Google Cloud

Dashboard strategies for answering business questions

So far, you've learned that dashboards help data analysts share relevant data with stakeholders, and communicate the story that the data tells. Data analysts can make dashboards more effective by considering how to design them. When you design a dashboard, organize the data and present visualizations to make the dashboard easier for stakeholders to use. In this reading, you'll learn more about dashboards, and how you can design them to effectively answer stakeholders' business questions.

The purpose of dashboards

The main purpose of a dashboard is to help stakeholders understand the data. Well-designed dashboards provide quick access to meaningful metrics and allow for efficient data analysis.

Organizations may use dashboards in very different ways. Data analysts and stakeholders can use dashboards to:

- Analyze data in near real-time
- Create checks and balances for business practices
- Monitor the progress of projects or goals
- Evaluate key performance indicators (KPIs)
- Improve the speed and accuracy of decision making

How to answer questions with dashboards

Dashboards can help answer stakeholders' questions about their business. Before you design a dashboard, you need to identify:

- Stakeholders who will use the dashboard
- Questions that stakeholders want to answer
- Data that will help answer stakeholder questions

As a cloud data analyst, it's also important to anticipate future stakeholder questions.

For example, imagine you work with a startup company. The company has set a goal of reaching $1,000,000 in sales in its first year. An initial question the company wants to answer is: "How much have we made in sales so far this year?" So, you include the company's year-to-date sales on the dashboard.

However, this information alone doesn't answer the company's second question: "How do we

get from our current sales number, to our sales goal?" Based on this question, you think that the company may want the dashboard to answer additional questions like:

- What are the top selling products/brands/colors/styles?
- What are the top selling regions?
- Who are the top performing sales representatives?

You decide to add visualizations that answer some of the predicted questions to make the dashboard more effective at telling the data's story and providing valuable insights that can help the company achieve its goal.

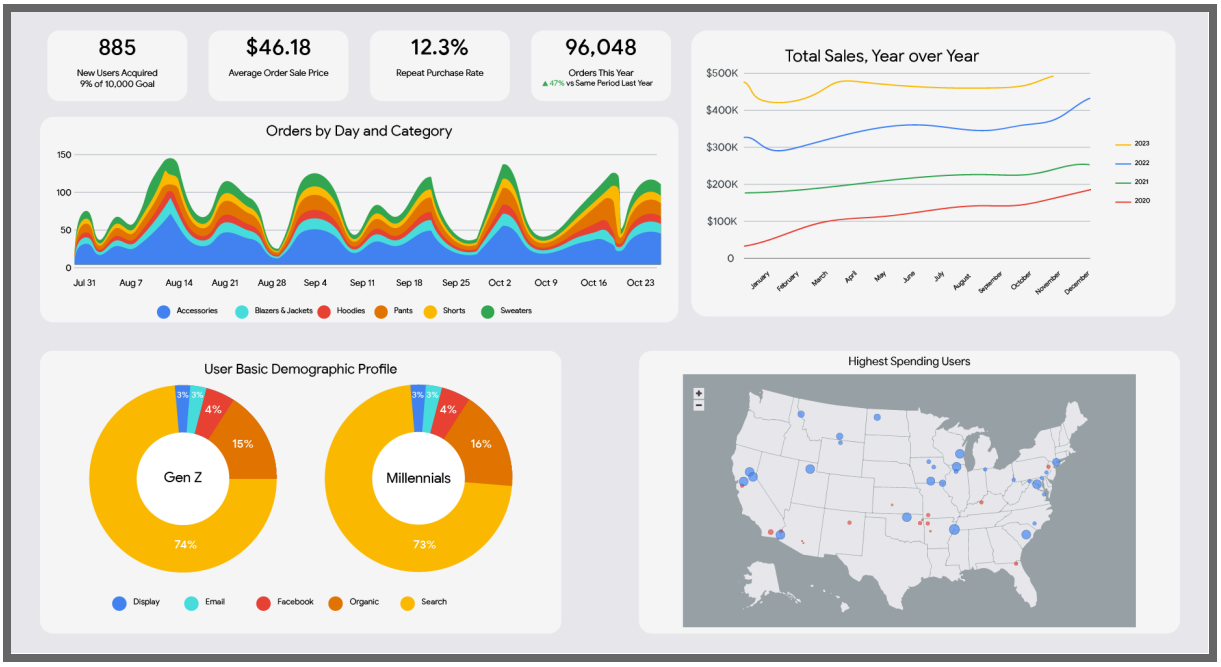
Dashboard examples

Dashboards can be created to display a wide variety of information. The information you choose to include in a dashboard will depend entirely on the needs of your stakeholders.

Graphical dashboards

Graphical dashboards help stakeholders visualize and analyze their data without focusing on numeric values. You can use graphical dashboards to clearly present data comparisons and highlight trends in the data. Bar graphs, line graphs, pie charts, and histograms are all useful graphics that can visualize the data.

This dashboard example helps visualize data for an e-commerce retailer. The graphics in the dashboard help stakeholders better understand the demographics of their customers and patterns related to their sales.



In this dashboard example, the data analyst uses an area chart, line graph, pie chart, and map to help stakeholders gain insights about the retailer's best selling categories, their yearly growth, and their customers' purchasing behaviors and demographics.

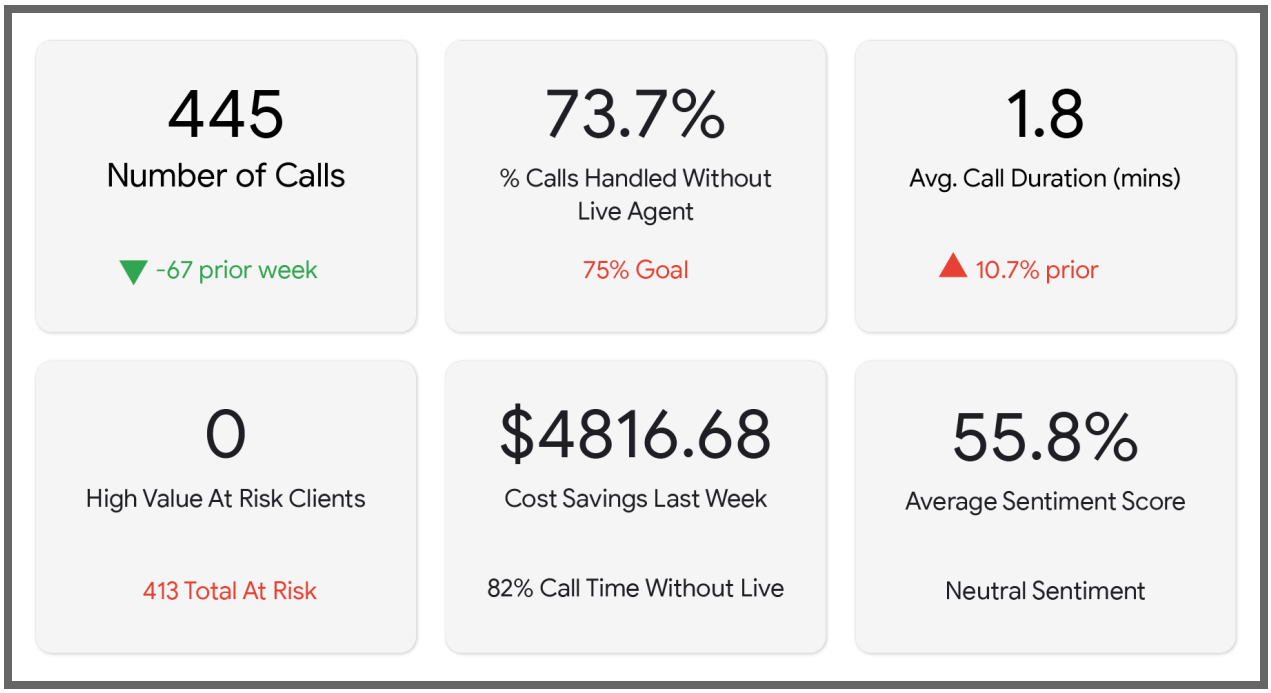
Graphical dashboards can help stakeholders quickly understand the meaning of data; however, always consider whether visualizations are relevant before adding them to your dashboard. When choosing graphics for your dashboard, ask yourself:

- What type of graphic(s) most clearly communicate the meaning of the data?
- Does the graphic effectively answer a stakeholder question?
- How does the graphic relate to other information or graphics in the dashboard?
- Is the graphic confusing?
- Does the graphic distract from more important information?
- Does the graphic highlight key information intuitively for all stakeholders?

Numerical-based dashboard

Although the majority of dashboards are graphical, sometimes you will need a dashboard to be mostly numerical. Numerical dashboards mainly use numbers and statistics to highlight key metrics. As a data analyst, you might use numerical dashboards to help stakeholders understand data in a variety of ways. For example, dashboards can help stakeholders track KPIs in real-time, or monitor the percent completion of a goal or task.

This numerical dashboard is an example for a customer service call center. The dashboard uses statistics and key data points to help the stakeholder quickly understand the volume of calls the call center is receiving, the call center's performance, and the financial benefits of the call center.



In this dashboard, the data analyst has demonstrated how planning and clear design provide quickly identifiable information to stakeholders. The dashboard includes six KPIs that illustrate the call center's current performance. Even though this example is numerical, it incorporates simple visuals that help users understand both the information provided, and the basic trends of the data. For example, the use of the up and down arrows effectively provides context for how those numbers have changed since the previous period.

Note: You can use contrasting colors in dashboards to help stakeholders quickly understand important metrics. However, keep in mind that some people see colors differently. To make visualizations more accessible in the dashboard example, the call center included other graphic elements and text, like the small up and down arrows and sub-text.

Key takeaways

Dashboards are an effective way for cloud data analysts to present data in an easy to understand way while staying focused on stakeholder needs. Graphical and numerical dashboards are two ways to present data. Both provide simple and interactive ways for stakeholders to understand large amounts of data. They also enable stakeholders to quickly identify trends and patterns without reviewing every piece of data.