

Hands-On Activity: Explore movie data with pivot tables

TOTAL POINTS 2

1.



Activity overview

In the previous video, you were introduced to pivot tables as a tool for quickly comparing metrics, performing calculations, and generating readable reports. In this activity, you will create and work with pivot tables using the movie spreadsheet from the video to draw new insights into this dataset and create visualizations to share with stakeholders.

By the time you complete this activity, you will be able to apply pivot tables in your own analysis projects. This will enable you to draw insights and create reports directly from your spreadsheets, which is important for your career as a data analyst.



What you will need

To get started, first access the movie spreadsheet from the previous video.

Click the link to the movie spreadsheet to create a copy. If you don't have a Google account, you may download the data directly from the attachments below.

Link to movie data: [movie data starter project](#)

OR

Download data:

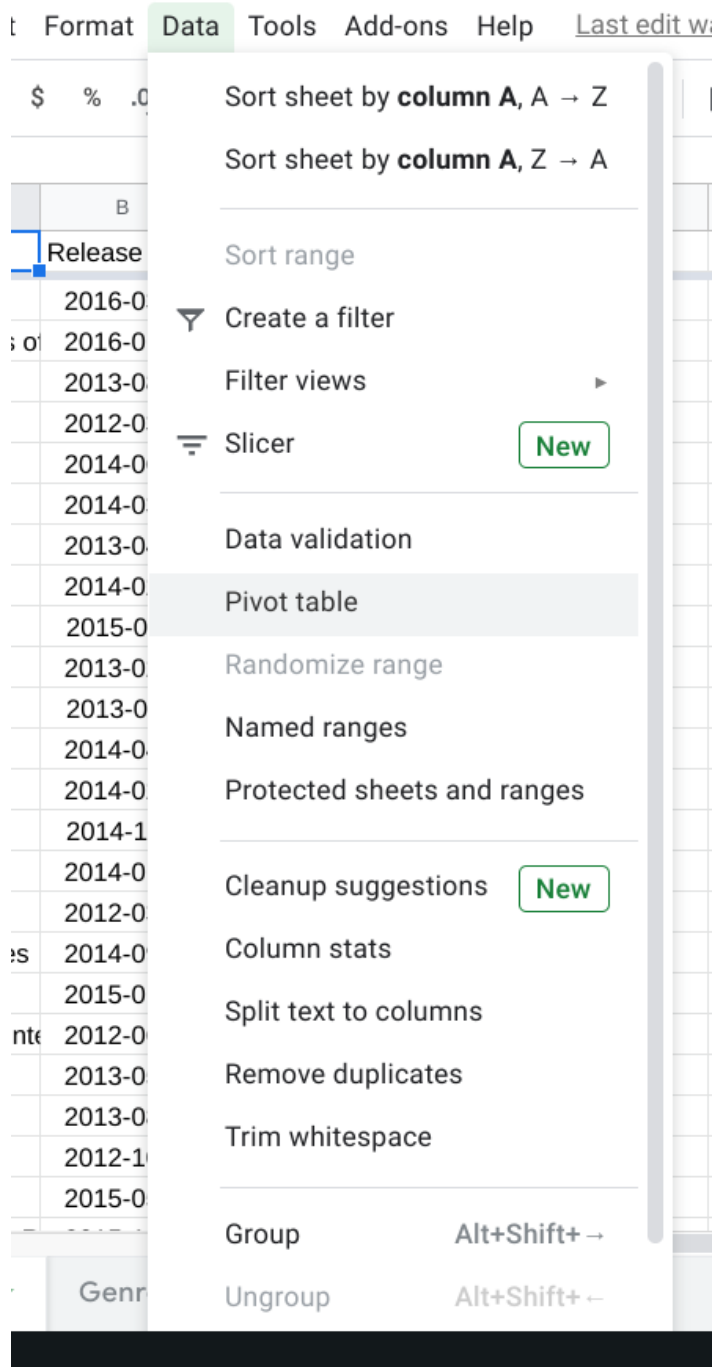
Movie Data Starter Project.xlsx



Create your pivot table

Once you have the movie data spreadsheet, you can create a pivot table to run calculations and generate reports.

Open the spreadsheet. Use the Data menu to create a pivot table.



Insert your pivot table into a new sheet. Click **Create**. The data range should already be filled in as 'Movie Data'!A1:N509.

Create pivot table



Data range

'Movie Data'!A1:N509



Insert to

☒ New sheet

☐ Existing sheet

Cancel

Create

Rename your new sheet Summary.

This will open the Pivot table editor, where you will be able to edit your pivot table and add custom calculations.

Using pivot tables to answer questions

Now that you have created your pivot table, you can use it to answer specific questions about your data quickly and easily. For example:

- What is the average budget for each genre?
- What is the average revenue for each genre?
- Which genre is generally the most profitable?

Pivot tables are a useful way to draw these kinds of insights directly from your spreadsheet data.

1. To get the average budget and revenue for each movie genre, first you will **use the Add button next to the Rows section** of the Pivot table editor and **select Genre (1)** from the dropdown list.

Pivot table editor

'Movie Data'!A1:N509

Suggested

^

Average of Budget (\$) for each Genre (2)

Count of Movie Title for each Genre (2)

Sum of Box Office Revenue (\$) for each Genre (2)

Rows

Columns

Values

Filters

Search

Movie Title

Release Date

Wikipedia URL

Genre (1)

Genre (2)

Director (1)

Director (2)

Cast (1)

Cast (2)

Cast (3)

Cast (4)

Cast (5)

Budget (\$)

Box Office Revenue (\$)

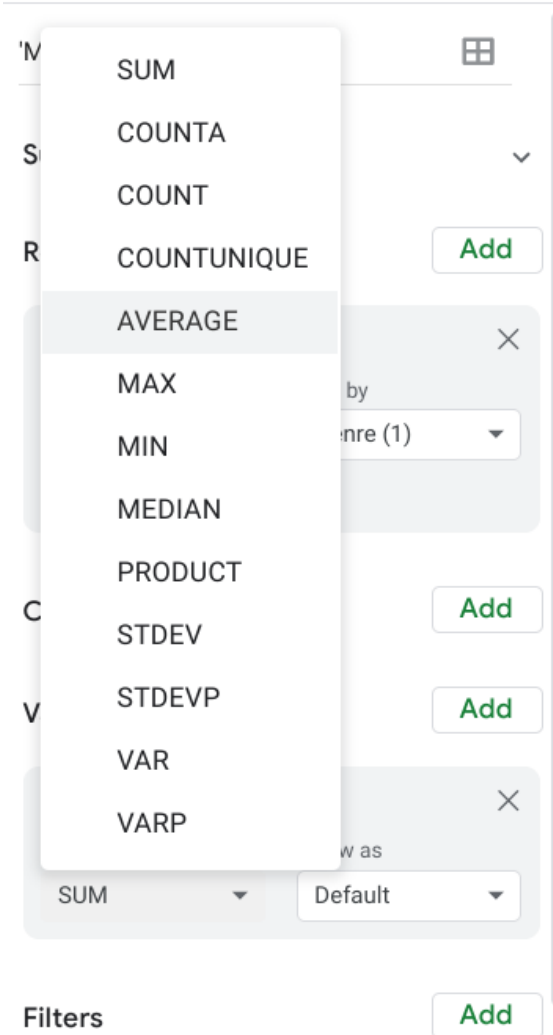
2. Next, you will use the Values section to add the average budget and average box office revenue. **Click the Add button next to Values and select Budget.**

Pivot table editor

'Movie Data'!A1:N509		Search
		Movie Title
Suggested		
Rows		
Genre (1)		
Order	Sort by	
Ascending	Genre (1)	
<input checked="" type="checkbox"/> Show totals		
Columns		
Values		
Filters		
Calculated Field		
Movie Title		
Release Date		
Wikipedia URL		
Genre (1)		
Genre (2)		
Director (1)		
Director (2)		
Cast (1)		
Cast (2)		
Cast (3)		
Cast (4)		
Cast (5)		
Budget (\$)		
Box Office Revenue (\$)		

The pivot table will summarize these values from the original data by SUM automatically. **Change it to AVERAGE** using the dropdown menu.

Pivot table editor



SUM

COUNTA

COUNT

COUNTUNIQUE

AVERAGE

MAX

MIN

MEDIAN

PRODUCT

STDEV

STDEVP

VAR

VARP

Summarize by

Genre (1)

Add

Add

Add

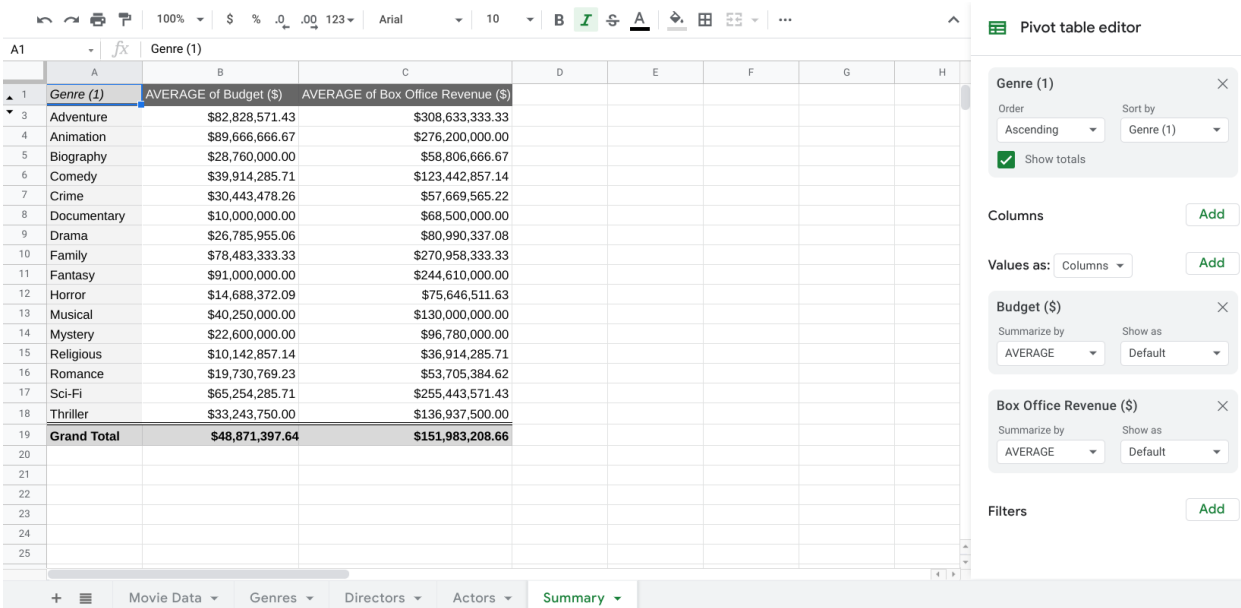
Sum

Default

Filters

Add

Now you should have a column in your pivot table titled **AVERAGE of Budget (\$)**. **Repeat these steps** to create another column **for AVERAGE of Box Office Revenue (\$)**. Your pivot table should now appear like this:



Genre (1)	AVERAGE of Budget (\$)	AVERAGE of Box Office Revenue (\$)
Adventure	\$82,828,571.43	\$308,633,333.33
Animation	\$89,666,666.67	\$276,200,000.00
Biography	\$28,760,000.00	\$58,806,666.67
Comedy	\$39,914,285.71	\$123,442,857.14
Crime	\$30,443,478.26	\$57,669,565.22
Documentary	\$10,000,000.00	\$68,500,000.00
Drama	\$26,785,955.06	\$80,990,337.08
Family	\$78,483,333.33	\$270,958,333.33
Fantasy	\$91,000,000.00	\$244,610,000.00
Horror	\$14,688,372.09	\$75,646,511.63
Musical	\$40,250,000.00	\$130,000,000.00
Mystery	\$22,600,000.00	\$96,780,000.00
Religious	\$10,142,857.14	\$36,914,285.71
Romance	\$19,730,769.23	\$53,705,384.62
Sci-Fi	\$65,254,285.71	\$255,443,571.43
Thriller	\$33,243,750.00	\$136,937,500.00
Grand Total	\$48,871,397.64	\$151,983,208.66

Pivot table editor

Genre (1)

Order: Ascending

Sort by: Genre (1)

Show totals: ☒

Columns: Add

Values as: Columns

Budget (\$)

Summarize by: AVERAGE

Show as: Default

Box Office Revenue (\$)

Summarize by: AVERAGE

Show as: Default

Filters: Add

Movie Data Genres Directors Actors Summary

Now you can easily find the average Budget (\$) and Box Office Revenue (\$) for each genre.

3. In order to find the average net profit for each genre, you will need to create a calculated field. **Use the Add button in the Values section and select Calculated field** from the dropdown list.

Genre (1)

Order

Ascending

Sort by

Genre (1)

☒ Show totals

Columns

Values as: Columns

Budget (\$)

Summarize by

AVERAGE

Show as

Default

Box Office Revenue (\$)

Summarize by

AVERAGE

Show as

Default

Filters

Search

Movie Title

Calculated Field

Movie Title

Release Date

Wikipedia URL

Genre (1)

Genre (2)

Director (1)

Director (2)

Cast (1)

Cast (2)

Cast (3)

Cast (4)

Cast (5)

Budget (\$)

Box Office Revenue (\$)

Input **Custom** under the Summarize By option and **paste this formula to get the average profit:**

=AVERAGE('Box Office Revenue (\$)')-AVERAGE('Budget (\$)')

Mark Summarize by Custom to avoid creating an error. Title the new column you created with the calculated field **AVERAGE Profit** in cell D1. Your pivot table should now appear like this:

	A	B	C	D
1	Genre (1)	AVERAGE of Budget (\$)	AVERAGE of Box Office Revenue (\$)	AVERAGE Profit
2	Adventure	82,828,571.43	308,633,333.33	225,804,761.90
3	Family	78,483,333.33	270,958,333.33	192,475,000.00
4	Sci-Fi	65,254,285.71	255,443,571.43	190,189,285.71
5	Animation	89,666,666.67	276,200,000.00	186,533,333.33
6	Fantasy	91,000,000.00	244,610,000.00	153,610,000.00
7	Action	82,810,000.00	233,839,500.00	151,029,500.00
8	Thriller	33,243,750.00	136,937,500.00	103,693,750.00
9	Musical	40,250,000.00	130,000,000.00	89,750,000.00
10	Comedy	39,914,285.71	123,442,857.14	83,528,571.43
11	Mystery	22,600,000.00	96,780,000.00	74,180,000.00
12	Horror	14,688,372.09	75,646,511.63	60,958,139.53
13	Documentary	10,000,000.00	68,500,000.00	58,500,000.00
14	Drama	26,785,955.06	80,990,337.08	54,204,382.02
15	Romance	19,730,769.23	53,705,384.62	33,974,615.38
16	Biography	28,760,000.00	58,806,666.67	30,046,666.67
17	Crime	30,443,478.26	57,669,565.22	27,226,086.96
18	Religious	10,142,857.14	36,914,285.71	26,771,428.57

4. Finally, you can use the Sort by option in the Rows section of the pivot table to sort and organize your pivot table. For example, try **sorting by the AVERAGE Profit** values to see which genre generates the most profit on average.

Pivot table editor

'Movie Data'!A1:N509

Suggested

Rows

Add

Genre (1)

Order

Ascending

Sort by

Genre (1)

Show totals

Columns

Budget (\$)

Summarize by

AVERAGE

Show as

Default

Box Office Revenue (\$)

Summarize by

Show as

Values as: Columns

Genre (1)

AVERAGE of Budget (\$)

AVERAGE of Box Office Revenue (\$)

AVERAGE Net Profit

Search

Movie Title

Release Date

Wikipedia URL

Genre (1)

Genre (2)

Director (1)

Cast (4)

Cast (5)

Budget (\$)

Box Office Revenue...

Explore

Visualizing your data

You can create some basic visualizations based on your custom tables to share your findings with stakeholders.

Select any cell in your pivot table and then **navigate to the Insert menu. Select Insert Chart.**

File Edit View **Insert** Format Data Tools Add-ons Help

100%

fx

Genre (1)	AVERAGE	Box Office Revenue
Action		\$233,839,50
Comedy		\$123,442,85
Drama		\$80,990,33
Sci-Fi		\$255,443,57
Adventure		\$308,633,33
Family		\$270,958,33
Horror		\$75,646,51
Fantasy		\$244,610,00
Thriller		\$136,937,50
Crime		\$57,669,56
Biography		\$58,806,66
Animation		\$276,200,00
Romance		\$53,705,38
Musical		\$130,000,00
Mystery		\$96,780,00
Religious		\$36,914,28
Documentary		\$68,500,00
Grand Total		\$151,983,20

Chart

Image

Drawing

Form

Function

Insert link Ctrl+K

Checkbox


Comment Ctrl+Alt+M

Note Shift+Search+2

People chip

New sheet Shift+F11


This will create a chart in the same worksheet as your pivot table. Move it next to your pivot table. In the Chart editor, **select Bar chart**. This type of chart makes it easy for your stakeholders to compare the different genres.

 Chart editor ×

Setup

Customize

Chart type


 Bar chart


Stacking


None


Data range

A1:D18



Y-axis 

 Genre (1)



Input A1:D18 for the Data range to select the meaningful values from your pivot table. **Set the Y-axis as Genre(1)**. **Add AVERAGE Profit** to the Series list and **check Use row 1 as headers** and **Use column A as labels**.



Chart editor



Setup

Customize

A1:D18



Y-axis

Genre (1)



Grouping

Add

☐ Aggregate

Series

AVERAGE Net Profit



Add Series

☐ Switch rows / columns

☒ Use row 1 as headers

☒ Use column A as labels

+ Add axis & series set

Finally, change the title of your visualization so that your stakeholders know exactly what you're communicating. You can also customize the color palette using the Customize menu in the Chart editor pane.

AVERAGE of Budget (\$), AVERAGE of Box Office Revenue (\$) and AVERAGE Profit

