

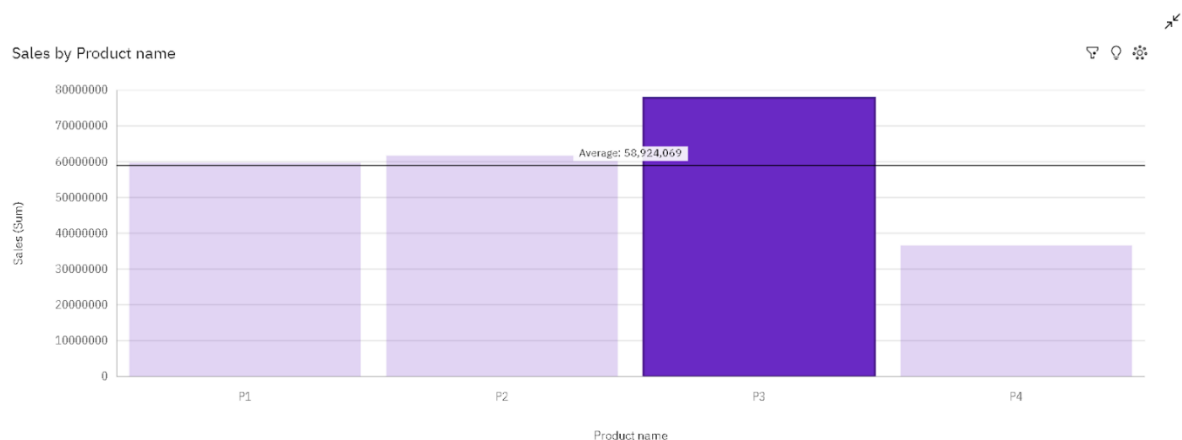
# PHASE 4:

## DEVELOPMENT PART 2

### STEPS TO FIND SALES FOR EACH PRODUCT

- 1. Data Collection:** Gather relevant data, including sales records, which should contain information like product names, quantities sold, prices, and transaction dates.
- 2. Data Cleaning:** Clean and preprocess the data to handle missing values, outliers, and inconsistencies. Ensure product names are standardized.
- 3. Data Aggregation:** Group the data by product name to create a dataset where each unique product is a distinct entity. This is typically done using aggregation functions like SUM to find the total sales for each product.
- 4. Data Visualization:** Create visualizations, such as bar charts or pie charts, to represent the sales by product name. This helps in understanding the distribution of sales across different products.
- 5. Descriptive Statistics:** Calculate summary statistics like mean, median, and mode to gain insights into the central tendencies of sales for each product.
- 6. Data Analysis:** Conduct deeper analysis to identify trends, best-performing products, and products with declining sales.
- 7. Data Interpretation:** Interpret the findings and make informed business decisions based on the sales analysis. This may include adjusting marketing strategies, inventory management, or product pricing.
- 8. Reporting:** Present your analysis and insights in a clear, concise report or dashboard for stakeholders to make data-driven decisions.

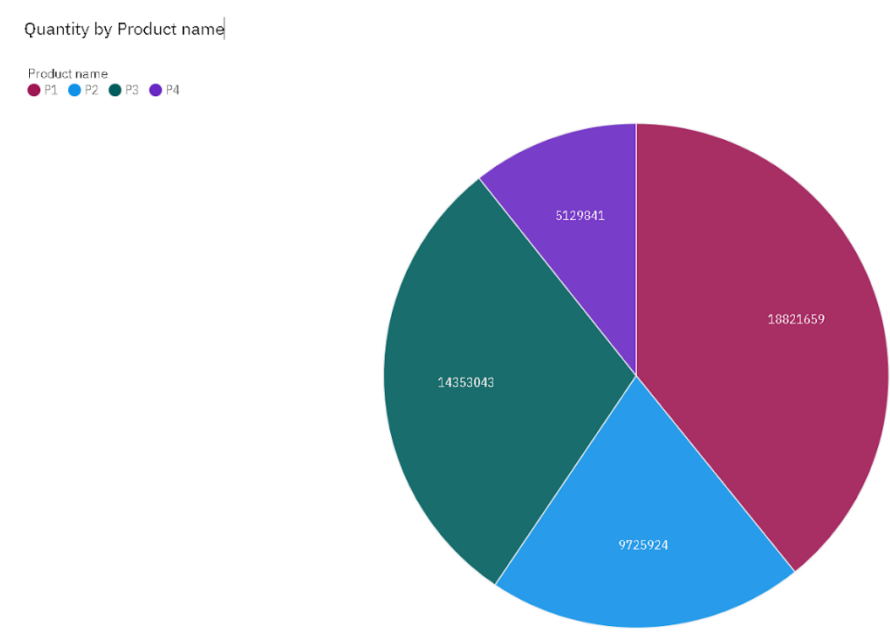
### SALES BY PRODUCT NAME



## INSIGHTS

- 1. P4 has the Lowest Sales:** Product P4 has the lowest total sales, amounting to nearly 37 million, indicating its lower market performance. This insight can be valuable for strategizing ways to boost P4's sales.
- 2. P1 Follows with Lower Sales:** Following P4, P1 has the second-lowest total sales, which is nearly 60 million. This suggests that P1 may also need attention and improvement strategies.
- 3. P3 Tops Sales Chart:** In contrast, Product P3 is the top performer with the highest total sales, reaching almost 78 million. This insight highlights P3's market success.
- 4. P2 Follows with High Sales:** P2 is the second-highest in terms of total sales, at almost 62 million. It's a strong contender in the product lineup.
- 5. Overall Sales Sum:** The combined sales for all product names amount to approximately 236 million, providing an overview of the company's total revenue from these products.
- 6. Sales Range:** The range of sales across products is substantial, varying from nearly 37 million for P4 to almost 78 million for P3. Understanding this range is crucial for assessing the diversity in product performance.

## QUALITY BY PRODUCT NAME



## INSIGHTS

- 1. P4 Has the Lowest Quantity:** Product P4 has the lowest total quantity sold, with over 5.1 million units, indicating relatively lower demand for this product. This insight highlights an area for potential improvement or market strategies for P4.

**2. P2 Follows with Lower Quantity:** Following P4, P2 has the second-lowest total quantity sold, at over 9.7 million units, suggesting it may also require attention to boost its sales.

**3. P1 Leads in Quantity:** In contrast, Product P1 has the highest total quantity sold, with nearly nineteen million units, showcasing its strong market demand.

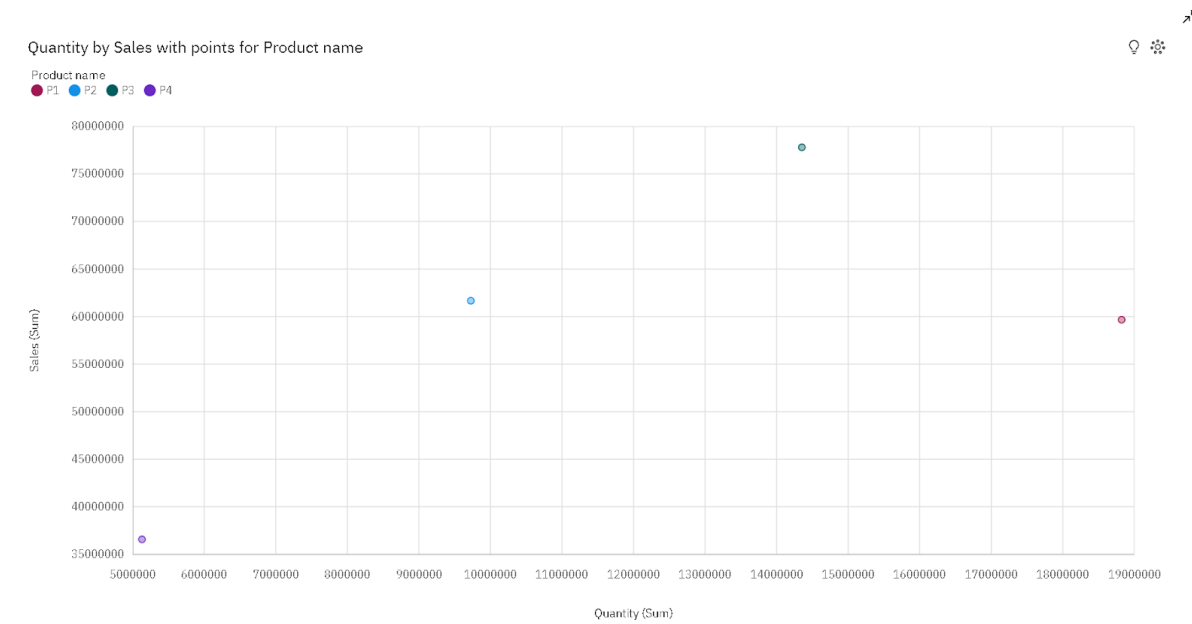
**4. P3 Follows with High Quantity:** P3 is the second-highest in terms of total quantity sold, with over fourteen million units, indicating its popularity among customers.

**5. Overall Quantity Sum:** The combined quantity of all product names is over 48 million units, providing an overview of the total number of products sold across all categories.

**6. Quantity Range:** The range of quantities sold varies from over 5.1 million for P4 to nearly nineteen million for P1. This diversity in quantity sold is important to understand for managing inventory and demand.

**7. Significant Products:** The top three products in terms of quantity are P1, P3, and P2, which together account for nearly 43 million units or approximately 89.3% of the total. This insight emphasizes the dominance of these products in terms of quantity sold.

QUANTITY BY SALES WITH POINTS FOR PRODUCT NAME



INSIGHTS

**1.P4 Has the Lowest Quantity:** Product P4 has the lowest total quantity sold at over 5.1 million, indicating lower demand, followed by P2 with over 9.7 million units.

**2. P1 Leads in Quantity:** Product P1 has the highest total quantity sold, nearly nineteen million units, followed by P3 with over fourteen million units.

**3. P1's Quantity-Sales Discrepancy:** Although P1 has the highest total quantity, it's ranked third in total sales, highlighting a potential inefficiency in converting high quantities to sales.

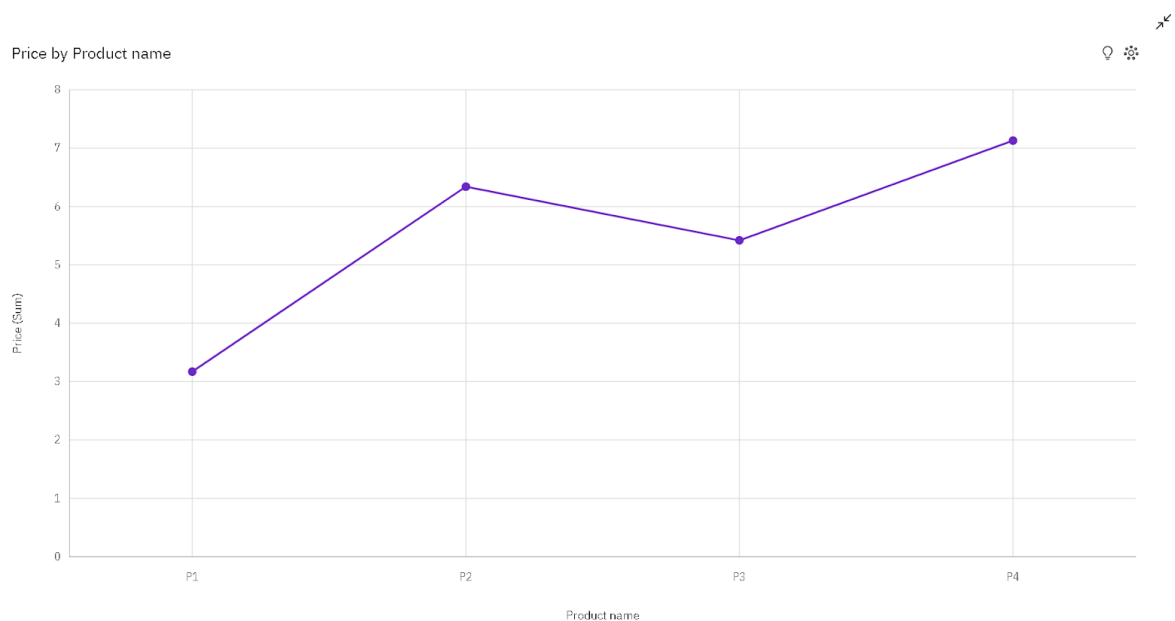
**4. P3's Sales-Quantity Relationship:** P3 has the highest total sales, but it's ranked second in total quantity sold, indicating a successful sales strategy with fewer units but higher revenue per unit.

**5. No Reliable Sales-Quantity Relationship:** There isn't a clear, consistent relationship between sales and quantity across all products, suggesting that other factors may influence sales performance.

**6. Overall Sales Sum:** The combined sales for all product names amount to almost 236 million, giving an overview of the total revenue generated.

**7. Sales Range:** Sales range from almost 37 million for P4 to almost 78 million for P3, indicating a substantial difference in product performance.

## PRICE BY PRODUCT NAME



## INSIGHTS

**1. P1 and P3 Have Low Prices:** Product P1 has the lowest total price at 3.17, followed by P3 at 5.42, indicating that these products are priced relatively lower compared to others.

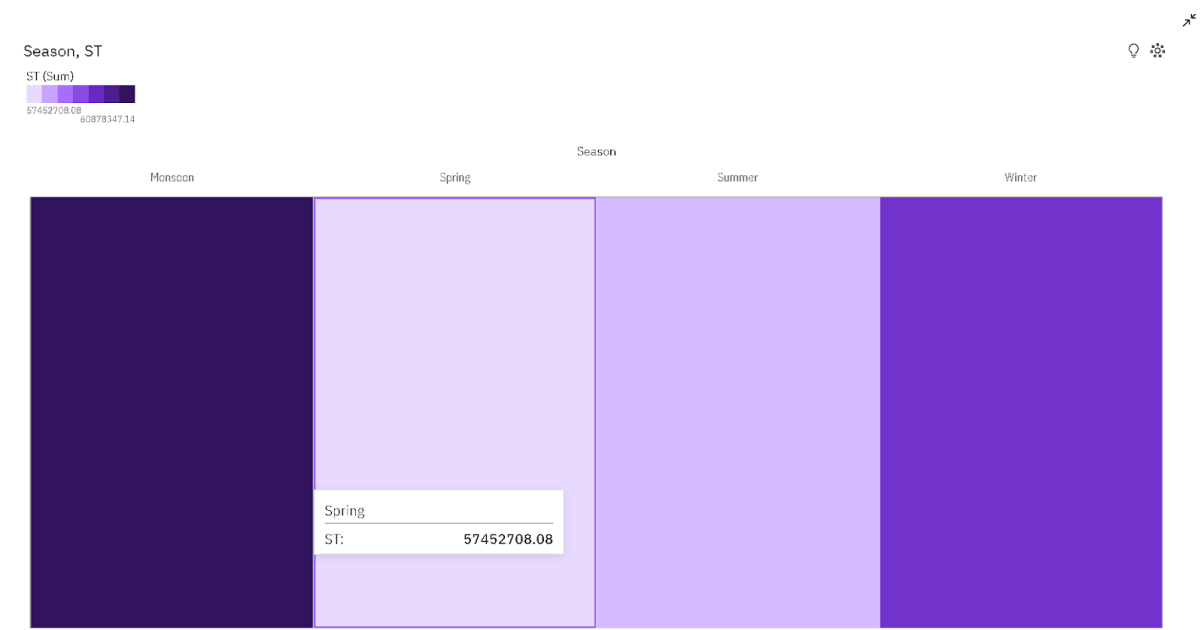
**2. P4 and P2 Have High Prices:** Product P4 has the highest total price at 7.13, followed by P2 at 6.34, signifying that P4 and P2 are the higher-priced products.

**3. Total Price Sum:** The sum of prices for all product names is 22.06, providing an overview of the total revenue generated from product sales.

**4. Price Range:** Prices range from 3.17 for P1 to 7.13 for P4, illustrating a significant price difference across products.

**5. Significant Price Values:** The most significant values for prices are associated with P4, P2, and P3, which together contribute 85.6% of the total price sum, indicating that these products have higher price points and contribute significantly to the overall revenue.

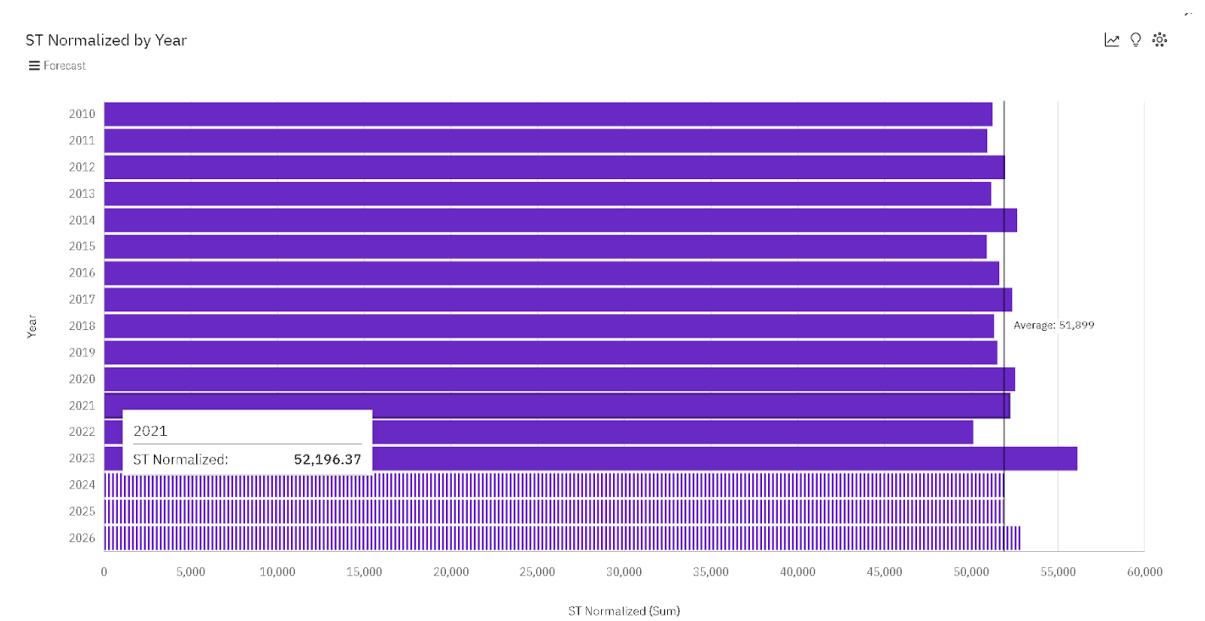
# SALES BASED ON SEASONS



## INSIGHTS

- 1. Spring and Summer Have Similar ST:** The Spring season has the lowest total ST, slightly over 57 million, followed closely by the summer season at almost 58 million. These seasons exhibit relatively lower total values.
- 2. Monsoon and Winter Lead in ST:** In contrast, the Monsoon season has the highest total ST, nearly 61 million, closely followed by the Winter season at almost 60 million. These seasons stand out with higher total values.
- 3. Overall ST Sum:** The combined ST for all seasons amounts to almost 236 million, providing an overview of the total seasonal revenue.
- 4. ST Range:** ST varies from over 57 million for Spring to nearly 61 million for Monsoon, illustrating a relatively narrow range across the seasons.
- 5. Significant Seasonal Values:** The most significant ST values are associated with the Monsoon and Winter seasons, contributing over 120 million or approximately 51.1% of the total, highlighting the importance of these seasons in terms of revenue.

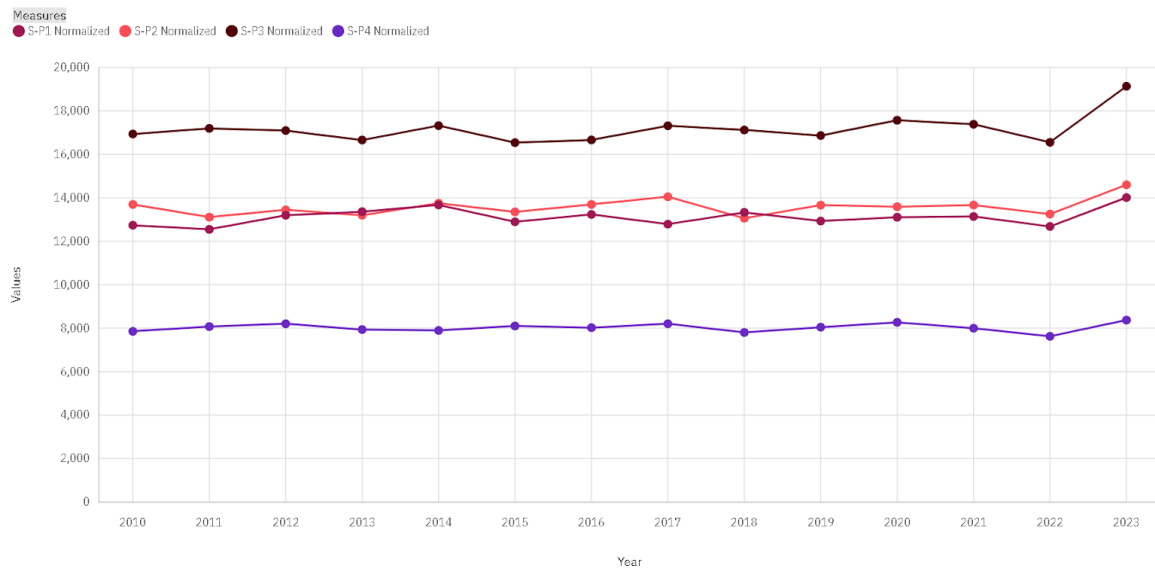
# ST NORMALIZED BY YEAR



## INSIGHTS

- 1. Overall ST Normalized Sum:** The total of ST Normalized for all years is almost 727 thousand, providing an overview of the normalized revenue over the years.
- 2. ST Normalized Range Across Years:** ST Normalized varies from over 50 thousand in 2022 to over 56 thousand in 2023, indicating fluctuations in the normalized revenue over the mentioned years.

S-P1 Normalized, S-P2 Normalized, S-P3 Normalized and S-P4 Normalized by Year



## INSIGHTS

- S-P1 Normalized Average:** The average of S-P1 Normalized across all years is over thirteen thousand, suggesting a relatively consistent performance for this metric.
- S-P2 Normalized Average:** The average of S-P2 Normalized across all years is nearly fourteen thousand, indicating a consistent trend with slight variations.
- S-P3 Normalized Average:** The average of S-P3 Normalized across all years is over seventeen thousand, reflecting a higher average value compared to the other metrics.
- S-P4 Normalized Average:** The average of S-P4 Normalized across all years is over eight thousand, showing a comparatively lower average.
- Number of Results for Each Metric:** There are 14 results for each of the S-P Normalized metrics across all years, indicating a consistent number of data points for analysis.
- Ranges Across Years:** The S-P1 Normalized values range from nearly 13 thousand in 2011 to over 14 thousand in 2023, showing fluctuations over time. S-P2 Normalized ranges from over 13 thousand in 2018 to almost 15 thousand in 2023. S-P3 Normalized ranges from nearly 17 thousand in 2015 to over 19 thousand in 2023, indicating variations. S-P4 Normalized ranges from over 7500 in 2022 to nearly 8500 in 2023, demonstrating relatively stable values.