

Financial Modeling in Excel

5 Excel features you should know

Data Table

A great tool for your what-if analysis. A range of cells in which you can change values in some of the cells and come up with different answers to a problem.

How to create it?

Instructions

1. Write down input data
2. Calculate the value you want to find out
3. Write down additional input data you want to test

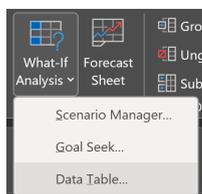
Example

Interest rate, number of periods and starting amount if you want to see how your savings amount would differ under different scenarios

Savings amount from the initial input data

Changes in interest rate, starting amount

4. Go to Data -> What-If Analysis -> Data Table



5. Put in row and column input cell that corresponds to the layout you have created in step #3 and press OK

Row input cell - interest rate from initial input data;

Column input cell - starting amount from initial input data

Interest Rate	7%
Number of Periods	3
Starting Amount	\$ 2,000

	\$6,430	5.50%	6.00%	6.50%	7.00%	7.50%	8.00%	8.50%
\$ 1,500	\$ 4,752	\$ 4,775	\$4,799	\$4,822	\$ 4,846	\$ 4,870	\$ 4,893	
\$ 1,600	\$ 5,069	\$ 5,094	\$5,119	\$5,144	\$ 5,169	\$ 5,194	\$ 5,220	
\$ 1,700	\$ 5,386	\$ 5,412	\$5,439	\$5,465	\$ 5,492	\$ 5,519	\$ 5,546	
\$ 1,800	\$ 5,702	\$ 5,730	\$5,759	\$5,787	\$ 5,815	\$ 5,844	\$ 5,872	
\$ 1,900	\$ 6,019	\$ 6,049	\$6,079	\$6,108	\$ 6,138	\$ 6,168	\$ 6,198	
\$ 2,000	\$ 6,336	\$ 6,367	\$6,398	\$6,430	\$ 6,461	\$ 6,493	\$ 6,524	
\$ 2,100	\$ 6,653	\$ 6,686	\$6,718	\$6,751	\$ 6,784	\$ 6,817	\$ 6,851	
\$ 2,200	\$ 6,970	\$ 7,004	\$7,038	\$7,073	\$ 7,107	\$ 7,142	\$ 7,177	
\$ 2,300	\$ 7,286	\$ 7,322	\$7,358	\$7,394	\$ 7,430	\$ 7,467	\$ 7,503	
\$ 2,400	\$ 7,603	\$ 7,641	\$7,678	\$7,716	\$ 7,754	\$ 7,791	\$ 7,829	
\$ 2,500	\$ 7,920	\$ 7,959	\$7,998	\$8,037	\$ 8,077	\$ 8,116	\$ 8,156	

By changing the initial input data, your data table will update too!

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Pivot Table

A PivotTable is a powerful tool to calculate, summarize, and analyze data that lets you see comparisons, patterns, and trends in your data.

How to create it?

Instructions

1. Have an Excel table with data
2. Go to Insert -> PivotTable and choose a table or a range you want to analyze
3. Choose fields to summarize the data by
4. Go to PivotTable Analyze or Design tabs to customize the Pivot Table

Example

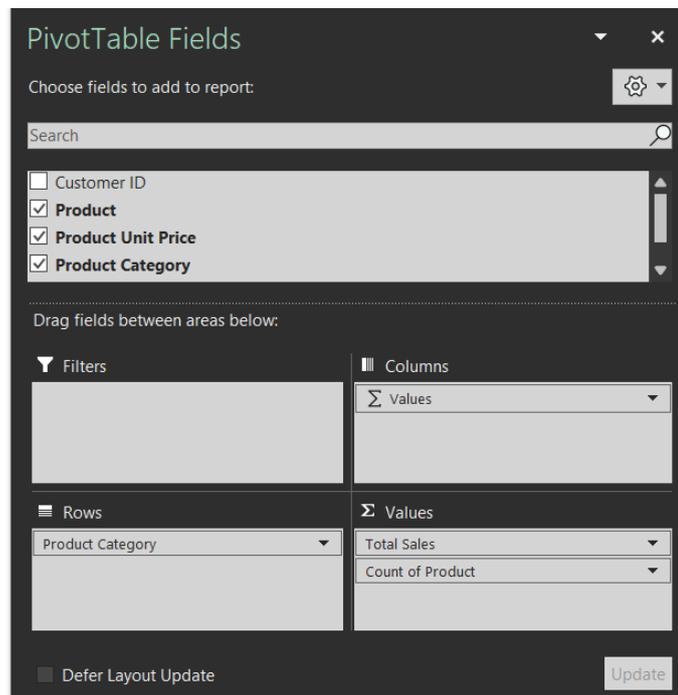
Store order history with customer ID, product ID, product price and product category

Choose the table from step 1

Look at the total sales and count of products bought by product categories. Choose columns, Rows, Filters, Values – everything is customizable and you can play with the report!

Add a slicer, insert timeline, add subtotals and other things

Summarized Data		
Product Category	Total Sales	Count of Product
Clothing	\$ 687	3
Furniture	\$ 845	6
Home & Garden	\$ 319	4
Pet Supplies	\$ 174	2
Grand Total	\$ 2,025	15



The screenshot shows the 'PivotTable Fields' task pane. Under 'Choose fields to add to report', the following fields are checked: Product, Product Unit Price, and Product Category. The 'Drag fields between areas below:' section is divided into four areas: Filters (empty), Columns (empty), Rows (Product Category), and Values (Total Sales, Count of Product). At the bottom, there is a 'Defer Layout Update' checkbox and an 'Update' button.

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Data Validation

Use data validation to restrict the type of data or the values that users enter into a cell. One of the most common data validation uses is to create a drop-down list.

How to create it?

Instructions

1. Select the cell you want to create a drop-down list in

2. Select Data -> Data Validation

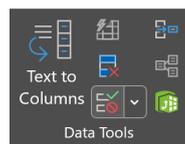
3. Choose what will the users be able to choose (numbers, dates, time, custom text, etc.)

4. Create Input Message so that users know what they are choosing

5. Link other data in your model to this dropdown list, so that values update automatically

Example

On your input data Excel sheet, create a cell where users will be able to choose between different store locations



Offer to choose from a list of store locations such as "USA, Spain, UK, Australia, Japan, Germany"

"Select Store Location"

Link profit and loss statements to geographical location of the stores from the dropdown by using "IF" statements

Store	USA	Year	2021				
P&L Projections		USA	2021				
Sales	(\$)	78,000,000	88,627,500	93,783,659	95,774,992	102,351,736	109,838,853
Domestic Sales	(\$)	70,000,000	72,467,500	75,021,979	77,666,504	80,404,248	83,238,498
Foreign Sales	(\$)	8,000,000	16,160,000	18,761,679	18,108,488	21,947,487	26,600,355
Manufacturing Costs	(\$)	56,500,000	63,240,000	66,585,600	67,917,312	72,211,366	77,140,835
Materials	(\$)	20,900,000	23,449,800	24,709,500	25,203,690	26,823,333	28,684,191
Direct Labor	(\$)	25,300,000	28,386,600	29,911,500	30,509,730	32,470,350	34,722,968
Other Direct Costs	(\$)	8,800,000	9,873,600	10,404,000	10,612,080	11,294,035	12,077,554
Indirect Manufacturing Costs	(\$)	1,500,000	1,530,000	1,560,600	1,591,812	1,623,648	1,656,121
Gross Profit	(\$)	21,500,000	25,387,500	27,198,059	27,857,680	30,140,369	32,698,018
SG&A Costs	(\$)	7,560,000	7,892,550	8,118,073	8,282,748	8,541,628	8,821,262
Marketing Costs	(\$)	1,560,000	1,772,550	1,875,673	1,915,500	2,047,035	2,196,777

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Power Query

Power Query (known as Get & Transform in Excel) is a great tool for minimizing repetitive daily tasks. You can import or connect to external data and then shape this data. For example, remove a column, change a data type, or merge tables in ways that meet your needs. Then, you can load your query into Excel to create charts and reports.

How to create it?

Instructions

1. Connect to Data
Go to Data -> Get Data

2. Transform Data
Do all kinds of changes to your data while the original dataset stays the same

3. Combine Data
Add other datasets and make connections between them to get more insights

4. Load Data
Load the transformed and combined data to your worksheet and enjoy the clean dataset

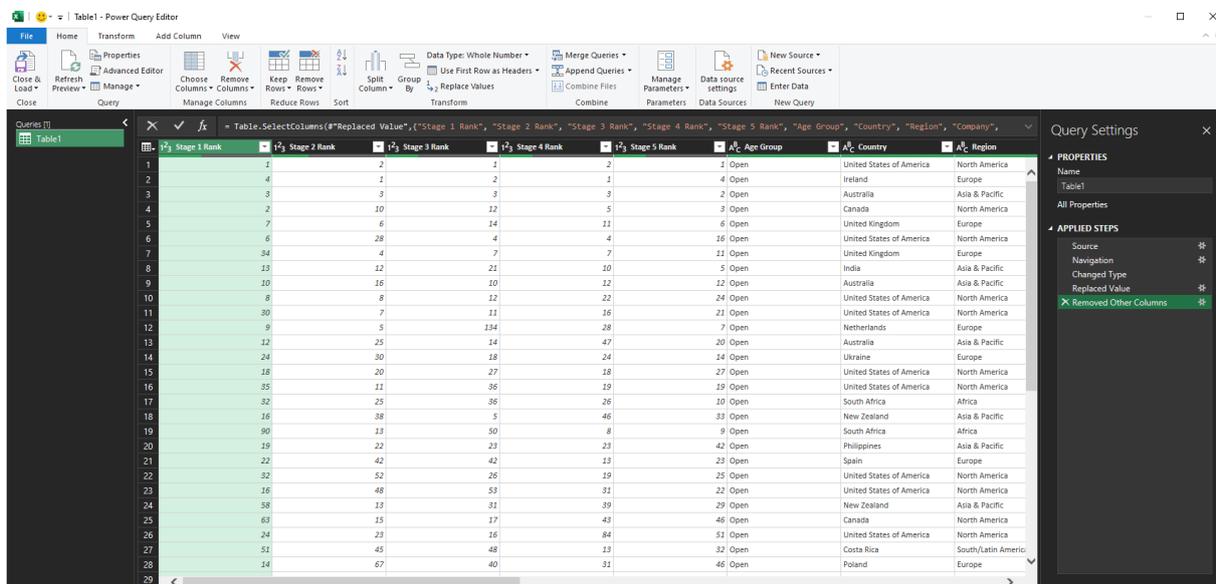
Example

Pull in data from a different Excel file that contains participant names and stage points

Clean Data - remove unneeded columns, assign data types, rename columns for better understanding, etc.

Pull in another data source on the background of the participants - country, company, age group, etc. Append Queries.

Load the appended query into the Excel file. After each stage, add information on the points and refresh dataset.



	Stage 1 Rank	Stage 2 Rank	Stage 3 Rank	Stage 4 Rank	Stage 5 Rank	Age Group	Country	Region
1	1	2	1	2	1	Open	United States of America	North America
2	4	1	2	1	4	Open	Ireland	Europe
3	3	3	3	3	2	Open	Australia	Asia & Pacific
4	2	10	22	5	3	Open	Canada	North America
5	7	6	24	11	6	Open	United Kingdom	Europe
6	6	28	4	7	16	Open	United States of America	North America
7	28	4	7	7	11	Open	United Kingdom	Europe
8	13	12	21	10	5	Open	India	Asia & Pacific
9	10	16	10	12	12	Open	Australia	Asia & Pacific
10	8	8	12	22	24	Open	United States of America	North America
11	30	7	11	16	21	Open	United States of America	North America
12	9	5	134	28	7	Open	Netherlands	Europe
13	12	25	14	47	20	Open	Australia	Asia & Pacific
14	24	30	18	24	14	Open	Ukraine	Europe
15	18	20	27	18	27	Open	United States of America	North America
16	35	11	36	19	19	Open	United States of America	North America
17	32	25	36	26	10	Open	South Africa	Africa
18	16	38	5	46	33	Open	New Zealand	Asia & Pacific
19	90	13	50	8	9	Open	South Africa	Africa
20	19	22	23	23	23	Open	Philippines	Asia & Pacific
21	23	42	42	13	23	Open	Spain	Europe
22	32	52	26	19	25	Open	United States of America	North America
23	16	48	53	31	22	Open	United States of America	North America
24	58	13	31	39	29	Open	New Zealand	Asia & Pacific
25	63	15	17	43	46	Open	Canada	North America
26	24	23	16	84	51	Open	United States of America	North America
27	51	45	48	13	32	Open	Costa Rica	South/Latin America
28	14	67	40	31	46	Open	Poland	Europe

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Group Data

If you have a list of data you want to group and summarize, you can create an outline of up to eight levels. Very important for financial models to switch between different levels of data complexity. Group data instead of hiding rows/columns!

How to do it (right)?

Instructions

1. Select rows/columns to group

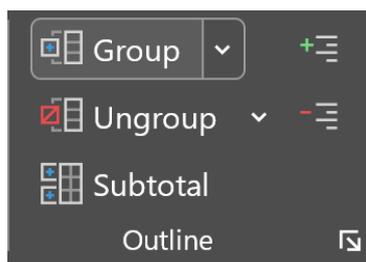
2. Go to Data -> Group -> Group

3. Group again, if you want to go into more detail

4. Press "-" to collapse the groups

Example

Level 1 – for top level management, Level 3 or 4 – for accountant in-depth data review



	1	2	3	A	B	C	D	E
	1	Healthy Foods Inc. Financial Model						
	2							
	3							
	4	Period Start						
	5	Period End						
	6	Period #						
	7							
	8	1 P&L Projections						
		2 Balance Sheet Projections						
+	46	3 Cashflow Projections						
+	74	4 Healthy Foods Inc. Valuation						
+	101							
+	135							
	136	5 Support Schedules and Tables						
	330							
	331							