

## 1. Create a PSM

Proportional • Last saved: Today at 8:31 PM

Ke Zhang

File Home Insert Modeling View Optimize Help Format Data / Drill

Cut Copy Format painter Clipboard Get Excel data OneLake workbook catalog SQL Server Data Enter Dataverse Recent sources Transform Refresh data New visual Text box More visuals Insert New visual calculation New measure Quick Calculations Sensitivity Share Publish Copilot

Sales by Country

Visualizations

Build visual

Location

Country

Legend

Add data fields here

Latitude

Add data fields here

Longitude

Add data fields here

Bubble size

Sales

Tooltips

Add data fields here

Drill through

Cross-report

Keep all filters

Financials

- $\Sigma$  Sales
- $\Sigma$  COGS
- Country

Date

- Date
- Discount Band
- Discounts
- Gross Sales
- Manufacturing Price
- Month Name
- Month Number
- Product
- Profit
- Sale Price
- Segment
- Units Sold
- Year

Page 1 of 1

8:37 PM 2025-03-13

ENG

84%

Microsoft Bing

Page 1

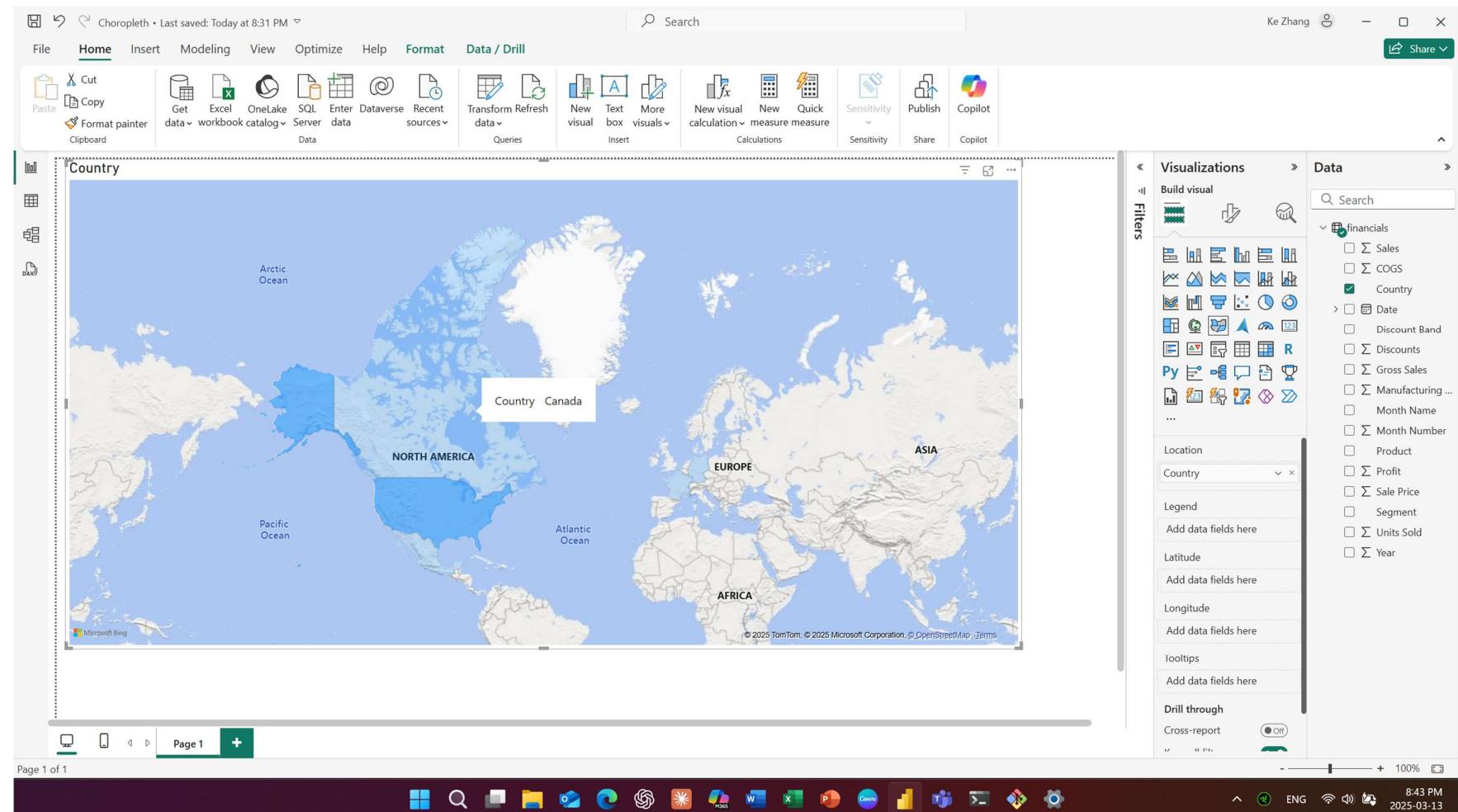
+

Windows Start button

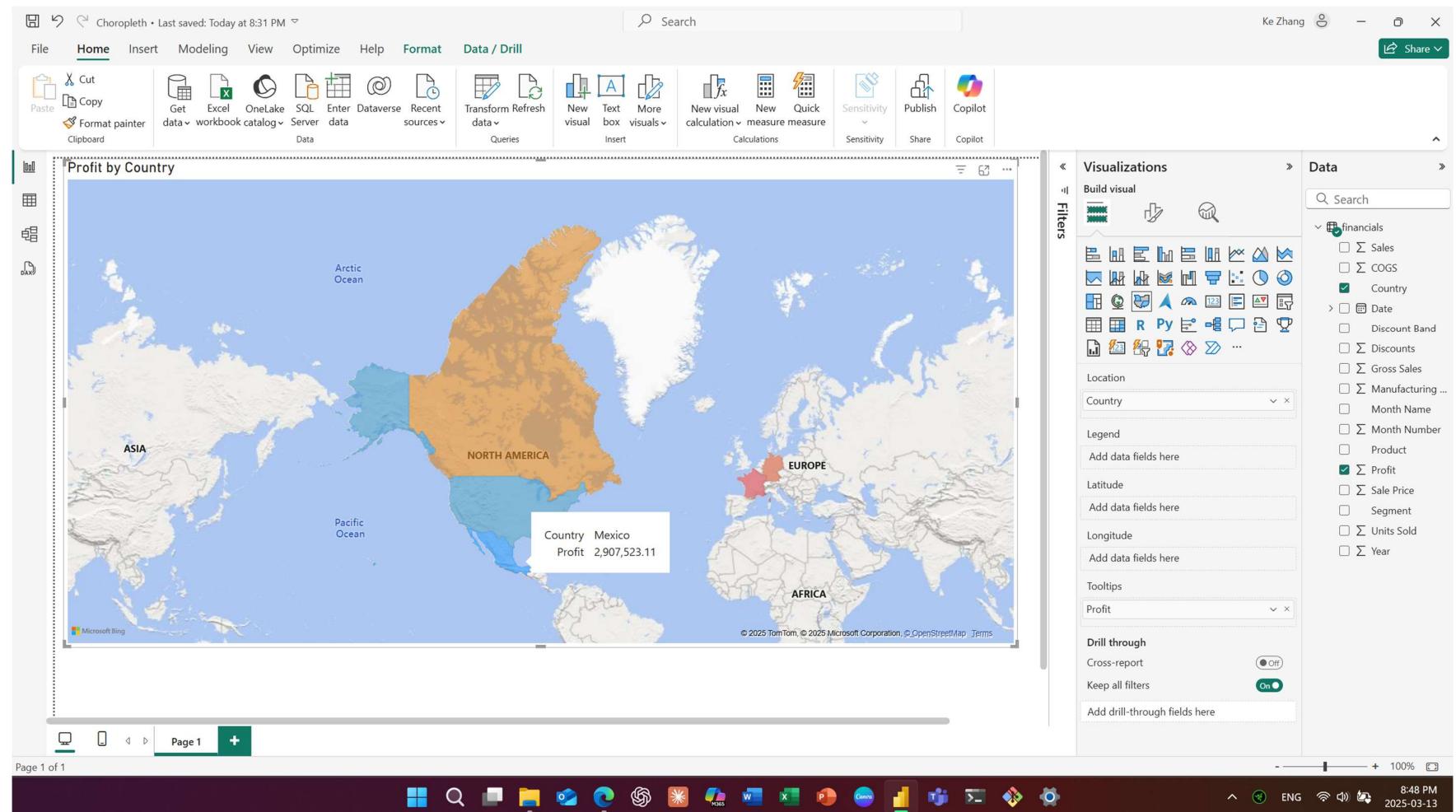
Search bar

Taskbar icons: File Explorer, Mail, Edge, OneDrive, Microsoft 365, Word, Excel, Power BI, Copilot, Teams, LinkedIn, Instagram, Facebook, YouTube, Netflix, Spotify, and Settings.

## 2.1 Choropleth Maps



## 2.2 Add Conditional Formatting to a Choropleth Map



### 3.1 The SUM Function - Add all Numbers in a Column

The screenshot shows the Microsoft Power BI desktop interface. On the left, there is a table visualization titled "Country" with the following data:

Country	SumOfSales
Canada	24,887,654.89
France	24,354,172.29
Germany	23,505,340.82
Mexico	20,949,352.11
United States of America	25,029,830.18
<b>Total</b>	<b>118,726,350.29</b>

The ribbon at the top has tabs: File, Home, Insert, Modeling, View, Optimize, Help, Format, and Data / Drill. The "Home" tab is selected. The "Data" tab is currently active in the ribbon.

The right side of the screen features the "Filters", "Visualizations", and "Data" panes. The "Filters" pane shows filters applied to the visual: "Country is (All)" and "SumOfSales is (All)". The "Visualizations" pane contains various visualization icons. The "Data" pane lists data fields: Sales, COGS, Discount Band, Discounts, Gross Sales, Manufacturing, Month Name, Product, Profit, Sale Price, Country, Date, Month Number, Segment, SumOfSales, Units Sold, and Year. The "SumOfSales" field is selected and highlighted with a green checkmark.

At the bottom, the status bar shows "Page 1" and "9:02 PM 2025-03-13". The taskbar at the very bottom includes icons for File Explorer, Task View, Search, Mail, Edge, OneDrive, Photos, OneNote, Word, Excel, Power BI, Power Query, Power Pivot, Power BI Service, Power Automate, Power Apps, and Settings.

### 3.2 The DIVIDE Function - Perform Division

Screenshot of Microsoft Power BI desktop interface showing the creation of a measure named "PercentageProfit" using the DIVIDE function.

The formula bar displays:

```
1 PercentageProfit = DIVIDE(SUM('Table 1'[ Profit ]),SUM('Table 1'[ Sales ]),"0")
```

The table visual shows the following data:

Country	PercentageProfit
United States of America	11.97%
Mexico	13.88%
Canada	14.18%
France	15.53%
Germany	15.66%
<b>Total</b>	<b>14.23%</b>

The ribbon tabs are: File, Home, Insert, Modeling, View, Optimize, Help, Format, Data / Drill, Table tools, Measure tools. The Measure tools tab is selected.

The Data ribbon tab is open, showing the Data pane with the following filters applied:

- Table 1
- Σ Sales
- Σ COGS
- Discount Band
- Discounts
- Σ Gross Sale
- Σ Manufacturing ...
- Month Name
- Product
- Profit
- Sale Price
- Country (selected)
- Σ Month Number
- PercentageProfit (selected)
- Segment
- SumOfSales
- Σ Units Sold
- Σ Year

The status bar at the bottom shows: Page 2 of 2, 90%, 9:08 PM, 2025-03-13.

### 3.3 - Check a Condition

The screenshot shows the Microsoft Power BI desktop interface. The main area displays a table visualization with the following data:

Country	SumOfSalesForCanada
Canada	24,887,654.89
France	0.00
Germany	0.00
Mexico	0.00
United States of America	0.00
<b>Total</b>	<b>24,887,654.89</b>

The Power BI ribbon is visible at the top, showing the Home tab is selected. To the right of the visualization, the 'Filters' pane is open, showing a single filter applied to the 'Country' column. The 'Visualizations' pane on the far right lists various chart types, and the 'Data' pane shows a list of data fields and columns.

### 3.4 Count the Number of Cells in a Column

The screenshot shows the Microsoft Power BI desktop interface. The ribbon at the top includes File, Home, Insert, Modeling, View, Optimize, Help, Format, Data / Drill, and a search bar. The main area displays a table visualization with the following data:

Country	CountOfCellsContainingData
Canada	140
France	140
Germany	140
Mexico	140
United States of America	140
<b>Total</b>	<b>700</b>

The Power BI ribbon also includes sections for Data, Transform Refresh data, New visual, Insert, More visuals, Calculations, Sensitivity, Share, and Copilot. The Data section on the right lists various data sources and measures, including Sales, COGS, Discounts, Gross Sales, Manufacturing, Month Name, Product, Profit, Sale Price, and Year. The CountOfCellsContainingData measure is selected.

### 3.5 - Return the Average of All Numbers in a Column

The screenshot shows the Microsoft Power BI desktop interface. On the left, there is a navigation pane with icons for Home, Insert, Modeling, View, Optimize, Help, and Data / Drill. The main area displays a table visualization titled "Country" with the following data:

Country	AverageManCost
Canada	93.93
France	95.53
Germany	95.50
Mexico	95.67
United States of America	101.76
<b>Total</b>	<b>96.48</b>

To the right of the visualization are several filter panels under the "Filters" section, including "Filters on this visual", "Filters on this page", and "Filters on all pages". Below these is a "Drill through" section with options for "Cross-report" and "Keep all filters".

The "Visualizations" pane on the right lists various chart types such as Bar, Line, and Map. The "Data" pane on the far right lists data fields like Sales, COGS, Discounts, and Profit.

At the bottom of the screen, the formula bar shows the formula `Average` selected. The status bar at the bottom right indicates the date and time as 9:22 PM, 2025-03-13.

### 3.6 -Join Two Text Strings into One Text String

The screenshot shows the Microsoft Power BI desktop interface. On the left, there is a table visualization with two columns: 'Country' and 'Country\_DiscountBand'. The data includes rows for Canada (High, Low, Medium, None), France (High, Low, Medium, None), Germany (High, Low, Medium, None), Mexico (High, Low, Medium, None), and the United States of America (High, Low, Medium, None). The 'Country\_DiscountBand' column contains values like 'Canada High', 'Canada Low', etc.

The top ribbon bar shows the 'Home' tab selected, along with other options like Insert, Modeling, View, Optimize, Help, Format, Data / Drill, and Share.

The right side of the screen features several panels:

- Filters:** A panel containing 'Filters on this visual', 'Filters on this page', and 'Filters on all pages' sections, each with 'Add data fields here' buttons.
- Visualizations:** A panel showing various visualization icons (bar charts, line graphs, etc.) for building new visualizations.
- Data:** A panel listing data sources and fields, with 'Country' and 'Country\_DiscountBand' checked. It also includes sections for 'Drill through', 'Cross-report', and 'Keep all filters'.

At the bottom, there is a toolbar with buttons for Page 1, Divide, Conditions, CellCount, Average, Strings, and a plus sign. The status bar at the bottom right shows the date and time as 9:26 PM, 2025-03-13.

### 3.7 - Apply conditional Formatting

The screenshot shows the Microsoft Power BI desktop interface. The ribbon at the top has the 'Format' tab selected. In the center, there is a table with the following data:

Country	CountryColors
Canada	#DAF7A6
France	#99FF33
Germany	#FFFFC3
Mexico	#33A8FF
United States of America	#FF9F33
Total	

The 'ConditionalFormat' tab is highlighted in the ribbon. On the right side, the 'Visualizations' pane is open, showing the 'General' tab under 'Apply settings to'. The 'Series' dropdown is set to 'Country'. Under 'Background color', the 'On' button is selected. The 'Font color' and 'Icons' buttons are off. The 'Web URL' button is off. There is a 'Reset to default' link. Below that are sections for 'URL icon', 'Image size', 'Sparklines', and 'Accessibility'. A search bar at the top of the pane allows filtering the data list. The data list itself contains several items, with 'CountryColors' and 'Country' checked.