Marketing Campaign Performance Analysis Report

Project Title: Optimizing Marketing Strategies Through Data-Driven Analysis

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# 1. Executive Summary

The organization has been executing diverse marketing campaigns across multiple channels but lacks a consistent, data-driven approach. This report analyzes historical marketing data to uncover the impact of various campaign variables on key performance indicators (KPIs) such as Return on Investment (ROI), Clickthrough Rate (CTR), Cost per Lead (CPL), Cost per Acquisition (CPA), Cost per Click (CPC) and Conversion Rate (CR). The analysis reveals critical insights and offers actionable recommendations to guide smarter budget allocations and strategic campaign planning.

# 2. Business Problem

Despite heavy investment in marketing, the company is not achieving consistent returns. Key issues include:

* No clear understanding of which marketing inputs drive performance.
* Budget is often spent on underperforming campaigns.
* Marketing decisions are made on assumptions rather than insights.

These gaps hinder scalability and lead to inefficient use of resources. The organization needs a structured analytical approach to optimize its marketing strategies.

# 3. Objectives

The main goal is to create a data-driven marketing strategy. Specific objectives include:

* Identify campaign variables that influence ROI, CTR, CPC, CPL, CPA, and CR.
* Use advanced statistical techniques (SVR, correlation analysis, time series analysis) to assess variable impact
* Uncover high- and low-performing campaigns and channels.
* Support effective budget allocation and strategic planning.

# 4. Data Source

Dataset: Marketing campaign performance data from Kaggle.  
Link: https://www.kaggle.com/datasets/sinderpreet/analyze-the-marketing-spending  
  
The dataset includes variables such as impressions, clicks, leads, orders, market spend(budget), and revenue, across multiple campaign types and platforms.

# 5. Key Findings

**Support Vector Regression (SVR) Analysis**

* SVR model outperformed decision tree analysis in predictive accuracy
* Critical Finding: Orders have the most significant impact on ROI, more than any other campaign variable
* This validates the importance of conversion-focused metrics over other metrics like clicks and impressions

**Orders Performance by Campaign Category**

* Social Media: Generates the lowest average orders per campaign across all categories
* Influencer: Delivers the highest average orders per campaign, significantly outperforming all other categories
* This order generation disparity directly explains the ROI performance differences between categories

**Time Series Analysis Insights**

* High Spend, Low Revenue Periods: Directly correlated with heavy focus on social media campaigns
* Revenue Spikes: Occurred during periods when budget was allocated to other campaign categories (Media, Influencer, Search)
* Spending Patterns: Periods of exclusive social media focus resulted in the worst ROI performance
* Temporal Validation: Confirms that social media campaigns consistently underperform across different time periods

**Campaign Spending and Performance**

* Spending more leads to more activity (views, clicks, leads, etc.), but not always better results.
* A bigger budget doesn’t automatically mean higher returns.
* More money spent can sometimes reduce efficiency and increase costs.
* Campaigns with lots of clicks but few conversions show that the wrong audience is being targeted.
* The most successful campaigns indicate that they focus on the right people, not just more people.

**Category Performance**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Category | ROI Performance | CR Performance | Risk Level | Avg Orders per Campaign |
| Influencer | High | High | Medium | High |
| Media | Medium | High | Low | Medium-high |
| Search | Medium | Medium | High | Medium |
| Social Media | Low | Low | High | Low |

**Best performers in each category:**

* **Influencer:** YouTube Blogger campaign
* **Search:** Google\_Hot campaign
* **Social Media:**
  + Best ROI – Facebook Retargeting, Instagram Tier 1
  + Best Conversion Rates – Facebook and Instagram Tier 1 campaigns

**Reasons for Poor Social Media Performance**

* Many clicks, but few conversions show that the target audience isn’t the right one.
* Spending more on this category often leads to higher costs per acquisition and making it less efficient.
* Periods of high social media spending consistently correlate with revenue dips
* Social media campaigns contribute least to the order generation that drives ROI

**Furthermore:**

* Budgets were reallocated across categories in proportion to their ROI, with the highest budget assigned to the category with the highest ROI, and the lowest to the one with the lowest ROI. As a result, overall profit increased.
* Considering both ROI and risk, the results suggest that high-risk investments should be directed toward the influencer category, while low-risk investments are better suited for the media category.

# 6. Recommendations

1. **Refocus Social Media Strategy:**  
    - Drastically reduce social media budget allocation based on analysis evidence

- Conduct comprehensive A/B testing to refine targeting before any significant social media reinvestment

- Consider pausing underperforming social campaigns entirely until targeting mprovements are validated

**2. Scale High-Performing Channels:**

- Scale influencer and Media campaigns given their superior average order generation per campaign and ROI

- Minimize social media allocation due to consistently lowest order performance

- Restructure KPIs to emphasize conversion metrics that directly correlate with or impact ROI  
**3. Budget Reallocation:**

-- Immediately shift budget from social media to Media and Influencer categories

- Replicate successful campaigns such as YouTube Blogger and Google\_Hot with increased budgets

4. Performance Monitoring:  
 - Regularly track KPIs (ROI, CTR, CPC, CPL, CPA, CR).  
5. Customer Targeting:

- Focus on customer profiling efforts on characteristics that drive actual orders

- Use behavioral data to identify high-conversion audience segments

# 7. Next Steps

* Deploy SVR model for ongoing campaign optimization and prediction
* Implement advanced time series forecasting for campaign timing optimization
* Develop order-prediction models for customer segmentation
* Create dashboard for real-time monitoring of orders-to-ROI relationships

# 8. Conclusion

This comprehensive analysis, validated through advanced SVR modeling and time series analysis, definitively demonstrates that social media campaigns are not just underperforming but actively inhibiting overall marketing ROI. The evidence shows that orders, not engagement metrics, drive successful marketing outcomes.

By focusing on order-generating campaigns and eliminating ineffective social media spending, the organization can achieve significant improvements in ROI. This data-driven approach will transform marketing from a cost center into a reliable profit driver, ensuring sustainable growth and marketing success.