**Scenario**



Review the scenario below. Then complete the step-by-step instructions.

As a digital marketing specialist for L’Acier, an online cookware retailer, you’ve analyzed data using pivot tables and made suggestions for ways to adjust your campaign strategy. Now you’re preparing to present your findings and recommendations to digital marketing leadership.

To create this presentation, you first need to make charts to help your audience understand how the data informs your recommendations. You will make five charts that visualize highlights from your analysis of the pivot tables data:

* **Total sessions** by hour of day
* **Total conversions** by hour of day
* **Average** **conversion rates** by day of week
* **Average conversion rate** by hour of day
* **Monday-Wednesday conversion rates** by hour of day

The first two charts will provide a broad overview of the sessions and conversions data. The last three will allow you to explain how the conversion rate data helped you reach your recommendations.

**Step-By-Step Instructions**



**Step 1: Access the template**



To use the template for this course item, click the link below and select “Use Template.”

Link to template: [Data visualizations](https://docs.google.com/spreadsheets/d/1cobTcx41whIXj8jrF7xXEe1NV-Jz4xWIy90D-mEn-ag/template/preview?resourcekey=0-AbA6BneoBA5SBqeL1QvD3Q)

OR

If you don’t have a Google account, you can download the template directly from the attachment below.



**Step 2: Create a chart for the sessions data**

To create a chart from the sessions pivot table data:

* Go to the **Sessions** tab at the bottom of the template and select any cell in the table.
* In the **Insert** menu, select *Chart* to generate a chart.
  + ***Note:*** *This action will also open the* ***Chart editor*** *menu. If you close the* ***Chart editor*** *and want to open it again, click the three dots in the upper-right corner of the chart and select* Edit chart.

**Step 3: Select a chart type**

Google Sheets will automatically select a chart type, but the default chart may not be the best option for your data. For this exercise, you can choose from among the following categories:

* **Line (single or stacked)**: Good for demonstrating how one or more metrics changes over time
* **Area (single, unstacked, or stacked):** Good for demonstrating how one or more metrics changes over time or breaking down total values into component parts
* **Column (single, grouped, or stacked):** Good for comparing two or more metrics
* **Bar (single, grouped, or stacked):** Good for comparing two or more metrics with large changes in value.

Keep in mind that these guidelines are not hard rules. The most important thing is that the type of chart you select makes the data clear for your audience. For more guidance on selecting charts, review the [*How to choose a data visualization*](https://drive.google.com/file/d/13T-Qu4lv-BdUJ0xYpqTraguqMg76LZSq/view) guide or visit the Google Help Page on [*Types of charts and graphs in Google Sheets*](https://support.google.com/docs/answer/190718)*.*

To explore different chart types:

* Go to the **Setup** tab in the **Chart editor**.
* Select the down arrow under **Chart options** to reveal the different chart types.
* Click the different options to preview how each type of chart affects your data before choosing one.

When selecting a chart type, think about what kind of information the table provides. Then consider what type of chart conveys that information most clearly. For example, the sessions chart should help you communicate the broad patterns of total sessions over the course of a typical day. It should also allow you to compare the amounts of hourly traffic for each day of the week. Keep these goals in mind when choosing a chart type.

**Step 4: Edit and format the chart**

Once you’ve selected a chart type, you can change (or even delete) elements. For example, to modify the chart title:

* First, select the chart and double-click the title box. This will open the **Chart & axis** **titles** menu in the **Customize** tab of the **Chart editor**.
* From the **Chart editor**, you can change the title text, font, size, format, or color.

You can modify other chart elements (like the chart and axis titles, labels, text sizes, and color choices) in the same way.

You can learn more about how to [add and edit a chart or graph](https://support.google.com/docs/answer/63824?hl=en&co=GENIE.Platform%3DDesktop#zippy=%2Cchange-the-chart-type) in Sheets in the Google Help Center. You can also learn how to [create a chart from start to finish](https://support.microsoft.com/en-us/office/create-a-chart-from-start-to-finish-0baf399e-dd61-4e18-8a73-b3fd5d5680c2) in Excel in the Microsoft Office Support Center.

**Step 5: Create charts for the remaining datasets**

Repeat **Steps 2-4** for the tables in the remaining tabs. As you create each chart, consider what each dataset will help you communicate to your audience:

* **Total conversions** by hour of day
  + Demonstrates patterns of total conversions over the course of a typical day
  + Compares the hourly traffic for each day of the week
* **Average** **conversion rates** by day of week
  + Demonstrates which days have average conversion rates above or below the weekly average
* **Average conversion rate** by hour of day
  + Demonstrates the average conversion rate for all days of the week at each hour of the day
* **Monday-Wednesday conversion rates** by hour of day
  + Compares hourly conversion rate data for the three days with the highest average conversion rates

***Note:*** *As you proceed through this exercise, you may find that certain types of visualizations work better than others for different datasets. Feel free to revise your earlier charts if you’d like to align them with later ones.*

**Pro Tip: Save your work**

Finally, be sure to save the work you did to complete this activity. This can help you work through your thought processes and demonstrate your experience to potential employers.

**What to Include in Your Response**



Be sure to address the following elements in your completed visualizations:

* Five charts that visualize the five tables in the template
* Each chart type makes the meaning of the data clear to a general audience



**Sessions**

1. **Stacked column chart (vertical):** This chart visualizes how hourly sessions for each day contribute to the total volume over a 24-hour period. It allows comparison between both the hours of a day and the days of the week. An area or line chart is often a good choice when displaying changes in value over time. However, depending on your audience, a bar chart may be a more accessible choice.
2. **Stacked bar chart (horizontal):** Similar to the stacked column chart, but the horizontal orientation allows more room to display the differences in volume between the very low (e.g., 2:00) and the very high (e.g., 10:00). However, depending on your audience, a vertical chart may seem a more natural way to present the hours of the day.
3. **Stacked area chart:** Like the stacked column chart, this visualization breaks down hourly sessions for each day and displays the volume over a 24-hour period. This chart makes it easy to understand the flow of traffic over the course of a typical day, but may be less familiar to a general audience than a bar chart.

**Charts to avoid:** Because the dataset includes so many variables, a grouped/clustered column chart would become crowded and could be difficult to understand.

**Conversions**

1. **Stacked column chart (vertical):** Like the sessions column chart, this chart visualizes how hourly conversions for each day contribute to the total volume over a 24-hour period. It allows comparison between both the hours of a day and the days of the week.
2. **Stacked bar chart (horizontal):** Similar to the stacked column chart, but the horizontal orientation allows more room to display the differences in volume between the very low (e.g., 2:00) and the very high (e.g., 10:00).
3. **Stacked area chart:** Like the stacked column chart, this visualization breaks down hourly sessions for each day and displays the volume over a 24-hour period.

**Charts to avoid:** Because the dataset includes so many variables, a grouped/clustered column chart would become crowded and could be difficult to understand.

**Average conversion rates/day of week**

1. **Column chart (vertical):** Column charts are good for comparing a limited number of values. This format clearly demonstrates the differences in the average conversion rates for the seven days of the week. The values are similar, so a vertical bar chart is sufficient.
2. **Bar chart (horizontal):** Similar to the column chart, the bar chart allows comparison among the days of the week. The space allowed by a horizontal chart is not necessary for this dataset. However, if your sessions chart was horizontal, you may want to keep the same orientation.

**Charts to avoid:** A line or area chart may make it harder to distinguish between the different values.

**Average conversion rates/hour of day**

1. **Single area chart:** Since this dataset demonstrates changes in a single value over time, an area chart is a good choice.
2. **Line chart:** A line chart is also a good option for visualizing changes in a single value over time. However, an area chart may be easier for your audience to see, allowing them to understand the importance of the data more quickly.

**Charts to avoid:** A column or bar chart may make it harder to understand the changes over time.

**Monday/Tuesday/Wednesday conversion rates/hour of day**

1. **Line chart:** Since this dataset demonstrates changes in a limited number of values over time, a line chart is a good choice. To make it easier to compare the lines, the exemplar line chart has been made taller than the default chart.
2. **Unstacked area chart:** Like the line chart, this chart demonstrates changes in value over time. However, the filled area below the lines may make it difficult to identify all the lines at every point in the chart.

**Charts to avoid:** A grouped/clustered column or bar charts may become too crowded, making it harder to identify the values and understand how they relate to one another.