# **1) Import your data**

1. Open **Power BI Desktop** → **Get data** → **Text/CSV** (or **Excel** if that’s your format).
2. Choose your merged file (e.g., daily\_merged\_metrics\_CSAT\_ASAT\_FCR.csv).
3. In **Power Query**:  
   * Ensure **Date** → *Data type: Date*.
   * Ensure metric columns → *Data type: Decimal Number*.
   * Click **Close & Apply**.

Your table below is referred as **Daily** (rename if needed).

Expected columns in Daily:

Date

Avg\_Total\_AHT

Avg\_Total\_ACW\_Time

Avg\_Total\_Hold\_Time

Avg\_Total\_SLA

Occupancy

Utilization

Avg\_CSAT

Avg\_ASAT

FCR\_Rate

# **2) (Optional but recommended) Date table**

Create a proper Date table (helps slicing & time intelligence).

**Modeling → New table**

Dates =

ADDCOLUMNS (

CALENDAR ( MIN ( Daily[Date] ), MAX ( Daily[Date] ) ),

"Year", YEAR ( [Date] ),

"Month", FORMAT ( [Date], "MMM yyyy" ),

"Week", FORMAT ( [Date], "YYYY-WW" )

)

Create a **relationship**: Dates[Date] → Daily[Date] (one-to-many).

# **3) Create two disconnected “Metric picker” tables**

We’ll use a **Matrix** with rows = metric names & columns = metric names.  
 Create two identical, *disconnected* tables (no relationships).

**Modeling → New table**

MetricRows =

DATATABLE (

"Metric", STRING, "Display", STRING,

{

{ "Avg\_Total\_AHT", "AHT (Avg)" },

{ "Avg\_Total\_ACW\_Time", "ACW Time (Avg)" },

{ "Avg\_Total\_Hold\_Time", "Hold Time (Avg)" },

{ "Avg\_Total\_SLA", "SLA (Avg)" },

{ "Occupancy", "Occupancy" },

{ "Utilization", "Utilization" },

{ "Avg\_CSAT", "CSAT (Avg)" },

{ "Avg\_ASAT", "ASAT (Avg)" },

{ "FCR\_Rate", "FCR Rate" }

}

)

MetricCols =

DATATABLE (

"Metric", STRING, "Display", STRING,

{

{ "Avg\_Total\_AHT", "AHT (Avg)" },

{ "Avg\_Total\_ACW\_Time", "ACW Time (Avg)" },

{ "Avg\_Total\_Hold\_Time", "Hold Time (Avg)" },

{ "Avg\_Total\_SLA", "SLA (Avg)" },

{ "Occupancy", "Occupancy" },

{ "Utilization", "Utilization" },

{ "Avg\_CSAT", "CSAT (Avg)" },

{ "Avg\_ASAT", "ASAT (Avg)" },

{ "FCR\_Rate", "FCR Rate" }

}

)

Leave both tables **unrelated** in the model.

# **4) Base measures for each metric (simple AVERAGE)**

Create these **measures** in Daily (Modeling → New measure):

AHT := AVERAGE ( Daily[Avg\_Total\_AHT] )

ACW := AVERAGE ( Daily[Avg\_Total\_ACW\_Time] )

Hold := AVERAGE ( Daily[Avg\_Total\_Hold\_Time] )

SLA := AVERAGE ( Daily[Avg\_Total\_SLA] )

Occ := AVERAGE ( Daily[Occupancy] )

Util := AVERAGE ( Daily[Utilization] )

CSAT := AVERAGE ( Daily[Avg\_CSAT] )

ASAT := AVERAGE ( Daily[Avg\_ASAT] )

FCR := AVERAGE ( Daily[FCR\_Rate] )

# **5) Measures that return the selected metric value (Row / Col)**

These read the selected metric name from the Metric tables and return the corresponding base measure:

Metric Value (Row) :=

VAR m = SELECTEDVALUE ( MetricRows[Metric] )

RETURN

SWITCH (

m,

"Avg\_Total\_AHT", [AHT],

"Avg\_Total\_ACW\_Time", [ACW],

"Avg\_Total\_Hold\_Time", [Hold],

"Avg\_Total\_SLA", [SLA],

"Occupancy", [Occ],

"Utilization", [Util],

"Avg\_CSAT", [CSAT],

"Avg\_ASAT", [ASAT],

"FCR\_Rate", [FCR]

)

Metric Value (Col) :=

VAR m = SELECTEDVALUE ( MetricCols[Metric] )

RETURN

SWITCH (

m,

"Avg\_Total\_AHT", [AHT],

"Avg\_Total\_ACW\_Time", [ACW],

"Avg\_Total\_Hold\_Time", [Hold],

"Avg\_Total\_SLA", [SLA],

"Occupancy", [Occ],

"Utilization", [Util],

"Avg\_CSAT", [CSAT],

"Avg\_ASAT", [ASAT],

"FCR\_Rate", [FCR]

)

# **6) Pearson correlation measure**

Computes correlation between the row metric and column metric across the selected **Dates**:

Correlation :=

VAR T =

FILTER (

ADDCOLUMNS (

VALUES ( Daily[Date] ),

"x", CALCULATE ( [Metric Value (Row)] ),

"y", CALCULATE ( [Metric Value (Col)] )

),

NOT ( ISBLANK ( [x] ) ) && NOT ( ISBLANK ( [y] ) )

)

VAR N = COUNTROWS ( T )

VAR MeanX = AVERAGEX ( T, [x] )

VAR MeanY = AVERAGEX ( T, [y] )

VAR SumXY = SUMX ( T, ( [x] - MeanX ) \* ( [y] - MeanY ) )

VAR Sx = SQRT ( SUMX ( T, ( [x] - MeanX ) \* ( [x] - MeanX ) ) )

VAR Sy = SQRT ( SUMX ( T, ( [y] - MeanY ) \* ( [y] - MeanY ) ) )

RETURN IF ( N < 2, BLANK (), DIVIDE ( SumXY, Sx \* Sy ) )

(Optional helper to show count of data points used):

Data Points (N) :=

VAR T =

FILTER (

ADDCOLUMNS (

VALUES ( Daily[Date] ),

"x", CALCULATE ( [Metric Value (Row)] ),

"y", CALCULATE ( [Metric Value (Col)] )

),

NOT ( ISBLANK ( [x] ) ) && NOT ( ISBLANK ( [y] ) )

)

RETURN COUNTROWS ( T )

# **7) Build the heatmap (Matrix visual)**

1. Insert a **Matrix** visual.
2. **Rows** → MetricRows[Display]
3. **Columns** → MetricCols[Display]
4. **Values** → Correlation

Formatting:

* **Values** → turn on **Display units: None**, **Decimal places: 2**
* **Subtotals**: Off (Row & Column) to keep it square
* **Conditional formatting** → **Background color** (or **Font color**) on **Correlation**:  
  + Color scale:  
    - Minimum: **-1** (choose a red)
    - Center: **0** (white)
    - Maximum: **1** (green)
  + Turn on **Show bar only** (optional) to highlight color over numbers

Add a **Date slicer** (from Dates[Month] or Dates[Date]) so stakeholders can see how correlations change by period.

# **8) (Optional) Self-correlation diagonal**

If you want the diagonal (metric vs same metric) to be 1.00, you already get that from the formula. If you’d rather **blank** it out:

Correlation (No Diagonal) :=

VAR r = SELECTEDVALUE ( MetricRows[Metric] )

VAR c = SELECTEDVALUE ( MetricCols[Metric] )

RETURN IF ( r = c, BLANK(), [Correlation] )

Use this in the Matrix **Values** instead.

# **9) (Optional) Custom visual route**

If you want a chart-style correlation plot:

* **AppSource → Get more visuals →** search **“Correlation Plot”** or **“Deneb”** (Vega-Lite).
* With **Deneb**, you can feed a table of triples (MetricRow, MetricCol, Correlation) using a small DAX table; but the Matrix approach above is simpler and native.

## **What you’ll get**

* A **fully interactive heatmap** of correlations between **AHT, ACW, Hold, SLA, Occupancy, Utilization** and **CSAT, ASAT, FCR**, filtered by any **Date** range (or other slicers you add later).

If you want, I can also give you a **prettier color palette** or a **Deneb spec** for a circular correlation plot.