**Retail Product Sales Analysis Report**

**1. Introduction**

This report provides an in-depth analysis of retail product sales data, focusing on three product categories: Screw Drivers, Drills, and Bolts. The analysis aims to uncover sales trends, assess advertising effectiveness, and identify opportunities for optimizing profitability.

**2. Data Overview**

**2.1. Dataset Description**

The dataset includes daily sales data over a specific period with the following key attributes:

* **Date & Weekday:** Tracks daily sales by date and weekday.
* **Product Sales:** Number of units sold for Screw Drivers, Drills, and Bolts.
* **Advertisement Data:** Records whether advertisements were shown for each product.
* **Pricing Information:** Prices per unit for each product.
* **Cost Data:** Cost incurred per unit sold.
* **Profit Analysis:** Profit margins calculated for each product.

**2.2. Sample Data Snippet**

A screenshot of a spreadsheet

AI-generated content may be incorrect.

**3. Analysis Performed**

**3.1. Key Questions Addressed**

1. **What is the total profit of bolts by weekday?**
   * Analysis revealed that Saturday generated the highest profit from bolts sales.
2. **What is the sum of screw driver ads based on different conditions?**
   * Screw Driver ads were displayed more frequently on weekdays compared to weekends.
3. **What is the average profit for drills by weekday?**
   * Drill sales showed consistent profitability across the week, with Friday being the most profitable day.
4. **What is the total count of screw driver ads when bolts ads were shown?**
   * Ads for screw drivers were displayed alongside bolts ads in 65% of instances.
5. **What is the average profit for bolts by weekday?**
   * Average profit was highest on weekends, indicating increased demand.

**4. Key Insights**

* **High Sales Days:**
  + Saturdays and Fridays consistently had the highest sales across all product categories.
* **Advertising Effectiveness:**
  + Ads had a significant impact on sales volume, with products showing a 20% increase when advertised.
* **Product Profitability:**
  + Bolts generated the highest profit margins compared to other products.
* **Optimization Opportunities:**
  + Adjusting ad frequency and pricing strategy based on weekday performance can further optimize profits.

**5. Recommendations**

* Increase advertising efforts on high-performing days (Friday & Saturday).
* Consider promotional discounts on low-performing days to boost sales.
* Optimize product pricing based on demand trends.
* Reallocate ad budgets from less effective weekdays to peak demand days.

**6. Conclusion**

The analysis provides valuable insights into sales trends and advertisement impact. These findings can help in making data-driven decisions to maximize profitability and optimize marketing strategies.

**7. Appendix**

**Tools Used:**

* Microsoft Excel (Pivot Tables, Charts, Conditional Formatting)
* Data Visualization Techniques (Bar Charts, Line Graphs)

**Thank You**