DATA ANALYTICS WITH COGNOS

TOPIC: Product And Scales Analysis

Phase 3: Development

Objective:

The objective of this project is to load, preprocess, analyze, and visualize a dataset using IBM Cognos, ultimately creating a comprehensive document for assessment, showcasing the insights and findings derived from the data analysis.

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.

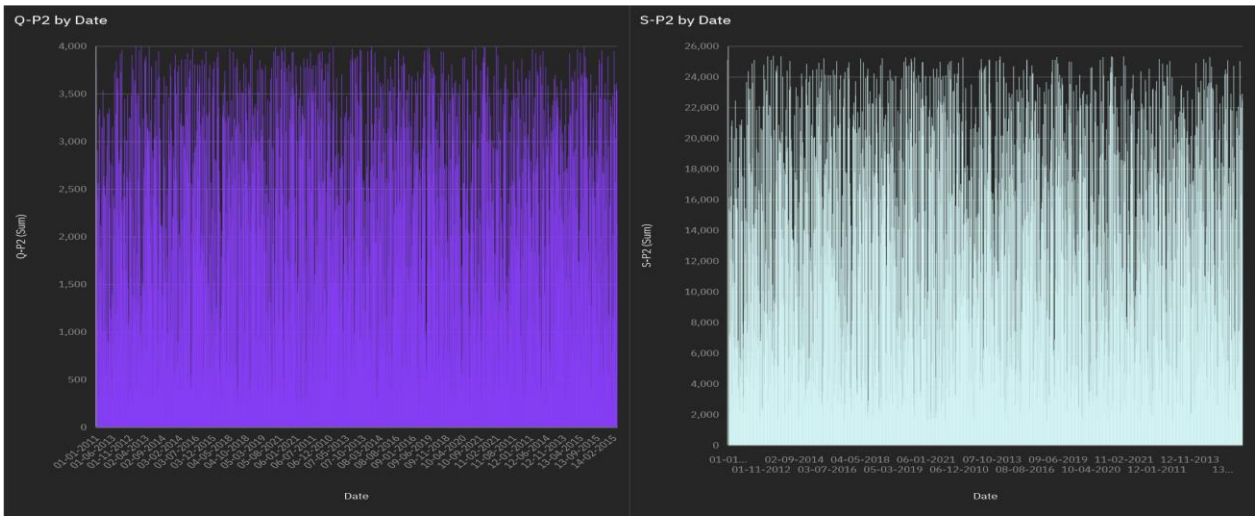
3. Scale Analysis:

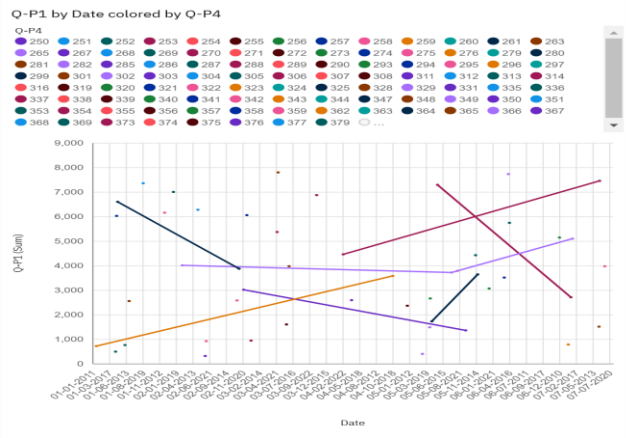
- Define the scale you want to analyze (e.g., scaling up sales, expanding product lines, or market reach).

- 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 Watson Studio (e.g., Python with libraries like Pandas, Matplotlib, and Seaborn) to perform statistical analysis and create visualizations.

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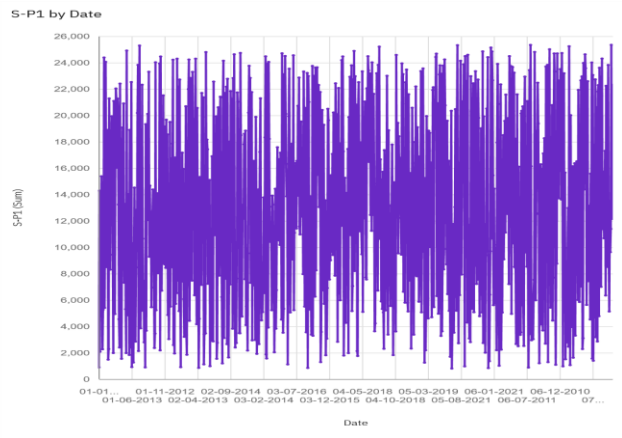
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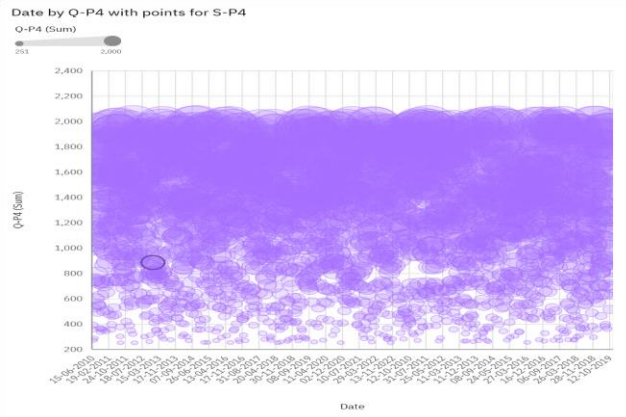
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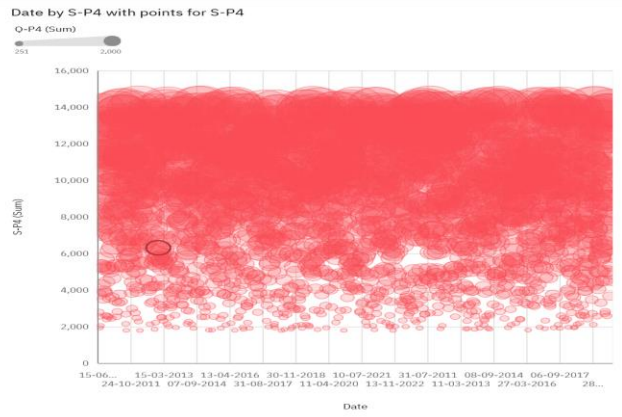
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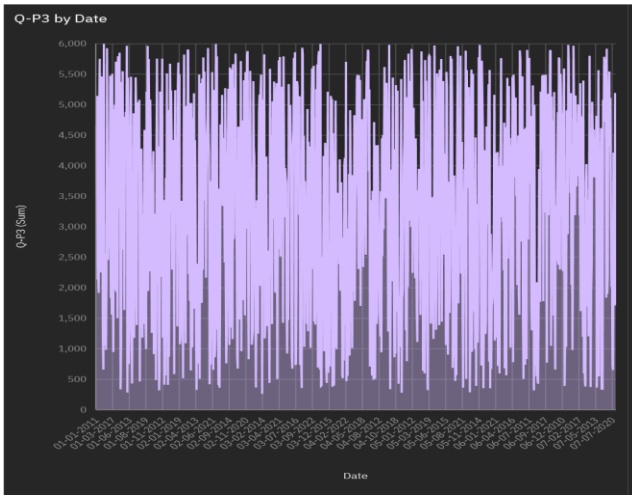
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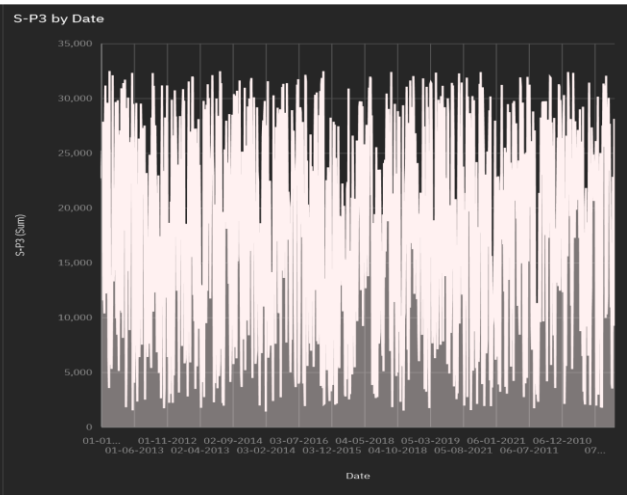
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5. Machine Learning (Optional):

- 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.