



How to pick The right Chart type for your data?

Self Service BI Charting Components



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This document explains about different chart types available on the Business Story module's Design page. It also provides information on when to use them, along with guidelines and steps on how to leverage those chart types to get maximum impact on your data. The animation is added in the charts to indicate change in the data values and visual effects.

1. Mixed Chart

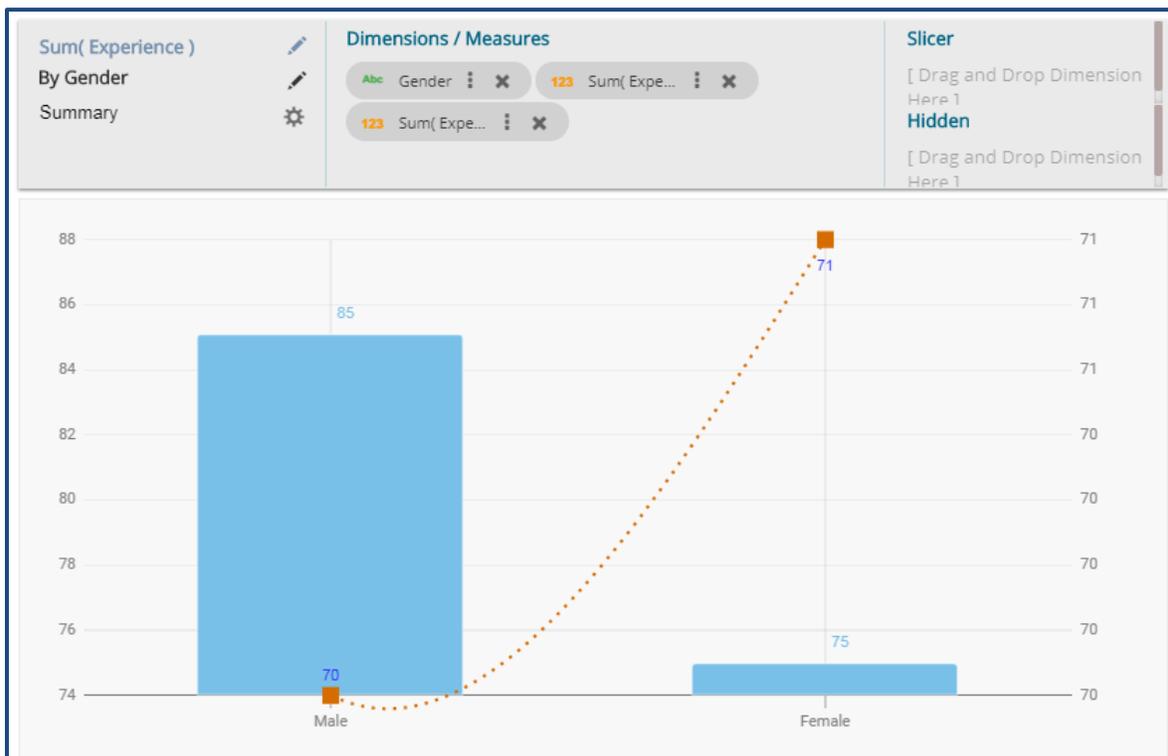
The Mixed Chart is a combination of a line chart and column chart. It can plot 3-series of data on the graph. It is primarily used to emphasize a different series of information.

The best situation to use Mixed Chart: To compare multiple categories

Example: To analyze a company's budget v/s revenue.

Variations of this chart-The following are the variations for this chart:

1. **Use stacked Column charts:** Multiple categories can be clubbed together on top of each other, which makes addressing multiple questions easier.
2. **Use columns side by side:** Comparison between multiple categories becomes easier instead of toggle between charts and data.
3. **Add color for quick insight:** Where displaying columns with colors allows users to pay immediate attention to the essential tasks.



2. Column Stack Chart

Column charts are used when users want to compare the values of individual data points with another. They help in bringing out the highs and lows of the data set.

Best Situation to use Column charts: Column charts are suitable for displaying data sets with negative values

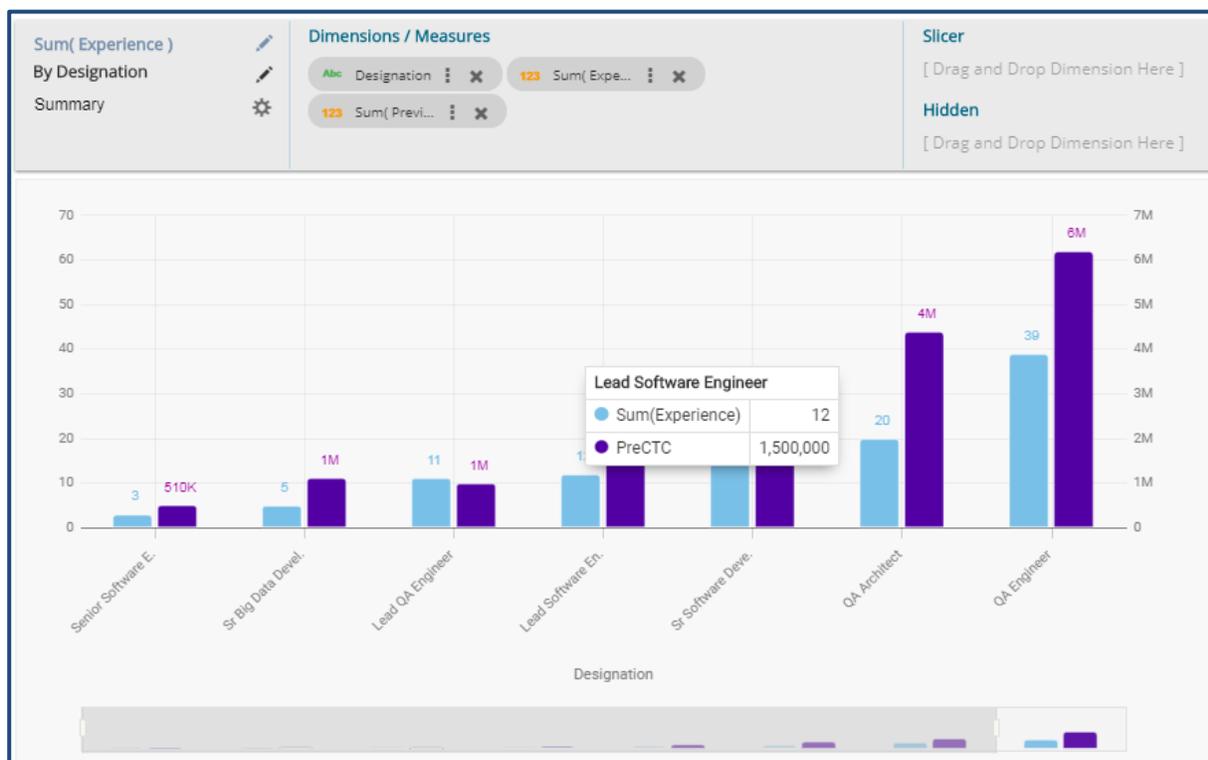
Example: To find the best and worst performers in an organization

Variations of this chart

Use stacked Column charts: Where multiple categories can be clubbed together on top of each other, which makes addressing numerous questions easier.

Use column side by side: Where comparison between multiple categories becomes easier instead of toggling between charts.

Add color for quick insight: Displaying the columns with colors helps users to pay immediate attention to the essential task



3. Line Chart

Line chart connects individual numeric data points to create a sequence of values. They are primarily used to display trends over a period.

Best Situation to use Line Charts:

View trends in data over a period

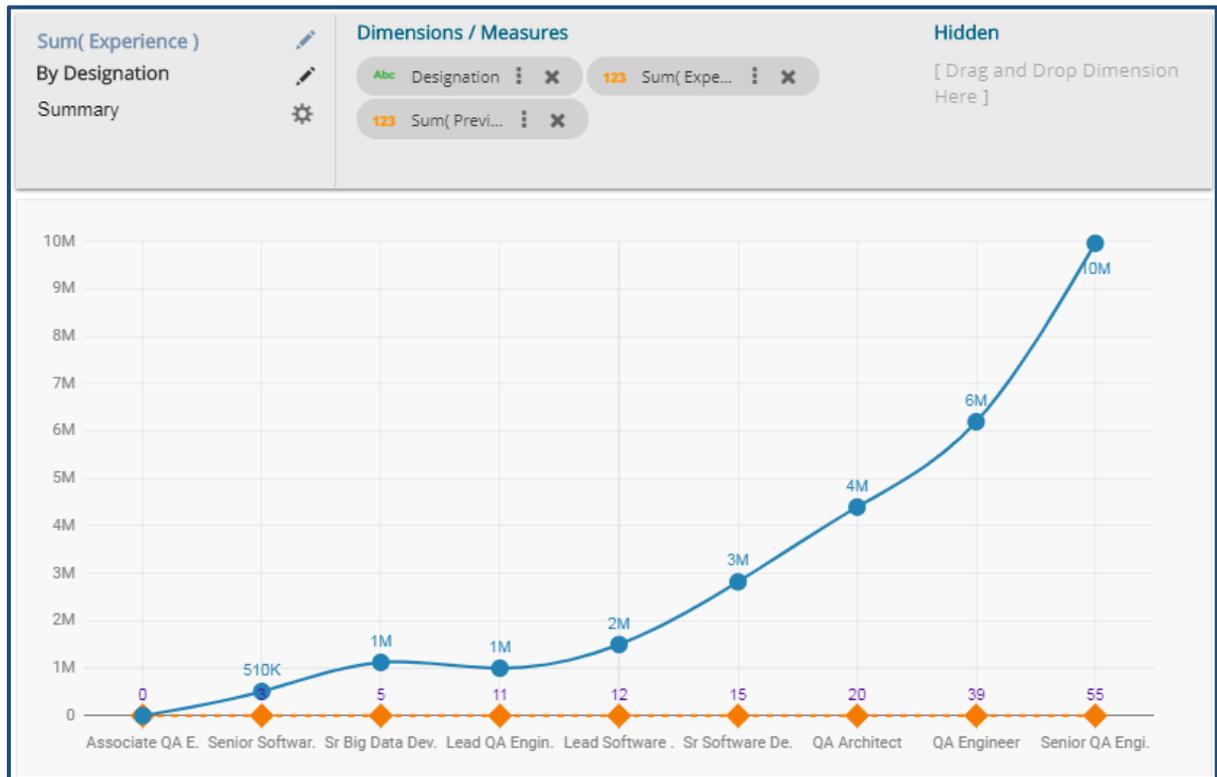
Examples:

To indicate increasing revenue or varying stock price

Variations of this chart

Mixed Chart- Combine a line graph with column charts to provide visual cues for further investigation

Example: A column chart representing the numeric score of students combined with the line chart corresponding proficiency score



4. Bar Chart

Bar Charts are useful for comparing classes, categories, or groups of data. They are one of the most commonly used types of graph because they are simple to create and very easy to interpret.

The best situation to use a bar chart: When the data set is small, it would be more accessible to the end-user to interpret data. Observations can be performed over a period.

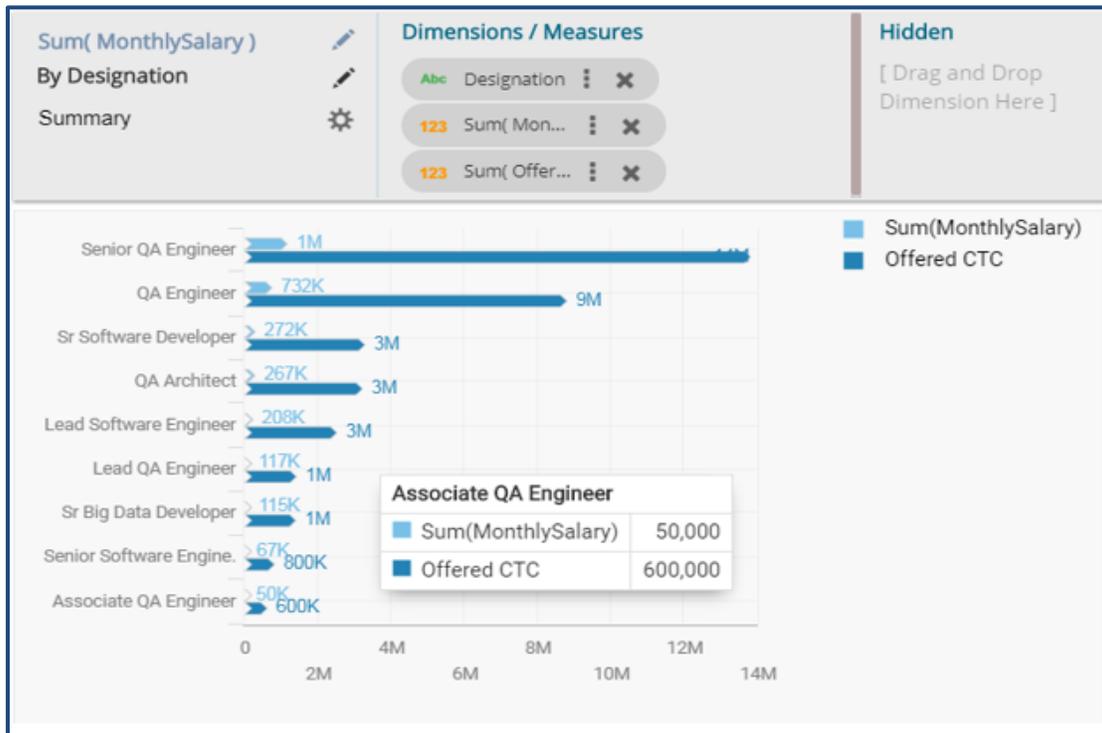
Examples:

- a. Quarterly sales of an organization
- b. Percentage of change in sales or revenue can be indicated

Variations of this chart:

Add color for quick insight: Displaying the bars with colors helps users to pay immediate attention to the essential tasks.

Use bar side by side: Where comparison between multiple categories becomes easier instead of toggle between charts.

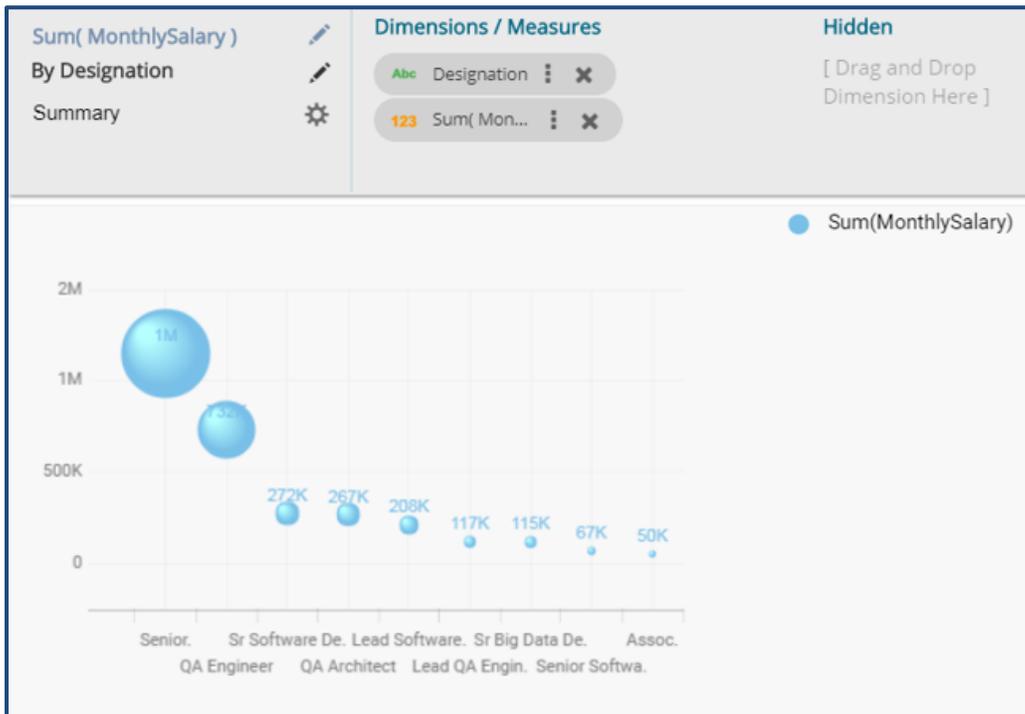


5. Bubble Chart

A Bubble chart visualizes data set in three or four dimensions. The first two aspects are used as coordinates like x-axis and y-axis. The remaining two are used to represent the color and size of the bubbles. Mostly used to plot financial data.

The best situation to use a Bubble Chart:

Three Data Series: If your data has three series each containing values, then you can use bubble chart for better representation. The values determine the sizes of the bubble.



6. Area Chart

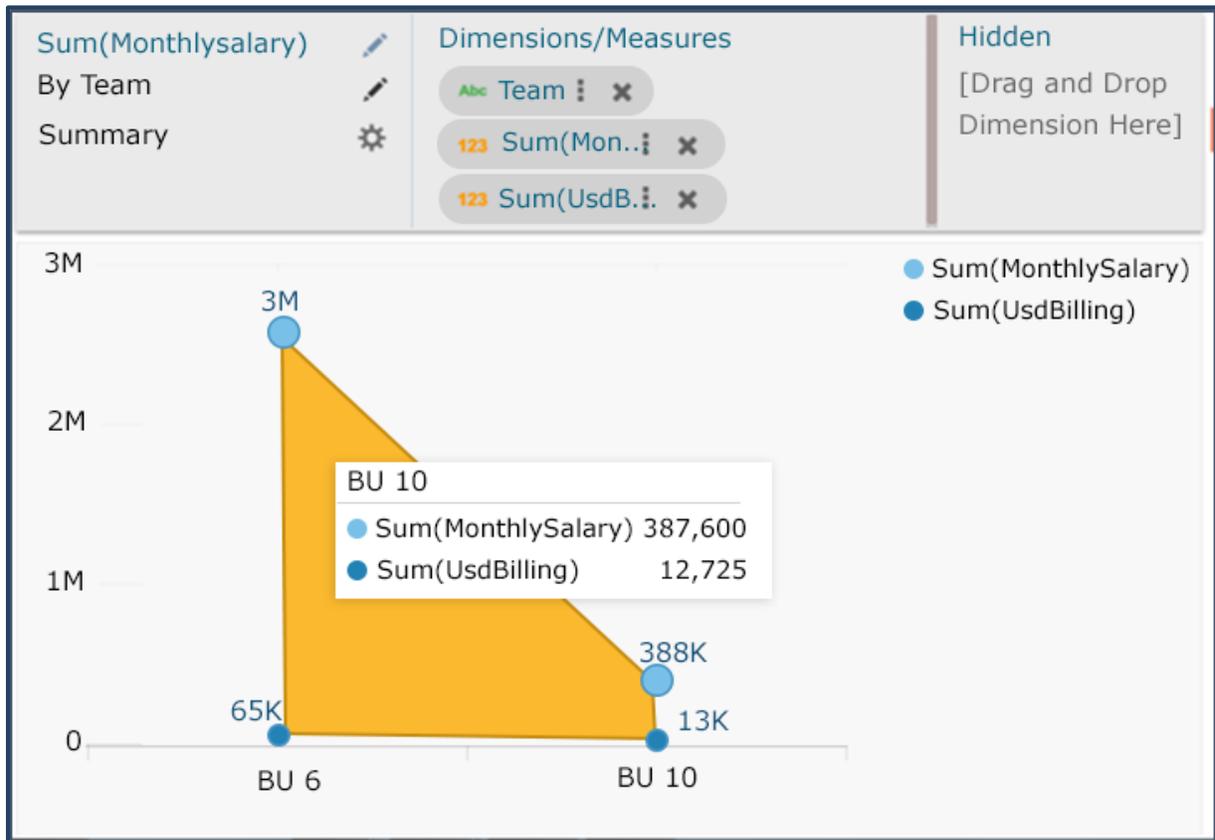
An area chart or area graph displays graphically quantitative data. It is based on the line chart. The primary use of area charts is to show trends over a period.

The best situation to use Area Chart: To showcase data that depicts a time-series relationship

Examples:

- To view the sales of a manufacturer over a period.
- To display quarter wise revenue growth of an organization

Variations of this chart: Group and Stacked Area graphs



7. Pie Chart

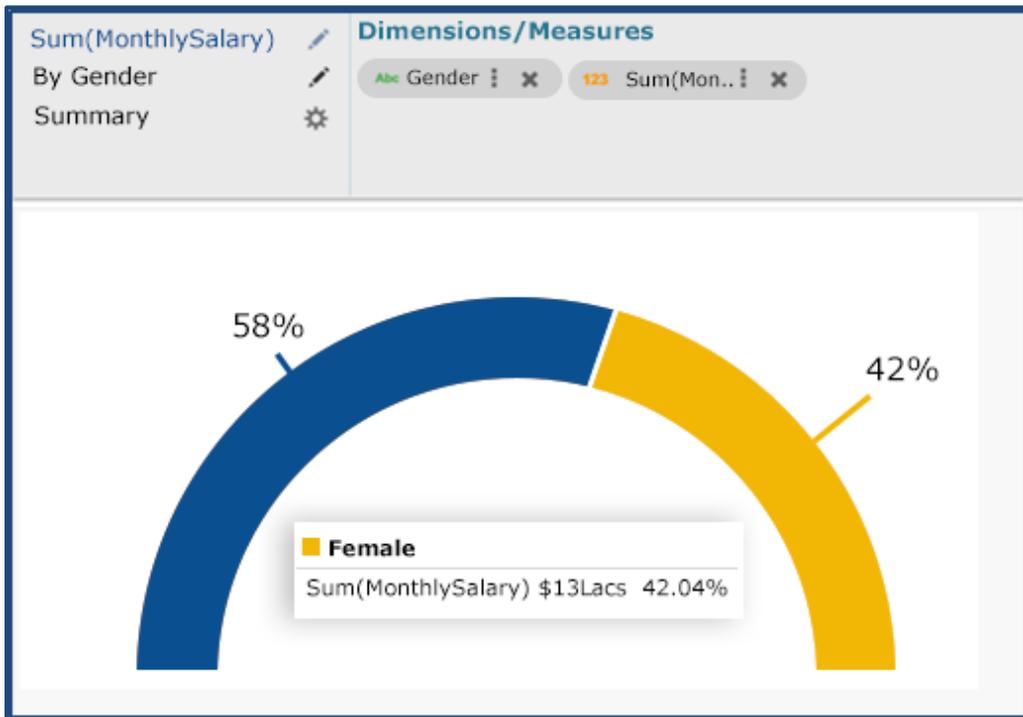
The most widely used chart to show proportions, percentages, and categorizes information is the Pie Chart. It is mainly used for comparison where the users can find out quickly which category is most popular, and which is least.

The best situation to use Pie Chart:

Mainly used for comparison of categories available on the pie to find out top performers and least performers. Better for viewing if the category is limited to 6 or fewer.

Variations of this chart:

Pie-Doughnut: Doughnut charts are like Pie-chart if wished the user can switch from pie-chart to a doughnut chart.



8. Scatter Plot Chart

A scatter plot is a two-dimensional data visualization that uses dots to represent the values obtained for two different variables - one plotted along the x-axis and the other plotted along the y-axis.

Best Situation to use Scatter Plot Chart:

Scatter plots display a correlation between two variables (x and y-axis), to compare large numbers of data points without regard to time.

Variations of this Chart: Bubble Plot chart (3D), Density Plot (2D)

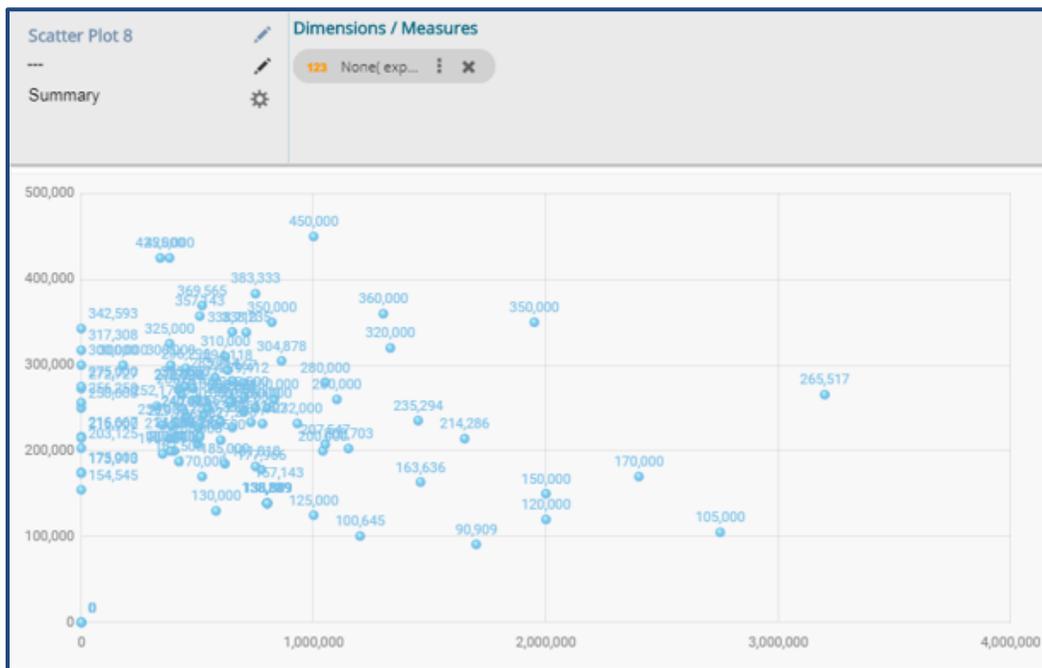
Properties:

i) General Settings

- Exclude Global Filter: Use a checkmark in the given box to exclude the Global filter
- Show Data Label: Use a checkmark in the provided box to display the data label

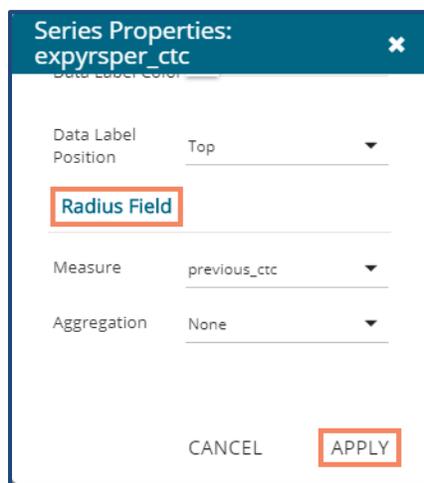
ii) View Filter

- Filter: Select a filter condition using the drop-down menu



Note:

- a. The user needs to configure the 'Radius Field' information such as 'Measure' and 'Aggregation' to get the above-given display of the scattered points in the chart. E.g., In this case, the selected Measure value is 'previous_ctc,' and the selected Aggregation option is 'None.'



- b. The Scatter Plot chart displays only Measure values with the 'None' Aggregation option selected from the drop-down.

9. Tree Map Chart

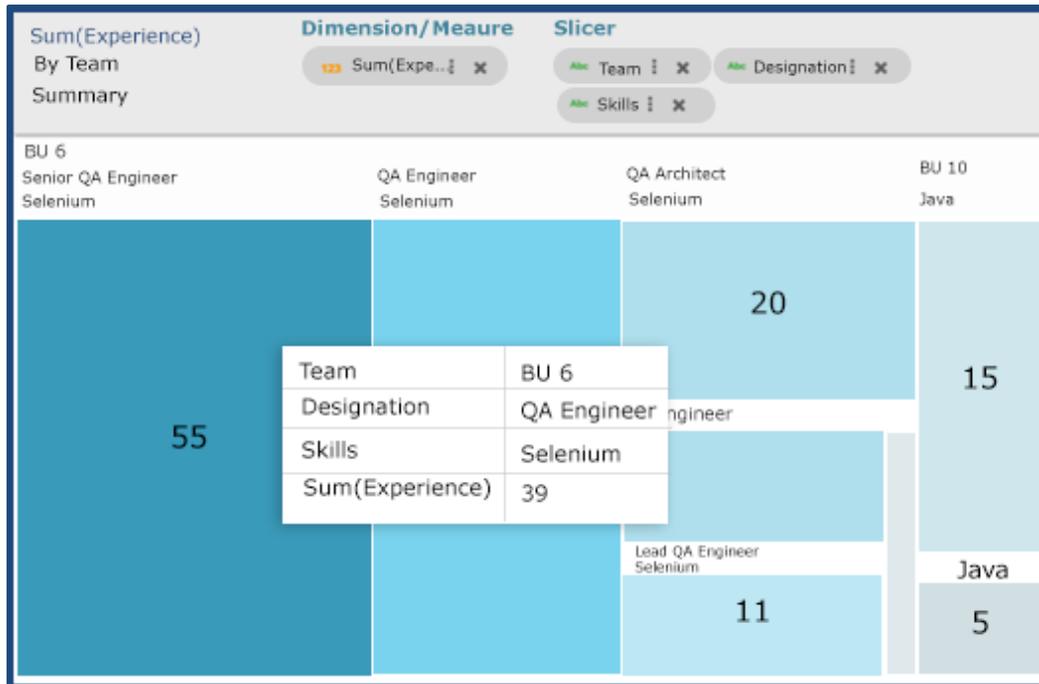
The TreeMap charts are mainly used to demonstrate vast amounts of classified data. It can be the best choice when users want to view all their hierarchical data at one time. Each rectangle represents a branch in a tree, and it also shows how much data it comprises. The size and position of the boxes are based on the quantitative variable used for the chart. Patterns across the data can be identified using the size and color of the boxes.

Best situation to use TreeMap:

To view all the hierarchical data at one time.

Variations of this chart:

Each rectangle can be colored differently so the user can understand by a glance at how the hierarchical data is structured.



10. Semi Gauge Chart

Semi-Gauge charts contain a semi-circle with the needle pointing at the target value. They indicate a specific dataset by utilizing a semi-circle that changes color to indicate whether the monitored data is within the defined limits. Users need to set boundaries (minimum and maximum values) for the gauge scale and various colors to indicate the predetermined ranges. The **'Show Alert'** option has been provided to indicate the situation when the target values cross the set limits.

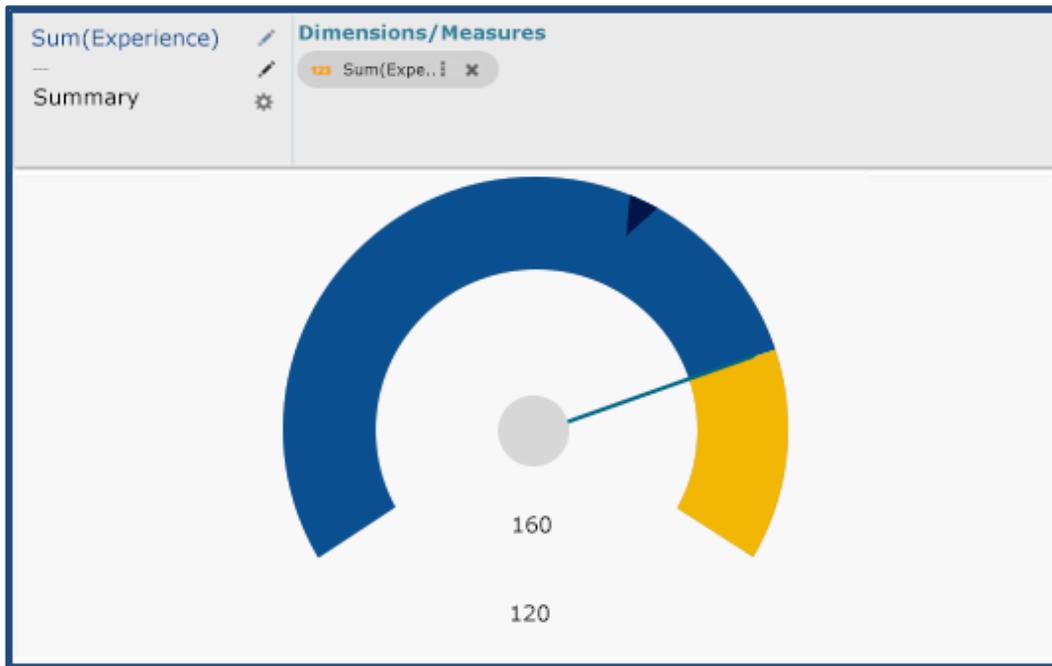
Gauges are used in dashboards, real-time monitors, and reports. They can display Key Performance Indicators (KPIs), progress indicators, and quantity indicators.

Best Situation to use Semi-Gauge:

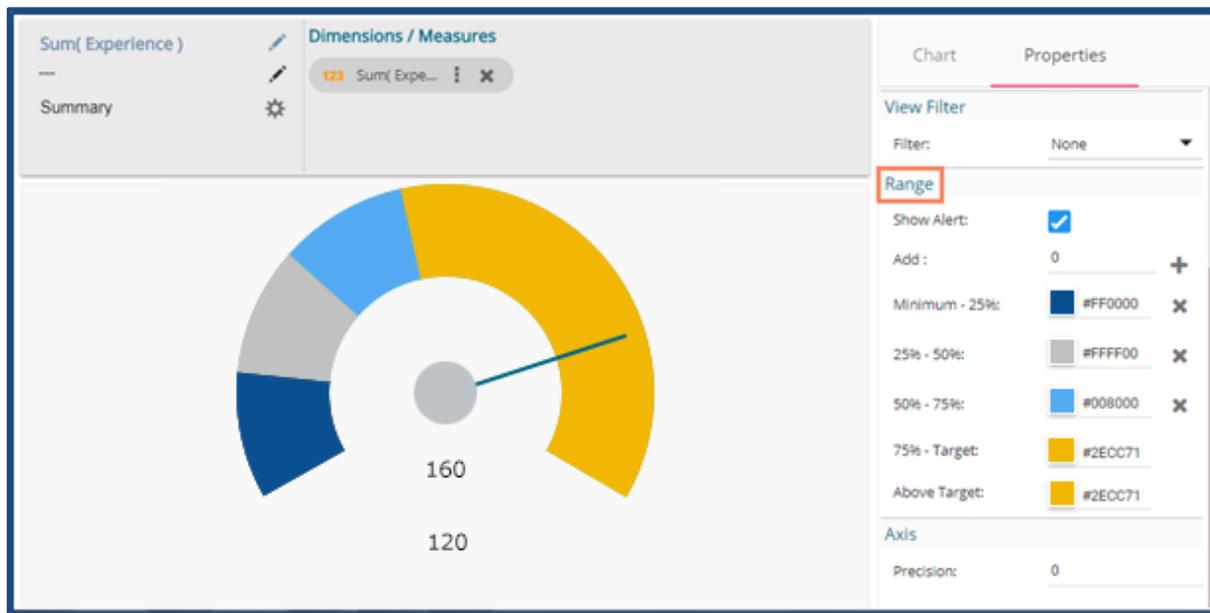
To monitor any performance that contains predefined ranges

Examples:

The overall performance of a student/class in an examination.



The following image displays various ranges when 'Show Alert' option is enabled.

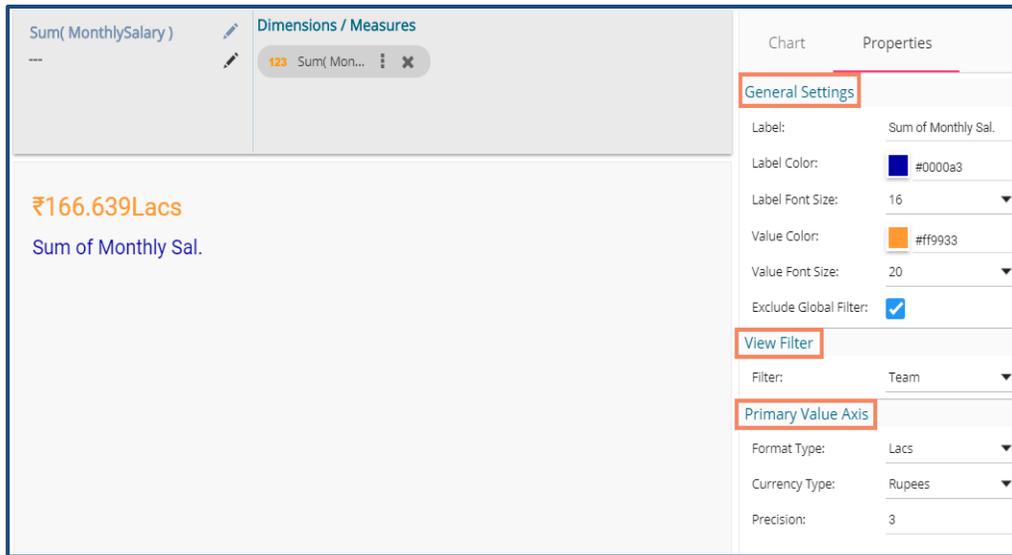


Note:

- Target value should be included in the range of minimum and maximum set values.
- Semi-Gauge supports only one measure value. It converts the selected Dimension value into Measure as it considers only Measure values.

11. KPI Tile

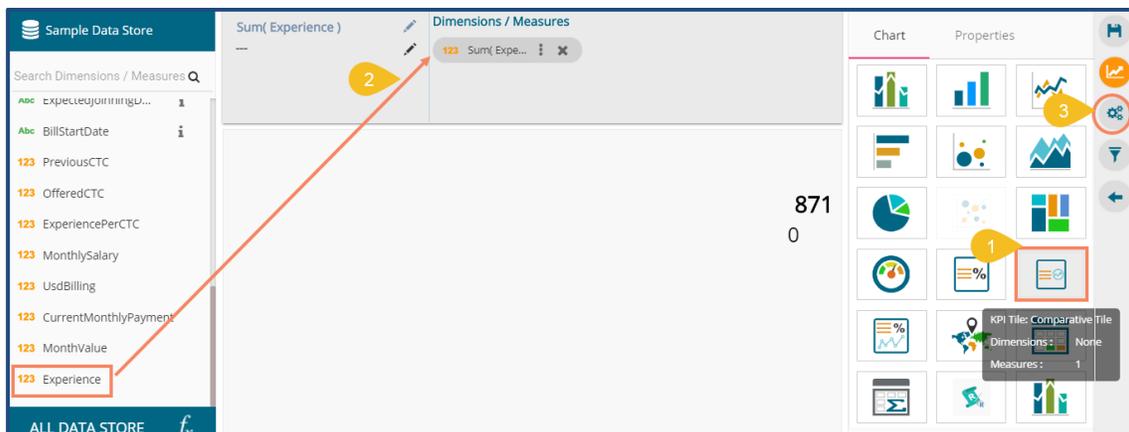
The KPI Tile displays the sum of quantity for ongoing evaluation.



12. KPI Comparative Tile

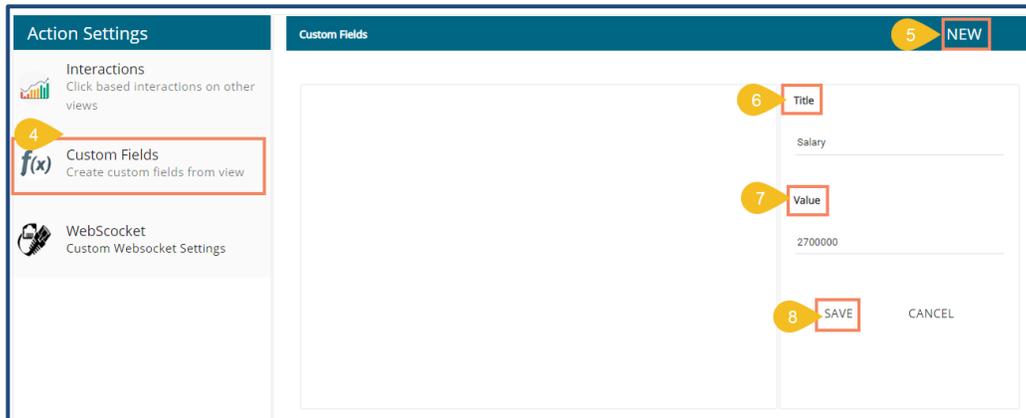
KPI comparative Tile compares one measure value against the other selected measure values.

- i) Select the 'KPI Comparative Tile' component from the list of charts.
- ii) Drag a Measure value to the workspace.
- iii) Click the 'Actions' icon.



- iv) Select the 'Custom Fields' option from the Action Settings page.
- v) Click the 'NEW' option.

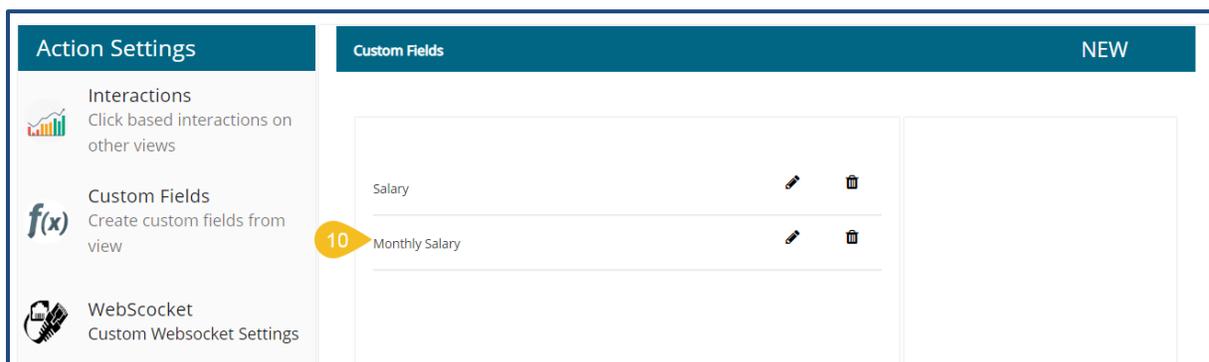
- vi) Provide a Title.
- vii) Set Value by using the value indicators or manually.
- viii) Click the 'SAVE' option.



- ix) A new Custom Field gets created and added to the Custom Fields page.

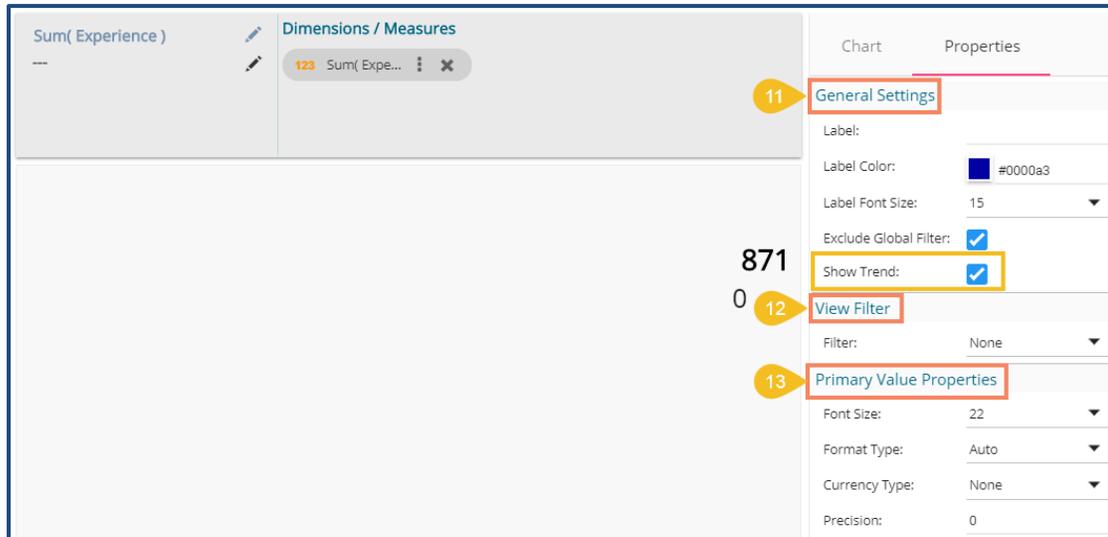


- x) Users can create multiple custom fields by following the above steps. (E.g. Monthly Salary is another custom field.)

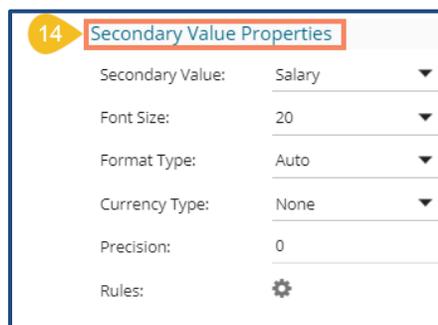


- xi) Navigate to the 'Properties' tab using the Design icon
- xii) Configure the following properties:
 - a. **General Settings**
 - i. **Label:** Insert text to be displayed as Label
 - ii. **Label Color:** Select the Label color using the menu
 - iii. **Label Font Size:** Select the font size for the displayed label using the drop-down menu
 - iv. **Exclude Global Filter:** Use a checkmark in the box to exclude the Global filter conditions

- v. **Show Trend:** Use a checkmark in the box to display the trends
- b. **View Filter**
 - i. **Filter:** Choose a view filter condition from the drop-down menu
- c. **Primary Value Properties**
 - i. **Font Size:** Select a font size from the drop-down menu
 - ii. **Format Type:** Select a desired format type from the drop-down menu (the provided options for this field are: None, Auto, Percent, Thousand, Lacs, Crore, Million)
 - iii. **Currency Type:** Select a currency symbol to be displayed in the view (the provided options for this field are: None, Euro, Rupees, Pound, USD, Yen, Cent)
 - iv. **Precision:** Set the after-decimal value (It displays up to 5 precision)

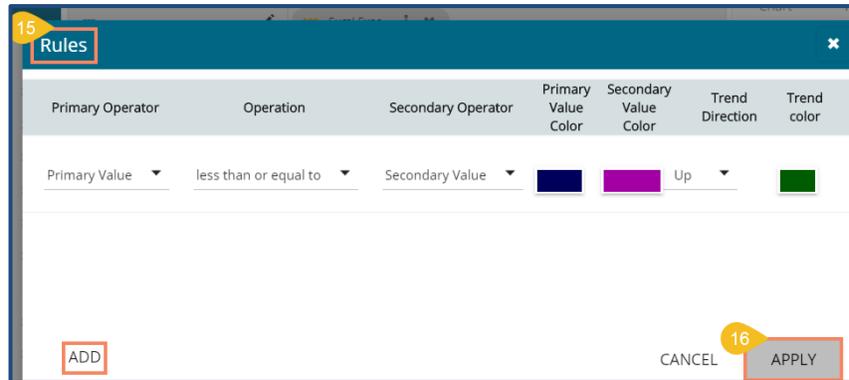


- d. **Secondary Value Properties**
 - i. **Secondary Value:** Select a custom field from the drop-down menu
 - ii. **Font Size:** Select a font size from the drop-down menu
 - iii. **Format Type:** Select a desired format type from the drop-down menu (the provided options for this field are: None, Auto, Percent, Thousand, Lacs, Crore, Million)
 - iv. **Currency Type:** Select a currency symbol to be displayed in the view (the provided options for this field are: None, Euro, Rupees, Pound, USD, Yen, Cent)
 - v. **Precision:** Set the after-decimal value (It displays up to 5 precision)
 - vi. **Rules:** Click the icon provide to insert rules

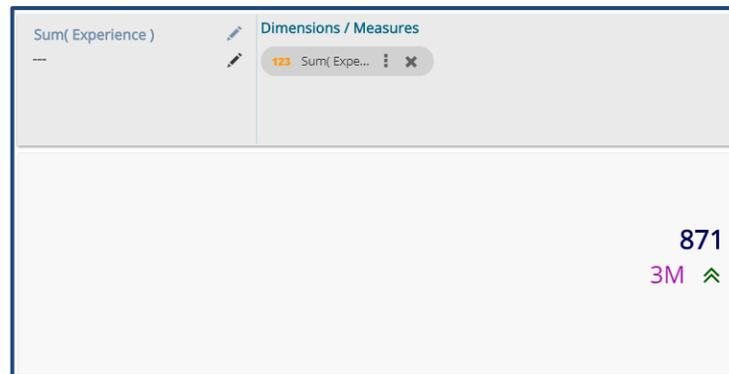


- vii. A new screen opens allowing the users to set rules for displaying the comparative values
- viii. Configure the required '**Rules**' fields, as shown in the following image:
 - a. Primary Operator: Select an option from the drop-down menu

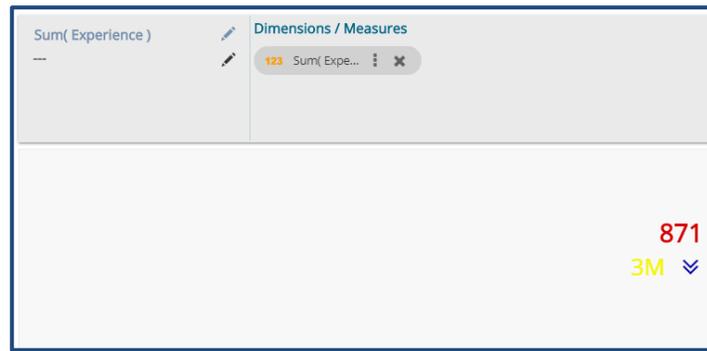
- b. Operation: Select an operation from the drop-down menu to be applied as a condition on the selected Primary Operator
- c. Secondary Operator: Select an option from the drop-down menu
- d. Primary Value Color: Select a color for the primary value field
- e. Secondary Value Color: Select a color for the Secondary Value field
- f. Trend Direction: Select a trend direction using the drop-down menu
- g. Trend Color: Select a trend color from the menu
- h. REMOVE: Selecting this option removes the added rules
- i. ADD: Selecting this option adds a new row to be configured as a rule
- j. Click the 'APPLY' option to apply the configured Rule



- xiii) The Primary and Secondary values get displayed in the selected colors with Trend directed to upward if the rule condition is met.



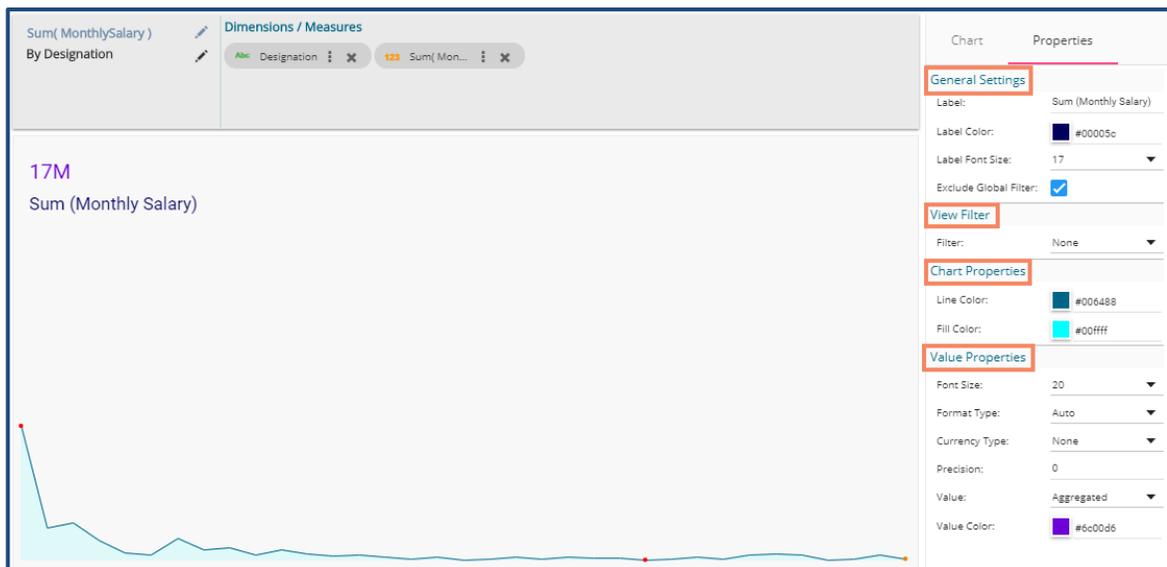
- xiv) Users can set multiple 'Rules' by configuring the required fields as described above; the KPI Tile Visualization reflects the crucial changes as per the selected rule. (E.g., the following image displays another rule where the Secondary Value is selected as Greater than or equal to the Primary Value, and the trend direction is downward.



Note: The KPI Comparative Tile contains General Settings, View Filter, and Primary Value Axis like KPI Tile, but it has additional properties such as Show Trend, Secondary Value Axis, and Rule to insert comparative approach.

13. KPI Sparkline

The KPI Sparkline combines KPI tile and Sparkline visualization in a single view. It facilitates the users to see KPIs and trends in the same view. The visualization type supports one Dimension and one measure. It does not support the 3rd dragged value and converts the second Dimension in a Measure if dragged on the canvas.

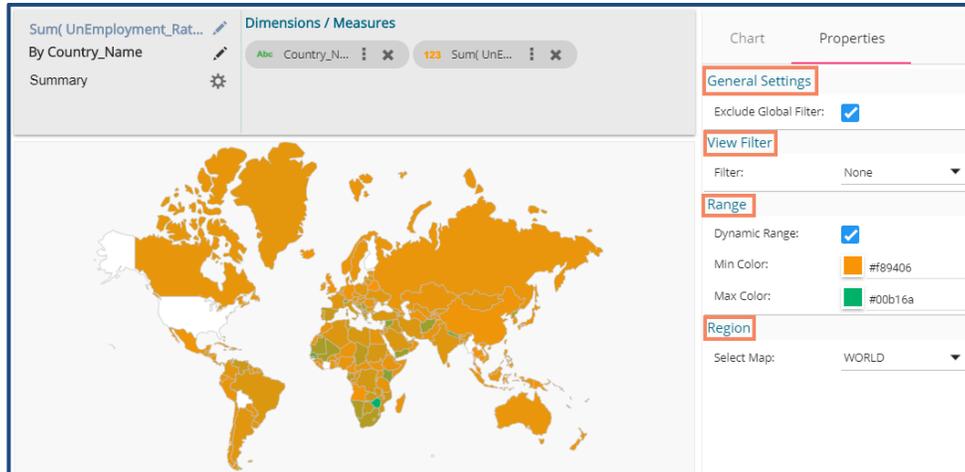


14. Map Chart

A Map chart allows the users to position their data in a geographical context using different data layers. Users can create a view based on the selected dimensions/measures that represent data in the region. The designated area gets colored based on the data. Users have the provisions for changing the visualization.

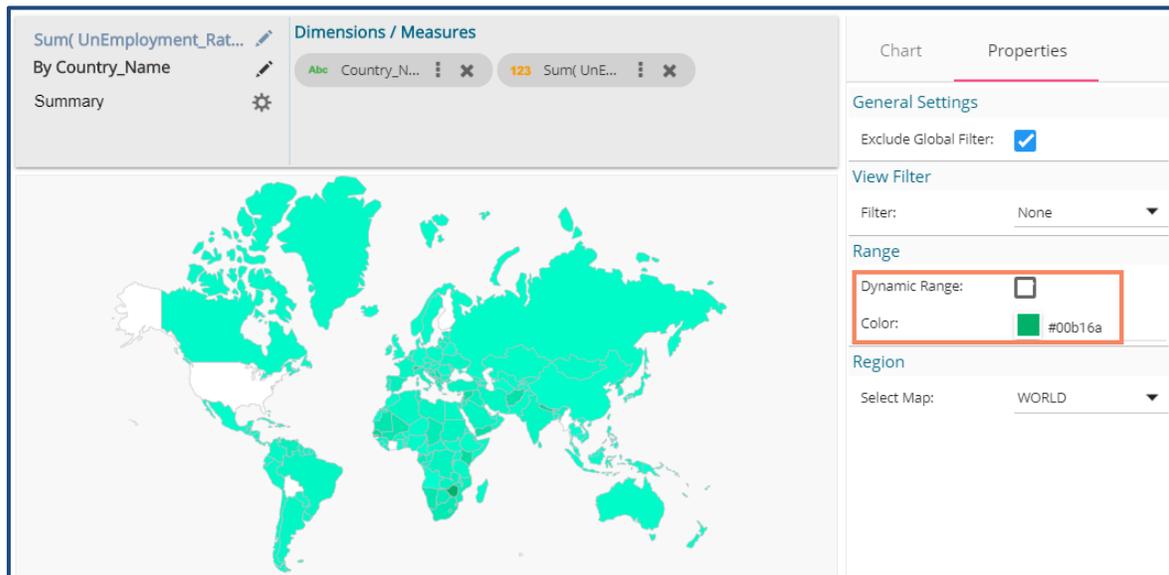
Best Situation to Use Map:

To represent any information in the geographical context.

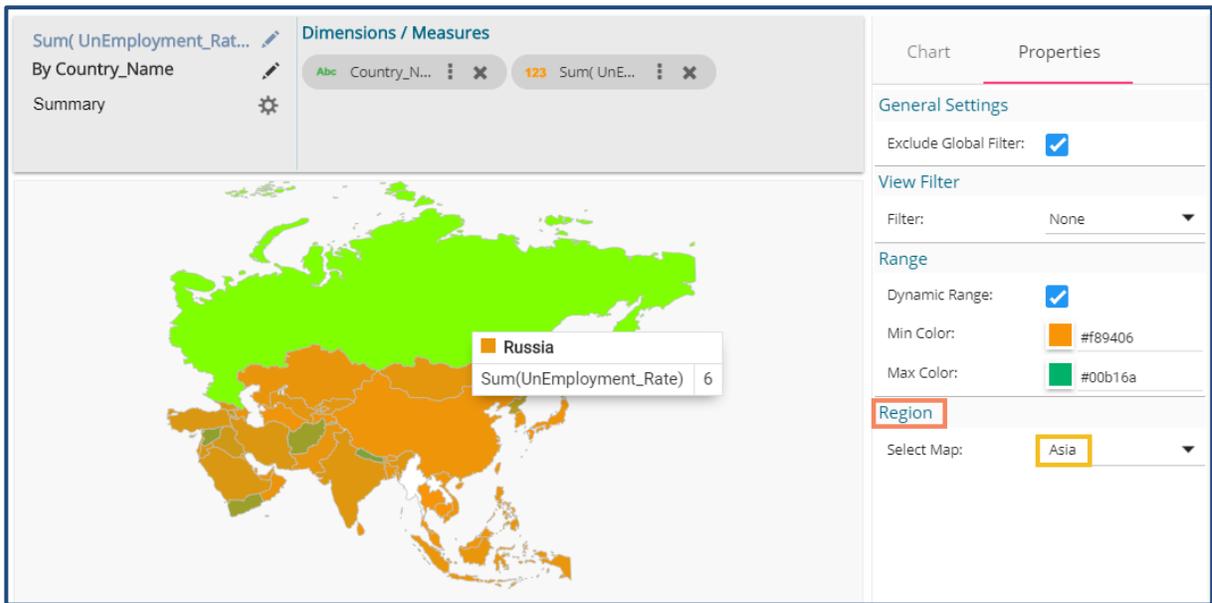


Note:

- a. By disabling the dynamic range, the map projects the selected **Max Color**. The user can change the color by clicking the **'Color'** properties option.
 - i. Disable the dynamic range.
 - ii. The entire map reflects the selected Max color (by default).



- b. Based on the selected **'Region,'** the displayed visualization gets changed.
 - i. Select a map using the **'Region'** drop-down menu.
 - ii. The map of the selected region gets highlighted based on the chosen dimensions and measures.



15. Data Grid

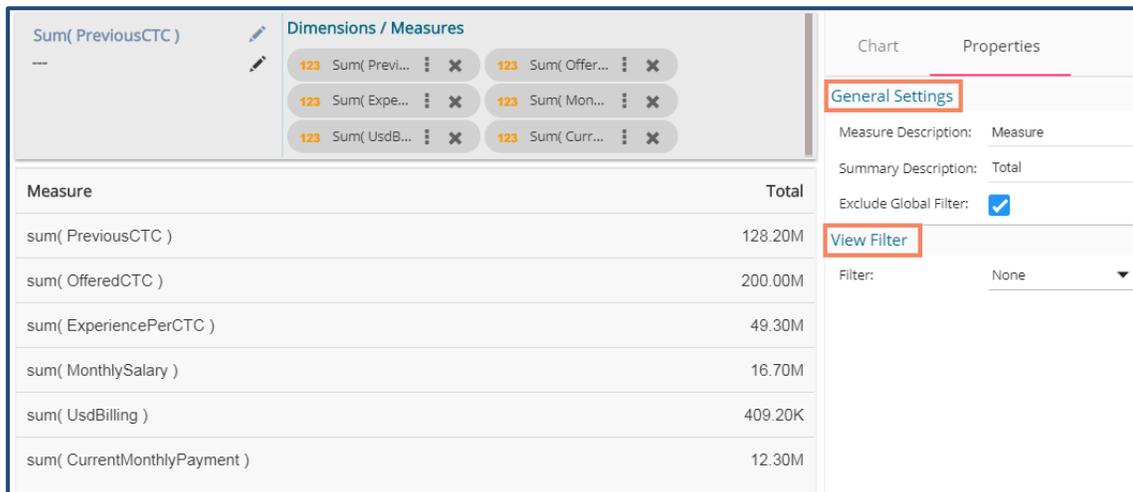
Users can see data in tabular format by selecting the Data Grid component from the chart list. Multiple values can be displayed via Grid visualization.

Experiencecategory	Sum(MonthlySalary)	Sum(OfferedCTC)	Sum(PreviousCTC)	Sum(UsdBilling)
2-4	6.40M	76.40M	47.90M	152.30K
4-6	3.00M	36.10M	24.00M	72.20K
0-2	2.10M	25.30M	9.40M	63.30K
10-15	2.10M	24.90M	17.50M	46.70K
6-8	1.70M	20.80M	15.60M	38.80K
15+	705.00K	8.50M	5.70M	16.60K
8-10	673.30K	8.10M	8.10M	19.40K
null	0.00	0.00	0.00	0.00

Note: Users get redirected to the pop-up color menu by clicking on Font Color or Background Color option.

16. Metric Summary

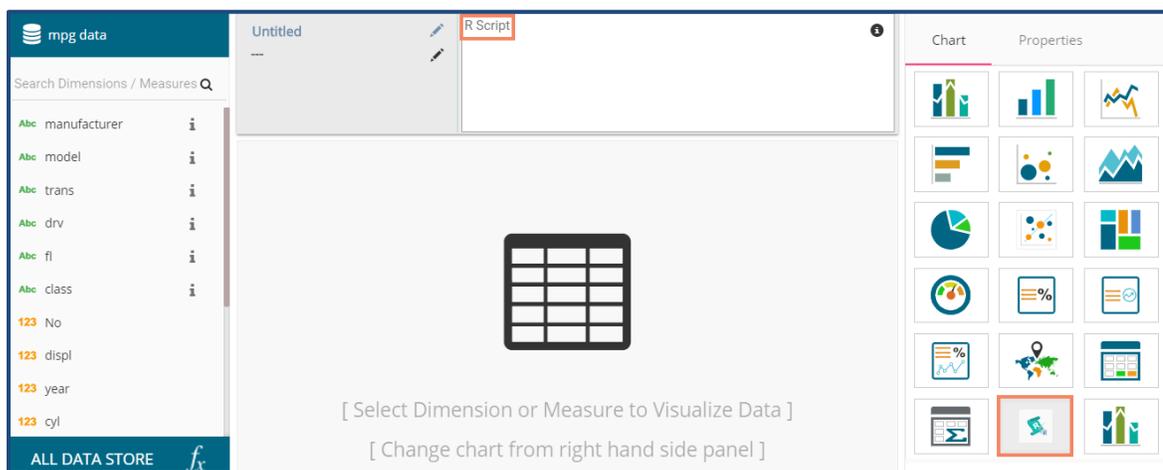
The Metric Summary displays the measure wise summary. Users can select any number of Dimensions and Measures to show the metric summary.



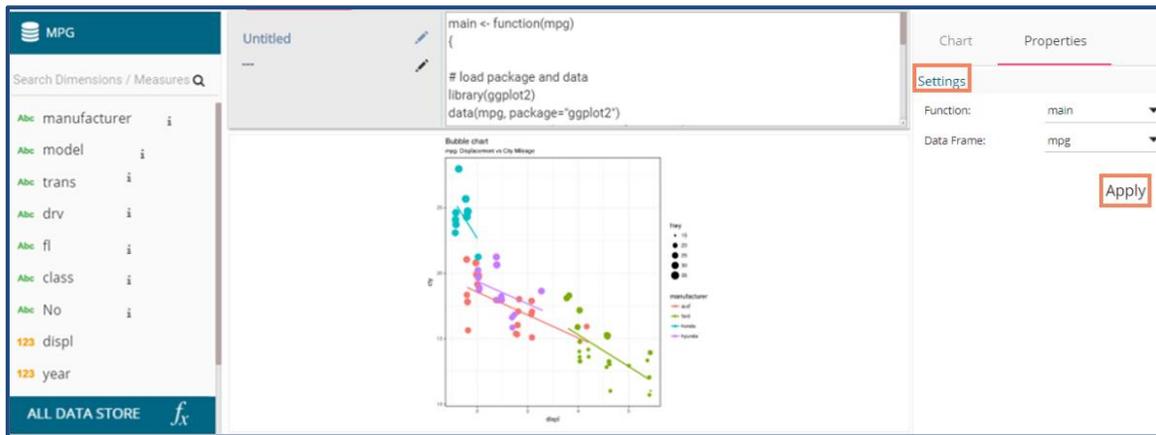
17. R Server Visual

Users can see visualization based on their inserted R scripts using this charting component.

- Navigate to the Design New page.
- Select R Server Visual component to visualize the data.
- Write a valid R Script in the given space.



- Open the 'Properties' tab
- Configure the below given Settings fields:
 - Function: Select an option from the drop-down menu
 - Data Frame: Select an option from the drop-down menu
- Click the 'Apply' option
- The canvas displays visualization based on the inserted R script.



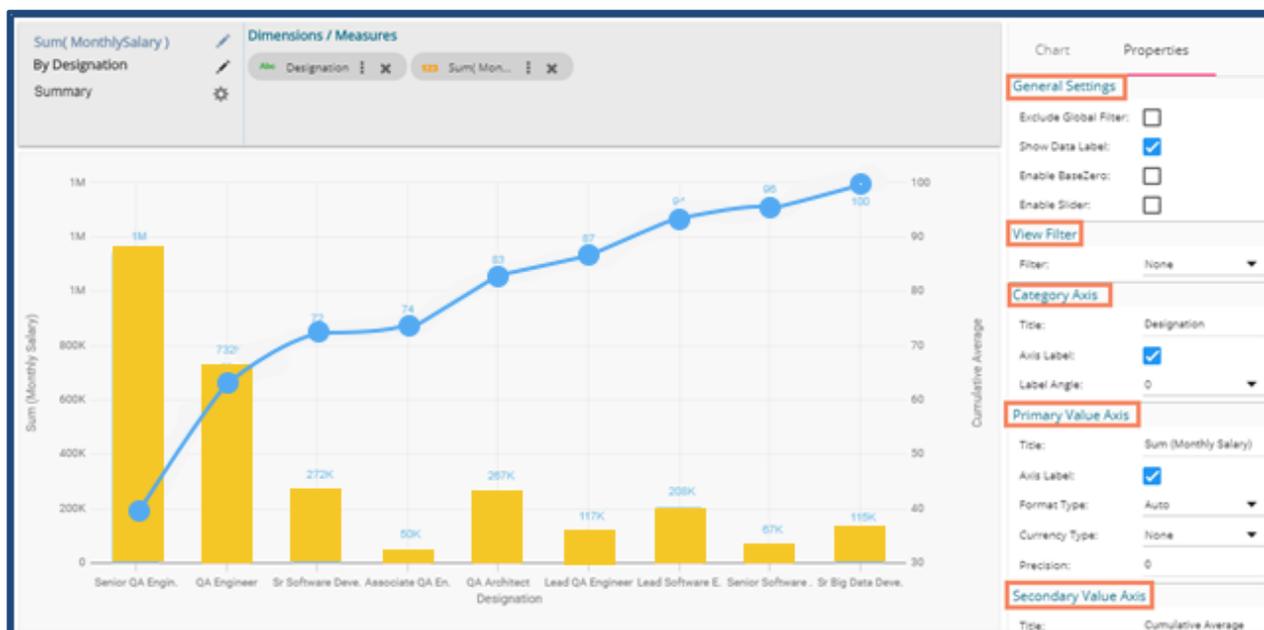
18. Pareto Chart

A Pareto chart is a type of chart that contains both bars and a line graph, where individual values are represented in descending order by bars, and the line represents the cumulative average.

Best Situation to Use a Pareto Chart:

To identify the most frequent defects, complaints, or any other factor that the users can count and categorize to focus on where improvement efforts make the most impact

Variation of this Chart: Pareto Pyramid, Paired Pareto chart



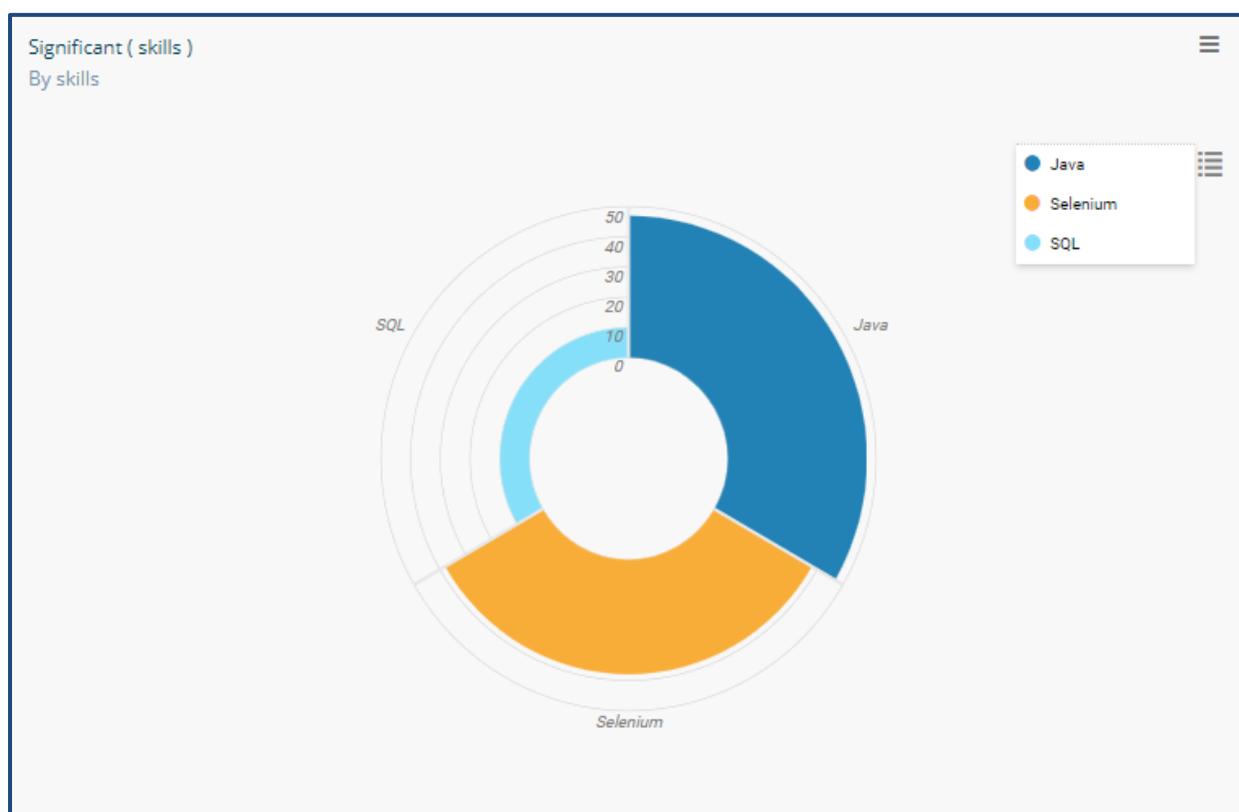
19. Circumplex Chart

The Circumplex chart, also known as Polar Area chart or Nightingale Rose chart, is a combination of the Bar chart and Pie chart.

Each category may have more than one sub-category, where a section of the disc shows that each sub-category and each section has the same angle. The value of the corresponding sub-category is shown through the area. By changing the radius in a Circumplex chart, users can adjust the area of each segment (based on data).

Best Situations to Use a Circumplex chart:

To display manifold data in the form of a two-dimensional chart of three or more measurable variables represented on axes starting from the same point.



About BDB Decision Platform

BDB is a modern data analytics and BI platform which can skillfully dive deep into your data to provide actionable insights. It is deployable on the cloud as well as on-premise. It has a Big Data Pipeline framework to handle Streaming, Structured, and Unstructured data. This micro-services architecture based modern platform can be integrated with famous business applications or can provide a customized Analytics flow, having its elements of Augmented Analytics, Machine Learning, NLP with top-end Visualization. This product is used by all layers in an organization like CXOs, Citizen Data Scientist, Data Scientists, Business Analysts, and Business Users etc. BDB's strong NLP-based search enables the user to unleash the power of data on desktop, tablets, and mobile as well.

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