DATA ANALYTICS WITH COGNOS

TOPIC: Product And Scales Analysis

Phase 4: Building

Objective:

- The objective of this project is to Continue building the analysis by creating visualizations using IBM Cognos and generating actionable insights.
- Use IBM Cognos to design interactive dashboards and reports that display insights such as top-selling products, sales trends, and customer preferences.

- Derive insights from the visualizations, such as identifying products with the highest sales, peak sales periods, and customer preferences for specific products.

1. Data Import and Preparation:

- Import the dataset from Kaggle into IBM Watson Studio.
- Clean and preprocess the data, handling missing values, and data formatting.

2. ***Product Development Analysis*:**

- Define your objectives for product development based on the dataset.

- Explore the product sales data to identify trends, popular products, and market demand.

- Develop insights into potential new products or improvements to existing products.

3. Scale Analysis:

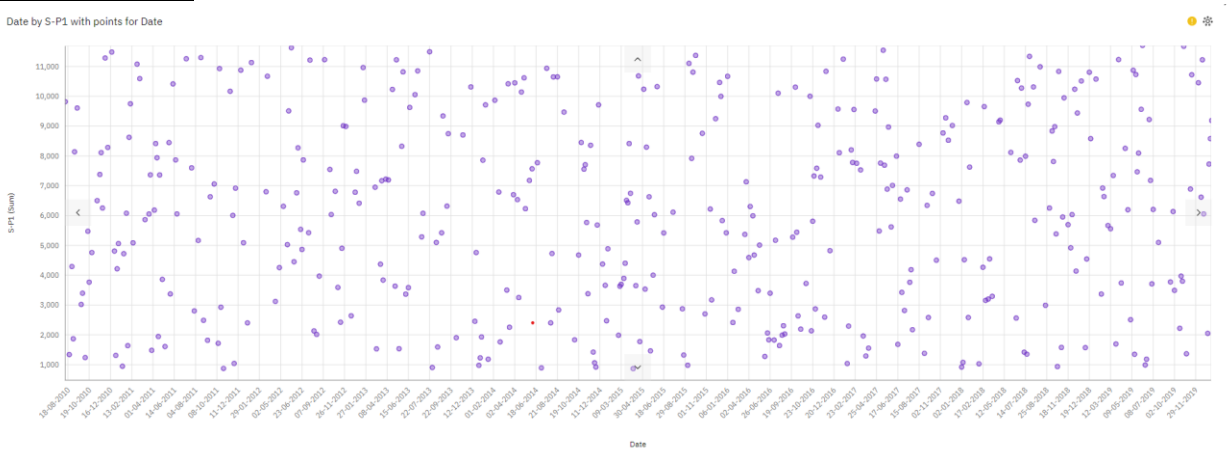
- Define the scale you want to analyze (e.g., scaling up sales, expanding product lines, or market reach).

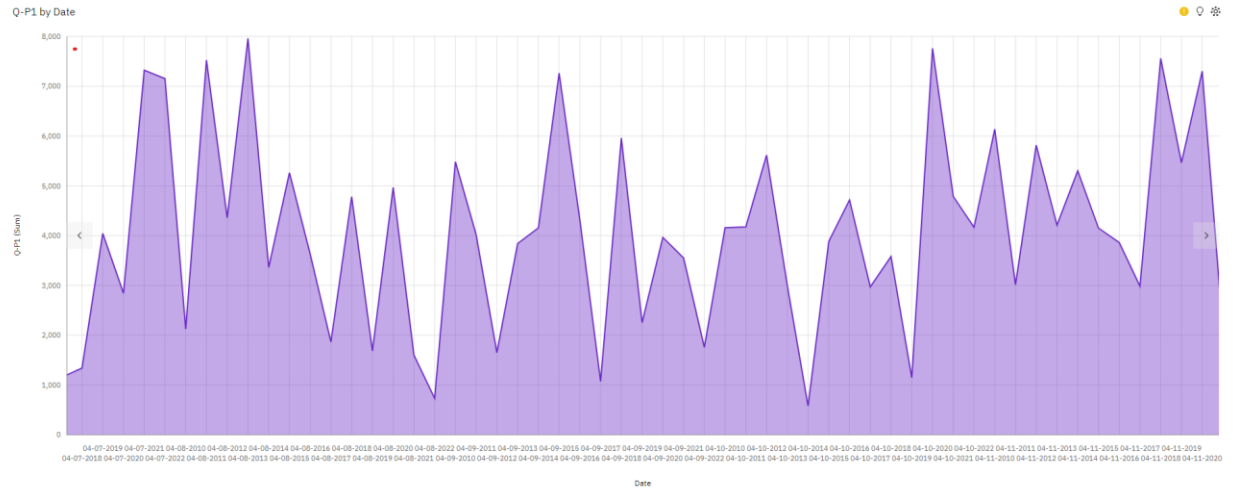
- Analyze the dataset to identify areas for scaling, such as regions or products with the highest growth potential.

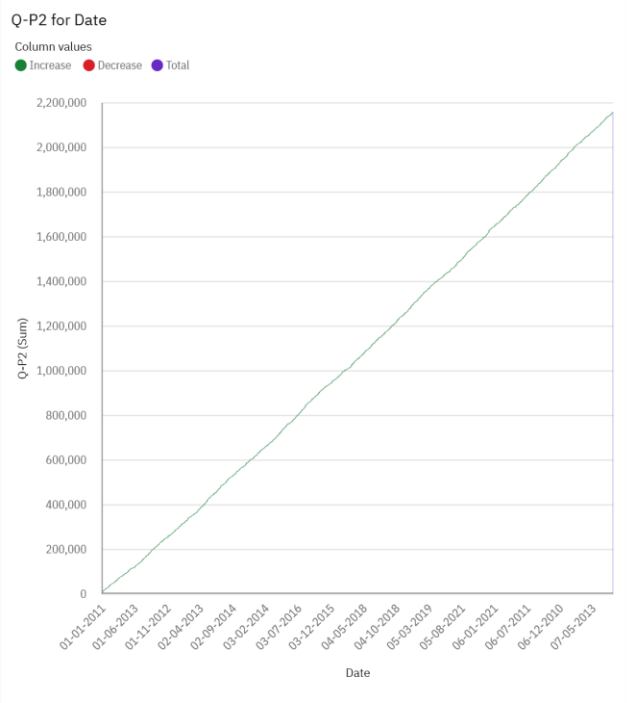
***4. Statistical Analysis and Visualization*:**

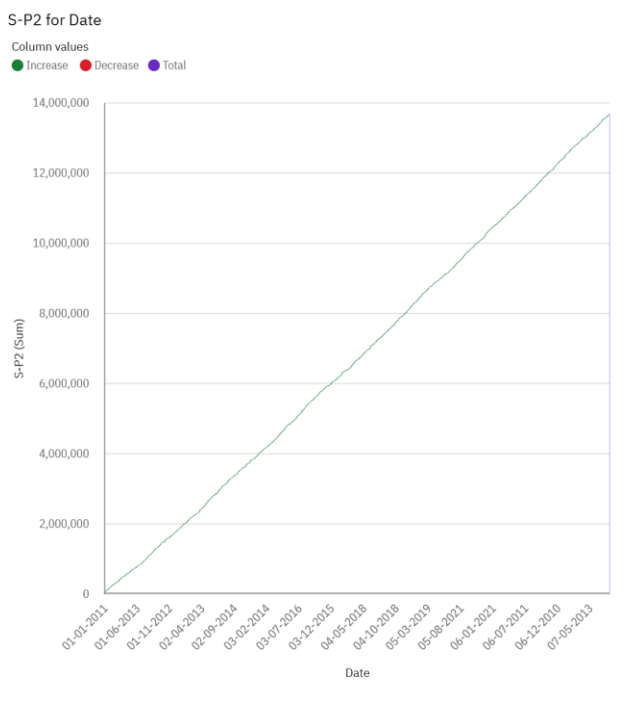
- Use tools in IBM Cognos to design interactive dashboards and reports analysis and create visualizations.

Dashboard

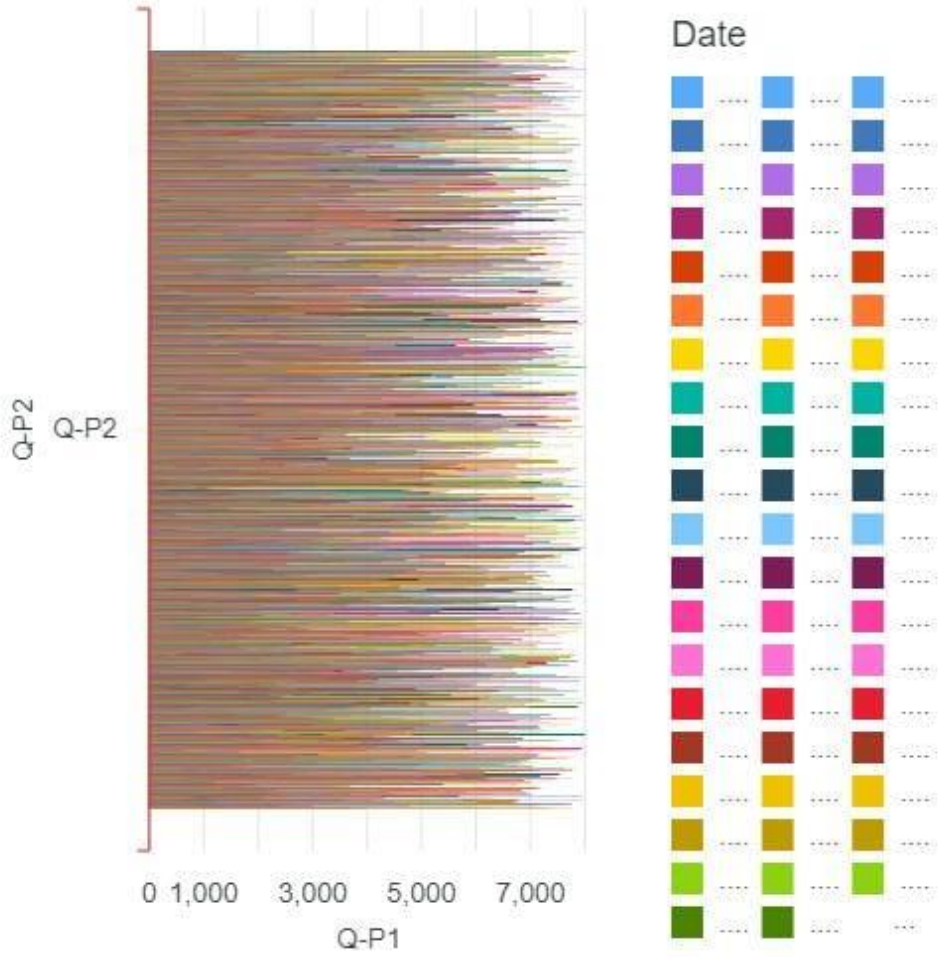

Date by S-P1 with points for Date
S-P1 (Sum)
Date


Q-P1 by Date
Q-P1 (Sum)
Date


Q-P2 for Date
Column values
Increase
Decrease
Total
2,200,000
2,000,000
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Q-P2 (Sum)
01-01-2011
01-06-2013
01-11-2012
02-04-2013
02-09-2014
03-02-2014
03-07-2016
03-12-2015
04-05-2018
04-10-2018
05-03-2019
05-08-2021
06-01-2021
06-07-2011
06-12-2010
07-05-2013
Date


S-P2 for Date
Column values
Increase
Decrease
Total
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
S-P2 (Sum)
01-01-2011
01-06-2013
01-11-2012
02-04-2013
02-09-2014
03-02-2014
03-07-2016
03-12-2015
04-05-2018
04-10-2018
05-03-2019
05-08-2021
06-01-2021
06-07-2011
06-12-2010
07-05-2013
Date

Report



5. Machine Learning (Optional):

- If applicable, you can apply machine learning algorithms to predict sales trends or customer behavior.

6. Report and Presentation:

- Create a report or presentation summarizing your product development and scale analysis findings.

```python
import pandas as pd

# Read the dataset
data = pd.read_csv('product-sales-data.csv')

# Calculate total sales
total_sales = data['Sales'].sum()
print("Total sales: $", total_sales)

# Calculate average sales
average_sales = data['Sales'].mean()
print("Average sales: $", average_sales)

# Find the top-selling product
top_product = data['Product'].value_counts().idxmax()
print("Top-selling product:", top_product)

# Analyze sales performance over time
```

```
data['Date'] = pd.to_datetime(data['Date'])
data['Year'] = data['Date'].dt.year
sales_by_year = data.groupby('Year')['Sales'].sum()
print("Sales by year:")
print(sales_by_year)
```

Conclusion:

To draw conclusions from the “Product Scales Data” dataset, we need to consider the specific insights and analysis we aim to drive.

- Scales Trends Over Time.
- Product Perform.
- Summary Statistics.
- Further Analysis.
- Recommendation.