

AI and Excel for Finance Managers

Introduction

Excel remains one of the most widely used tools in finance, but getting from a financial question to the right formula, analysis, or visualization can take time. Generative AI can help bridge that gap. You can describe what you are trying to achieve in plain language and ask AI to suggest a formula, explain one you have inherited, troubleshoot an error, recommend an approach to analyzing data, or guide you through an unfamiliar Excel feature.

The key is to treat AI as an Excel assistant, not an Excel expert whose answers are automatically correct. AI-generated formulas and instructions should always be checked against your workbook, your data, and the financial question you are trying to answer.

Give AI enough context

You will usually get a better answer if you explain the structure of your workbook rather than simply asking for "an Excel formula." For example, instead of:

Give me a formula to calculate variance.

Try:

I have an Excel budget with Actual expenditure in column E and Budget in column F. I want column G to show the variance as Actual minus Budget. Give me the Excel formula for row 2 and explain what it does.

Useful information to include in your prompt can include:

- What each relevant column or cell contains
- What you want the result to show
- Whether you want a formula copied down multiple rows
- Which version of Excel you use, if relevant
- How you want blanks, errors, zeros, or missing values handled
- Whether your workbook uses tables, named ranges, or ordinary cell references

You usually do not need to upload the entire spreadsheet. If the data is sensitive, confidential, personal, or financial, follow your organization's AI and data policies before sharing it with any AI tool.

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Turn plain-language questions into formulas

One of the simplest uses of AI is translating what you want Excel to do into a formula.

What you want to do	Example prompt	AI might suggest
Calculate variance	Actual is in E2 and Budget is in F2. Give me a formula for Actual minus Budget.	=E2-F2
Calculate variance %	Actual is E2 and Budget is F2. Calculate variance as a percentage of Budget.	=(E2-F2)/F2
Total one category	Column B contains expense categories and column E contains amounts. Sum the amounts where the category is Travel.	=SUMIF(B:B,"Travel",E:E)
Total using several criteria	Sum column E where column B is Travel and column C is Project A.	=SUMIFS(E:E,B:B,"Travel",C:C,"ProjectA")
Look up a value	The account code is in A2. Find it in the Codes sheet column A and return the account name from column B.	=XLOOKUP(A2,Codes!A:A,Codes!B:B,"Notfound")
Flag large variances	Return 'Review' if the absolute variance in G2 is greater than 10,000; otherwise return 'OK'.	=IF(ABS(G2)>10000,"Review","OK")
Count transactions	Count how many transactions in column B are coded as Travel.	=COUNTIF(B:B,"Travel")

These examples are starting points. The correct formula will depend on how your workbook is structured.

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Build complexity gradually

If you need a complicated formula, asking AI to build everything at once can make errors harder to spot. Instead, work in stages. For example:

First, give me a formula that calculates the difference between actual and budget.

Then:

Now change it so that a blank actual returns a blank result.

Then:

Now add a flag if the absolute variance is greater than 10%.

This makes it easier to understand what has changed and test each part of the formula as you go.

Ask AI to explain formulas

AI can be particularly useful when you inherit a spreadsheet containing formulas you did not create. For example:

Explain this Excel formula in plain English. Break down each part and tell me what result it is designed to return:

```
=IFERROR(XLOOKUP(A2,Codes!A:A,Codes!B:B),"Check code")
```

You can also ask follow-up questions:

- What does IFERROR do here?
- What would cause this formula to return "Check code"?
- Is there a simpler way to write this formula?
- What happens if A2 is blank?

This can help you understand the logic of an existing workbook before changing it.

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Troubleshoot formulas and errors

If a formula is not behaving as expected, AI can help you investigate why. Rather than only saying:

My formula doesn't work

Provide the formula, what you expected to happen, and what actually happened. For example:

This formula is returning #N/A: =XLOOKUP(A2,Codes!A:A,Codes!B:B)
A2 contains the code 5120 and I can see 5120 in the Codes sheet. What could be causing the problem? Give me the troubleshooting steps in order.

AI might suggest checking for issues such as numbers stored as text, leading or trailing spaces, differences in formatting, incorrect ranges, or an exact match not being present. You can also ask AI about common Excel errors such as:

Error	What it generally means
#DIV/0!	A formula is attempting to divide by zero or a blank cell.
#N/A	Excel cannot find the value requested by a lookup or similar formula.
#VALUE!	Excel has encountered the wrong type of value for the calculation.
#REF!	A formula refers to a cell or range that is no longer valid.
#NAME?	Excel does not recognize part of the formula, such as a function or named range.
#####	The column may be too narrow to display the result, or there may be a date/time issue.

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Useful Excel functions for finance work

You do not need to memorize every Excel function. AI can help you choose one based on the problem you are trying to solve. Some functions worth knowing include:

Function	Useful for
SUM	Adding values
SUMIF / SUMIFS	Adding values that meet one or more conditions
COUNTIF / COUNTIFS	Counting transactions or records meeting particular criteria
AVERAGE / AVERAGEIF	Calculating averages
IF	Applying rules or creating flags
IFERROR	Controlling how formula errors are displayed
XLOOKUP	Finding related information in another range or table
ROUND	Controlling decimal places
ABS	Working with the absolute value of a variance or difference
MIN / MAX	Identifying lowest and highest values
TODAY	Working with the current date
YEAR / MONTH	Extracting parts of dates for analysis
LEFT / RIGHT / MID	Extracting parts of text or codes
TRIM	Removing unnecessary spaces from text

Rather than asking AI "What Excel functions should I know?", connect the question to your task:

I need to compare actual expenditure against budget by project and flag any project that is more than 10% over budget. Which Excel functions would be useful, and why?

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Clean and prepare data

Financial data is not always analysis-ready. Codes may be formatted inconsistently, descriptions may contain extra spaces, dates may be stored incorrectly, or information from different systems may need to be combined. AI can help you work out how to clean the data. For example:

I have imported transaction data into Excel. Some account codes are stored as numbers and others as text, so my XLOOKUP isn't matching them correctly. Give me options for standardizing the codes without changing the underlying account numbers.

Where possible, retain the original source data and perform cleaning in separate columns or through a repeatable process. This makes changes easier to review and reduces the risk of accidentally altering the original financial records.

Use AI to support analysis

AI can also help you think through how to analyze a workbook, even when you do not share the underlying data. For example:

I have monthly budget and actual expenditure by project, donor, and account code. I want to identify the most significant variances. Suggest an Excel analysis approach and explain which calculations, PivotTables, or charts would be useful.

You might ask for help with:

Variance analysis

I have Budget in column F and Actual in column G. I want to identify both the largest monetary variances and the largest percentage variances. How should I structure the analysis?

Scenario analysis

I have a project budget with salary, travel, supplies, and overhead costs. I want to model what happens if travel costs increase by 15% and salary costs increase by 5%. Explain how I could set this up in Excel without changing my original budget.

AI can suggest the method, but the financial interpretation still belongs to you. A large variance, unusual transaction, or changing trend may have a perfectly reasonable explanation that is not visible from the numbers alone.

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Get help with PivotTables and charts

You do not need to remember every menu or setting in Excel to use its analytical features. Try describing the result you want:

I have transaction-level expenditure data with Date, Project, Donor, Account Code, Account Name, and Amount columns. I want a PivotTable showing monthly expenditure by project. Tell me which fields should go in Rows, Columns, Values, and Filters.

For charts:

I have monthly Budget and Actual totals for a 12-month project. Which Excel chart would best show whether spending is tracking against budget, and how should I structure the source data?

AI can also help when something has gone wrong:

My PivotTable is counting the Amount field instead of summing it. Why is that happening and how do I fix it?

Ask AI to help you check your work

AI does not only have to create formulas. You can use it as a second pair of eyes. For example:

I need to calculate budget utilization as Actual expenditure divided by Revised Budget. I have used `=G2/F2`. Is that logic correct? What edge cases should I account for?

Or:

I am using `=SUMIFS(E:E,B:B,B2,C:C,C2)` to total expenditure by account and project. Explain what this formula is doing and give me three checks I can perform to make sure the result is correct.

This changes the role of AI from simply producing an answer to helping you think about how that answer should be tested.

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Always check AI-generated Excel work

A formula that looks convincing can still be wrong. Before relying on an AI-generated formula, calculation, or analysis:

- **Understand what it is doing** - If you cannot explain the formula yourself, ask AI to break it down before using it.
- **Test it with values you already know** - Use a small number of records where you can calculate the expected result manually.
- **Check the cell references** - Confirm that the formula refers to the correct rows, columns, sheets, and ranges.
- **Check what happens at the edges** - Try blanks, zeros, negative values, missing lookup values, unusually large values, and other exceptions that could occur in the real data.
- **Check totals against a trusted source** - Where possible, reconcile results to the original report, ledger, budget, or other source.
- **Check before copying a formula across hundreds of rows** - Test it first, particularly where relative and absolute cell references are involved.
- **Keep human review where the result matters** - AI assistance does not change responsibility for the accuracy of financial information.

A final reminder

AI can make Excel more accessible, particularly when you know the financial question you want to answer but are less certain about the formula or Excel feature needed to answer it.

Use it to help translate your thinking into Excel, understand unfamiliar formulas, explore different approaches, and troubleshoot problems. But keep the underlying financial logic visible: know what is being calculated, test the result, reconcile important outputs, and apply your own professional judgment before using the information.

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Quick prompt reference

You can adapt these prompts to your own workbook.

Write a formula	I am using Excel. [Describe what the relevant cells/columns contain.] I need to [describe the result]. Give me the formula, explain each part, and tell me what I should check before using it.
Explain a formula	Explain this Excel formula in plain English: [formula]. Tell me what each part does, what result it should return, and any circumstances where it could produce an unexpected result.
Troubleshoot a formula	This Excel formula is not producing the result I expected: [formula]. I expected [result], but I am getting [actual result/error]. Give me the most likely causes and a step-by-step way to test them.
Choose a function	I need to [describe finance task] in Excel. What function or combination of functions would you recommend? Explain why before giving me the formula.
Plan an analysis	My Excel data contains [describe columns/data]. I need to understand [financial question]. Suggest a simple analysis approach using Excel, including useful calculations, PivotTables, or charts.
Check a formula	I am using this formula to [purpose]: [formula]. Check the logic, explain any assumptions it makes, identify possible edge cases, and suggest how I can test the result.
Build a scenario	I have a financial model containing [describe structure]. I want to test what happens if [assumptions]. Explain how to set up the scenario in Excel without changing my original data.