



**SQL Marketing  
Campaign Analysis  
Report**

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# Marketing Campaign Analysis Report

## 1. Introduction

Marketing campaigns play a crucial role in driving customer engagement and revenue. This report provides a structured analysis of a marketing campaign dataset containing 200,005 rows, extracting key insights such as top-performing campaigns and top-selling products. The analysis is conducted using SQL to retrieve, filter, and summarize data effectively.

## 2. Objectives

The objectives of this analysis are:

- To extract meaningful insights from the dataset.
- To identify the top-performing campaigns.
- To determine the top-selling products.

## 3. Dataset Overview

The dataset contains details on various marketing campaigns, including impressions, clicks, conversions, and revenue generated. The key fields in the dataset include:

- **Campaign\_ID**: Unique identifier for each campaign.
- **Campaign\_Name**: Name of the marketing campaign.
- **Impressions**: Number of times the campaign was viewed.
- **Clicks**: Number of times users clicked on the ad.
- **Conversion\_Rate**: Number of times users completed a desired action (e.g., purchase, signup).
- **ROI**: Total revenue generated from the campaign.
- **Acquisition\_Cost**: Total cost of running the campaign.

## 4. SQL Queries and Analysis

### 4.1 Total Campaign Performance Overview

To get an overview of all campaigns, key performance metrics such as total impressions, clicks, conversions, revenue, and cost are retrieved.

SQL Query

```
SELECT  
SUM(Impressions) AS Total_Impressions,
```

```
SUM(Clicks) AS Total_Clicks, ROUND((SUM(Clicks) *
AVG(Conversion_Rate)), 2) AS Total_Conversions,
ROUND(SUM(Acquisition_Cost) * (1 + AVG(ROI)), 2) AS
Total_Revenue, SUM(Acquisition_Cost) AS Total_Cost
FROM campaigndata;
```

### Findings:

- The total impressions across all campaigns were **1,101,488,958**.
- The total clicks recorded were **109,957,667**.
- The total revenue generated from all campaigns was **\$15,011,748,682.72**.

## 4.2 Top 5 Best-Performing Campaigns (Based on Revenue)

To determine the campaigns that generated the highest revenue, they are ranked in descending order.

### SQL Query

```
SELECT
    Campaign_ID,
    Campaign_Type,
    ROUND(CAST(Acquisition_Cost AS NUMERIC) * (1 + ROI), 2) AS Revenue
FROM campaigndata
ORDER BY Revenue DESC
LIMIT 5;
```

### Findings:

- The highest revenue-generating campaign was **Influencer** with **\$179,438.36** in revenue.
- The second-highest campaign was **Influencer** with **\$179,346.18** in revenue.
- The fifth-highest campaign was **Email** with **\$179,339.58** in revenue.
- The fourth-highest campaign was **Display** with **\$179,321.62** in revenue.
- The fifth-highest campaign was **Social Media** with **\$179,294.68** in revenue.

### 4.3 Click-Through Rate (CTR) Analysis

Click-Through Rate (CTR) is an essential metric that shows how effective an ad is in generating clicks from impressions.

SQL Query

```
SELECT
    Campaign_ID,
    Campaign_Name,
    (Clicks * 100.0 / NULLIF(Impressions, 0)) AS CTR
FROM marketing_campaign
ORDER BY CTR DESC
LIMIT 5;
```

#### Findings:

- The campaign with the highest CTR was **Social Media** with **99.20%**.
- The campaign with the second highest CTR was **Influencer** with **99.20%**.
- The lowest-performing campaign in terms of CTR was **Display** with **1.00%**.

### 4.4 Cost Per Conversion (CPC) Analysis

To evaluate cost efficiency, Cost Per Conversion is calculated.

SQL Query

```
SELECT
    Campaign_ID,
    Campaign_Name,
    (Cost / NULLIF(Conversions, 0)) AS Cost_Per_Conversion
FROM marketing_campaign
ORDER BY Cost_Per_Conversion ASC
LIMIT 5;
```

#### Findings:

- The lowest cost campaign (Search) had a CPC of **\$33,346.67**.
- The most costly campaign (Display) had a CPC of **\$2,000,000.00**

#### 4.5 Calculate Total Impressions for Each Campaign

This query calculates the total impressions per campaign.

SQL Query

--Query retrieving the number of impressions

```
SELECT Campaign_ID,  
       SUM(Impressions) AS TotalImpressions  
FROM campaigndata  
GROUP BY Campaign_ID  
ORDER BY Campaign_ID;
```

	campaign_id [PK] integer	totalimpressions bigint
1	1	1922
2	2	7523
3	3	7698
4	4	1820
5	5	4201
6	6	1643
7	7	8749
8	8	7854
9	9	1754
10	10	3856

**Table 1: Total Impressions for Each Campaign**

#### Findings:

- Campaign **1** had **1922** total impressions.
- Campaign **2** had **7523** total impressions.

#### 4.6 Identify the Campaign with the Highest ROI

### SQL Query

```
-- Retrieve the campaign with the highest ROI
SELECT
    Campaign_ID,
    Company,
    ROUND(ROI, 2) AS ROI
FROM campaigndata
ORDER BY ROI DESC
LIMIT 1; -- Select only the top campaign with the highest ROI
```

	campaign_id [PK] integer	company character varying (255)	roi numeric
1	168	NexGen Systems	8.00

**Table 2: Campaign with the Highest ROI**

### Findings:

- The highest ROI was achieved by **NexGen Systems** with an ROI of **8%**

### 4.7 Find the Top 3 Locations with the Most Impressions

This query identifies the top-performing locations based on impressions.

### SQL Query

```
-- Retrieve the top 3 locations with the highest total
impressions
SELECT
    Location,
    SUM(Impressions) AS TotalImpressions -- Calculate total
impressions for each location
FROM campaigndata
GROUP BY Location -- Group by location to aggregate
impressions per location
ORDER BY TotalImpressions DESC -- Sort locations in
descending order based on total impressions
```

LIMIT 3; -- Return only the top 3 locations with the highest impressions

	location character varying (100) 🔒	totalimpressions bigint 🔒
1	New York	221359756
2	Miami	221347726
3	Chicago	219999352

**Table 3: Top 3 Locations with the Most Impressions**

### Findings:

- The highest number of impressions was **New York** with **221,359,756** impressions.
- The second highest was **Miami** with **221,347,726** impressions.

## 4.8 Calculate Average Engagement Score by Target Audience

Engagement scores measure how well a campaign interacts with its audience.

### SQL Query

```
-- Retrieve target audiences with highest average engagement score
SELECT Target_Audience, AVG(Engagement_Score) AS
AvgEngagementScore
FROM campaigndata
GROUP BY Target_Audience
ORDER BY AvgEngagementScore DESC;
```

	target_audience character varying (100) 🔒	avgengagementscore numeric 🔒
1	Men 18-24	5.5150152760873345
2	Women 25-34	5.4927398595456477
3	Men 25-34	5.4919798121127324
4	All Ages	5.4868693935683766
5	Women 35-44	5.4865702479338843

**Table 4: Average Engagement Score by Target Audience**




### Findings:

- The audience segment **Men 18-24** had an average engagement score of **5.5**

## 4.9 Calculate the Overall Click-Through Rate (CTR)

### SQL Query

```
-- Retrieve the total CTR across all campaigns
SELECT (SUM(Clicks) * 100.0 / SUM(Impressions)) AS
OverallCTR
FROM campaigndata;
```

	overallctr numeric 
1	9.9826390633686225

**Table 5 Overall Click-Through Rate (CTR)**

### Findings:




- The overall CTR across all campaigns was **9%**.

## 4.10 Find the Most Cost-Effective Campaign

Cost per Conversion (CPC) measures how efficiently a campaign converts users.

### SQL Query

```
-- Retrieve the most cost-effective campaign
SELECT Campaign_ID, Company, (Acquisition_Cost /
(Conversion_Rate * Impressions)) AS CostPerConversion
FROM campaigndata
ORDER BY CostPerConversion ASC; -- Select only the
campaign with the least cost
```

	campaign_id [PK] integer 	company character varying (255) 	costperconversion money 
1	42484	Alpha Innovations	\$3.34

**Table 6: Most Cost-Effective Campaign**

### Findings:

- The most cost-effective campaign was **Alpha Innovations** with a CPC of **\$3.34**.

### 4.11 Find Campaigns with CTR Above a Threshold, 5%

This query identifies campaigns with a CTR greater than 5%.

#### SQL Query

```
-- Retrieve campaigns with a Click-Through Rate (CTR)
greater than 5%
```

```
SELECT Campaign_ID, Company, (Clicks * 100.0 / Impressions)
AS CTR
FROM campaigndata
WHERE (Clicks * 100.0 / Impressions) > 5 -- Filter campaigns
where CTR is greater than 5%
ORDER BY CTR DESC;
```

	campaign_id [PK] integer	company character varying (255)	ctr numeric
1	122375	TechCorp	99.2023928215353938
2	26330	Alpha Innovations	99.2000000000000000
3	133972	Innovate Industries	99.0049751243781095
4	121860	Alpha Innovations	99.0009990009990010
5	171192	Alpha Innovations	98.4047856430707876
6	65535	DataTech Solutions	98.3218163869693978
7	77443	Innovate Industries	98.1280788177339901
8	173975	NexGen Systems	97.2194637537239325
9	67651	DataTech Solutions	97.0472440944881890
10	14262	TechCorp	96.9902912621359223

**Table 7: Campaigns with CTR Above 5%**

### Findings:

- Campaign **TechCorp** had a CTR of **99.2%**.

## 4.12 Rank Channels by Total Conversions

This query ranks marketing channels based on the total number of conversion  
-- Retrieve channels from highest to lowest conversions

SQL Query

```
SELECT Channel_Used, SUM(Conversion_Rate * Impressions) AS  
TotalConversions  
FROM campaigndata  
GROUP BY Channel_Used  
ORDER BY TotalConversions DESC;
```

	channel_used character varying (100) 🔒	totalconversions numeric 🔒
1	Google Ads	14804993.60
2	Email	14796855.85
3	Website	14762165.57
4	YouTube	14661901.97
5	Instagram	14657395.58
6	Facebook	14451723.86

**Table 8: Rank of Channels by Total Conversions**

### Findings:

- The most successful channel was Google Ads with **14,804,993.60** conversions.

## 5. Insights and Findings

Based on the analysis, the key takeaways include:

1. **Top Campaigns:** The best-performing campaigns (best-selling products) in terms of revenue and click-through rate were **Influencer and Social Media**.
2. **Cost Efficiency:** The campaign with the lowest cost per conversion was Search, indicating an effective cost strategy.

3. **Optimization Areas:** Some campaigns had high impressions but low CTR, indicating that ad campaigns or targeting strategies may need improvement.

## **6. Conclusion**

This report provides a comprehensive SQL-based analysis of marketing campaign performance. By leveraging SQL queries, the best-performing campaigns, most cost-effective strategies, and top-selling products were identified. The insights derived from this analysis can help optimize future campaigns for better efficiency and higher revenue generation.