

Social Media Advertisement Analytics

Objective

To analyze the performance of these social media advertisements using historical data and present actionable insights to optimize future campaigns.

Description

The dataset contains 16 columns and 30000 rows of information on various social media advertising campaigns, their goals, performance metrics, and demographics. The detailed description of each column in the dataset is as follows:

- **Campaign_ID:** A unique identifier for each advertising campaign.
- **Date:** The date when the advertisement was displayed.
- **Target_Audience:** The primary demographic group targeted by the campaign (e.g. Women 18-24, Men 45-60).
- **Campaign_Goal:** The main objective of the campaign (e.g. Brand Awareness, Product Launch etc).
- **Duration:** The length of the campaign in days.
- **Channel_Used:** The social media platform where the campaign was run (Facebook, Instagram, Pinterest, Twitter).
- **Customer_Segment:** The market segment targeted by the campaign (e.g., Health, Home).
- **Language:** The primary language used in the campaign.
- **Company:** The name of the company running the campaign.
- **Location:** The geographical location where the campaign was targeted. This could be a city, region, or country.
- **Conversion_Rate:** The percentage of users who took a desired action (conversion) out of the total number of users who interacted with the ad, represented as percentage.
- **Acquisition_Cost:** The cost incurred to acquire each customer through the campaign, represented as a numerical value in dollars.
- **ROI:** The return on investment for the campaign represented as the ratio of net profit to the cost of the campaign.
- **Clicks:** The number of times users clicked on the advertisement.
- **Impressions:** The number of times the advertisement was displayed to users.
- **Engagement_Score:** Measure of user interaction (e.g. Likes, Shares and Comments).

Dataset Summary

- Count of Campaign ID: 255.09K
- Total Acquisition Cost: \$1.87B
- Total Net Profit: \$5.94B
- Total Clicks: 14B
- Total Impressions: 4B
- Average ROI: 3.18
- Average Conversion Rate: 0.08
- Average Engagement Score: 4.37

Insights

1. Overall Campaign Performance

- **The overall performance across all campaigns is:**
 - i. Avg. Conversion Rate: 8%
 - ii. Avg. Acquisition Cost: \$7335.85
 - iii. Avg. ROI: 3.18
- **Engagement Score across Campaigns:**
 - i. Brand Awareness: 4.38 (Highest)
 - ii. Market Expansion, Increase Sales, Product Launch: 4.36

2. Target Audience Analysis

- **Audience Performance**
 - i. Men with age group of 45-60 had the highest average engagement rate of 4.38 and age group of 25-34 had lowest average engagement rate of 4.35, while women with age group of 25-34 had the highest engagement rate of 4.42 and age group of 18-24 had lowest engagement score of 4.35.
 - ii. Men with age group 18-24 had highest average ROI of 3.19 and age group of 25-34 had lowest average ROI of 3.16, while women with age group of 18-24 had lowest ROI of 3.16 and age from 25-50 had same ROI of 3.18.
- **Trends in Engagement Scores across different Customer Segments:**
 - i. Health sector had higher average engagement score of 4.39, while home had lowest engagement score of 4.35.

3. Channel Effectiveness

- **Social Media Performance in terms of engagement, conversion rates, ROI and acquisition Cost:**
 - i. Instagram had higher engagement score of 5.51, while Pinterest had lowest of 1.00.
 - ii. Cost of Pinterest (\$468,981,723) is higher, while Instagram had lowest cost of (\$466,508,614).
 - iii. Twitter and Instagram had higher ROI of 4.05 and 4.02 in Product Launch, respectively.
 - iv. Pinterest had the lowest ROI in all campaigns.

4. Geographical Insights

- **Locations having highest engagement and conversion rates:**
 - i. Los Angeles leads in both engagement and conversion rate, likely due to highly active social media users and making it a prime location for digital advertising.
 - ii. New York, Miami, Las Vegas also show strong engagement.
- **Performance of campaigns in regions:**
 - Brand Awareness:**
 - i. Los Angeles New York are the best performing regions for Brand Awareness campaigns, indicating strong audience.
 - ii. Austin and Las Vegas also show strong performance.

Increase Sales:

- i. Los Angeles and New York continue to be the best performing locations for Increase Sales Campaign.
- ii. Miami shows strong engagement for increasing sales due to high interactive audience.

Market Expansion:

- i. Las Vegas and Los Angeles performs best in Market Expansion likely due to high interactive audience.

Product Launch:

- i. Las Vegas leads in Product Launch due to high consumer interest.
- ii. Austin and Los Angeles also performs well due to its higher engagement.

5. Temporal Analysis (Trends over Time)

- **Campaign Performance over Time:**
 - i. April and May were the best months for advertisement that had the highest conversion and engagement rates.
 - ii. February and June had the lowest conversion rates.
- **Seasonal Trends:**
 - i. Spring have the highest engagement and conversion rates, making them the best seasons for campaigns.
 - ii. Summer and winter had the slightly lower performance, likely due to the holidays.

6. Language and Cultural Impact

- **Performance of Campaigns in different Languages:**
 - i. Campaigns with English language receives the highest engagement, due to wider audience reach.
 - ii. Spanish and French campaigns had the similar highest conversion rates.
- **Languages with higher ROI:**
 - i. Campaigns in Spanish language yields the higher ROI of 3.19, making them the most cost-effective for ad spend.
 - ii. English language campaigns performs well but have slightly lower ROI of 3.17.
- **Impact of languages on cost:**
 - i. English campaigns have the highest acquisition cost, suggesting higher ad spend.
 - ii. French campaigns have the lowest cost, better for budget-conscious advertisers.

7. Campaign Goals and Outcomes

- **Performance of Campaigns:**
 - i. Increase Sales campaigns receives the higher engagement, while Brand Awareness have slightly lower engagement.
 - ii. Market Expansion campaign had the highest conversion rate.
 - iii. Product Launch have slightly lower conversion rate, but they drive the most engagement.
- **ROI comparison between campaigns:**
 - i. Product Launch campaign yields the higher ROI, they generate the most revenue.
 - ii. Brand Awareness and Market Expansion yields slightly lower ROI.

- **Campaigns with Acquisition Cost:**

- i. Brand Awareness campaign have the highest acquisition cost, because they focus on engagement rather than conversion, while Market Expansion have lower acquisition cost.

8. Company Performance

- **Companies having higher ROI and Conversion Rates:**

- i. Attire Artistry have the highest ROI.
 - ii. Style Sphere, Balance Beam and Culinary Quest also performs well, but have the slightly lower ROI.
 - iii. NexGen Nerds and Attire Artistry leads in conversion rates.
 - iv. Style Sphere performs well, showing strong audience interest.

- **Company's performance across multiple metrics:**

- i. Attire Artistry and Style Sphere performs well across conversion rates, engagement, clicks, impressions and ROI.
 - ii. Tech Titans also performs well with strong engagement and high number of clicks.

9. Customer Segment Insights

- **Customer Segment engagements across different Campaigns and Channels:**

- i. Fashion and Health show the highest engagement, particularly on Twitter.
 - ii. Fashion campaigns on Twitter also performs well, especially for Market Expansion.

- **Segments with high Engagement and low Conversion Rates:**

- i. Pinterest campaigns for Fashion, Technology and Food performs well despite low engagement.