

# Power B.I Dashboard & Report Creation

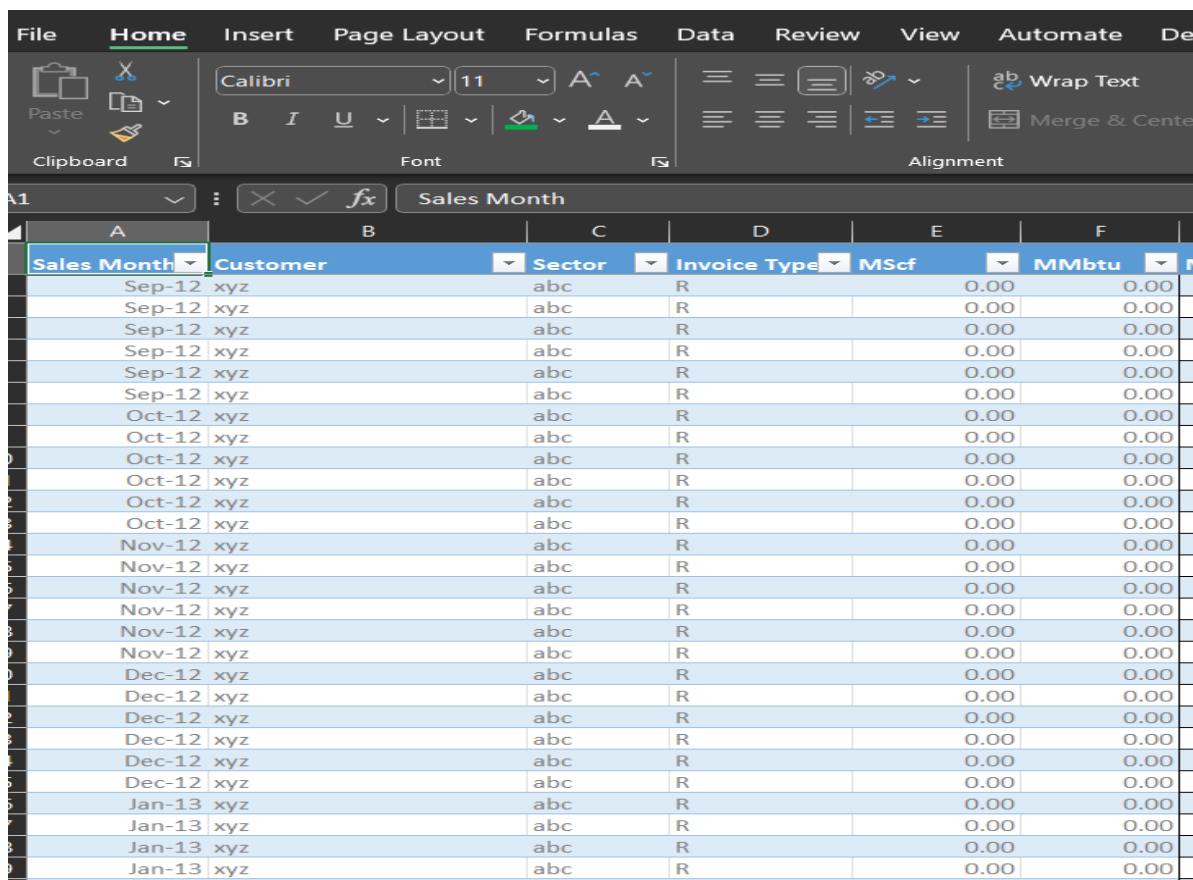
*By Nathaniel Leke Agbajor*

*/\* Note: Data used here has been modified to satisfy confidentiality\*/*

## ➤ Data Inspection:

The data was first inspected and cleaned in excel to reduce the applied step. I then converted the flat file into a table as illustrated below in figure 1.

Figure 1:



Sales Month	Customer	Sector	Invoice Type	MScf	MMbtu
Sep-12	xyz	abc	R	0.00	0.00
Sep-12	xyz	abc	R	0.00	0.00
Sep-12	xyz	abc	R	0.00	0.00
Sep-12	xyz	abc	R	0.00	0.00
Sep-12	xyz	abc	R	0.00	0.00
Sep-12	xyz	abc	R	0.00	0.00
Oct-12	xyz	abc	R	0.00	0.00
Oct-12	xyz	abc	R	0.00	0.00
Oct-12	xyz	abc	R	0.00	0.00
Oct-12	xyz	abc	R	0.00	0.00
Oct-12	xyz	abc	R	0.00	0.00
Oct-12	xyz	abc	R	0.00	0.00
Nov-12	xyz	abc	R	0.00	0.00
Nov-12	xyz	abc	R	0.00	0.00
Nov-12	xyz	abc	R	0.00	0.00
Nov-12	xyz	abc	R	0.00	0.00
Nov-12	xyz	abc	R	0.00	0.00
Dec-12	xyz	abc	R	0.00	0.00
Dec-12	xyz	abc	R	0.00	0.00
Dec-12	xyz	abc	R	0.00	0.00
Dec-12	xyz	abc	R	0.00	0.00
Dec-12	xyz	abc	R	0.00	0.00
Jan-13	xyz	abc	R	0.00	0.00
Jan-13	xyz	abc	R	0.00	0.00
Jan-13	xyz	abc	R	0.00	0.00

## ➤ Transformation Process:

After loading the data in "import query mode" using the excel connector for local file in the power query editor, I then went further to clean the data, created unique fields with primary key, and changed some data types to their correct orientation.

I also applied other steps to remove columns that are not needed in the model.

### ➤ Creating star schema model:

Next, I created a star schema data model to suit the dataset, this is to ensure optimal performance in the report load time.

I recreated primary and secondary key columns for "one to many relationship" between the dimension tables and their relevant facts tables.

I removed duplicates from the dimension tables - this will help increase the performance of the model.

### ➤ Creating The Calendar Table

After loading the model queries to power b.i, a dedicated data table was created using Dax.

Figure 2 shows the Dax code used:

```
Calendar =
--VAR Days = CALENDAR(DATE(2012, 9,1), DATE(2023, 8, 1))
--VAR Days = CALENDARAUTO()
var mindate = MIN(Database[Sales Month])
VAR maxdate = MAX(Database[Sales Month])
VAR Days = CALENDAR((mindate), (maxdate))
RETURN ADDCOLUMNS (
    Days,
    "Days", DAY([Date]),
    "Year", YEAR ( [Date] ),
    "Month Number", MONTH ( [Date] ),
    "Month", FORMAT ( [Date], "mmm" ),
    "Year Month Number", YEAR ( [Date] ) * 12 + MONTH ( [Date] ) - 1,
    "Year Month", FORMAT ( [Date], "mmm yy" ),
    "Week Number", WEEKNUM ( [Date] ),
    "Week Number and Year", "W" & WEEKNUM ( [Date] ) & " " & YEAR ( [Date] ),
    "WeekYearNumber", YEAR ( [Date] ) & 100 + WEEKNUM ( [Date] ),
    "Is Working Day",not WEEKDAY([Date]) in {1,7},
    "Quater", FORMAT([Date], "\QQ")
)
```

Power B.I View:

FileHomeHelpExternal tools

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1 Calendar =

2 --VAR Days = CALENDAR(DATE(2012, 9,1), DATE(2023, 8, 1))

3 --VAR Days = CALENDARAUOT()

4 var mindate = MIN(Database[Sales Month])

5 VAR maxdate = MAX(Database[Sales Month])

6 VAR Days = CALENDAR((mindate), (maxdate))

7 RETURN ADDCOLUMNS (

8     Days,

9     "Days", DAY([Date]),

10    "Year", YEAR ( [Date] ),

11    "Month Number", MONTH ( [Date] ),

12    "Month", FORMAT ( [Date], "mmm" ),

13    "Year Month Number", YEAR ( [Date] ) \* 12 + MONTH ( [Date] ) - 1,

14    "Year Month", FORMAT ( [Date], "mmm yy" ),

15    "Week Number", WEEKNUM ( [Date] ),

16    "Week Number and Year", "W" & WEEKNUM ( [Date] ) & " " & YEAR ( [Date] ),

17    "WeekYearNumber", YEAR ( [Date] ) & 100 + WEEKNUM ( [Date] ),

18    "Is Working Day",not WEEKDAY([Date]) in {1,7},

19    "Quater", FORMAT([Date], "\QQ")

20 )

21

22

Properties

General

NameCalendar

DescriptionEnter a description

Synonymscalendar

Row labelSelect a row label

Key column

Results:

Illustration 1:

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Calendar

Date

Days

Is Working Day

Month

Month Number

Collapse

DomCustomers

Customer

## Illustration 2:

Date	Year	Month Number	Month	Year Month Number	Year Month	Week Number	Week Number and Year	WeekYearNumber	Is Working Day	Quarter	Days
10/1/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	40	W40 2012	2012140	True	Q4	
10/2/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	40	W40 2012	2012140	True	Q4	
10/3/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	40	W40 2012	2012140	True	Q4	
10/4/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	40	W40 2012	2012140	True	Q4	
10/5/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	40	W40 2012	2012140	True	Q4	
10/8/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	41	W41 2012	2012141	True	Q4	
10/9/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	41	W41 2012	2012141	True	Q4	
10/10/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	41	W41 2012	2012141	True	Q4	
10/11/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	41	W41 2012	2012141	True	Q4	
10/12/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	41	W41 2012	2012141	True	Q4	
10/15/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	42	W42 2012	2012142	True	Q4	
10/16/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	42	W42 2012	2012142	True	Q4	
10/17/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	42	W42 2012	2012142	True	Q4	
10/18/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	42	W42 2012	2012142	True	Q4	
10/19/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	42	W42 2012	2012142	True	Q4	
10/22/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	43	W43 2012	2012143	True	Q4	
10/23/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	43	W43 2012	2012143	True	Q4	
10/24/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	43	W43 2012	2012143	True	Q4	
10/25/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	43	W43 2012	2012143	True	Q4	
10/26/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	43	W43 2012	2012143	True	Q4	
10/29/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	44	W44 2012	2012144	True	Q4	
10/30/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	44	W44 2012	2012144	True	Q4	
10/31/2012 12:00:00 AM	2012	10	Oct	24153	Oct 12	44	W44 2012	2012144	True	Q4	
10/1/2013 12:00:00 AM	2013	10	Oct	24165	Oct 13	40	W40 2013	2013140	True	Q4	
10/2/2013 12:00:00 AM	2013	10	Oct	24165	Oct 13	40	W40 2013	2013140	True	Q4	
10/3/2013 12:00:00 AM	2013	10	Oct	24165	Oct 13	40	W40 2013	2013140	True	Q4	
10/4/2013 12:00:00 AM	2013	10	Oct	24165	Oct 13	40	W40 2013	2013140	True	Q4	

**NOTE:** you can access the source code used for this project in the same GitHub repository as this document.

-Other relevant measures were also created using Dax.

### ➤ Background & Styling:

The Background finish was done in Microsoft PowerPoint and saved as a scalar vector file to ensure that the quality remains the same when stretched.

See Result below:

Figure 3:

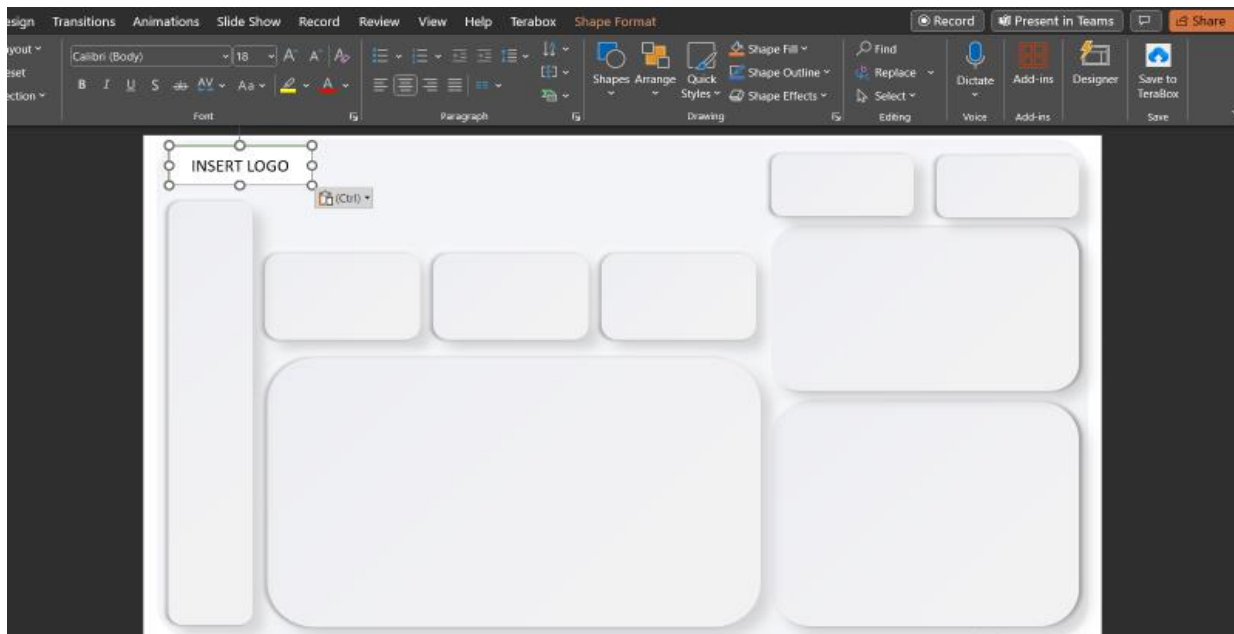
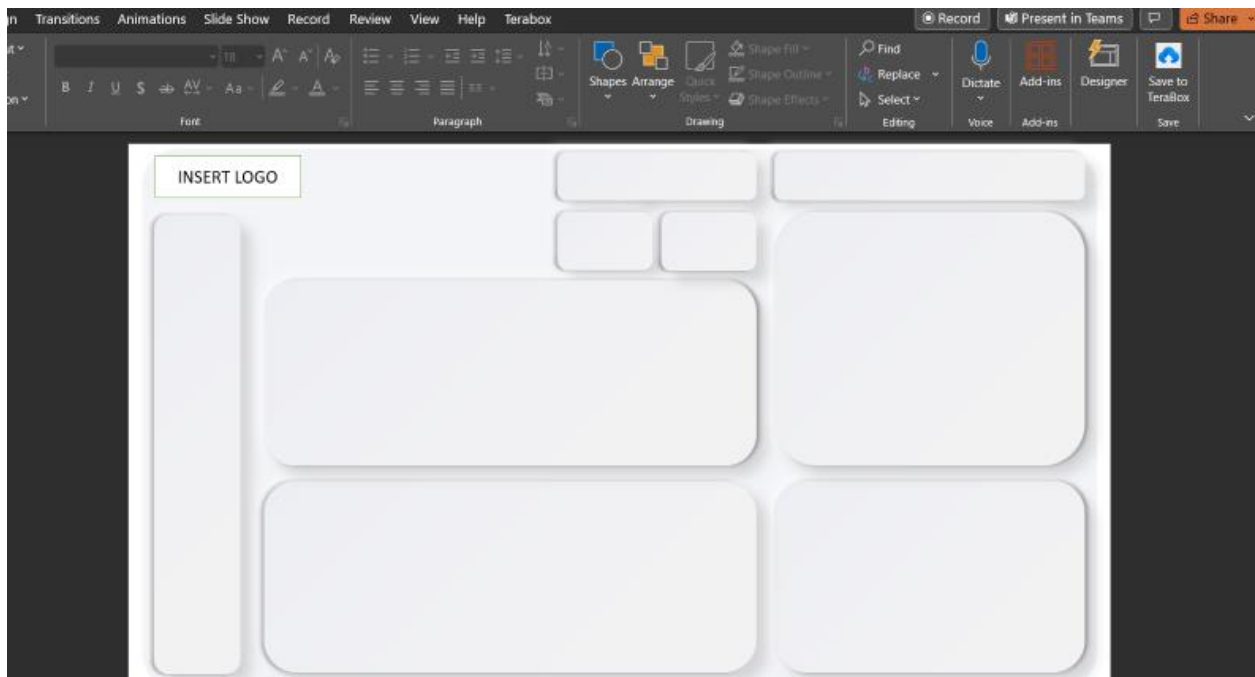
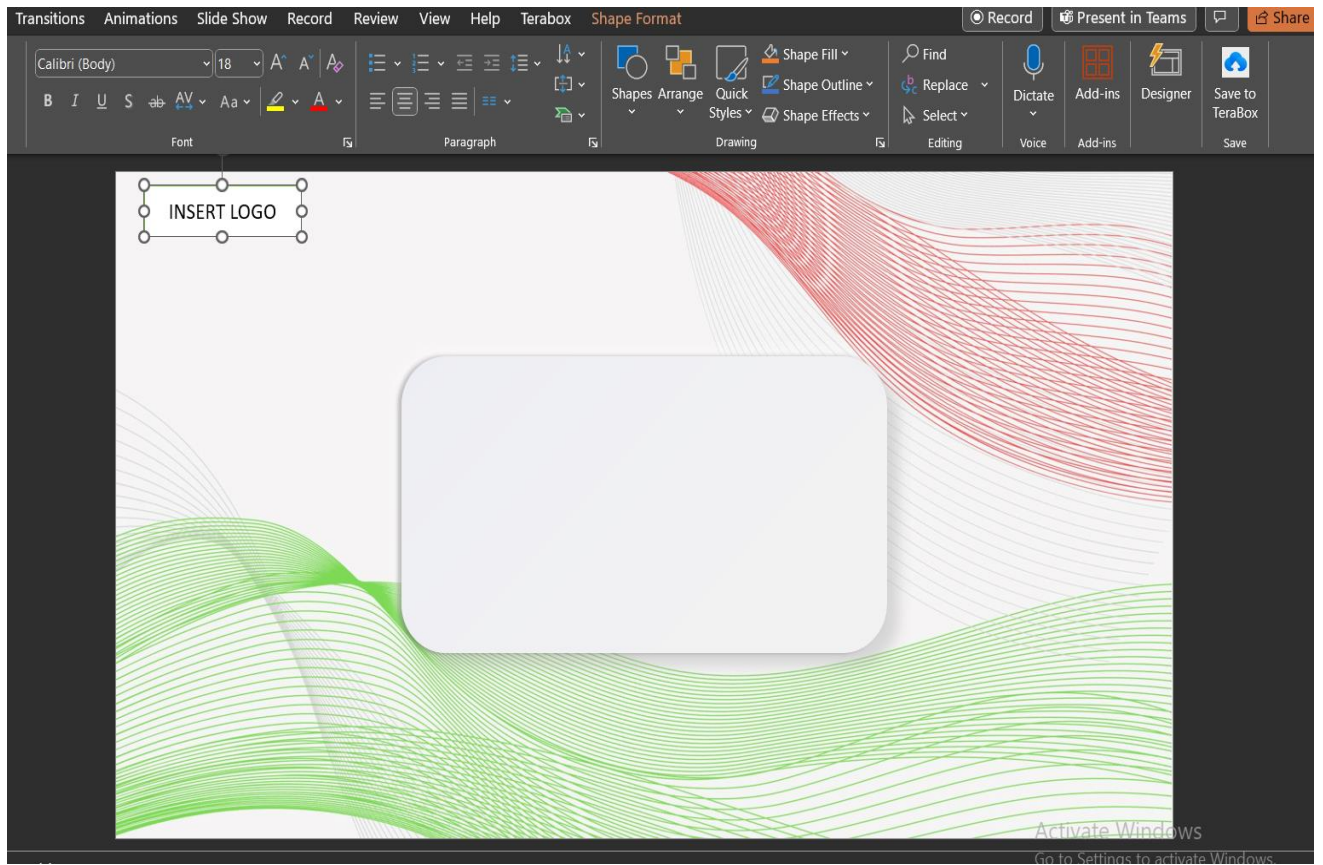


Figure 4:



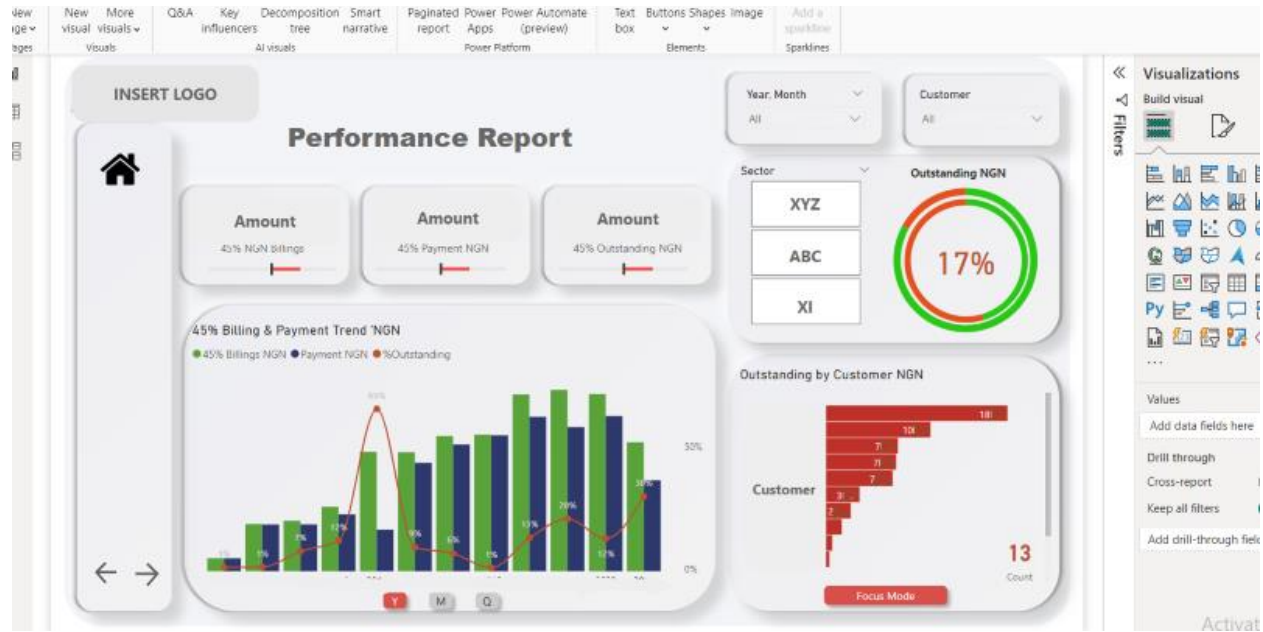
**Figure 5:**



### ➤ Building Visuals:

Different visuals were used, including Bar and Column charts, Donut charts, and Stacked column charts, cards, and Matrix among others.

### Visual Output 1:



### Visual Output 2:

