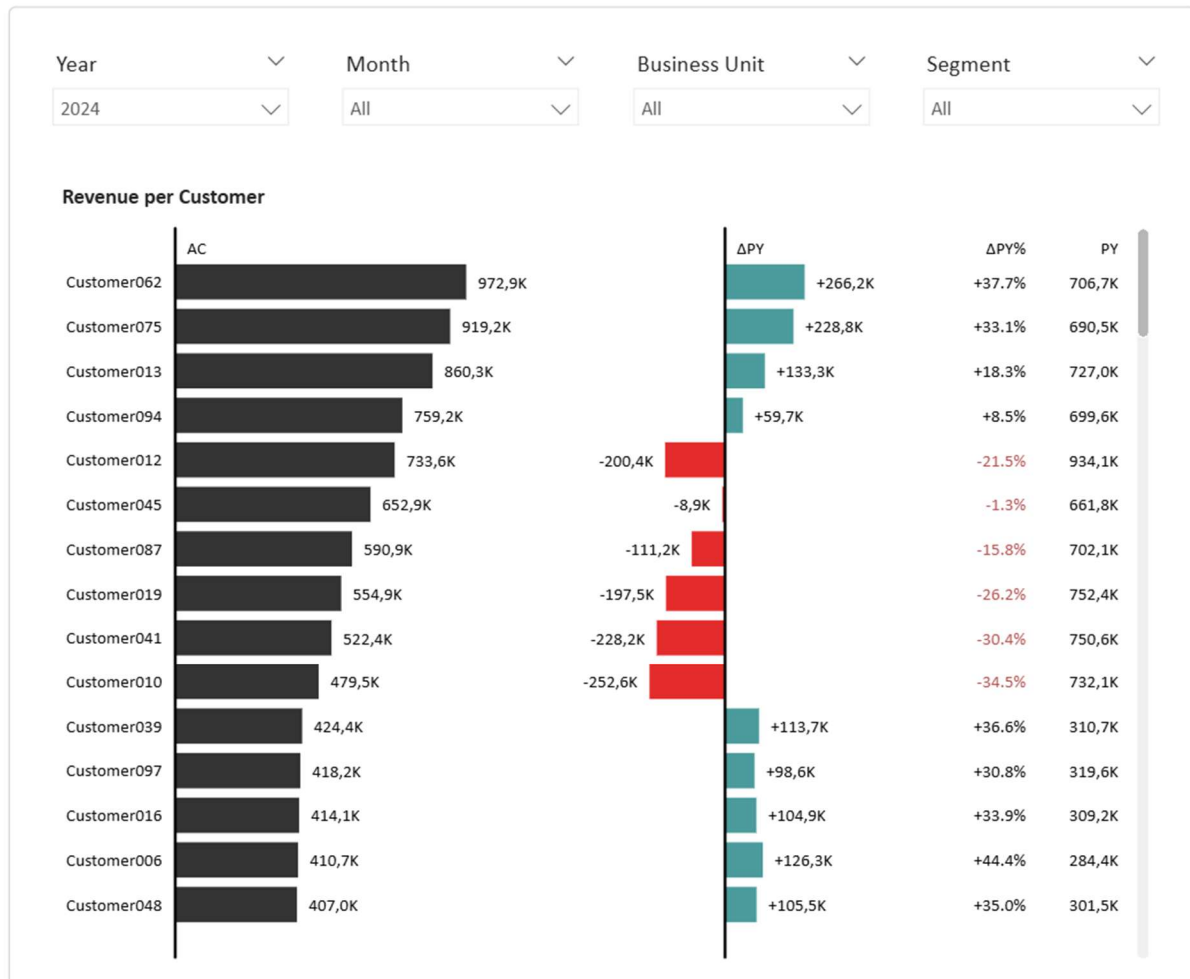


## Create a Bar Chart with Absolute Variance using a native stacked bar chart in Power BI – By Reusing Existing Visual



Created by: Michel van Schaik

LinkedIn: <https://www.linkedin.com/in/michel-van-schaik/>

## Intro

I built this variance chart using only the native Stacked Bar Chart in Power BI. To get everything perfectly lined up, I relied on transparent bars with widths dynamically calculated using Visual Calculations.

Since data labels aren't supported by Visual Calculations, I used DAX for the label values shown inside the transparent bars.

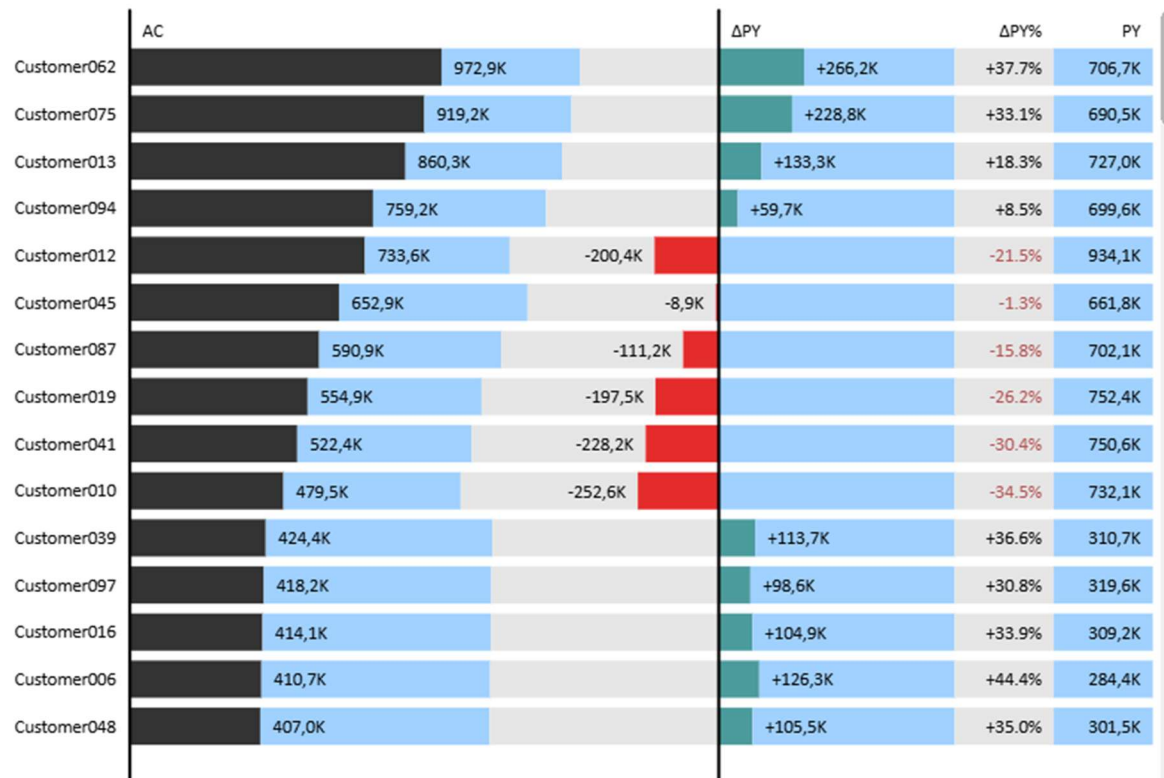
I spent quite a bit of time fine tuning the layout and bar widths so the chart stays responsive and adapts well to different visual sizes.

It was a real puzzle at times, as building this from scratch does require some effort especially with all the Visual Calculations involved.

But once you have the setup in place, the Visual Calculation logic is easy to reuse for other reports or scenarios.

**Since the visual calculation and reference line logic is built into the visual itself, copying and reusing it is straightforward and can be done quite quickly as demonstrated in this guide.**

Revenue per Customer



## Step 1 - Create 6 DAX measures

Copy and paste the following DAX measures (if not already available in your model). In this example I used Revenue as the base measure, but you can use any metric (gross profit, etc.). For the comparison value, you can also choose budget instead of previous year.

---

### 1. Revenue =

```
SUM(fact_table[Revenue])
```

### 2. Revenue PY =

```
CALCULATE (
    [1. Revenue],
    DATEADD ('dim_calendar'[Date], -1, YEAR )
)
```

### 3. Revenue abs. var. PY =

```
[1. Revenue] - [2. Revenue PY]
```

### 4. Revenue neg. abs. var. PY =

```
VAR __Variance = [3. Revenue abs. var. PY]
```

```
VAR __Result =
```

```
    IF(
        __Variance < 0,
        __Variance,
        BLANK()
    )
```

```
RETURN __Result
```

### 5. Revenue pos. abs. var. PY =

```
VAR __Variance = [3. Revenue abs. var. PY]
```

```
VAR __Result =
```

```
    IF(
        __Variance >= 0,
        __Variance,
        BLANK()
    )
```

```
RETURN __Result
```

### 6. Revenue rel. var. % PY =

```
// Caps extreme variances (>100% or <-100%) for visual clarity
```

```
VAR __Variance = [3. Revenue abs. var. PY]
```

```
VAR __Comparison = [2. Revenue PY]
```

```
VAR __VariancePercent = DIVIDE ( __Variance, __Comparison )
```

```
VAR __Result =
```

```
    SWITCH(
        TRUE(),
        __VariancePercent > 1,    ">100%",
        __VariancePercent < -1,  "<-100%",
        FORMAT(__VariancePercent, "+0.0%;-0.0%;0%")
    )
```

```
RETURN __Result
```

---

## Step 2 - Get the basics in place

- Copy the visual from the sample .pbix file and paste it into your own report (this gives an error at first).

The image shows a vertical configuration pane for a Power BI visual. It is divided into several sections, each with a dashed border and a title. The 'Y-axis' section contains a field 'Customer' with a warning icon, a close button (X), and a right arrow (>), followed by a '+Add data' button. The 'X-axis' section has a title with an info icon (i), followed by a list of fields: 'AC' (with a warning icon), 'Transp. Bar1', 'Transp. Bar2', 'Negative ...', 'Positive Bar', 'Transp. Bar3', 'Transp. Bar4', and 'Transp. Bar5'. Each field has a warning icon, a close button (X), and a right arrow (>). Below the list is a '+Add data' button. The 'Legend' section contains a '+Add data' button. The 'Small multiples' section contains a '+Add data' button. The 'Tooltips' section contains a field 'Variance' with a warning icon, a close button (X), and a right arrow (>).

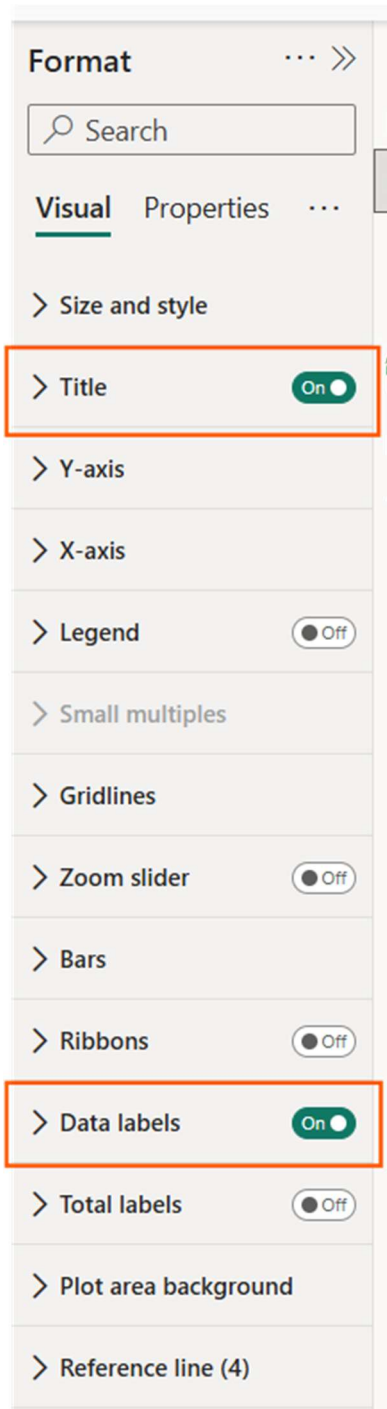
- Make sure there is a year/month slicer on the report page
- Replace 'Customer' on the Y-axis with the Customer dimension from in your model (alternatively, use any other dimension or field parameter)
- Replace AC on the X-axis with [1. Revenue], then rename it back to 'AC'
- Replace Variance in the tooltip with [3. Revenue abs. var. PY], then rename it back to 'Variance'

*The visual calculations reference the names 'AC' and 'Variance', so the measure names must be renamed accordingly.*

Make sure:

- 'Title' and 'Data labels' are turned 'On'
- 'Legend', 'Zoom slider', 'Ribbons' and 'Total Labels' are turned 'Off'

*Whether certain features are enabled or disabled by default can depend on your specific JSON file settings.*

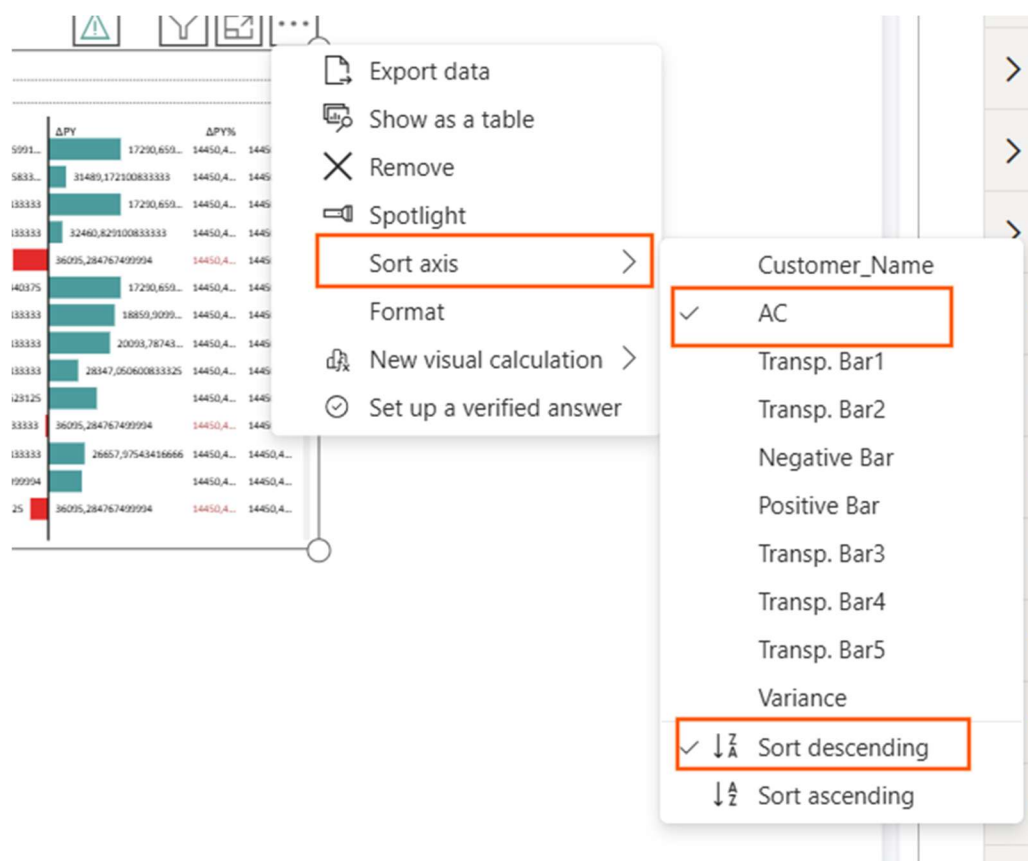


In the visual format settings, ensure that the layout settings of the Bars match the screenshot below. This ensures the bars appear in the correct order.

Visual format settings for Bars:

- Apply settings to:** Series (All)
- Color:**
  - Color: Blue
  - Transparency: 0 %
- Border:** Off
- Layout:**
  - Reverse order: Off
  - Sort by value: Off
  - Space between categories: 20 %
  - Space between series: 0 px
  - Series explosion: Off

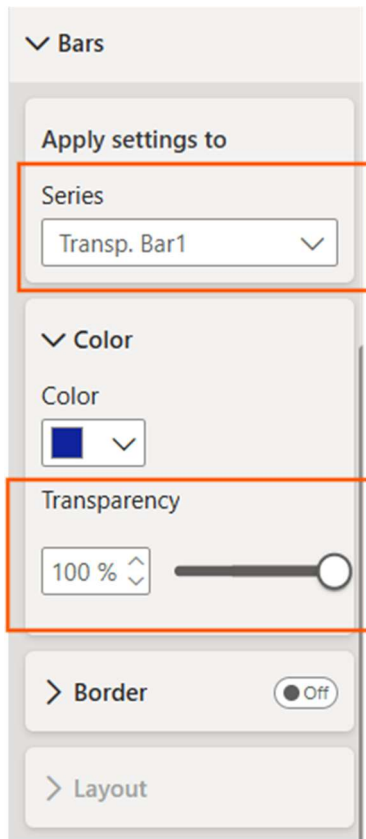
Sort Axis by AC (descending)



### Step 3 – Set Bar colors

Navigate to 'Bars' in the formatting pane and configure the bar colors as follows:

- AC → choose color as preferred
- Positive bar → green
- Negative Bar → red
- Set the color of all 5 Transp. Bars to 100% transparent (should already be correct from copying)



### Step 4 – Set Data Labels

Go to data labels in the formatting pane. Turn data labels 'On' for transparent bars and 'Off' for other series. The table below shows the data label 'Position' and 'Value' that you need to set for each series (the data label positions should already be correct from copying, but you need to reselect the data label Values). For Transp. Bar 1, 2, 3 and 5 you also need to set the display units and decimal places (or alternatively apply dynamic formatting to the DAX measures as done in the sample .pbix). For Transp. Bar4, formatting is already applied in the DAX measure.

Series	Turn labels	Options > Position	Value > Field
AC	Off		
Transp. Bar1	On	Inside Base	[1. Revenue]
Transp. Bar2	On	Inside End	[4. Revenue neg. abs. var. PY]
Positive Bar	Off		
Negative Bar	Off		
Transp. Bar3	On	Inside Base	[5. Revenue pos. abs. var. PY]
Transp. Bar4	On	Inside End	[6. Revenue rel. var. % PY]
Transp. Bar5	On	Inside End	[2. Revenue PY]





## Step 5 – Rename Reference Lines (optional)

The reference lines copy over exactly and typically require no changes. However, if you've chosen a different comparison value (e.g., Budget instead of Previous Year), you'll need to update the reference line names accordingly. Simply double-click to edit the naming (PY → BU etc.).

▼ Reference line (4)

Apply settings to

+ Add line

AC  

PY

ΔPY

ΔPY%

Type

That's it! Your variance chart is ready to use. I hope you found this guide helpful.

Questions or feedback?

**Reach out:** Michel van Schaik

**LinkedIn:** <https://www.linkedin.com/in/michel-van-schaik/>