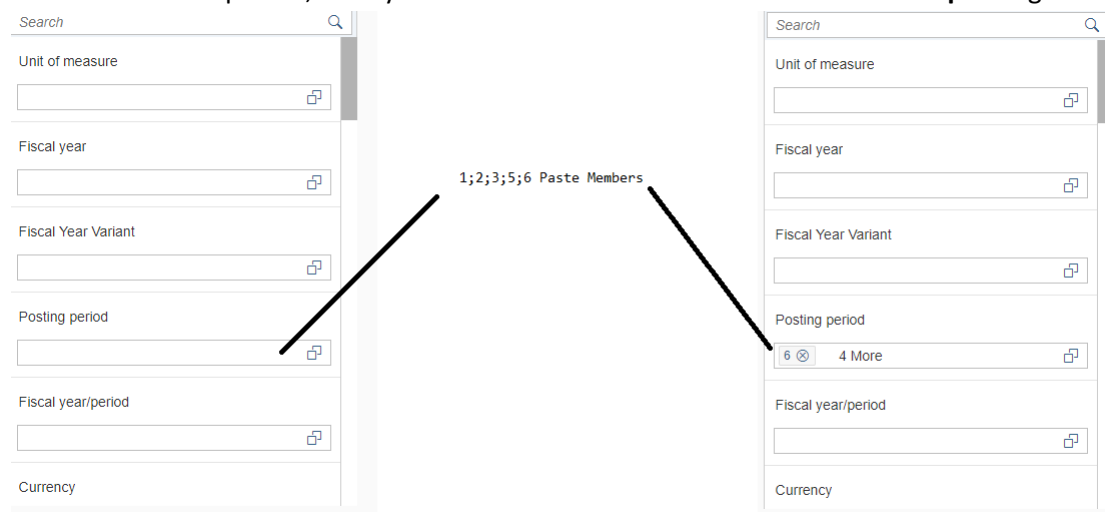


Figure 47. Working with Large Filter Selections

Note

This works for all dimensions except hierarchies.

To copy the input string of the corresponding dimension to the Microsoft Windows clipboard, you can choose CTRL + + + c in an input field.

If the Web browser does not support clipboard manipulation, a native Web browser prompt (with the input string) appears. For date fields with a date picker, this copy function is


disabled. In that case the user can use the standard Microsoft Windows copy function.

Working with the Crosstab Sorting

You can sort the crosstab by its data via icons in the column header area, via context menu, or via scripting.

Sorting with Icons in the Column Header

In past releases, when you clicked a sorting icon in the column header of the crosstab, the crosstab was sorted by the corresponding measure. This meant that when there were drilled-down columns of a measure, clicking an icon always sorted the crosstab's data by the measure's aggregate.



	0BC_ORDW			0BC_TURN		
0BC_REDU	1% Rabatt ▲▼	2% Rabatt ▲▼	Overall Result ▲▼	1% Rabatt ▲▼	2% Rabatt ▲▼	Overall Result ▲▼
0BC_LOC ▲▼	KG	KG	KG	EUR	EUR	EUR
Goeteborg B aeckebo1 (PL)	15.700	8.140	23.840	122.44	222.66	345.10
Halle/Leipzig (GR)	4.780	16.890	21.670	40.62	140.69	181.31
Mannheim (GB_ENG)	19.030	4.220	23.250	178.91	26.39	205.30
Spreitenbach (AG) (B)	15.840	7.000	22.840	115.74	86.87	202.61
Utrecht (N)	6.800	20.310	27.110	36.86	109.79	146.65
Wien Nord (GR)	14.370	6.630	21.000	129.94	19.98	149.92
Overall Result	76.520	63.190	139.710	624.51	606.38	1,230.89

	0BC_ORDW			0BC_TURN		
0BC_REDU	1% Rabatt ▲▼	2% Rabatt ▲▼	Overall Result ▲▼	1% Rabatt ▲▼	2% Rabatt ▲▼	Overall Result ▲▼
0BC_LOC ▲▼	KG	KG	KG	EUR	EUR	EUR
Wien Nord (GR)	14.370	6.630	21.000	129.94	19.98	149.92
Halle/Leipzig (GR)	4.780	16.890	21.670	40.62	140.69	181.31
Spreitenbach (AG) (B)	15.840	7.000	22.840	115.74	86.87	202.61
Mannheim (GB_ENG)	19.030	4.220	23.250	178.91	26.39	205.30
Goeteborg B aeckebo1 (PL)	15.700	8.140	23.840	122.44	222.66	345.10
Utrecht (N)	6.800	20.310	27.110	36.86	109.79	146.65
Overall Result	76.520	63.190	139.710	624.51	606.38	1,230.89

Figure 48. Sorting with Icons in the Column Header

With SAP Lumira 2.3, when you click a sorting icon in the column header of a crosstab it sorts the crosstab's data by the column corresponding to the sorting icon, whether there is a drill-down or not.

Sorting via Context Menu

The context menu supports sorting for measures and drilldowns of a measure. Choosing the context menu causes the crosstab to be sorted by the corresponding column or row.

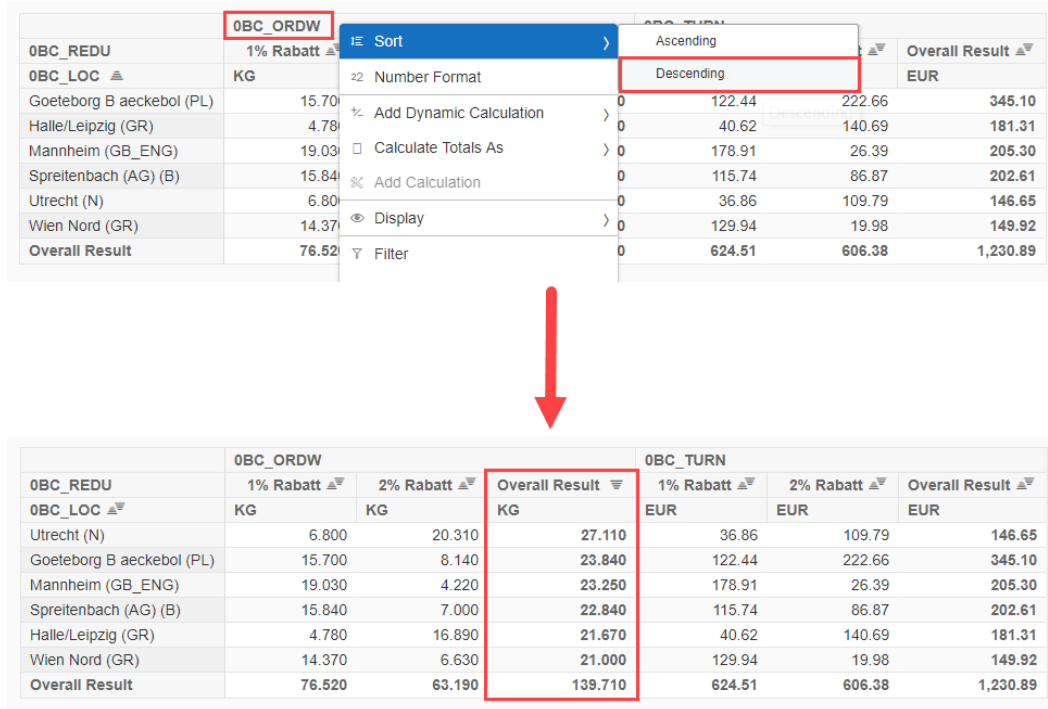


Figure 49. Sorting via Context Menu

Sorting via context menu does work independent of the axis the measure lies on. The cell for which the context menu is opened just needs to be a drill-down of a measure (or a measure itself).

Working with Drag and Drop in Applications and Crosstabs

Prerequisites

When working with drag and drop functionality in applications and crosstabs, please note the following points:

- Drag and Drop cannot be used when the crosstab is used in the planning mode, that means if the crosstab contains input ready cells.
- Drag and Drop is not supported for mobile scenarios (for example, applications running on the iPhone or iPad)

Enabling/Disabling Drag and Drop

Drag and Drop can be enabled and disabled on application level and on component level:

- On Application Level

Use the application property **Drag and Drop between Components** to specify if drag and drop operations between different components are allowed. This property is set to **false** by default, which means that drag and drop operations cannot be carried out between components. Drag and Drop operations within one single component are still possible, if the crosstab (component) level property is set to **true** or **Advanced** (see next section). Set this property to **true** or **Advanced**, if you want to enable drag and drop operations between components (for example, between the Navigation Panel and the Crosstab).

- On Crosstab (component) Level

Use the crosstab property **Drag and Drop enabled** if you want to enable drag and drop operations within the crosstab. The property is set to **false** by default, what means that the crosstab does not allow any drag and drop operations. If this property is set to **true** or **Advanced**, the crosstab:

- enables internal drag and drop operations. Thus, the application user can drag and drop dimensions and members within the crosstab and remove dimensions and members by dragging and dropping them outside the area of the crosstab.
- accepts external drops of dimensions from other components (for example, the navigation panel). This only works if the application property **Drag and Drop between Components** is set to **true** or **Advanced** as well.

Dragging a Dimension or Dimension Member

General aspects

Dimensions or members that can be dragged can be easily identified: the mouse cursor changes when you hover above them. Drag and drop operations in the crosstab can only be performed for one single dimension or one single dimension member. You cannot select multiple members and drag the members in the selection around the crosstab, even if the **Selection Type** property of the crosstab has been set to **multi**.

The mouse cursor changes to the "move" cursor type (dimension "Product", for example):

Calendar Year/Month	Product	Price per UM	Prod
JAN 2003	Automatic umbrella	9.18	Phor Fax Inter Othe
	Camera Connector	45.90	Phor Fax Inter Othe
	Flatscreen Vision I	1,064.00	Phor Fax Inter

Figure 50. Dragging a Dimension or Dimension Member 1

When you start to drag a dimension or member, the drag ghost displays all cells that belong to the respective dimension. This means text fields and attributes are displayed. In this example, the dimension "Product" has the attribute "Price per UM", which is displayed in the drag operation as well:

Calendar Year/Month	Product	Price per UM	Product group
JAN 2003	Automatic umbrella	9.18	Phone Fax Internet Others
	Camera Connector	45.90	Phone Fax Internet Others
	Flatscreen Vision I	1,064.00	Phone Fax Internet

Figure 51. Dragging a Dimension or Dimension Member 2

For all drag (and drop) operations, dimension and member data with all related fields like texts or attributes are always treated as a single unit. In this example, this means it is not possible to drag and drop “Price per UM” separately, because it is an attribute for dimension “Product”. This behavior is also valid for the “Product” cell that represents the “Product” dimension's text. Therefore, you can grab and drag any cell (text, attribute) for a dimension, in order to move the whole cell block that belongs to that dimension.

Drag and drop operations within the crosstab as well as drag drop operations from the navigation panel to the crosstab can be canceled before dropping the element by pressing the ESC key on the keyboard.

The dimension header split cell

Typically, when no scaling factor is specified on the rows or on the column's axis in the drilldown, the pivot cell of the dimension header hosts the respective dimension from the rows and from the column's axis. In order to drag a dimension out of this cell, you need to render this cell as a "split" cell with a diagonal separator. The two areas created by this separator determine which dimension will be dragged when dragging is started from a position within the cell. In the following example, the “Currency” dimension on the rows axis is dragged when starting the drag operation from the lower left cell area:

		0BC_COUNT		
Fiscal year		K4/2004		
		Calendar year, 4 spec. periods 2004		
Currency Calendar Year/Month		JAN 2004	FEB 2004	MAR 2004
Euro				
Euro				
Euro	Currency			
Euro				
Euro				
Euro				
Euro				
Euro		1		
Euro				
Euro				
Euro		1		
Euro				

Figure 52. The dimension header split cell 1

Starting from the same cell, but using the upper right cell area, the “Calendar Year/Month” dimension on the columns axis is dragged:

		0BC_COUNT		
Calendar Year/Month		K4/2004		
Fiscal year		Calendar year, 4 spec. periods 2004		
Currency Calendar Year/Month		JAN 2004	FEB 2004	MAR 2004
Euro				
Euro				
Euro				
Euro				
Euro				
Euro				
Euro		1		
Euro				
Euro				
Euro		1		
Euro				

Figure 53. The dimension header split cell 2

Structures usually do not have a text rendered in the crosstab. The drag ghost always displays a text, and hence a split cell, as shown below, allows you for example to grab and drag the measure structure out of the pivot cell:

Calendar Year/Month	JAN 2004			
Fiscal year	1/4/2004	Measures		
	Calendar year, 4 spec. periods 2004			
Currency	0BC_COUNT	0BC_DATE2	0BC_DATE3	
Euro				
Euro				
Euro				
Euro				
Euro				
Euro	1	1/13/04	1/13/04	
Euro				
Euro				
Euro	1	1/29/04	1/29/04	
Euro				

Figure 54. The dimension header split cell 3

Removing a Dimension or Dimension Member

You can remove a dimension or dimension member from the drilldown by dragging the element out of the visible crosstab area. When you do this, the drag ghost will show a trash can symbol to indicate that dropping the element at the current position will remove the element:

Calendar Year/Month	Product	Price per UM	Formula 3			CALC			FORMULA		
			DS30	DS20	Overall Result	DS30	DS20	Overall Result	DS30	DS20	Overall Result
			Hardware software	Accessories+space		Hardware software	Accessories+space		Hardware software	Accessories+space	
			ST	ST	ST	\$	\$	\$	\$	\$	
JAN 2003	Automatic umbrella	9.18	Phone	1,704,488	1,704,488		1,955,470.00	1,955,470.00		7,821,880.00	
			Fax	2,480,748	2,480,748		2,846,088.50	2,846,088.50		11,384,354.00	
			Internet	1,255,412	1,255,412		1,440,321.00	1,440,321.00		5,761,284.00	
			Others	599,876	599,876		688,267.50	688,267.50		2,753,070.00	
	Camera Connector	45.90	Phone	5,294,964	5,294,964		3,032,347.50	3,032,347.50		12,129,390.00	
			Fax	7,436,492	7,436,492		4,258,818.00	4,258,818.00		17,035,272.00	
			Internet	4,142,948	4,142,948		2,372,611.50	2,372,611.50		9,490,446.00	
			Others	1,874,248	1,874,248		1,073,347.50	1,073,347.50		4,293,390.00	
	Flatscreen Vision I	1,064.00	Phone	2,136,620	2,136,620		2,817,174.50	2,817,174.50		11,268,698.00	
			Fax	3,145,856	3,145,856		4,147,696.50	4,147,696.50		16,590,786.00	
			Internet	1,515,552	1,515,552		2,124,110.00	2,124,110.00		8,500,000.00	
			Others	1,115,552	1,115,552		1,115,552.00	1,115,552.00		4,462,224.00	

Figure 55. Removing a Dimension or Dimension Member

Note

Keep in mind that structures cannot be removed from the drilldown unless they only contain a single member. If you want to remove members of a structure (for example, the measure structure), at least one structure member must remain in the structure. Otherwise you cannot remove a member.

Dropping Dimensions or Dimension Members

Drop targets for dimensions and dimension members can be other dimensions (or, in the case of members, other members), or the respective drop areas between dimensions and members. Dropping a dimension on another dimension or a member on another member exchanges the two elements, whereas dropping a member/dimension on a respective drop area inserts the member/dimension at the respective drop area position.

A valid drop target is highlighted accordingly, for example, when you drag the “Product Group” dimension onto the “Product” dimension or the “Phone” member onto the “Internet” member, as in the following examples:

Exchange operation

Dimension drop:

Calendar Year/Month	Product	Price per UM	Product group	Formul
JAN 2003	Automatic umbrella	9.18	Product group	DS30
			Phone	Hardwa
			Fax	
			Internet	
	Camera Connector	45.90	Phone	
			Fax	
			Internet	
			Others	
	Flatscreen Vision I	1,064.00	Phone	
			Fax	
			Internet	
			Others	

Figure 56. Dropping Dimensions or Dimension Members 1

Note

The drop target highlighting also highlights all cells that belong to the dimension, including text/key and attribute field cells.

A "split cell" that is a pivot cell that hosts both a dimension on the row's axis and columns axis, cannot be a drop target. In order to drop onto a dimension that is contained in a split cell, you first must swap or move the dimension out of this cell.

Member drop:

			Formula 3		
			Product group	DS30	DS20
				Hardware software	Accessori
Calendar Year/Month	Product	Price per UM		ST	ST
JAN 2003	Automatic umbrella	9.18	Phone		
			Fax		
			Internet		
			Others		
	Camera Connector	45.90	Phone		
			Fax		
			Internet		
			Others		
	Flatscreen Vision I	1,064.00	Phone		2,136,620
			Fax		3,145,856
			Internet		1,616,560
			Others		

Figure 57. Dropping Dimensions or Dimension Members 2

If you release the left mouse button at the respective positions, the dimensions/members are exchanged with each other.

Insert/move operations

You can perform an insert operation by dragging elements and dropping them on drop areas, which are displayed as horizontal or vertical lines when you hover over them:

The following example shows how to drop a dimension on the rows axis by dragging the "Product Group" dimension between "Calendar Year/Month" and "Product".

Note

Since "Product" and "Price per UM" belong to the same dimension ("Product"), you cannot position "Product Group" between these two, and hence no drop area appears when you hover over the respective position. The cell to the left of the drop area, is grayed out, except when the drop area at the very left (or very right for RTL) or the drop area at the very top is highlighted. In this case, the grayed-out cell is the cell next to (left, right or below) the cell where the dragged dimension will be inserted.

Calendar Year/Month	Product	Price per UM	
JAN 2003	Automatic umbrella	9.18	Phone
			Fax
			Internet
			Others
	Camera Connector	45.90	Phone
			Fax
			Internet
			Others
	Flatscreen Vision I	1,064.00	Phone
		Fax	
		Internet	

Figure 58. Dropping Dimensions or Dimension Members 3

The following example shows how to drop a dimension on the columns axis by positioning the “Distribution Channel” structure between “Product Group” and the measure structure.

If you release the left mouse button, the dragged dimension is moved into the new position.

If you want to insert members, proceed like in the following examples:

- Moving dimension member “Others” ahead of “Fax”. This means insert the member between “Phone” and “Fax”.

Calendar Year/Month	Product	Price per UM	Formula 3	
			Product group	
JAN 2003	Automatic umbrella	9.18	DS30	DS20
			Hardware software	Access
			ST	ST
	Camera Connector	45.90	Phone	
			Fax	
			Internet	
			Others	
	Flatscreen Vision I	1,064.00	Phone	2,136,620
			Fax	3,145,856
			Internet	1,616,560
			Others	

Figure 59. Dropping Dimensions or Dimension Members 4

- This procedure also works for other elements on the rows axis and columns axis, like inserting “DS30” between “DS20” and the “Overall Result”.

	Product group	Formula 3		Overall Result		CALC
		DS30	DS20	DS30	DS30	DS30
		Hardware software	Accessories+space	ST	Hardware software	Hardware sof
Price per UM		ST	ST	ST	Hardware software	\$
9.18	Phone		1,704,488	1,704,488		
	Fax		2,480,748	2,480,748		
	Internet		1,255,412	1,255,412		
	Others		599,876	599,876		
45.90	Phone		5,294,964	5,294,964		
	Fax		7,436,492	7,436,492		
	Internet		4,142,948	4,142,948		
	Others		1,874,248	1,874,248		
1,064.00	Phone	2,136,620		2,136,620		2,817,1
	Fax	3,145,856		3,145,856		4,147,6
	Internet	1,616,568		1,616,568		2,124,4

Figure 60. Dropping Dimensions or Dimension Members 5

Drag and Drop Constraints

When using drag and drop, please note the following points:

- Drag and drop only works for single elements under the mouse cursor. This means only one dimension/dimension member at a time can be dragged and dropped.
- If there are two or more structures on the axes, a structure can only be removed if it contains no more than one member. If there is only one structure, it can always be removed.
- Dimensions can only be dropped on dimensions and the respective drop areas, if the setting **Drag and Drop Enabled** is set to **true**. If this setting is set to **Advanced**, dimensions can also be drag and dropped to data cells.
- Dimension members can only be dropped on dimension members and the respective drop areas.
- Members can only be dragged and dropped within the previous peer dimension's member space.

Example:

			Formula 3	
			DS30	DS20
			Hardware software	Access
Calendar Year/Month	Product	Price per UM	ST	ST
JAN 2003	Automatic umbrella	9.18	Phone	
			Fax	
			Internet	
			Others	
	Camera Connector	45.90	Phone	
			Fax	
			Internet	
			Others	
	Flatscreen Vision I	1,064.00	Phone	2,136,620
			Fax	3,145,856
		Internet	1,646,568	

Figure 61. Drag and Drop Constraints

In this example, the structure member “Others” can only be moved within the space that is spanned by the previous peer dimension's member, which is “Camera Connector”.

- Hierarchy members can only be dragged and dropped within the same drill level
- Hierarchy members cannot be removed.
- A "split cell" (pivot cell) is not a drop target.
- “Result” members can be dragged but cannot be dropped on drop areas or other dimension members. For other members you cannot choose result members as drop targets.

The only drop action available to “Result” members is to drop them outside the crosstab to remove them from the view.

Appendix B. Working with Charts

Using the Context Menu

To enable you to navigate and analyze data when running your application, you can access the following context menu functions available in the chart area:

Context menu functions for charts

- horizontal

Use **Horizontal** to display your chart horizontally (exchanges X and Y axis).

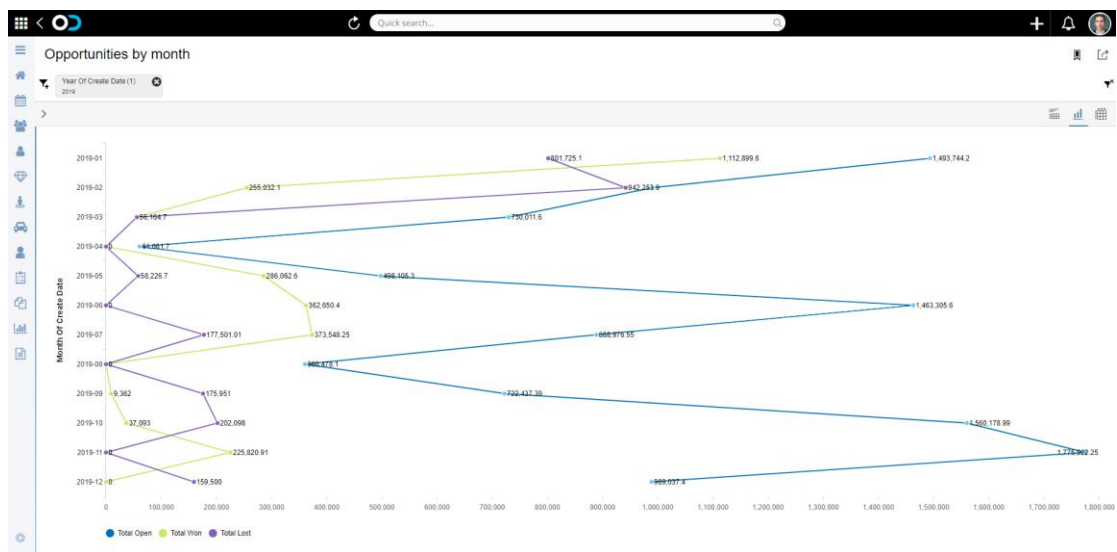


Figure 62. Horizontal Display

- vertical

Use **Vertical** to display your chart vertically.

- normal stacking

Use **Normal Stacking** to stack the data series on top of each other in order.

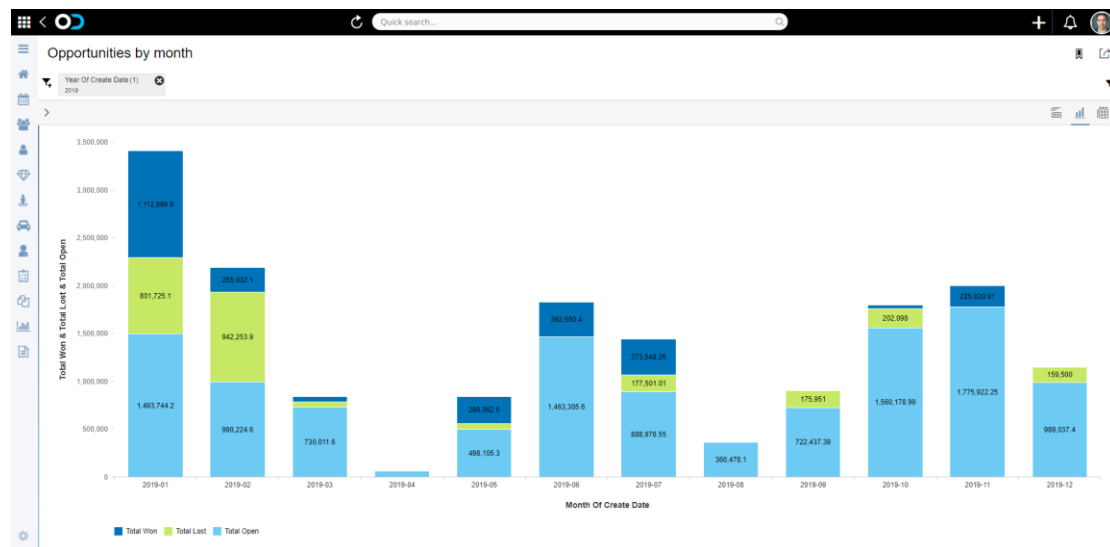


Figure 63. Normal Stacking

- 100% stacking

Use **100% Stacking** to fill the plot area and draw each point of data with a relative percentage to all the points in the same category.



Figure 64. 100% Stacking

- show title

Use **Show Title** to display a title on your chart.

- show legend

Use **Show Legend** to display a legend on your chart.

- show data labels

Use **Show Data Labels** to display data labels in your chart.

- show gridlines

Use **Show Gridlines** to display gridlines in your chart.

- use measures as a dimension

Use **Use Measures as a Dimension**, if you want to select where measures appear in your chart, other than in the legend.

- set axis scale

Use **Set Axis Scale**, if you want to change the axis scale from automatic to fixed.

- enable ad-hoc data comparison

Use **Enable Ad-hoc Data Comparison**, to compare the data from two or more data points on a bar, column or line chart.

There are two ways to compare data in a chart.

1. Find a difference between two chart points
 - Click on the first data point
 - Then click on the second data point in order to display the difference in percentage and actual value

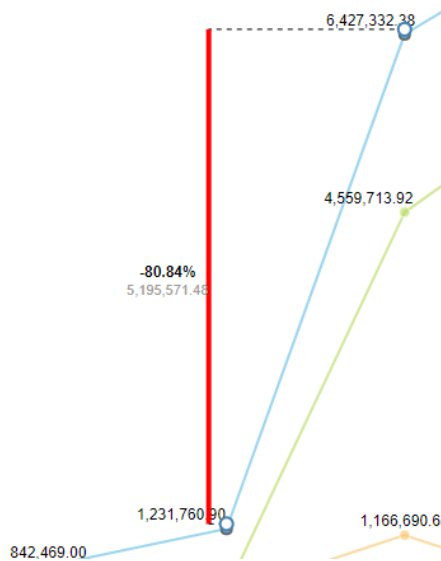


Figure 65. Chart data comparison 2 points

2. Compare more than one points by multi select (drag and drop many points)

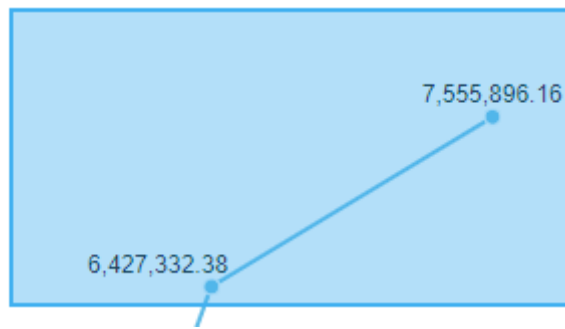


Figure 66. Select chart points by drag and drop

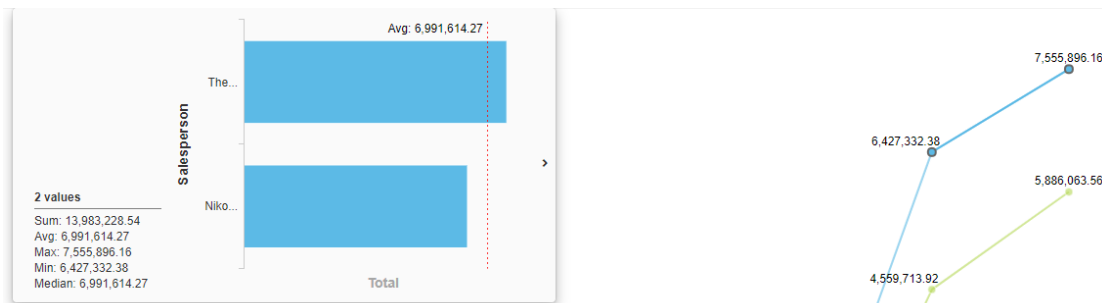


Figure 67. Chart data comparison many points (Figure 1)

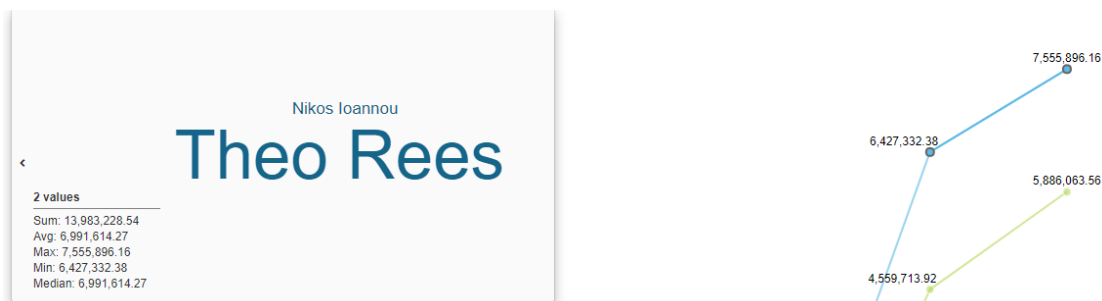


Figure 68. Chart data comparison many points (Figure 2)

- add trendline (Linear regression)

Use **Add Trendline**, to show data trends in a bar, column, line, scatter, bubble, timeline, time scatter or time bubble chart. The trendline is calculated based on the visualized data.

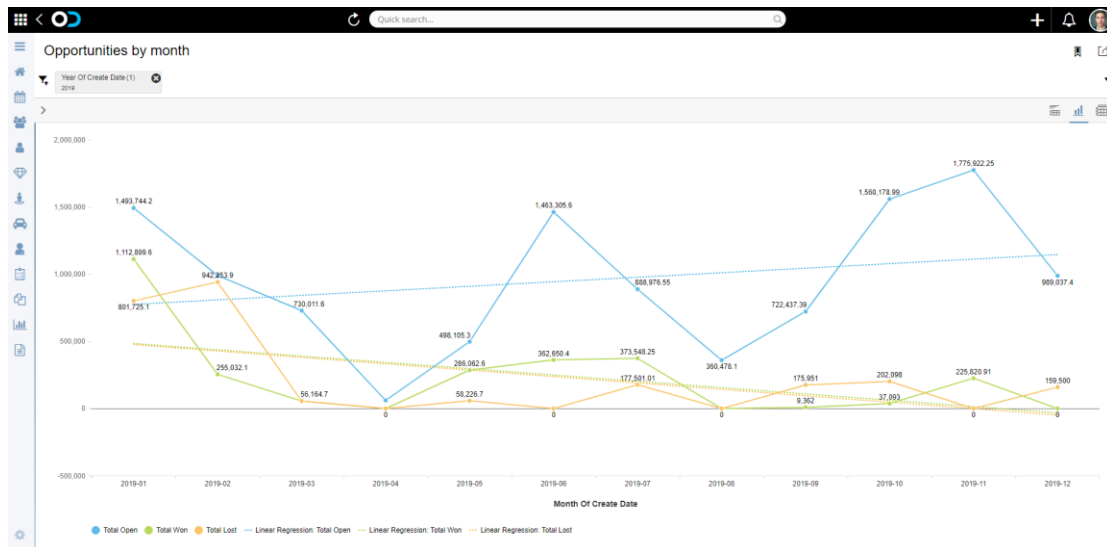


Figure 69. Add trendline

- edit trendline setting

Use **Edit Trendline Setting**, to extend a trendline beyond the actual data to help predict future values.

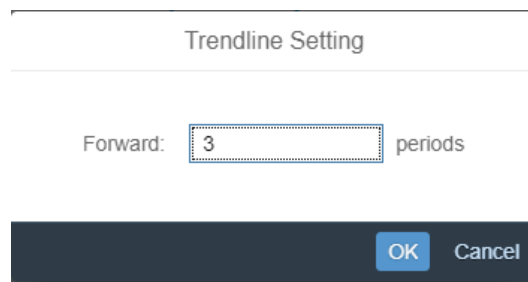


Figure 70. Trendline setting

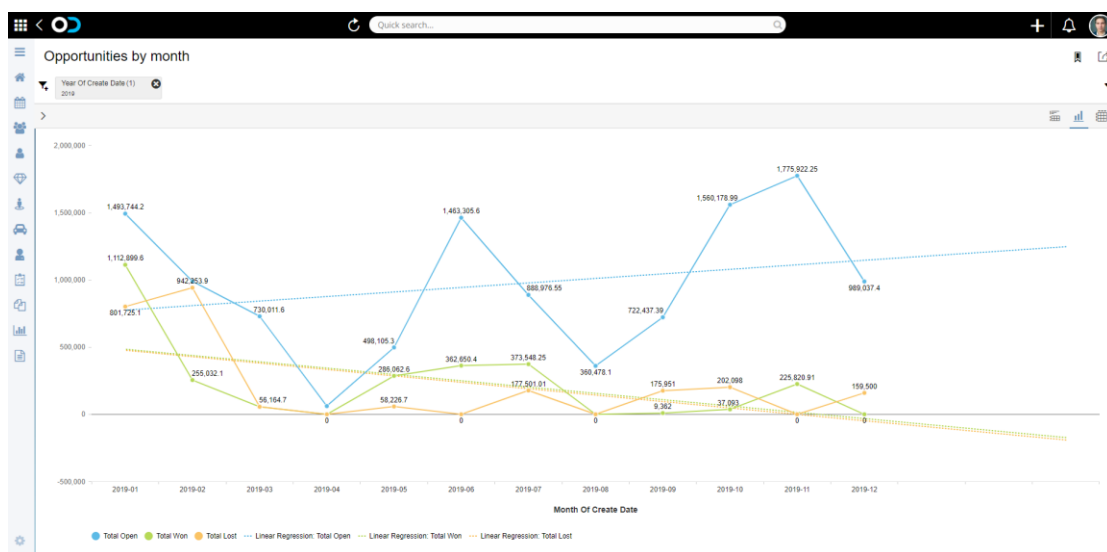


Figure 71. Trendline with forward 3 periods

- remove trendline

Use **Remove Trendline**, to remove all trendlines from the chart.

- reference lines

Use **Reference Lines**, to add a fixed or dynamic reference line to an axis in the chart.

Figure 72. Add reference line settings

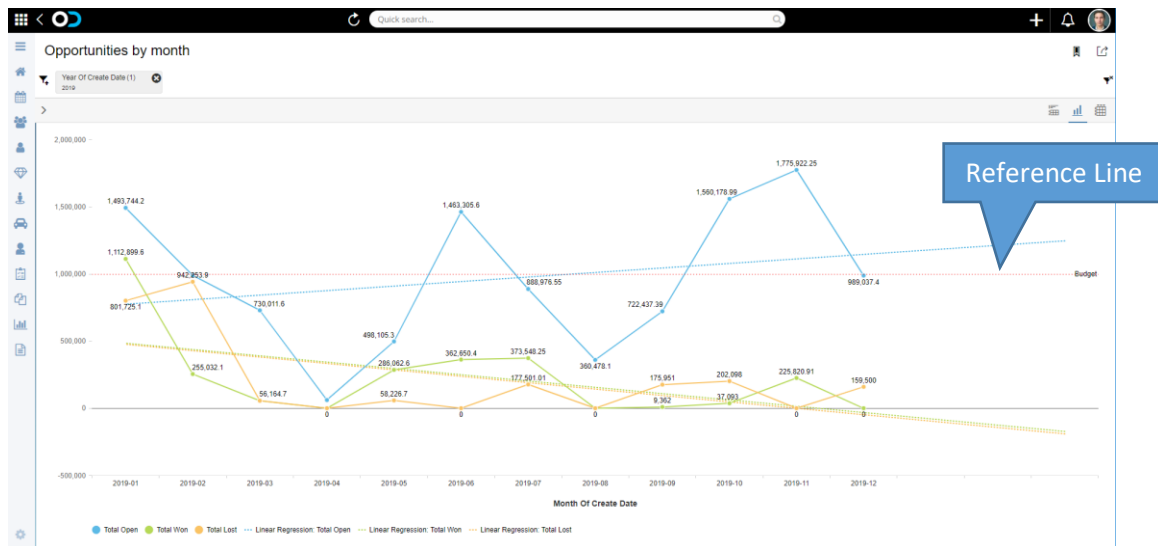


Figure 73. Reference line

- manage reference lines

Use **Manage Reference Lines**, to decide which reference lines to display in the chart, to add or remove reference lines, or to edit existing reference lines.

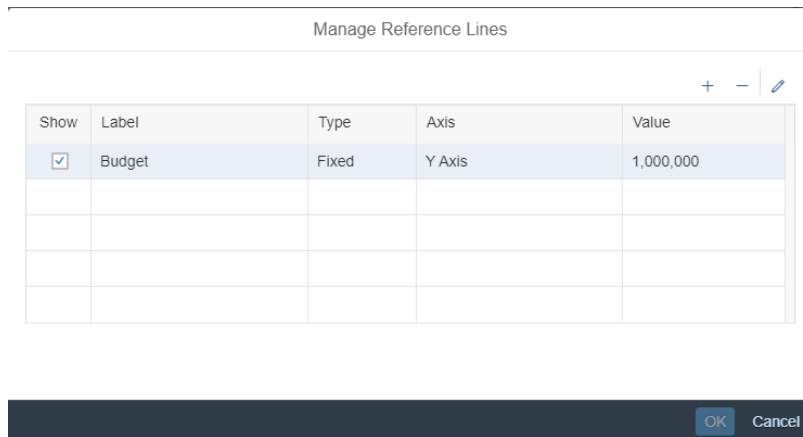


Figure 74. Manage Reference Lines

- Use **Choose Colors**, to select the type of color palette to be used in the chart. You can decide to use **User Defined Palettes** or **Standard Palettes**. Selecting the **Customize Dimension Palette** button allows you to define a customized color palette for the dimensions.

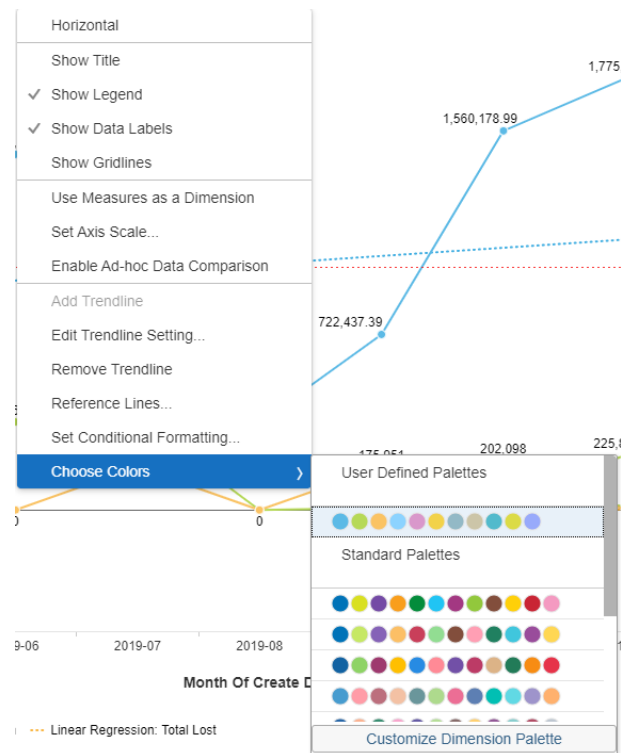


Figure 75. Choose colors

- change chart type for series

Use **Change Chart Type for Series** to change the type of chart type for the current series.

Right click on the legend entry for the series that we want to change the chart type.

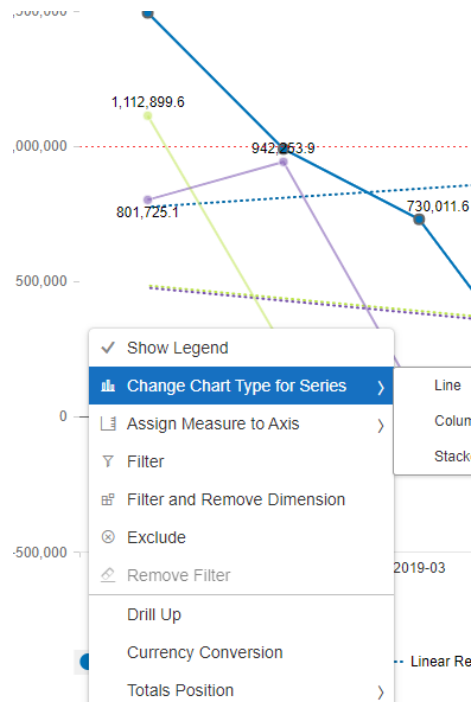


Figure 76. Change Chart Type for Series Menu

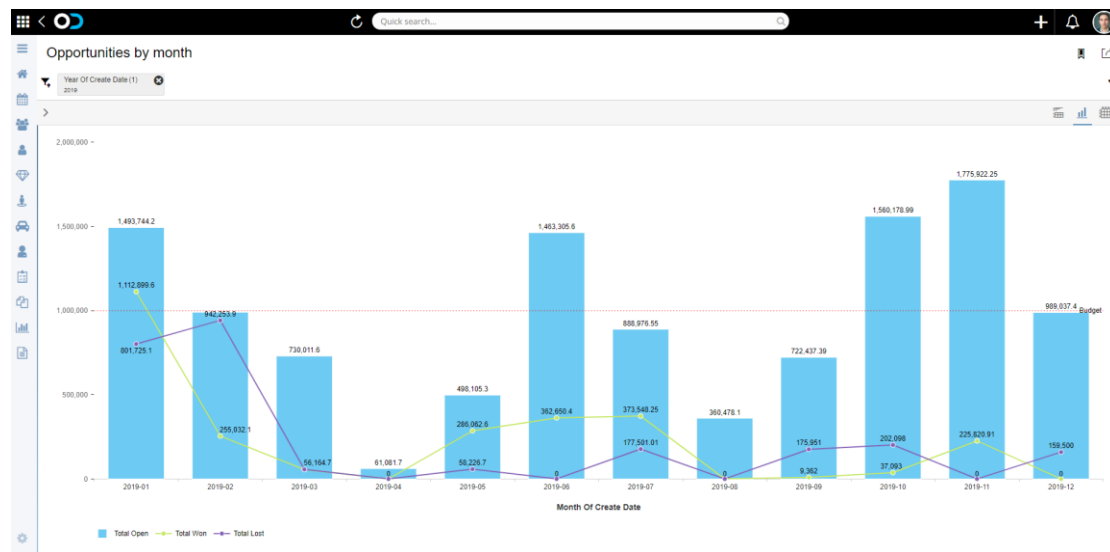


Figure 77. Change Chart Type for Series

- assign measure to axis

Use **Assign Measure to Axis**, if you want to assign the measure to the Primary Axis or Secondary Axis.

Right click on the legend entry for the series that we want to assign the measure to axis.

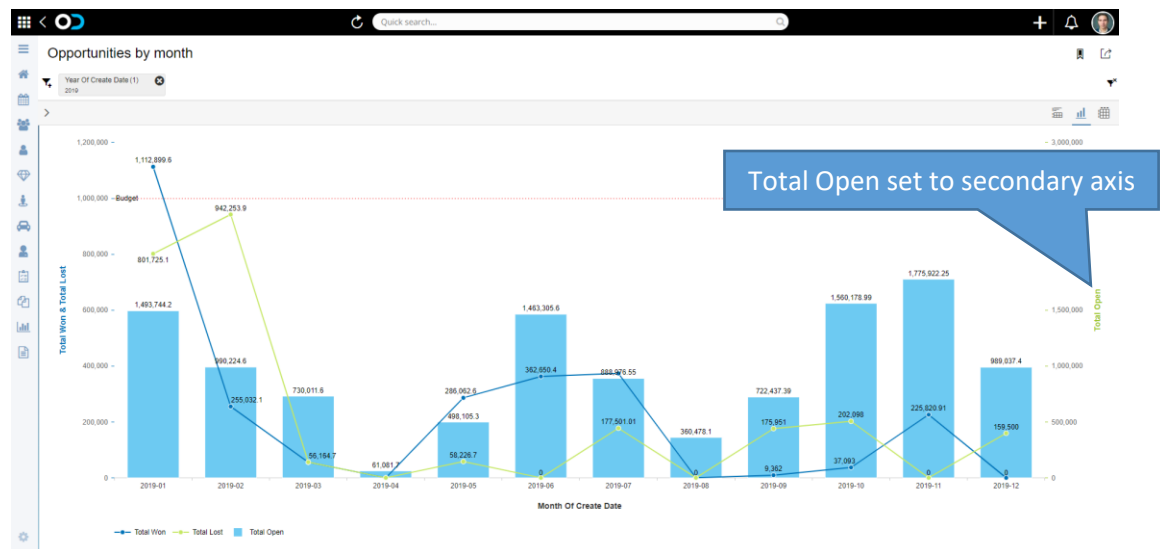


Figure 78. Assign Measure to Axis

- Use **Sort** decide whether to sort the chart elements by **Text Ascending**, **Text Descending**, or **Sort by Hierarchy**.

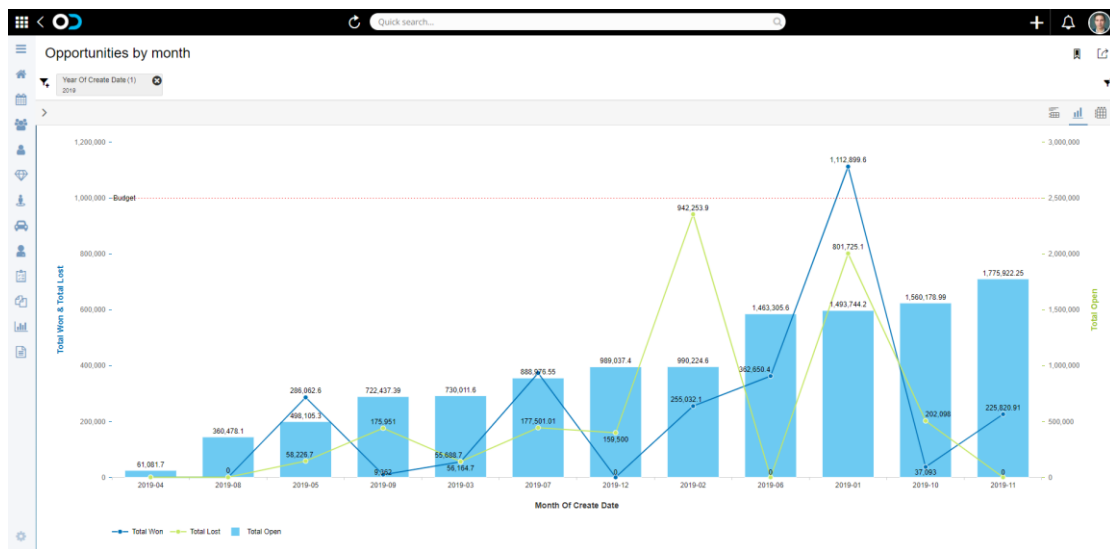


Figure 79. Sort by measure

- Use **Display**, to display chart elements using one of these options:
 - No Display
 - Key
 - Text
 - Key and Text

- Text and Key
 - Short Text
 - Long Text
 - Text
- Use **Select Hierarchy**, to apply a hierarchy to the chart elements. When a hierarchy is selected, the following context menu items are also available:
 - Expand All
 - Collapse All
 - Expand to Level

To remove a hierarchy from the chart, simply select **Select Hierarchy**, and select **No Hierarchy** from the drop-down list. This content menu item is available on members and data points only, not on dimensions. When you select a hierarchy from the drop-down list, two other context menu items are available to you - **Drill Down Hierarchy** and **Drill Up Hierarchy**. Select **Remove Filter** to return the chart to its original state before the hierarchy was selected.

- Use **Drill Down Hierarchy**, to drill down the hierarchy nodes. In effect, when you select to drill down the hierarchy, you are expanding a node and setting a filter.
- Use **Drill Up Hierarchy**, to drill up the hierarchy nodes. In effect, when you select to drill up the hierarchy, you are collapsing a node and replacing a filter with a filter one level up.
- Use **Rank**, to call up the rank dialog.

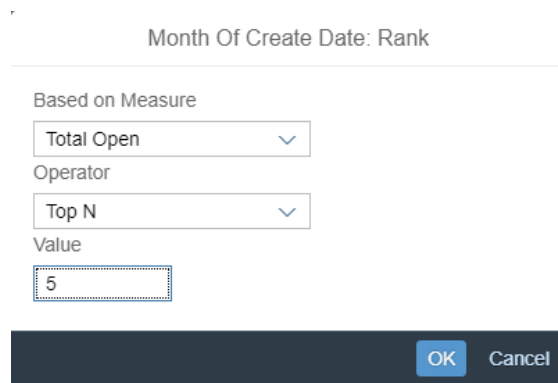


Figure 80. Rank dialog

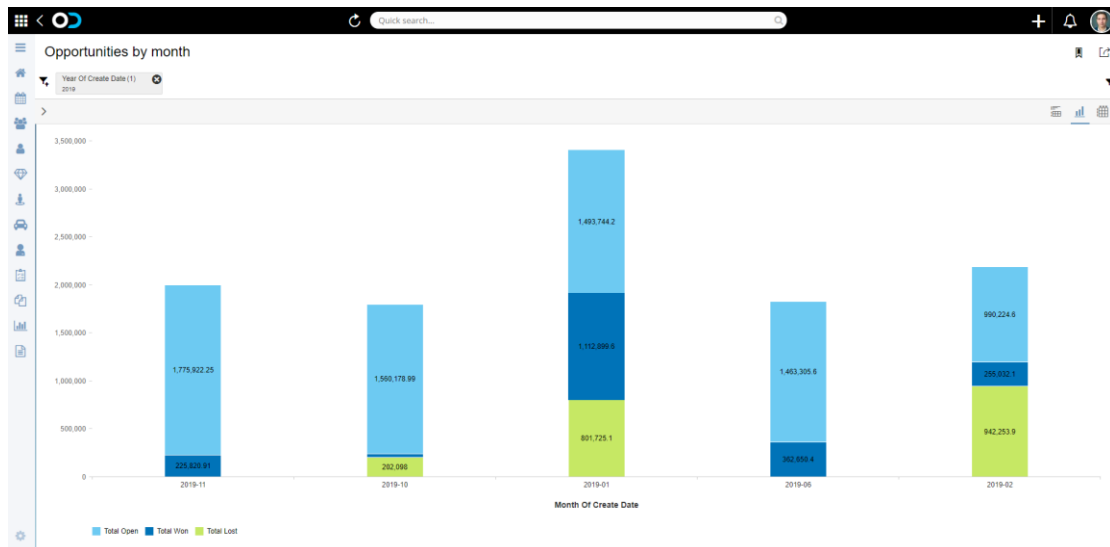


Figure 81. Rank chart

- Use **Filter Members**, to the select filters to apply to a member or data point and define conditions for it.

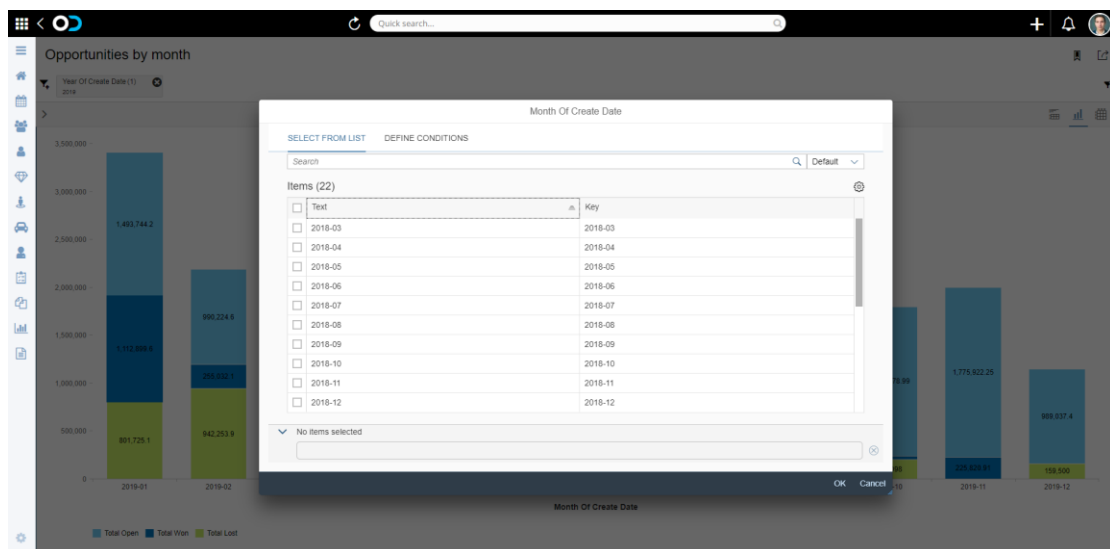


Figure 82. Filter Members

- Use **Remove Filter**, to remove the applied filter from a member or data point.
- Use **Filter by Measure**, to create a measure filter based on a measure selected from a drop-down.
- Use **Add Dimension**, to add another dimension to the chart. When you have two dimensions in a legend, the context menu will show the menu options for the inner dimension.
- Use **Swap Dimension With**, to select a difference dimension to display in the chart.

Right click on the dimension label on the Axis that belongs, select the dimension to swap from the list of dimensions and press 'Ok'

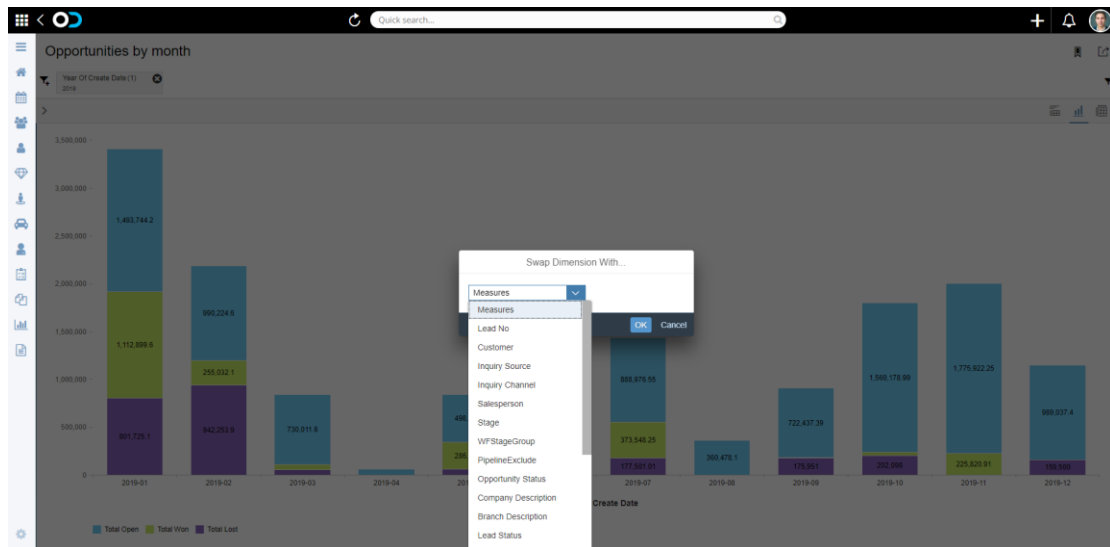


Figure 83. Swap Dimension With

- Use **Remove Dimension**, to remove a dimension from the chart.
- Use **Filter**, to select an individual data point as a filter.
- Use **Filter and Remove Dimension**, to select an individual data point as a filter, and remove a dimension at the same time.

Note

The context menu also displays several other analytical actions from other types of components, such as the **Crosstab** or **Spreadsheet** components. The context menu items displayed depend on the element selected.