**Sales Performance Analysis**

**Findings**

* The average sales across all products and periods are calculated to be $93.18.
* The product that recorded the highest sales is the "Samsung Galaxy S4 Active."
* The least sold product is the "Hoover Replacement Belt for Commercial Guardsman Heavy-Duty Upright Vacuum."
* The daily sales trend has been analyzed, but no clear patterns or seasonality were observed. Peaks were noticed around the New Year period.
* Year 2015: Sales show an increase around the middle of each month. Possible contributing factors could be promotions, marketing initiatives, or external factors.
* Year 2016: Similar to 2015, there is a recurring pattern of increased sales in the middle of each month. This pattern may be associated with specific events or customer behavior.
* Year 2017: The trend of increased sales in the middle of each month persists. Further investigation may be needed to identify the factors driving this pattern.
* Year 2018: The observed pattern of increased sales in the middle of each month is consistent throughout the year. Potential strategies or marketing efforts implemented in the middle of the month may be contributing to this trend.
* The weekly sales trend suggests a slight upward trend with no distinct seasonality.
* Monthly sales data indicates peaks in October to December, possibly due to seasonal factors.
* Total Sales in Each Year: The observation that the year 2018 has the highest sales is derived from the sorted bar chart.
* Product Type Grouping: Grouped sales data by product types to identify high-performing and low-performing products.
* High-performing products are phones, while low-performing products are fasteners.
* Customer Grouping: Segmented sales data by customer groups to understand the purchasing behavior of different customer segments.Identified customer groups with higher sales.
* The states which have the highest sales are California.
* Forecasting Techniques:Time Series Forecasting:Utilized a time series forecasting model (SARIMA) to predict future sales trends.
* The graph visualizes historical sales and the forecasted sales for the upcoming months.
* The rising trend in the forecast suggests an expected increase in sales in the future.

Overall Insights:

* The business has experienced steady growth in total sales over the years, especially in 2017 and 2018.
* Some products contribute significantly to sales, such as the "Samsung Galaxy S4 Active."
* Sales trends show recurring patterns, potentially associated with marketing efforts or seasonal factors.
* Customer segmentation and product type analysis provide insights for targeted marketing strategies.
* The time series forecasting model indicates an expected increase in future sales.

Total Sales Growth:

2015 to 2016: $169,491.74 / $155,227.40 = ~9.2% growth

2016 to 2017: $211,737.83 / $169,491.74 = ~25.0% growth

2017 to 2018: $269,396.71 / $211,737.83 = ~27.2% growth

* Total sales show consistent growth, with a significant increase from 2016 to 2017 and continued growth in 2018.