**INTRODUCTION:**

7-Eleven, one of the world's largest store chain, is renowned for its extensive range of products and services tailored to meet the diverse needs of its customers. Founded in Dallas, Texas, in 1927, 7-Eleven has expanded to become a global retail giant with over 83,000 stores across 19 countries, including the United States, Japan, South Korea, Australia, Thailand, and China. The superstores are known for their 24/7 operations, offering an array of products such as snacks, beverages, ready-to-eat meals, fresh produce, and essential household items. With their emphasis on customer convenience and innovative offerings, 7-Eleven continues to be a leader in the convenience store especially in the US.

**INTERPRETATIONS of power bi working:**

Here is an Interpretation and Insights performed in the Power BI Dashboard

**1. Sum of Sales by Segment and Country (Pie Chart):**

**Interpretation:**

The pie chart shows the distribution of sales across different segments within a specific country (likely the United States).

**Insights:**

* Home Office: This segment is the largest contributor, making up 50.6% (1.16M) of total sales. This indicates a strong demand for home office products.
* Corporate: The second-largest segment, contributing 30.7% (0.71M) of sales, suggests significant business from corporate clients.
* Consumer: The smallest segment with 18.7% (0.43M) of sales. This might indicate potential for growth if targeted effectively.

**Recommendations:**

1. Home Office: Continue focusing on this segment with targeted promotions and new product offerings.
2. Consumer: Explore strategies to increase market share, such as personalized marketing campaigns or bundling offers.

**2. Sum of Sales by Order Date and Country (Line Chart):**

**Interpretation:**

This line chart shows sales trends over time by order date within the United States.

**Insights:**

The chart highlights fluctuations in sales, with noticeable spikes that may correspond to key promotional periods or product launches.

**Recommendations:**

Trend Analysis: Investigate causes of peaks to replicate successful strategies. Identify periods of low sales to introduce new promotions or discounts.

**3. Sum of Sales by Category (Donut Chart):**

**Interpretation:**

This chart displays the distribution of sales across different product categories.

**Insights:**

* Furniture: The largest category with 36.4% (836.15K) of sales.
* Technology: Close second at 31.3% (719.05K).
* Office Supplies: Significant share with 32.3% (742K).

**Recommendations:**

Balanced Portfolio: Maintain the balance among categories. Consider cross-selling and upselling strategies to enhance sales across categories.

**4. Sum of Sales by Sub-Category (Bar Chart):**

**Interpretation:**

This bar chart ranks sub-categories by total sales.

**Insights:**

* Top Performers: Phones, Chairs, and Storage lead in sales, indicating high demand in these areas.
* Low Performers: Labels and Fasteners have the least sales, suggesting they are less popular.

**Recommendations:**

Inventory Management: Focus on stocking high-demand products. Consider phasing out or re-strategizing the marketing of low-performing sub-categories.

**5. Sum of Sales by State (Map):**

**Interpretation:**

This map visualizes sales data across different states.

**Insights:**

High sales in certain states indicate strong market presence. States with lower sales might present opportunities for market expansion.

**Recommendations:**

Geographic Strategy: Concentrate marketing and sales efforts in high-performing states. Explore potential in underperforming states through localized campaigns.

**6. Sum of Profit by City (Bar Chart):**

**Interpretation:**

This bar chart displays the sum of profit by city.

**Insights:**

Top Cities: New York City, Los Angeles, and Chicago show the highest profits, suggesting successful operations in these areas.

**Recommendations:**

Urban Focus: Strengthen presence in top-performing cities. Investigate factors contributing to high profitability and apply similar strategies to other cities.

**Key Performance Indicators (KPIs):**

1. **Total Sales:** 2.30M indicates strong overall performance.
2. **Total Profit:** 286.40K shows a healthy profit margin, with potential for improvement.
3. **Total Quantity Sold:** 38K units reflect substantial volume.
4. **Count of Postal Codes:** 9994 unique postal codes indicate wide reach and customer diversity.

**Overall Insights:**

1. **High-Performing Segments and Categories:** Focus on Home Office and top sub-categories like Phones and Chairs.
2. **Sales Trends:** Leverage insights from sales spikes for future promotions.
3. **Geographic Insights:** Target high-performing states and cities while exploring new opportunities in underperforming areas.
4. **Product Optimization:** Manage inventory based on demand and explore growth in low-performing sub-categories.
5. **Profit Enhancement:** Analyze cost structures and pricing strategies to improve profit margins.

These insights can guide strategic decisions to enhance sales, profitability, and market presence.

**Excel file interpretation:**

The data is consist of the following categories:

1. Order ID: it uses to place the order of a person with specific id so that orders didn’t confuse between customers.
2. Order Date : it is use for keeping records of the orders that on which day they are placed.
3. Ship Date: it’s the date when orders being shipped to their appropriate place and customer.
4. Customer Name: it is used to deliver order to the right place so that orders do not mix between customers it also help to prevent the wrong delivery.
5. Segments: it is used to differentiate between the products like whether they are for consumer or home office.
6. Country: used for shipping purpose whole o0ver the world.
7. City : used for shipping purpose
8. State: used for shipping purpose
9. Postal code: used for shipping purpose
10. Category: its about the product category that what product a customer want and in which category like furniture home appliance etc.
11. Sub-Category: sub categories of the categories like furnite is the category and its sub category is book case which Is used as a furniture.
12. Product Name : while placing the order customer have to mention the product name they want .
13. Sales: this heading is to check that how many sales a company is making.
14. Profit: this data is use to analyze the profit which company is making by selling the products.
15. Quantity: this column is used to analyze the product in which quantity they are being delivered to the customer for keeping the record.

We analyze this data to check sales and profit which company is making by the products whether they are profitable for the company or not.

**in sheet 1** we did the analysis on sales, quantity and profit to check how it is growing so we make the cluster column chart on this data and we see the positive trend line which is growing from left to right side and showing that company is doing well.

**In sheet 2** The sales line chart shows that our sales are consistently increasing over time. Each point on the line represents our sales at different times, and the upward slope indicates that we're selling more and more as time goes on. This positive trend is a good sign that our business is growing.

**In sheet 3** A line chart showing the quantity, country, and sales with a positive trend means that over time, sales and the number of items sold are increasing in the countries being tracked. This indicates that the business is growing in those areas, with more products being sold and higher sales revenue. In simple words the line shows that how much quantity is delivered to a specific country and how much sales is generated.

**In sheet 4** we created the pivot table Shows sales and quantity for different categories (like furniture office supplies and technology) then we make the column cluster chart to check that how much sales is generated from a specific categories and on which quantity.

**Column Chart**:

* Visualizes the data from the pivot table.
* Each category has two columns: one for sales and one for quantity.
* You can easily see which category sells the most and which has the highest quantity.

So the chart is showing that office supplies is making the largest sales among all categories and making the high profit.

**In sheet 5** we performed the multiple regression model.

**Key Terms:**

* Multiple R (0.479): This tells us how well the data fits the model. It's a measure of correlation, where 1 means perfect correlation.
* R Square (0.2295): About 23% of the variation in the dependent variable is explained by the independent variable.
* Adjusted R Square (0.2294): Similar to R Square but adjusted for the number of predictors. It's slightly lower, which is common.
* Standard Error (547.1): This is the average distance that the observed values fall from the regression line. Lower is better.

**ANOVA (Analysis of Variance):**

1. df: Degrees of freedom.
2. Regression: 1 (number of predictors).
3. Residual: 9992 (number of observations minus the number of predictors minus 1).
4. Total: 9993 (total number of observations minus 1).
5. SS: Sum of squares.
6. Regression: 890,843,345.9 (explained variation).
7. Residual: 2,990,782,166 (unexplained variation).
8. Total: 3,881,625,512 (total variation).
9. MS: Mean squares (SS/df).
10. Regression: 890,843,345.9.
11. Residual: 299,317.7.
12. F (2976.25): This is the test statistic. A higher F value indicates that the model is statistically significant.
13. Significance F (0): The p-value for the F-test. Since it is 0, it means the model is statistically significant.

**Coefficients:**

* Intercept (193.33): This is the expected value of the dependent variable when the independent variable is 0.
* X Variable 1 (1.27): For every one-unit increase in X Variable 1, the dependent variable increases by about 1.27 units.

**Significance:**

* P-value (0 for both Intercept and X Variable 1): These values are extremely low (0), indicating that both the intercept and the slope are statistically significant.
* Confidence Intervals:
* Lower 95% and Upper 95%: These intervals tell us the range in which we are 95% confident the true value lies.
* Intercept: Between 182.53 and 204.14.
* X Variable 1: Between 1.23 and 1.32.

**Model Fit:**

The model shows a moderate relationship between our two variables. About 23% of the changes in the dependent variable can be explained by the independent variable.

**Significance:**

The model is statistically significant, meaning the relationship we found is not due to random chance.

**Key Numbers:**

Intercept (193.33): When the independent variable is zero, the dependent variable is about 193.33.

Slope (1.27): For every one unit increase in the independent variable, the dependent variable increases by about 1.27 units.

**Reliability:**

The results are very reliable (p-value is almost 0), meaning the independent variable has a real impact on the dependent variable.

**Simple Summary:**

* The model is statistically significant.
* The independent variable (X Variable 1) has a positive relationship with the dependent variable.
* About 23% of the variation in the dependent variable can be explained by the model.
* Both the intercept and the slope are significantly different from zero.
* There is a moderate positive relationship between the two variables.
* The model is good enough to show this relationship is real and not just by chance.
* When the independent variable goes up by one unit, the dependent variable goes up by about 1.27 units.

**In sheet 6** Pivot Table Interpretation:

The pivot table shows the count of years (Ship Date) and the count of Ship Dates for different categories of items (Furniture, Office Supplies, Technology),.

**Furniture:**

Count of Years (Ship Date): 2121

Count of Ship Date: 2121

**Office Supplies:**

Count of Years (Ship Date): 6026

Count of Ship Date: 6026

**Technology:**

Count of Years (Ship Date): 1847

Count of Ship Date: 1847

**Grand Total:**

Count of Years (Ship Date): 9995

Count of Ship Date: 9994

Pie Chart Interpretation:

The pie chart visualizes the count of years (Ship Date) for each category.

Office Supplies: Represents the largest segment of the pie chart, indicating that Office Supplies have the highest count of Ship Dates (6026).

Furniture: Represents a smaller segment than Office Supplies but larger than Technology, indicating that Furniture has a count of 2121.

Technology: Represents the smallest segment of the three main categories, with a count of 1847.

**Summary:**

Office Supplies have the highest number of ship dates (6026), making up the largest portion of the chart. Furniture is the second largest, with 2121 ship dates. Technology has the fewest ship dates among the three categories, with 1847.There is a minor count of 1 for blank entries in the years (Ship Date).

This data can help understand the distribution of shipments across different product categories, indicating that Office Supplies have the highest volume of shipments, followed by Furniture and Technology.

In this bar chart office supplies shows the highest profit and shows the positive trend.

**In sheet 7** from the above information in pivot table

The bar chart visualizes the count of sales and the count of order IDs for each category. Both counts are represented in the chart with different colors:

Office Supplies: The largest segment, indicating the highest count of sales and order IDs (6026).Furniture: The second-largest segment, with a count of 2121 for both sales and order IDs.

Technology: The smallest segment of the three main categories, with a count of 1847 for both sales and order IDs.

**Summary:**

Office Supplies have the highest number of sales and order IDs (6026), making up the largest portion of the bar chart. Furniture is the second largest, with 2121 sales and order IDs. Technology has the fewest sales and order IDs among the three categories, with 1847.There are no blank entries in the count of sales or order IDs.

This data can help understand the distribution of sales and order IDs across different product categories, indicating that Office Supplies have the highest volume of both sales and orders, followed by Furniture and Technology. This can be useful for inventory management, sales strategy, and resource allocation.

**In sheet 8**

The data shows sales and profits for different quantities of items. Here’s a simple breakdown:

**Best Performers:**

Quantities of 3 and 5 sold the most and made the most profit.

Quantity 3: $422,060.60 in sales, $57,015.53 in profit.

Quantity 5: $415,661.70 in sales, $49,516.59 in profit.

**Moderate Performers:**

Quantities of 2, 4, and 7 did well, but not as much as 3 and 5.

For example, Quantity 2: $289,091.48 in sales, $38,448.41 in profit.

**Lower Performers:**

Quantities of 10 to 14 sold the least and made the least profit.

For example, Quantity 10: $24,056.66 in sales, $2,044.16 in profit.

**Overall Totals:**

Total sales for all quantities: $2,297,200.86

Total profit for all quantities: $286,397.02

**Simple Recommendations:**

* Keep up with Best Performers:

Continue to support the items sold in quantities of 3 and 5.

* Improve Lower Performers:

Look into why quantities of 10 to 14 are selling less and find ways to improve their sales.

* Check Data Accuracy:

Ensure all quantities are recorded correctly to avoid missing data.

**Suggested strategies :**

Based on the detailed interpretation of the Power BI analysis for 7-Eleven, here are some suggested strategies to enhance their business performance:

Sales by Country:

* Expand to New Markets: Focus on growing sales in countries with lower numbers.
* Reduce Reliance on US: Increase sales in other countries to avoid depending too much on the US.
* Local Promotions: Run special promotions tailored to each country's needs.

Sales by Category:

* Boost Tech Products: Invest more in popular technology products.
* Balanced Marketing: Keep promoting all product categories, not just the popular ones.
* Add New Products: Introduce new items in high-demand categories.

Sales by Time (Year, Quarter, Month, Day):

* Seasonal Deals: Plan sales and promotions during peak shopping seasons.
* Forecast Sales: Use past sales data to predict future sales and manage inventory better.
* Regular Reviews: Continuously analyze sales trends to improve strategies.

Profit, Quantity, and Sales by Category:

* Increase Profits: Adjust prices and cut costs to boost profits.
* Manage Stock: Keep the right amount of stock to avoid overstocking or running out.
* Category Strategies: Focus on improving performance in each product category.

Sales by Segment:

* Targeted Ads: Create marketing campaigns for different customer groups (e.g., consumers, businesses).
* Corporate Focus: Offer special deals to businesses to increase bulk sales.
* Home Office: Promote products for home office setups.

Sales and Profit by Region:

* Expand Locally: Focus on areas with lots of customers to increase sales.
* Efficient Operations: Improve logistics to reduce costs and deliver products faster.
* Maximize Profit: Encourage customers to buy more through cross-selling and upselling.

Overall:

1. Diversify Markets: Grow in other countries to reduce reliance on the US.
2. Segment Growth: Focus on growing the Corporate and Home Office segments.
3. Balanced Product Focus: Promote all product categories while focusing on the most profitable ones.
4. Leverage Seasons: Use seasonal trends for better inventory and marketing planning.

These simple strategies can help 7-Eleven improve sales, profitability, and market presence.

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