Data Visualization

Advance Power BI with Visualizations

Static Graphical Techniques – 1

Aim

To familiarise students about all aspects of bar graph.

Objectives

The objectives of this module are to understand:

- Making of basic bar graph.
- Customization of bar graphs by changing colour, size etc.
- Application of bar graph in business.

Outcome

At the end of this module, you are expected to explain/describe:

- How we can use power BI.
- Useful knowledge for betterment of Power BI.

Content

Calculated Measures in Power BI & KPIs,
Data Analysis Expressions (DAX),
Power BI Visualizations I,
Power BI Visualizations III

Data Sources

- Files
- Data Base
- Power Platform
- Online Services
- Others
- Data Sources – Paid, Free, Freemium

PowerBI DAX Data Analysis Expressions

PowerBI DAX(Data Analysis Expressions)

It is a formula expression language called (DAX) that can be used with various visualization tools like Power BI. It is also known as a functional language, where the full code is kept inside a function.

Data types of Dax are:

1) Numeric,
2) Boolean,
3) Date Time,
4) String, and
5) Decimal

PowerBI DAX

DAX is a collection of functions, operators and constant used in formulas, to return one or more values. It is a native formula and Query language by Microsoft

Functional Query Language

Deals with relational data

Performs Aggregations

PowerBI DAX

Syntax

Context

Function

```
Measure =
Function(TableName(ColumnName))
```

DAX

- **Calculations in Power BI are powered by formulas called DAX or Data Analysis Expressions. DAX allows you to create new fields and even new tables in your model. You can perform three types of calculations in Power BI that use DAX formulas:**

- **Calculated tables - these calculations will add an additional table to the report based on a formula.**
- **Calculated columns - these calculations will add an additional column to a table based on a formula. These columns are treated like any other field in the table.**
- **Measures - these calculations will add a summary or aggregated measure to a table based on a formula.**
- **we will create a single measure called Profit margin with the following formula:**

- **Profit margin = SUM(financials[Profit])/SUM(financials[Sales])**

Visualizations

- There are a variety of visualizations available in Power BI—bar charts, line charts, pie charts, tables, matrices, simple cards, KPIs, gauges, interactive maps, and much more. On top of that, there are many formatting options that you can play around with, too.

- You can also import custom visualizations if your desired visual is not on the list. Simply click the ellipsis, and a window will pop up where you can browse all the available visuals—this is known as **Microsoft AppSource**. You can even design your own visuals if you have programming experience.
- It is recommended that you only download custom visuals from Microsoft AppSource, as they have been tested and approved by Microsoft. Downloading them from anywhere else on the internet can have unintended effects or even be harmful.