PRODUCT SALES ANALYSIS

FEATURE :

A Feature is simply representation of an aspect of raw data, some authors also call it to attribute.

For example,

Product_Weight, Product_Type, and Product_Price are some features in our super market data. These features numeric and at the end must be converted to just a numeric format

FEATURE ENGINEERING :

Feature Engineering is the act of extracting important features from raw data and transforming them into formats that are suitable for machine learning models. To do Feature Engineering, a data scientist must use domain knowledge math and programming skills

to transform or come up with new features that will help a machine learning model perform better.

MODEL TRAINING :

STEP 1 : Choose the Right Sales Analysis Method.

STEP 2 : Identify the Specific Information You Need.

STEP 3 : Choose a Sales Analysis Tool and Analyze Your Data.

STEP 4 : Share Your Results with Relevant Stakeholders.

EVALUATION :

- Total Revenue

- Net Revenue Retention (NRR)
- Repeat Customer Rate.
- Average Customer Lifetime Value (LTV)
- Conversion Rate.
- Lead Conversion Rate.
- Lead to Opportunity.

1 .TOTAL REVENUE :

Metric Type: Growth, Outcome

TOTAL REVENUE = Number of Products Sold x Price Per Product

2. NET REVENUE RETENTION :

Metric Type: Growth/Quality, Outcome

Net Revenue Retention = (Starting MRR – Contraction MRR – Churn MRR + Expansion MRR) ÷ (Starting MRR x 100)

3. REPEAT CUSTOMER RATE :

Metric Type: Quality, Output

Repeat Customer Rate % = (Number of Customers Who've Purchased Before ÷ Total Number of Customers) × 100

4. AVERAGE CUSTOMER LIFE TIME VALUE:

Metric Type: Growth, Outcome

Customer Lifetime Value = Average Purchase Value x Average Purchase Frequency x Average Customer Lifespan

5. CONVERSION RATE :

Metric Type: Growth/Efficiency,Output

Conversion Rate = Number of Leads Converted Into Sales ÷ Total Number of Leads) x 100

6. LEAD CONVERSION RATE :

Metric Type: Growth/Efficiency, Output

Lead Conversion Rate = Number of Captured Leads ÷ Total Visitors

7. LEAD TO OPPORTUNITY :

Metric Type:

Growth/Efficiency, Output

Lead to Opportunity = Number of Leads Converted to Opportunities ÷ Number of Total Leads

CODING:

```
import numpy as np

import pandas as pd

import matplotlib.pyplot as plt # visualizing data

import seaborn as sns

from collections import Counter

%matplotlib inline

import plotly.plotly as py
```

```
from plotly.offline import init_notebook_mode,
iplot

import plotly.graph_objs as go

import plotly.figure_factory as ff

import os

print(os.listdir("../input"))

import plotly.plotly as py

import plotly.graph_objs as go

import seaborn as sns
```

OUTPUT:

```
['BlackFriday.csv']
```

CODING FOR GENDER:

```
explode = (0.1,0)

fig1, ax1 = plt.subplots(figsize=(12,7))

ax1.pie
```

```
(df['Gender'].value_counts(),
explode=explode,labels=['Male','Female'],
autopct='%1.1f%%', shadow=True, startangle=90)

# Equal aspect ratio ensures that pie is drawn as a
circle

ax1.axis('equal')

plt.tight_layout()

plt.legend()

plt.show()
```

OUTPUT: