1.2.5 Finding Averages

The ability to visually process outcomes at a glance will be very useful for Louise. Let's add a bit more customization to the sheet by creating another easy-to-interpret column.

Many of the campaigns missed their goal amount by a small margin. Instead of looking at both the Goal and Pledged columns to determine the deficit, let's create a new column that contains this information.

Create a New Column

In your Kickstarter worksheet, name the next empty column (cell O1) Percentage Funded. In this column, we'll use Excel's **ROUND** formula to determine how much of the campaign's goal was met. Data from the Pledged and Goal columns will be used to find the percentage funded.

Adding New Data to the Column

In the first empty row of our new Percentage Funded column, enter `=ROUND(E2/D2*100,0)` into the cell. This is our first row of data, which begins on row 2. The very first row, the header row, is row 1.

Let's break down this formula to see how it works:

1. `=ROUND` tells Excel that we'll be using the ROUND formula.
2. `(E2/D2` specifies which data is being utilized in the formula: column E, row 2 (pledged) divided by column D, row 2 (goal). The result is the percentage of completed donations, shown in decimal form.
3. `*100,` multiplies that result by 100, giving us the percentage as a whole number.
4. `0)` specifies how many numbers after the decimal will be viewed. In our case, that's zero.

Because there are so many rows of data, it would be time-consuming to apply the formula to each individual cell. Thankfully, there's a shortcut we can use to apply the formula to the entire column.

After inputting the formula and running it, the result should be a whole number of the percentage. Now, to apply the formula to the rest of the column, click the cell containing the new data. See how it's outlined in green? This tells us that it's the active cell.

Next, place your cursor over the bottom right corner of the cell. The crosshairs of the cursor change from white to black; this is how you know you're in the right spot. When the crosshairs are black, double-click that spot; Excel will automatically apply that formula to the entire column.

Retake

Value Shading

To summarize what we just did: we created a new column of data using a new formula to find the percentage of a campaign's funding. Now we can quickly determine how close a campaign came to reaching—and in some cases, exceeding—their funding goal.

We'll now take it a step further and apply conditional formatting to the new column. This time, instead of assigning a color to a column based on a single word or phrase, we'll apply a range of colors, based on the percentage funded. Like we did for the Outcomes column, we'll create a formatting rule to let the colors do the talking for us.

Highlight the Percentage Funded column in the worksheet, then make sure the Home tab is selected before clicking the Conditional Formatting button on the ribbon. Now we'll create a new rule by following these steps:

1. Select "Color Scales" followed by "More Rules." At this point, we can select colors based on the lowest and highest values. The colors will automatically change based on the cell's value.
2. Select the color red as the minimum color and blue for the maximum color.
3. Click OK.

The result is a color graded reference for Percentage Funded column. In a perfectly curated dataset, you would easily see which projects were fully funded by looking at the color grading alone. Our current dataset still has the color scheme, but if you begin to scroll down the sheet, you may notice that there is quite a lot of a single color. Why is this?

Even though you may have to scroll through the data a bit before you find a color transition, the data is providing a message: there is an outlier in the data set. An outlier is a data point that is abnormally high or low when compared to the rest of the data.

What does this mean for the data you're working with? Nothing yet, because we'll dive more deeply into outliers and how to handle them later. It's a good idea to keep it in mind as you work through your analysis, though.

SHOW PRO TIP

SKILL DRILL

Highlight the column again and click Conditional Formatting followed by Manage Rules. Edit the current rule and adjust the Maximum Type to Percentile, then manually enter 90 as the value. How does it look?

So far, you've imported real-world data and sorted the pledges in descending order, created a new column of data, and applied conditional formatting that allows Louise to further analyze the data. Our data story is starting to come together!

Average Donations

Kickstarter, like other crowdfunding platforms, allows project creators to add incentives for different pledge amounts. We can help Louise set up her incentives by first determining how much money people have pledged to campaigns historically. Is it $3? $10? Even $50? Excel will help us perform this type of calculation.

The first step is to create a column that will provide a quick look at the average donation. For this step we'll follow a process like the one for creating and filling the Percentage Funded column. When we created the Percentage Funded column, we:

1. Selected an empty column and added a header
2. Input the round function into the cell below the header
3. Applied the formula to the rest of the column

Let's do this again with a new column (column P) that we'll name "Average Donation."

Next, we'll use the ROUND formula again, but with a few modifications, shown below.

`=ROUND(E2/L2,2)`

We last used this formula to create a percentage as a whole number. This time we're finding an average, so we want to view the next two digits after the decimal. By modifying the formula to use a 2 instead of a 0, we're telling Excel to include those extra two digits.

To find the average, we'll use data from the Pledged column (column E) again. But instead of dividing by the goals (found in column D, as we did last time), we will divide by the backers (column L).

First, make sure the cell's data is set to General, then use this ROUND formula on the first cell of the Average Donation (P2) column. Then, in the next empty cell (P3), make sure the data type is set to General again, then use the same formula with a 4 instead of a 2 to specify how many digits will follow the decimal: `=ROUND(E2/L2,4)`. See the difference? Since we

were testing the formula in cell P3, let's delete it now that we've seen the difference.

Now apply the ROUND formula for the first cell to the entire column. Do this by selecting the top cell (P2) and hovering your mouse cursor over the bottom right corner of it until a black + sign appears. Double click the + to apply the formula to the entire column. Make sure there are only two digits after the decimal point.

Retake

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