

Learning Guide: Understanding and Calculating Correlation Coefficients in Power BI

Authored by
Mohammed looti

November 12, 2025

RECOMMENDED CITATION

Mohammed looti (2025). *Learning Guide: Understanding and Calculating Correlation Coefficients in Power BI*. PSYCHOLOGICAL STATISTICS. Retrieved from <https://statistics.arabpsychology.com/?p=17577>

A **correlation coefficient** is a measure of the linear association between two variables.

It can take on a value between -1 and 1 where:

-1 indicates a perfectly negative linear correlation between two variables

0 indicates no linear correlation between two variables

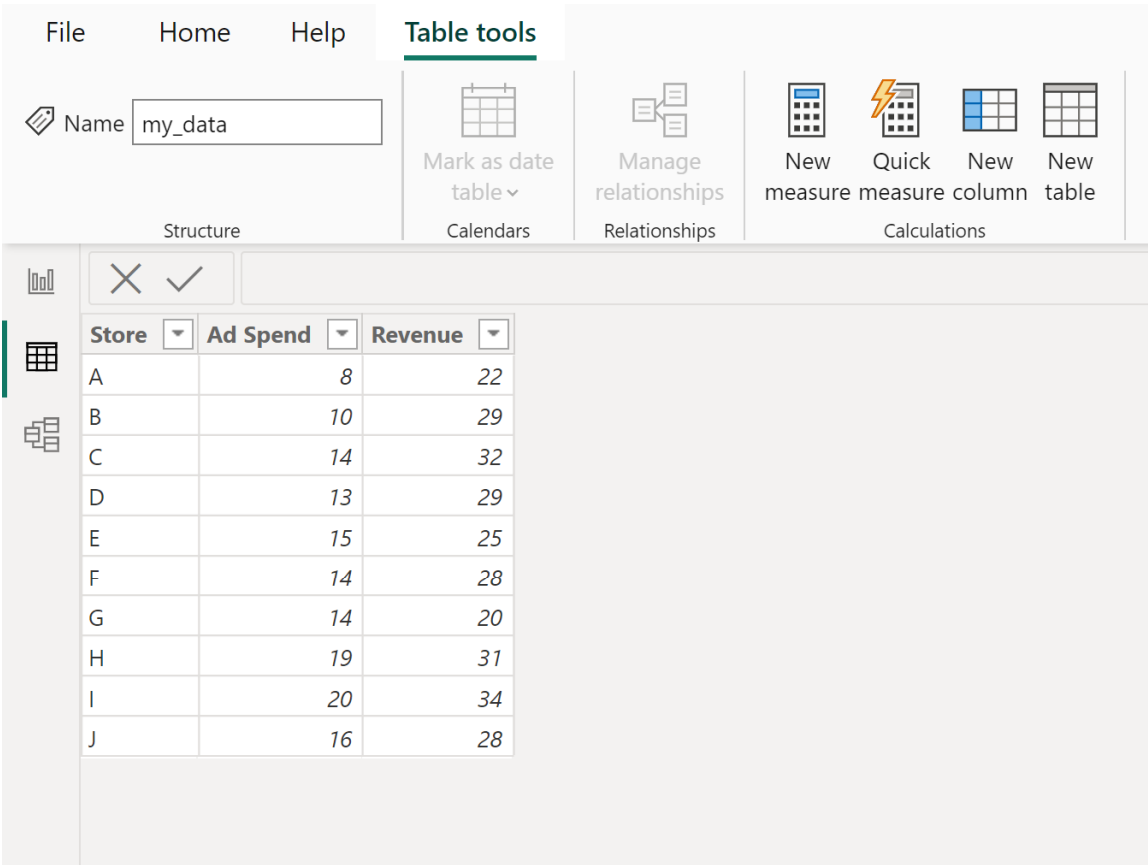
1 indicates a perfectly positive linear correlation between two variables

The easiest way to calculate a correlation coefficient between two columns in Power BI is to use the **Quick Measure** function.

The following example shows how to do so in practice.

Example: How to Calculate a Correlation Coefficient in Power BI

Suppose we have the following table named **my_data** in Power BI that contains information about total ad spend and total revenue for various grocery stores:

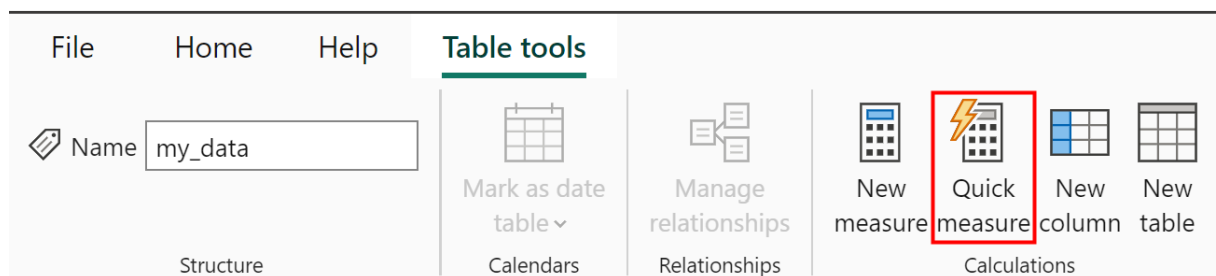


The screenshot shows the Power BI interface with the 'Table tools' ribbon selected. The ribbon includes options for 'Name' (set to 'my_data'), 'Mark as date table', 'Manage relationships', and 'Calculations' (with sub-options: 'New measure', 'Quick measure', 'New column', and 'New table'). Below the ribbon, a table named 'my_data' is displayed with three columns: 'Store', 'Ad Spend', and 'Revenue'. The table contains 10 rows of data for stores A through J.

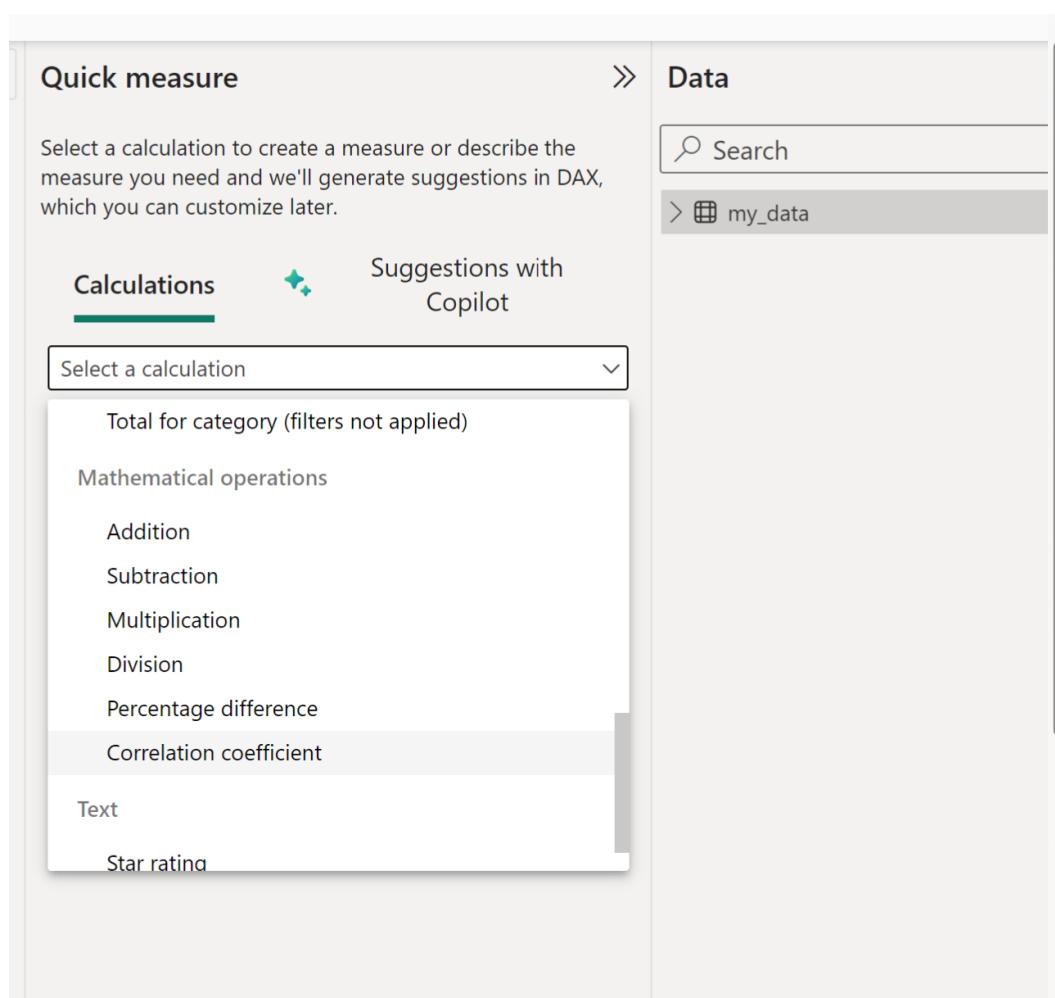
Store	Ad Spend	Revenue
A	8	22
B	10	29
C	14	32
D	13	29
E	15	25
F	14	28
G	14	20
H	19	31
I	20	34
J	16	28

Suppose that we would like to calculate the correlation coefficient between **Ad Spend** and **Revenue**.

To do so, click the **Table Tools** tab and then click the **Quick measure** icon:



In the **Quick measure** panel that appears on the right side of the screen, click the dropdown arrow next to **Select a calculation** and then scroll down and click **Correlation coefficient**:



Next, choose Store for the **Category**, Ad Spend for the **Measure X**, and Revenue for the **Measure Y**.

Then click **Add**:

Quick measure

Select a calculation to create a measure or describe the measure you need and we'll generate suggestions in DAX, which you can customize later.

Calculations

Suggestions with Copilot

Correlation coefficient

Calculate the correlation coefficient between two values over a category. Originally suggested by Daniil Maslyuk in the quick measures gallery. [Learn more](#)

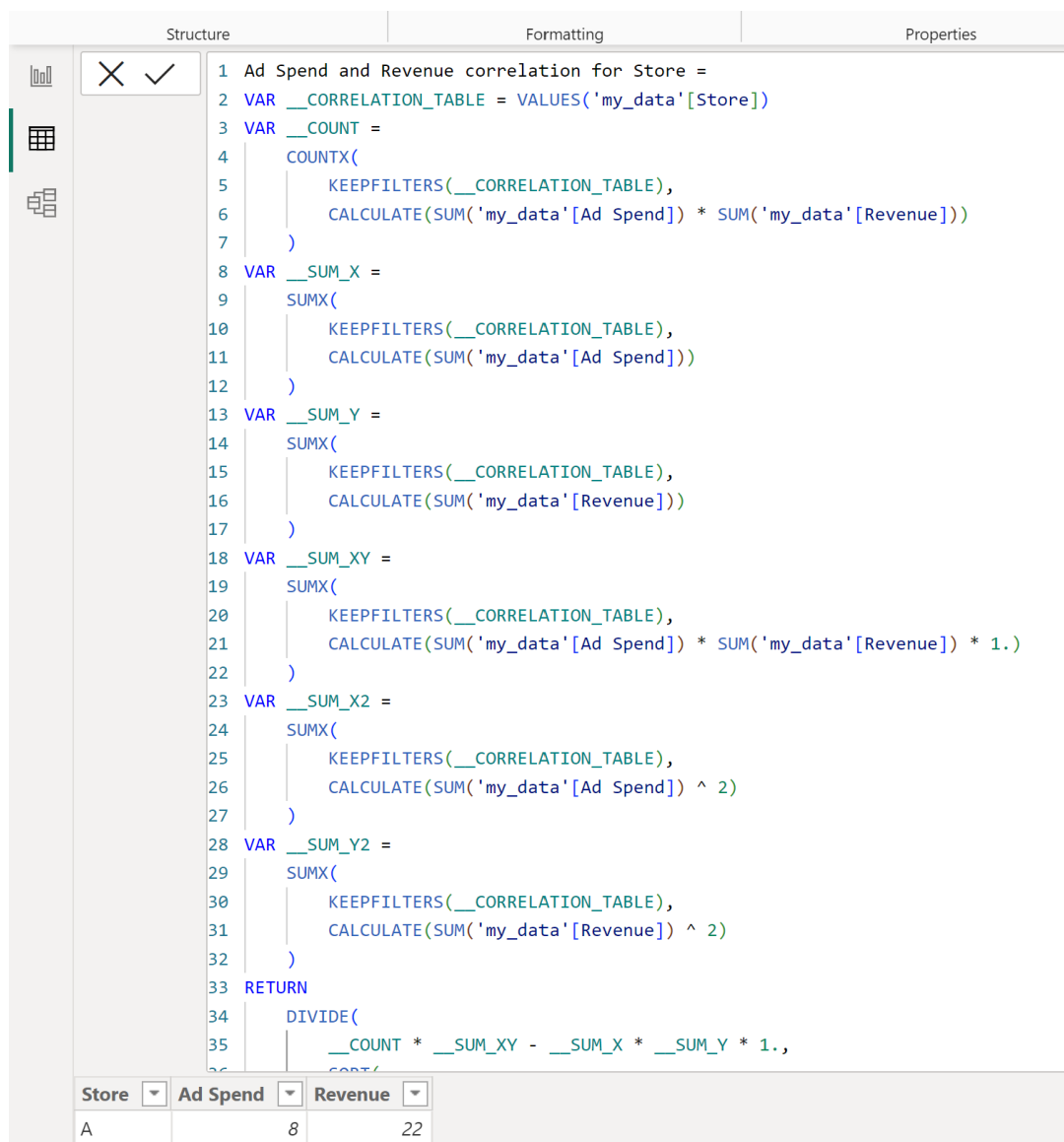
Category ⓘ
Store

Measure X ⓘ
Ad Spend

Measure Y ⓘ
Revenue

Add

This will automatically generate the DAX code necessary to calculate the correlation coefficient between Ad Spend and Revenue:



```

1 Ad Spend and Revenue correlation for Store =
2 VAR __CORRELATION_TABLE = VALUES('my_data'[Store])
3 VAR __COUNT =
4     COUNTX(
5         KEEPFILTERS(__CORRELATION_TABLE),
6         CALCULATE(SUM('my_data'[Ad Spend]) * SUM('my_data'[Revenue]))
7     )
8 VAR __SUM_X =
9     SUMX(
10        KEEPFILTERS(__CORRELATION_TABLE),
11        CALCULATE(SUM('my_data'[Ad Spend]))
12    )
13 VAR __SUM_Y =
14    SUMX(
15        KEEPFILTERS(__CORRELATION_TABLE),
16        CALCULATE(SUM('my_data'[Revenue]))
17    )
18 VAR __SUM_XY =
19    SUMX(
20        KEEPFILTERS(__CORRELATION_TABLE),
21        CALCULATE(SUM('my_data'[Ad Spend]) * SUM('my_data'[Revenue]) * 1.)
22    )
23 VAR __SUM_X2 =
24    SUMX(
25        KEEPFILTERS(__CORRELATION_TABLE),
26        CALCULATE(SUM('my_data'[Ad Spend]) ^ 2)
27    )
28 VAR __SUM_Y2 =
29    SUMX(
30        KEEPFILTERS(__CORRELATION_TABLE),
31        CALCULATE(SUM('my_data'[Revenue]) ^ 2)
32    )
33 RETURN
34    DIVIDE(
35        __COUNT * __SUM_XY - __SUM_X * __SUM_Y * 1.,
36        SQRT(

```

Store	Ad Spend	Revenue
A	8	22

To view the correlation coefficient, you can switch to the Report View and add a card visualization that displays the correlation coefficient:

Store	Ad Spend	Revenue
A	8	22
B	10	29
C	14	32
D	13	29
E	15	25
F	14	28
G	14	20
H	19	31
I	20	34
J	16	28

0.56

Ad Spend and Revenue correlation
for Store

We can see that the correlation coefficient between Ad Spend and Revenue is **0.56**.

Related:

Additional Resources

The following tutorials explain how to perform other common tasks in Power BI: