

Workplace Activity 2

The “Analyze Data” feature in Excel

The “Analyze Data” feature of Excel was originally called “Insights” and also previously “Ideas”. In this activity students will work together with a partner in the class to use this AI feature built into Excel.

This “Insights” feature was first introduced in Office 365 in early 2018. It was later rebranded as “Ideas” and rebranded yet again as “Analyze Data”. This feature uses artificial intelligence to analyze data and provide insights and trends.

For more information, you can visit: <https://www.mrexcel.com/excel-tips/excel-2020-get-ideas-from-artificial-intelligence>

How does it work? As we have seen before with “Flash Fill” ... the underlying technology of this feature is proprietary. So, the best we can do is speculate as to how it works.

So... here’s a possibility. The underlying process might, theoretically, go something like this. Systematically compare columns of data to other columns of data, looking for a statistical correlation. The most highly correlated columns are presented as possible charts. (Remember correlation matrices earlier in the semester!?)

As we speculated with Flash Fill, it seems likely that there will also be some data columns that receive prioritized treatment. (For example, date information is usually of interest in any sort of trend visualization!)

1. Introduction to Analyze Data

- Purpose: The purpose of the “Analyze Data” feature in Excel, is to automatically generate insights, trends, and patterns from the data in your spreadsheet.
- Requirements: For the feature to work correctly, the original data needs to be organized! The feature requires range of rows and columns with clear headings for each column.
- For our purposes we will use sales data from the fictional “Super Store” chain of department stores. This, and other play data sets can be found here: <https://hackernoon.com/15-excel-datasets-for-data-analytics-beginners>
- The spreadsheet we will use is: SuperStoreUS-2015.xlsx.

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2. Preparing Your Data

- Data Organization: Your data should be clean and organized. Remove any blank rows or columns and ensure each column has a unique header.
 - As a class, we will discover that the “Product Base Margin” column contains 16 blank rows. We will delete those, taking the total number of rows in our spreadsheet down to 1936.
- Formatting as Table: Highlight your data and press `Ctrl + T` to convert it into a table. This helps Excel to better understand and analyze your data.

3. Accessing Analyze Data

- Location: Find the "Analyze Data" button in the Home tab or under the Data tab in the Excel ribbon.
- Usage: Click on "Analyze Data" to start the analysis process. Excel will examine the data and provide insights based on its structure and content.

4. Reviewing Suggestions

- Insight Types: Excel will present various insights, such as pivot tables, charts, and trends based on your data.
- Exploring Suggestions: Click on different suggestions to see a preview. Excel might offer insights like sales trends, average values, or comparisons.
- I will use the “Sales” by “Ship Mode” chart.

5. Inserting Insights

- Selection: Choose an insight that you find useful by clicking on it.
- Inserting into Sheet: Once you select an insight, you can insert it into your worksheet by clicking the “Insert” button.

6. Fine-Tuning Results

- Adjustments: You can refine the inserted charts or tables by using Excel's standard editing tools.
- Exploring Further: If needed, you can go back to the "Analyze Data" feature to generate additional insights or ask specific questions in the search bar within the Analyze Data pane.

7. Advanced Features

- Asking Questions: Use the query box in the Analyze Data pane to ask specific questions about your data, like “What is the average sales by month?” or “What are the top 5 best selling products in terms of quantity?”
- This natural language query feature is fairly new. It was introduced around 2020. The query box in Excel's "Ideas" feature is not specifically powered by ChatGPT. It uses Excel's own AI and machine learning algorithms to analyze data and provide insights.

8. Discussion ... what are your chief takeaways from this exercise? Here are some things to think about:

- A. If your underlying data changed regularly, what would you need to do? How labor intensive would it be to regenerate your chart?
- B. The consistent layout/structure of the underlying data is important. What sort of processes would a business need to have in place to keep the data structure consistent?
- C. Microsoft would say something like - the Analyze Data feature in Excel can uncover hidden trends and patterns in your data **effortlessly**. True? False? Why?
- D. Is there a better way to do this sort of analysis, discovery and presentation? (If you know of a better software title that offers similar capability, please share it and why you like it.)
- E. What is a potential downside to this kind of feature?

Pick one of the discussion options above and make comment on the corresponding canvas discussion.

Pick the comment from one of your beloved classmates and provide constructive feedback. (No need to upload your chart.)

Addendum 1

Here is a description of the columns in the “Super Store” spreadsheet.

Order ID - A unique identifier for each order.

Customer ID - A unique identifier for each customer.

Order Date - The date of the order placement.

Ship Date - The date the order was shipped.

Ship Mode - The shipping mode for the order (e.g. standard, same-day).

Segment - The customer segment (e.g. Consumer, Corporate, Home Office).

Region - The region where the customer is located (e.g. West, Central, East).

Category - The category of the product purchased (e.g. Furniture, Technology, Office Supplies).

Sub-Category - The sub-category of the product purchased (e.g. Chairs, Desktops, Paper).

Product Name - The name of the product purchased.

Sales - The sales revenue for the product purchased.

Quantity - The number of units of the product purchased.

Discount - The discount applied to the product purchased.

Profit -The profit generated by the product purchased.

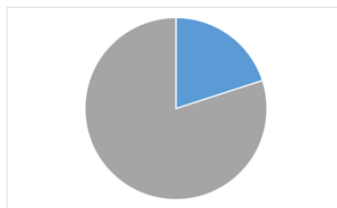
Addendum 2

It is helpful to remember that different types of visualizations are suitable for different tasks. Below is a list of common chart types, and their intended purpose.

Common Chart Types



Bars
(For Comparison)



Pie
(For Composition)



Line
(For Evolution)



Scatterplot
(Relationship)



Map
(For Spatial Comparison)