

Business Data Analysis Report on Market Campaign Optimization

This report provides a comprehensive analysis of the company's ad campaign performance, user engagement, and conversion metrics. Our findings indicate a significant concentration of marketing efforts on Facebook and Instagram, with 'Stories' and 'Image' ad types being most prevalent.

While initial performance metrics show a healthy Click-Through Rate, forecasting reveals a concerning downward trend in Impressions, Clicks, and Purchases over the next three months.

A report by – Rakesh Kumar Gupta (Data Analyst)



Data Quality & Structure

Dataset Components

Four interconnected CSV files:
ad_events.csv, ads.csv, campaigns.csv,
and users.csv

Data Quality

No missing values across any datasets,
ensuring high data quality for analysis

Data Preparation

Key columns (timestamp, start_date,
end_date) successfully converted to
datetime objects, enabling robust time-
series analysis

The well-defined data structure allowed for seamless merging and comprehensive insights into ad performance, campaign effectiveness, and user demographics.

Key Performance Indicators

343,157

Total Impressions

40,495

Total Clicks

2,050

Total Purchases

5.06%

Conversion Rate

11.80%

Click-Through Rate

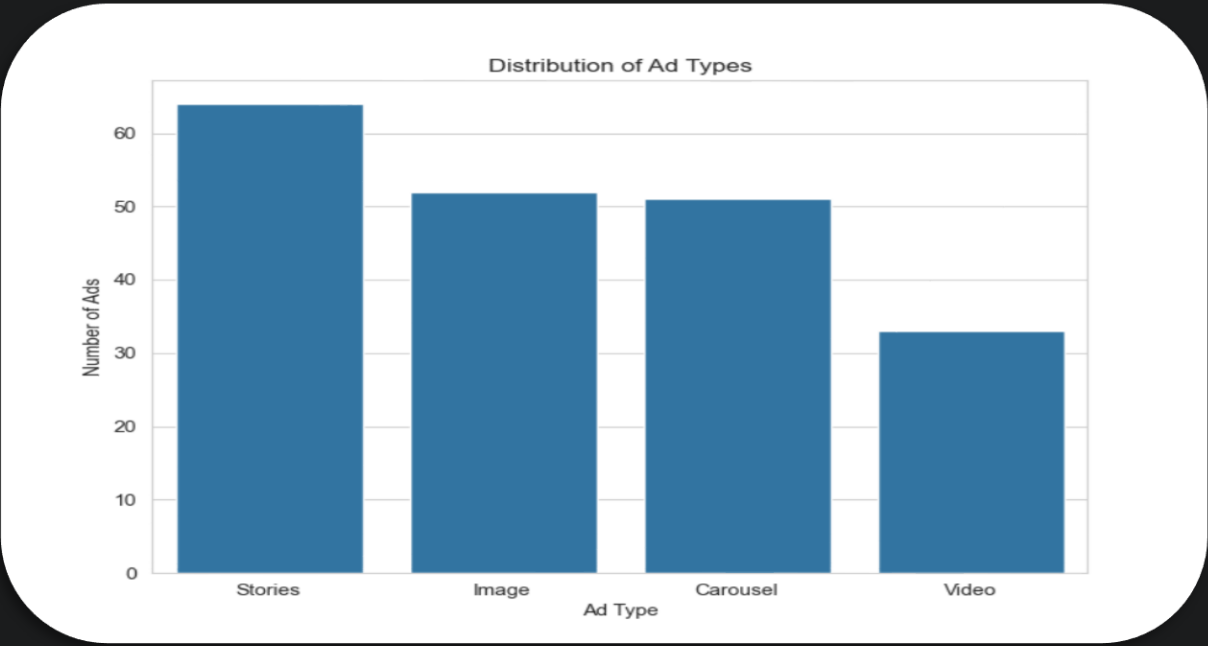
\$2.5M

Total Budget

Additional KPIs: Average Campaign Duration (66.04 days), Unique Users Engaged (9,950), Top Performing Ad Platform (Facebook), Top Performing Ad Type (Stories)

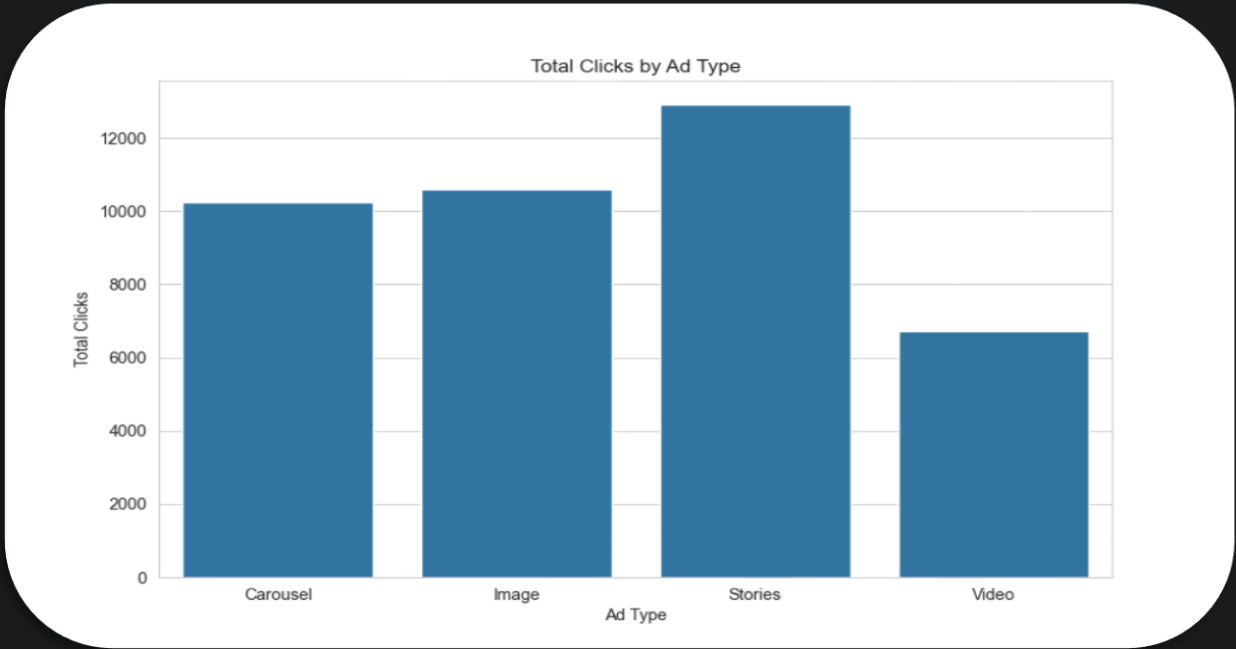
Ad Platform & Type Distribution

Distribution of Ad Types



This visual showcases the variety and frequency of different ad types deployed, indicating preferred content formats.

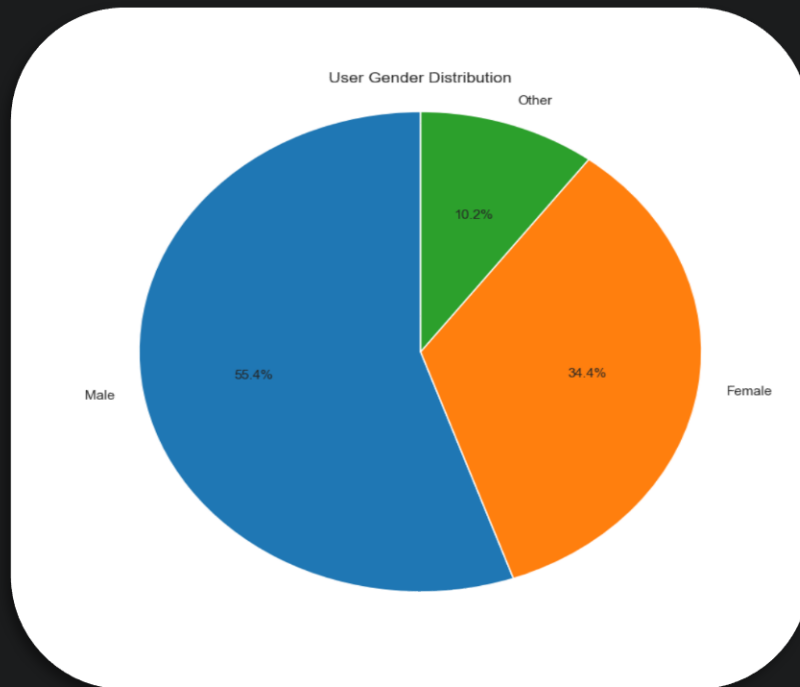
Clicks by Ad Type



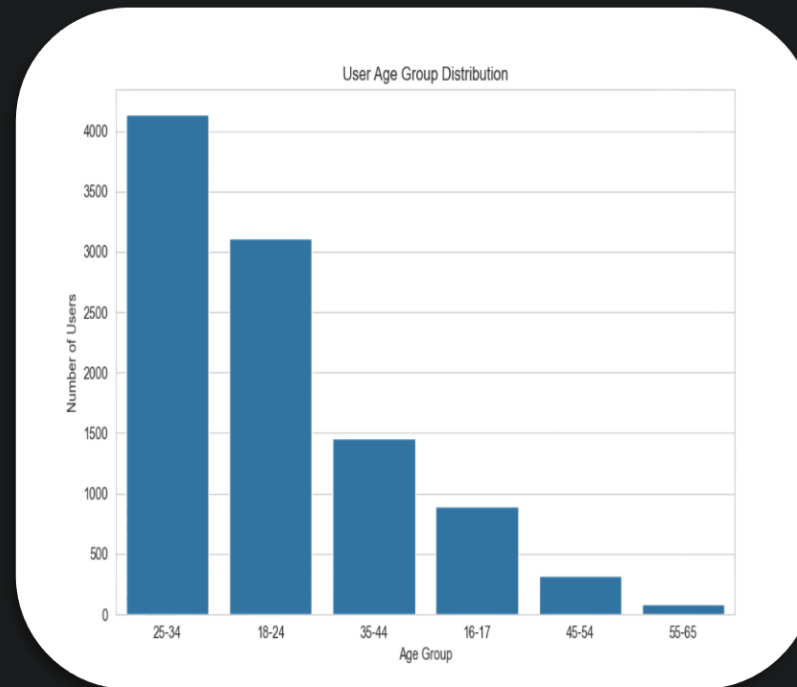
This visual highlights which ad types are most effective in driving user engagement through clicks.

User Demographics

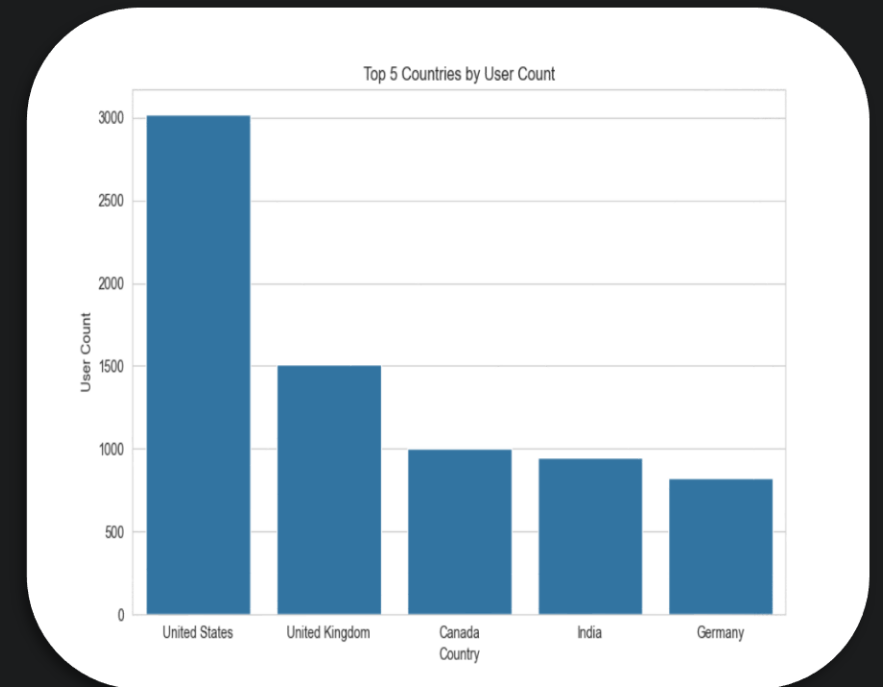
Gender Distribution



Age Group Distribution



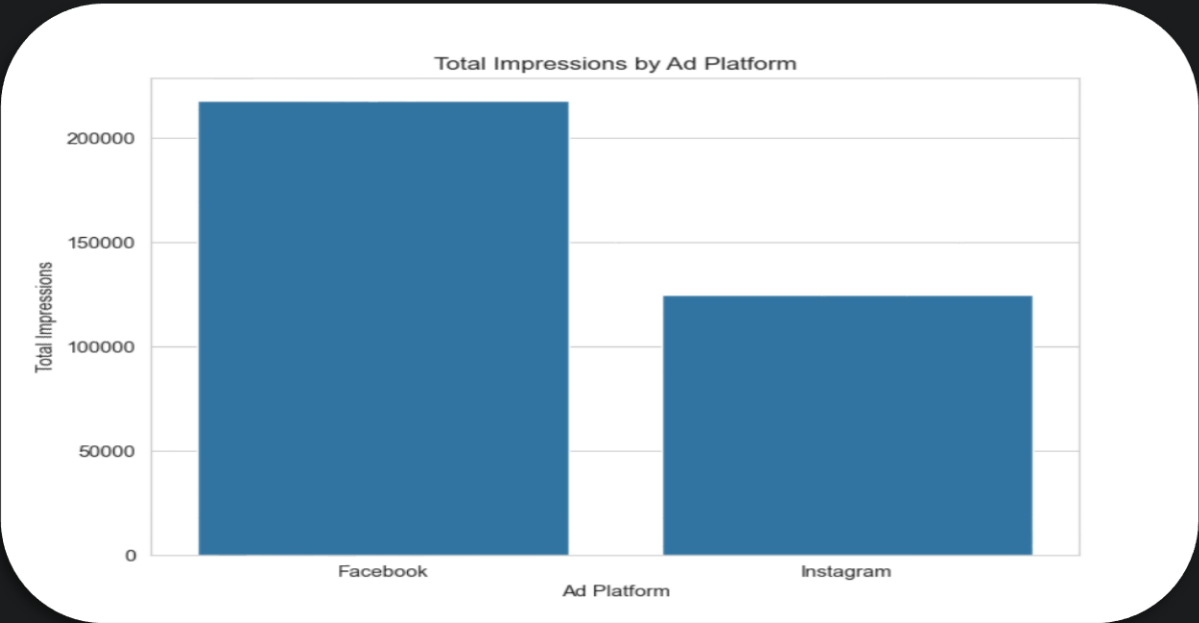
Top 5 Countries



Understanding these demographic breakdowns is crucial for targeted marketing strategies and audience segmentation.

Platform Performance

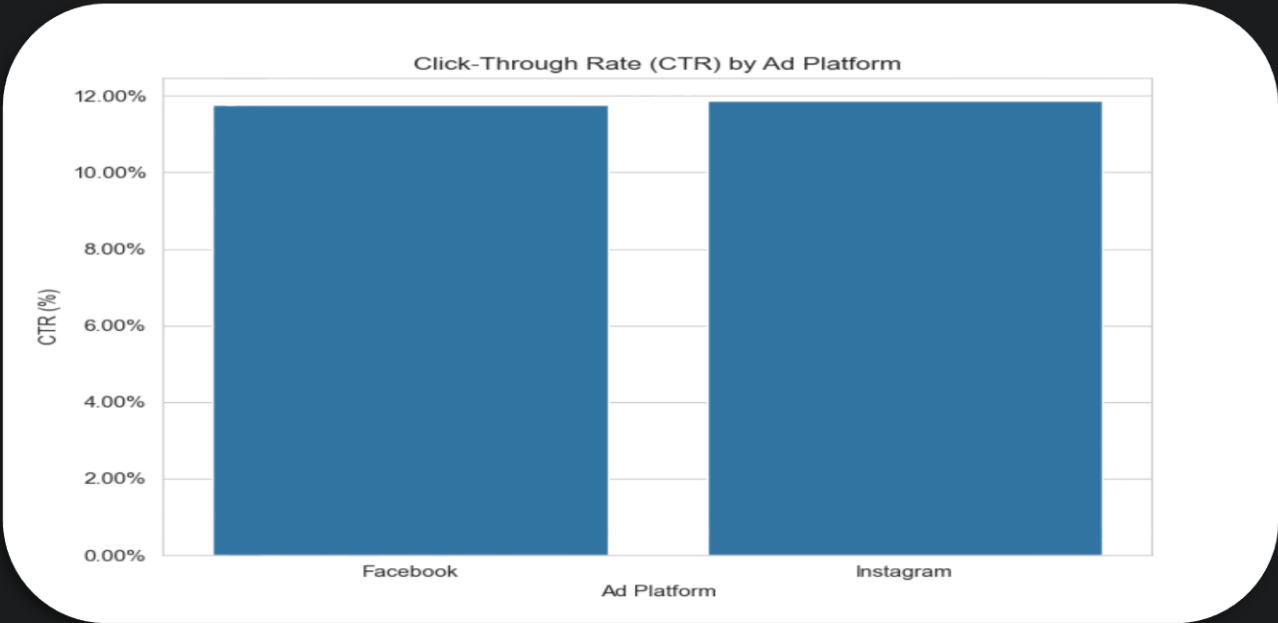
Impressions by Platform



Shows the total ad views generated by each platform, indicating their reach and visibility.

Facebook emerges as the top performing platform by impressions, highlighting its dominance in our advertising strategy.

CTR by Platform



Compares the effectiveness of different platforms in converting impressions into clicks, a key performance metric.

Forecast & Trends



Impressions Trend

Decreasing over the next 3 months, suggesting a potential decline in ad visibility



Clicks Trend

Decreasing over the next 3 months, indicating reduced user engagement



Purchases Trend

Decreasing over the next 3 months, a critical concern directly impacting revenue

The overall forecast suggests a negative outlook across all key metrics, necessitating immediate strategic review and optimization of current advertising strategies.



Projected losses

Advanced Analysis Approaches

Time Series Decomposition

Breaking down time series data into Trend, Seasonality, and Residuals components to identify patterns

- Improved forecasting accuracy
- Optimized campaign timing
- Better resource allocation

User Lifetime Value & Cohort Analysis

Understanding long-term customer value and behavior over time

- Optimized customer acquisition
- Improved retention strategies
- Informed product development

These advanced analytical approaches provide deeper insights for strategic planning and sustainable growth.

Actionable Recommendations

1 Strategic Platform Re-evaluation

Analyze ROI of Facebook and Instagram; consider diversification to other platforms

2 Ad Creative Optimization

Invest in A/B testing for ad creatives across different ad types

3 Targeting Refinement

Create highly segmented campaigns based on demographic data

4 Conversion Funnel Analysis

Identify and address bottlenecks from ad click to purchase

Additional recommendations include budget reallocation, trend monitoring, exploring new ad formats, user journey mapping, competitive benchmarking, and fostering a data-driven decision making culture.

Next Steps

This report serves as a foundational analysis. To reverse the negative forecasted trends and ensure sustained business growth, we recommend:

- Immediate implementation of the top priority recommendations
- Continuous monitoring of key metrics
- Regular experimentation with new strategies
- Agile adjustments based on performance data

By enhancing ad visibility, improving user engagement, and strengthening the conversion funnel, we can work to reverse these negative trajectories.



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