Widgets , Data visualization tools

Data visualization organizes and represents data in a graphical format. Its goal is to make data easy to understand. Data visualization allows business leaders to evaluate product performance, understand business activities, track customer satisfaction and product sales, and monitor project progress. To visualize key performance indicators (KPIs), you must know which part of a data set you need, how it needs to be transformed, and which types of visualization widgets are suitable to your data set and understandable for your target audience. Let's see the five best widget types for showcasing key performance indicators and metrics using Bold BI.

- Heatmap
- Pivot table
- Indicators (card and gauge)
- Grid
- Charts

Heatmap

A **heatmap** represents tabular data values as gradient colors and displays the relationship between two items you choose as an x axis and y axis. Heatmaps are ideal to show multiple rows of two-column values. They can be used to highlight low to high and weak to good rating information by using different colors with different gradients. In the heatmap shown in the following Bold BI dashboard, we are visualizing the daily average precipitation of 8 states. Here you can easily see which states have extreme rain because of the color gradients.

Average Precipitation of States Based on Days of the Week

The following table lists the metrics best visualized through heatmaps in certain domains.

Domain	**Metrics**
Meteorology	Average temperature/precipitation recorded in a state or city over a time period.
Education	Marks scored by students across subjects in an examination.
Government	State-wise allocation of school improvement grants by category.
Information technology	Support ticket severity vs. status.Expense allocation for projects by department.
Telecommunications	Bandwidth utilization by subscribers in a week.
Energy	Energy consumption by sector on monthly basis.
Insurance	Annual premium equivalent (APE) performance by year and policy type.

Pivot table

A **pivot table** is best used to quickly summarize a large amount of data. It allows you to display summarized data in a cross-tabular format and create multidimensional views. Further, it provides an option to filter and group data for analysis to satisfy the needs of business users. It's good to use in marketing and financial domains for revenue and expense calculations. In the following example, product order details are summarized in a pivot grid of a Bold BI dashboard, and It provides an overview of the quantity sold, the sale amount by ordered date, and the product category.

Order Sales Overview in Pivot Table

The following table lists the KPIs and metrics that are best visualized through pivot tables in the corresponding domains.

Domain	KPIs and Metrics
Manufacturing	Daily production overview.Product sales for the year.
Education	Top 10 students by grade and gender.

Indicators

Indicators can be used to measure numeric KPIs and show their progress. The radial gauge and card are two such indicators available in Bold BI. These indicators show the same type of information but with different visuals. Gauges are preferable when measuring processing efficiency in the context of defined threshold levels. Card is preferable to showcase the current state and identify trends with comparative value assessment.

Gauge

In the following examples, the quality and overall performance of production are visualized through the radial gauge widget of a Bold BI dashboard.

Quality of Production Overall Performance of Production

A gauge widget is suitable for visualizing KPIs and metrics in the corresponding domains listed in the following table.

Domain	KPIs and Metrics
Manufacturing	Production quality, availability, and performance.

Information technology	Customer satisfaction rating.
Education	Overall pass percentage.
Finance	Days sales outstanding (DSO), days payable outstanding (DPO), and days sales inventory (DSI) for a company's outstanding accounts receivable and payable.