

# Msc Data Science Sem 1

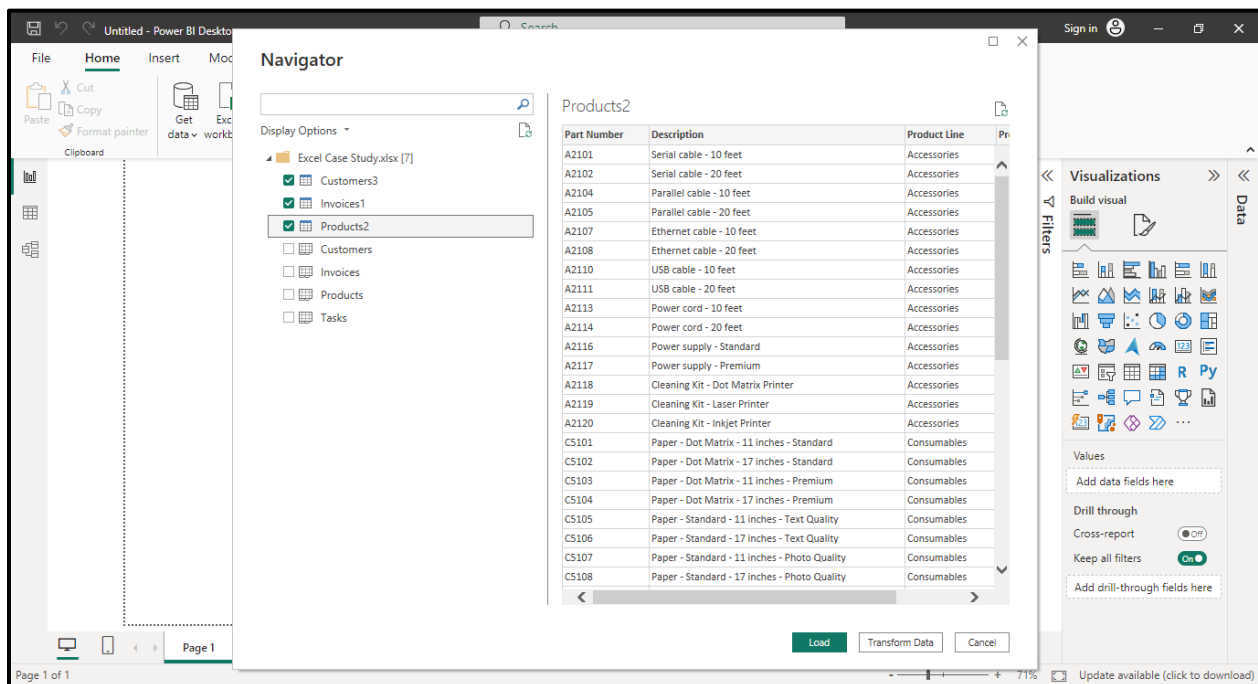
## DATA VISUALIZATION

### Assignment no.1

Using the Excel file provided complete the following steps.

1. Get the data into Power BI.
2. Perform any basic cleaning if required in the data using Power Query.
3. Create the required relationships in the data model.
4. Create a basic report highlighting the important KPIs for the data set provided.

#### 1. Get the data into Power BI.



Part Number	Description	Product Line	Product Cost
A2101	Serial cable - 10 feet	Accessories	12.17
A2102	Serial cable - 20 feet	Accessories	13.79
A2104	Parallel cable - 10 feet	Accessories	11.86
A2105	Parallel cable - 20 feet	Accessories	13.25
A2107	Ethernet cable - 10 feet	Accessories	6.89
A2108	Ethernet cable - 20 feet	Accessories	8.1
A2110	USB cable - 10 feet	Accessories	4.8
A2111	USB cable - 20 feet	Accessories	6.3
A2113	Power cord - 10 feet	Accessories	8.15
A2114	Power cord - 20 feet	Accessories	11.59
A2116	Power supply - Standard	Accessories	12.33
A2117	Power supply - Premium	Accessories	17.22
A2118	Cleaning Kit - Dot Matrix Printer	Accessories	89.7
A2119	Cleaning Kit - Laser Printer	Accessories	93.81
A2120	Cleaning Kit - Inkjet Printer	Accessories	76.19
CS101	Paper - Dot Matrix - 11 inches - Sta...	Consumables	4.58
CS102	Paper - Dot Matrix - 17 inches - Sta...	Consumables	6.37
CS103	Paper - Dot Matrix - 11 inches - Pre...	Consumables	6.9
CS104	Paper - Dot Matrix - 17 inches - Pre...	Consumables	8.05
CS105	Paper - Standard - 11 inches - Text ...	Consumables	3.43
CS106	Paper - Standard - 17 inches - Text ...	Consumables	5.16
CS107	Paper - Standard - 11 inches - Photo	Consumables	4.96

## 2. Perform any basic cleaning if required in the data using Power Query.

**Custom Table- New Unit Price :** Because the Unit Price has all the positive number even if it is return

**Custom Column**

Add a column that is computed from the other columns.

New column name  
New Unit Price

Custom column formula  
= If [Document Type]='Invoice' then [Unit Price]  
else {-1\*[Unit Price]}

Available columns  
Document Type  
Document Number  
Date  
Customer Account  
Customer Name  
Item  
Reason Code

<< Insert

Learn about Power Query formulas

✓ No syntax errors have been detected.

OK Cancel

**Conditional Table- Value:** if unit price is small then 0 then we will make it as return or if new unit price is lesser than 100 then it is Sale or else it is premium

**Add Conditional Column**

Add a conditional column that is computed from the other columns or values.

New column name  
Value

	Column Name	Operator	Value	Then	Output
If	New Unit Price	is less than	0	Return	
Else If	New Unit Price	equals	0	Free	
Else If	New Unit Price	is greater than	0	Sale	
Else If	New Unit Price	is less than	100	Sale	...

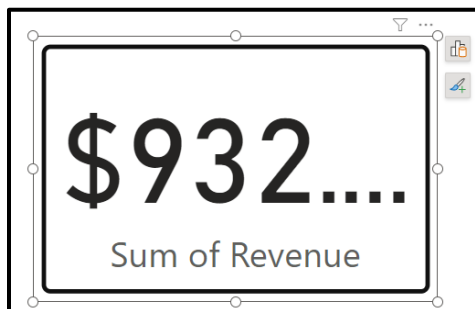
Add Clause

Else  
Premium

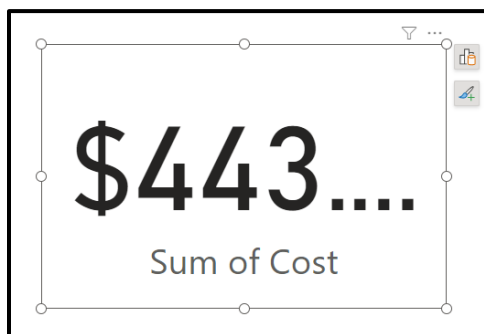
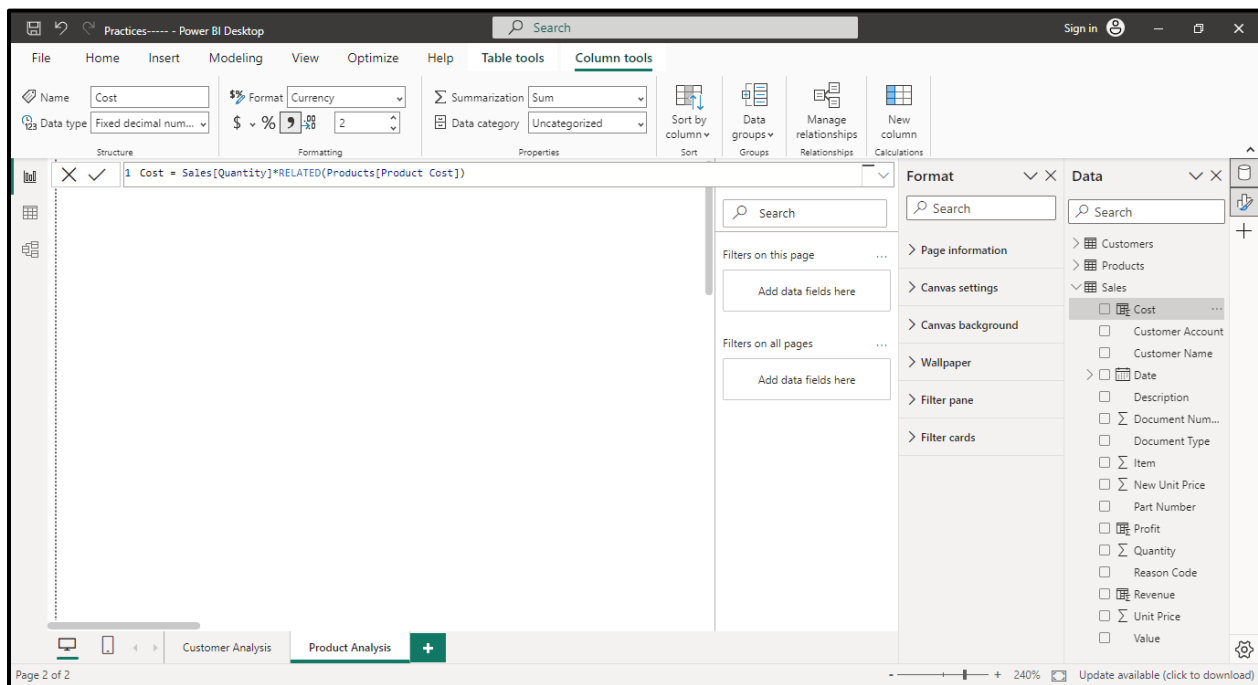
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**Measure - Revenue= New Unit Price \*Quantity**

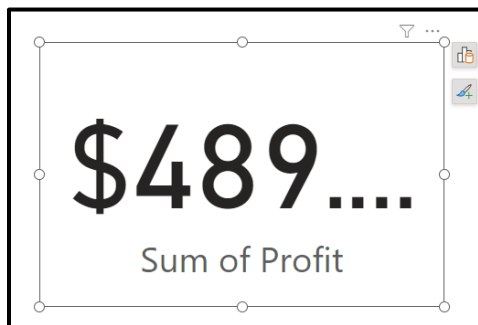
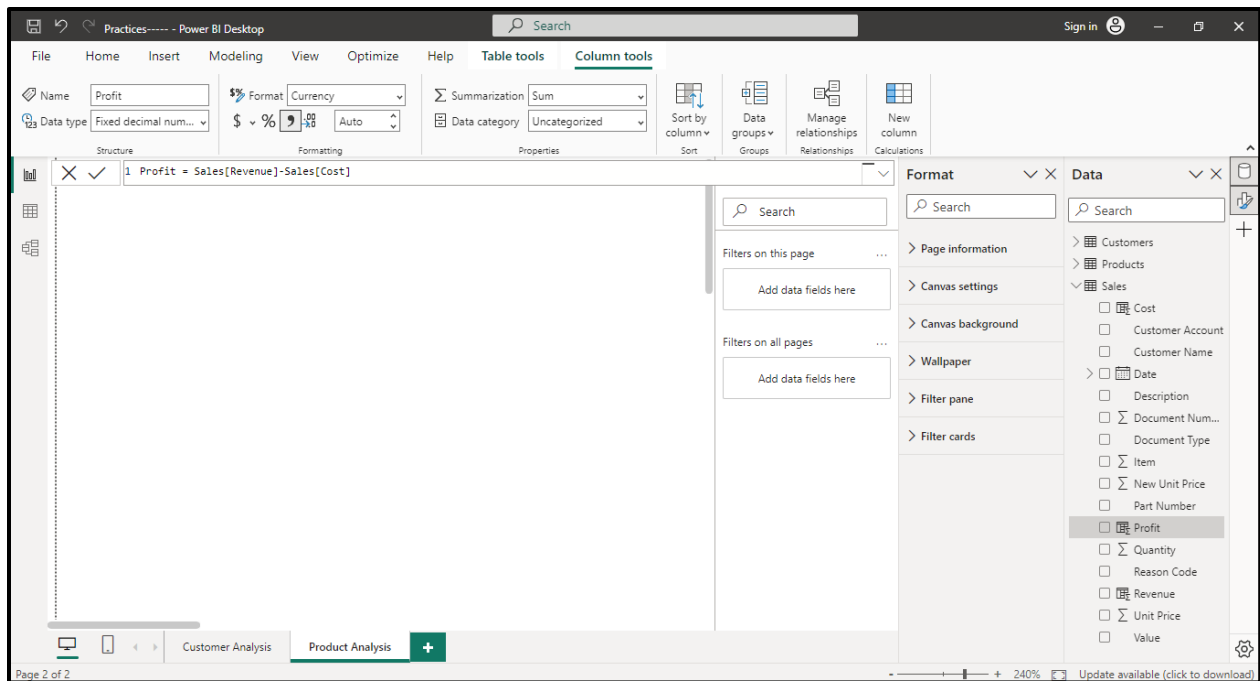
The screenshot shows the Power BI Desktop interface. In the top ribbon, the 'Column tools' tab is active. The formula bar contains the DAX measure: `1 Revenue = Sales[New Unit Price]*Sales[Quantity]`. The 'Data' pane on the right shows the 'Sales' table with various fields, and the 'Revenue' measure is highlighted. The 'Format' pane is also visible, showing options for the measure's appearance.



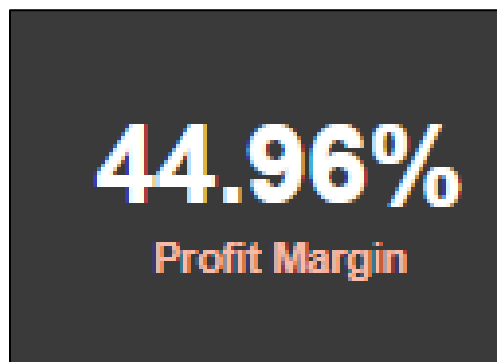
**Measure : Cost =Quantity\*Product Cost**



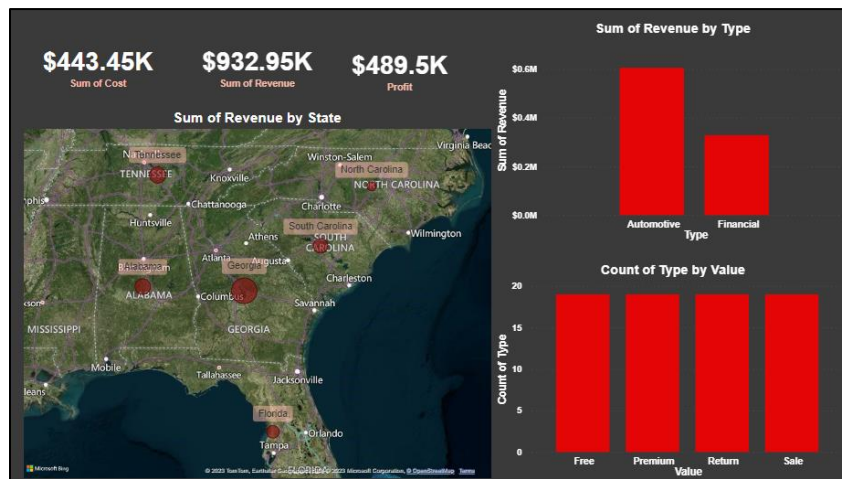
**Measure : Profit = Revenue -Cost**



**Profit Margin = Profit/ Revenue**



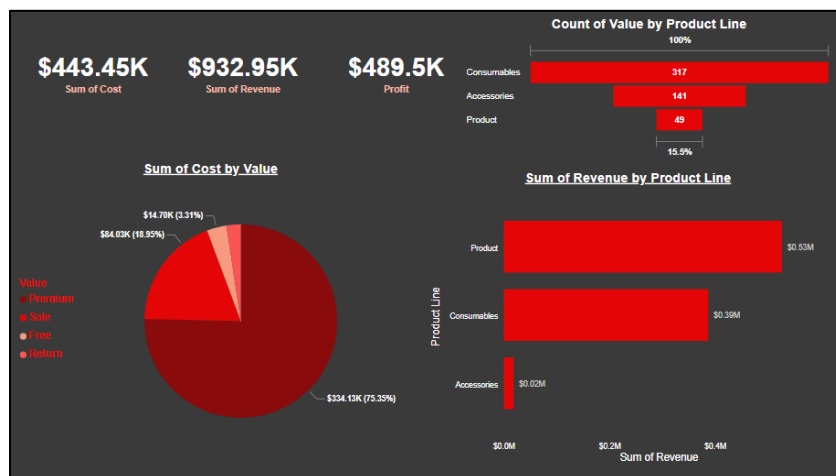
## Customer Analysis



In the Visual we can see:

- The Revenue by Its type here Automotive is more than Financial
- Value is Same for Type
- Map using region

## Product Analysis

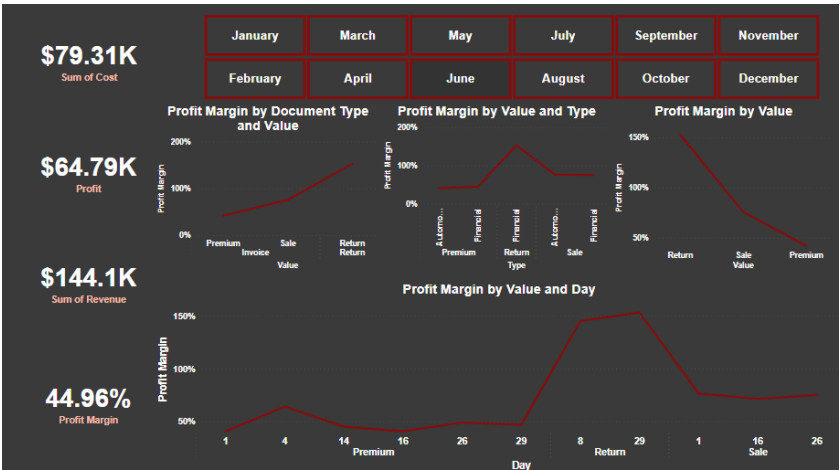


We can see in this visual

Value by Product Line where Product is small than Accessories

Cost by Value where return and free is minimum

# Profit Margin



Profit Margin based on Month

Margin By Value

It is analyzing in days