

Some Questions Demand a Deep Dive []

1. How many company is executing marketing campaigns ?
2. What type of campaign is the most popular or preferred among audience ?
3. Which target audience group is majorly influenced by campaigns ?
4. Which channel is getting more views/impressions ?
5. Which time duration is having more impact on audience ?
6. Which company is generating more revenue and profits ? Give detail comparision in this case !
7. Which company's acquisition cost is more ? Give detail comparision in this case !
8. What is the average revenue generated and profits of each individual company ?
9. Which campaign is getting more clicks and views ?
10. How many customers got acquired by each company over the period of years ?
11. What is the revenue generated performance over the period of years for each company ?

Company column

Total 5 companies are doing marketing campaigns and all of them are having almost equal presence, means equally contributing towards marketing campaigns

Campaign Type column

Total 5 type of campaign exists in the data and all of them are having almost presence.

Target Audience Column

Men and Women individually are having equal presence, whereas only 20% fall under "All" category, means a category which includes all target audience. This suggests that marketing campaigns are primarily targeting men and women individually.

Age Group Column

A total of four age groups are being considered as target audience age's by companies for their campaign, among which 25-34 is age_group which is having 40% presence among all other age groups. This suggests that the 25-34 age group is being targeted the most in these campaigns.

Channel_Used Column

A total of six channels exists in the data through which campaigns are being executed. All of them are having equal presence.

Location Column

There are total five locations were campaigns are getting executed by companies and all of them are having equal presence in the data.

Language Column

There are total five languages are getting used in the campaign communication and all of them are having equal presence in the data.

Customer_Segment Column

There are total five customer segments are getting targeted by the companies, for which the campaigns are tailored and all of them are having equal presence in the data.

Duration_Days Column

Campaign durations are evenly distributed among all the variants between 15,30,45 and 60 days. Also it could be seen that entire lifecycle of a campaign's duration is between 15-60 days.

Conversion_Rate Column

Average conversion rate's of the companies altogether is 8% whereas maximum it reached till 15%. There are no outliers, and the data distribution is almost symmetrical.

Acquisition_Cost Column

Average acquisition cost of the companies altogether is around 12500 whereas maximum it reached till 20000. There are no outliers, and the data distribution is symmetrical.

ROI Column

Average return on investment of the companies altogether is 5% whereas maximum it reached till 8% over the period of two years. There are no outliers, and the data distribution is almost symmetrical.

Clicks Column

Average number of clicks for the companies altogether is around 545 whereas maximum it reached till 1000. There are no outliers, and the data distribution is symmetrical.

Impressions Column

Average number of impressions for the companies altogether is around 5500 whereas maximum it reached till 10000. There are no outliers, and the data distribution is symmetrical.

Engagement Score Column

Average engagement score for the companies altogether is around 5 to 5.5 which is actually quite average whereas 75% of the data is below 8. There are no outliers, and the data distribution is almost symmetrical.

Acquired_Customers Column

Potential outliers have been treated by preserving 99% data of acquired customers column and removing the rest. We could see that this column is heavily right skewed as because of its potential deviation from median. This suggesting that most of the records are having fewer customers but there are few other records with much higher value of customers that raises mean. On an average, companies altogether are acquiring 43 customers.

Revenue_Generated Column

Potential outliers have been treated by preserving 99% data of acquired customers column and removing the rest. We could see that this column is right skewed as because of its potential deviation from median. On an average, companies altogether are generating a revenue of around 74000, whereas maximum revenue can be seen of 1.6 lakhs.

Profits Column

On an average companies altogether generating a profit of nearly 61000, whereas this distribution is showcasing a right skewed data which means huge potential values exists in the records which consists of higher profits.

Date Column

Almost all the months are having equal distribution of campaigns running, but only february month could be seen with little less number of campaigns are getting executed.

General Campaign Performance Business Questions

1. What is the overall conversion rate across all campaigns?

Analysis says: Average 8% and max reaching till 15%

2. What is the distribution of conversion rates across all campaigns?

Analysis says: Conversion rates are almost equally distributed which is suggesting that getting conversion rates between the range of 0-15 is equally possible across all campaigns.

3. What is the average acquisition cost for all campaigns?

Analysis says: Average is 12500 and max reaching till 20000.

4. What is the average engagement score across all campaigns?

Analysis says: Across all the campaigns altogether engagement score is around 5 to 5.5 which is actually quite average whereas 75% of the data is below 8.

5. How many acquired customers were there in total across all campaigns?

Analysis says: Total 8431664 i.e., around 84 lakhs customers got acquired across all campaigns.

6. What is the distribution of campaign durations (in days) across all campaigns?

Analysis says: Campaign durations are evenly distributed among all the variants between 15,30,45 and 60 days

7. What is the average age of the target audience for the campaigns?

Analysis says: 25-34 is age_group which is having 40% presence among all other age groups. This suggests that the 25-34 age group is being targeted the most in these campaigns.

8. What are the most common languages used in the campaigns?

Analysis says: All the languages are having equal presence across all the campaigns, which means they're evenly distributed. But still specifically, Mandarin is having little edge over others.

9. What is the total profit generated from all campaigns combined?

Analysis says: Nearly 61000, whereas the profit distribution is showcasing a right skewed data which means huge potential values exists in the records which consists of higher profits.

10. What is the average ROI across all the campaigns ?

Analysis says: Average ROI is 5%, whereas maximum it reached till 8%.

Bivariate Analysis:

Company Performance

How does the conversion rate vary by company?

All companies individually have an average conversion rate close to 8%. This suggests that, in terms of conversion rate, they are performing similarly.

What is the relationship between acquisition cost and company?

On an average, all companies individually spending equal approximate amount for campaigns, whereas "Techcorp" is having higher total acquisition cost and "Innovate Industries" comes at the bottom. Interesting both of them are having same average conversion rate. It will be highly possible for Techcorp to gain more customers as it is spending high comparative to others.

How many acquired customers are there in total across each company ?

Notably, Techcorp has acquired higher number of customers as compared with others, showing a possible reason of investing higher total acquisition cost as compared to others.

How does ROI differ across companies?

On an average, each company individually having similar ROI percentages. But specifically Techcorp is leading again here as well.

Which company has generated more profits ?

On an average all companies individually are generating similar profits, but in terms of total profits, again Techcorp is having edge over others.

Which company has generated more revenue ?

On an average all companies individually are generating similar revenue, but in terms of total revenue, again Techcorp is having edge over others.

How engagement scores vary among each company ?

All companies are having almost same average engagement score, but precisely Innovate is having little edge whereas Techcorp is at bottom.

Campaign Performance

Which campaign type is getting higher number of clicks and impressions ?

- Influencer campaigns are getting more clicks and customers, followed by Display campaign
- Search campaigns are getting more impression, followed by again Influencer campaigns

What is the acquisition_cost getting spend on each campaign types ?

- Influencer campaigns are having little more acquisition cost, amounting to 489.97 million.
- Differences in percentage and average costs are minimal, which suggests that all campaigns are contributing nearly equally in terms of cost efficiency

What is the total revenue and profits getting generated through each individual campaigns ?

- Influencer campaigns are getting more revenue generated as well as profits.
- Although differences in the profit percentage, average profit and total revenue generated is relatively very small, hence it can be said that all campaigns are almost contributing similarly.

What is the impact of campaign type on ROI ?

All the campaigns are having very similar ROI, but precisely Influencer campaign is having little edge.

What is the impact of campaign type on conversion rate?

Average conversion rate is almost same as of 8% among individual campaigns, but precisely Influencer campaigns are having slight edge.

Which campaigns are getting more preferred by target audience ?

Influencer campaigns are preferred more by target audience, followed by search and display campaigns

How does the engagement score vary across different campaign types?

- All the campaign types are having similar average engagement score but more precisely, Display and Social Media campaigns are having little edge.
- Interestingly, Influencer campaigns are having least average engagement score even though it is been most preferred by audience and also generating more profits.

What is the relation between Campaign Type and channels used ?

All campaigns utilize various channels, with only minor differences in usage across them. These differences are negligible.

Thoughts:

- Influencer campaigns are the best overall, offering higher profits, customer counts but slightly having higher acquisition cost as well.
- Search and Display are following Influencer campaign and are close contenders offering strong performance with only marginal lower results.
- Social Media and Email are lagging behind with fewer numbers but still quite close.

Engagement Score Performance

How does engagement score relate to conversion rate?

- No correlation exist between engagement score and conversion rate.
- This indicates that high engagement score doesnot means increase or decrease in conversion rate. Users just engaging with the campaigns by liking, commenting and sharing doesnot mean that they will buy or do the signup.

Thoughts: If business has goals for profitability and revenue generation only, then engagement score of average 5.5 is good. Instead of focusing solely on likes, comments and shares, campaigns should be designed in such a way that it pushes users not just to engage but also takes next step to buy or sign up.

How Engagement score and Profit is related ?

No correlation exists between engagement score and profits.

How do engagement scores vary with the duration of campaigns?

No correlation exists between engagement score and campaign's duration.

How Engagement score and ROI is related ?

No correlation exists between engagement score and ROI.

What is the relationship between engagement score and target audience?

No relationship exists between target audience and engagement score. Engagement score is similar in all type of target audiences.

Target_Audience Performance

How does the click-through rate vary by target audience?

Click-Through rates for all kind of target audience is very similar from the data. This suggesting that all type of target audience can have equal clicks and impressions.

How do acquisition costs differ across target audiences ?

Men are having higher acquisition cost, followed by women. All category is having a least acquisition cost, which represents mixed demographic.

How does ROI and Profits differ across target audiences ?

- Men & Women are generating more profits. ROI in terms of average is same among all of target audience type.
- As we know from univariate analysis that Men and Women got targeted most for campaigns, hence it is justified to get more profits from them.

How does the conversion rate change by target audience?

All type of target audiences are having equal average conversion rate.

What is the relation between Target Audience and Acquired Customers ?

- Similar number of customers are getting acquired from Men and Women individual category. Suggesting both of them are getting influenced equally.
- "All" category is getting least customers but it is justified as campaigns are targeting less to it.

Thoughts:

From the above analysis of Target audience with conversion rate which is suggesting equal conversion rate across various target audience, similarity of engagement score across all type of target audience and very similar customers acquired count.

Based on these metrics, we can conclude that all types of target audiences are likely influenced similarly by the campaigns.

Age_Group Performance

How does the conversion rate differ by age group?

All age groups are having same conversion rate.

Is there a correlation between revenue generated and profits and age group?

- Age group of 25-34 is generating higher profits and revenue. 25-34 age group is generating overall 40% profits collectively.
- We know from univariate analysis that this 25-34 age group is targeted most by the companies for campaigns, hence higher profits and revenue is justified.

Which Age group is targeted most among different campaigns ?

- 18-24 Age group is having little higher influence of Influencer campaigns, indicates this might be particularly effective for reaching younger audience.
- 25-34, 35-44, and 0-100 Age group is having influence from all type of campaigns

Are there specific age groups that show higher engagement scores?

Average engagement score is similar across all age groups, precisely 18-24 is having a slight edge over others. As young users engagement more with the contents by doing like, comment and share, hence it is justified.

Age_Group of 25-34 is getting influenced more through which campaign types ?

Search campaigns are being targeted most by 25-34 age group users and can be seen most effective. This indicates that this age group is highly influenced by ads appearing in search results, likely because they are actively seeking information or products.

Thoughts:

- For 25-34 age group, Search campaign would be the first best choice as they're getting influenced and converted more through Search campaigns.
- For 18-24 & 0-100 age group, Influencer campaign would be the first best choice as they're getting influenced and converted more through Influencer campaigns.
- 35-44 age group is having least acquired customers, where Display is being preferred more. It show a room of improvment to attract older generation.

Duration Days Performance

How does ROI relate to the duration of the campaign?

All the campaign durations are generating ROI similarly on an average.

What is the relationship between conversion rate and duration of campaigns?

All the campaign durations are generating conversion rate similarly on an average.

Is there a correlation between clicks and duration of the campaign?

No correlation exists between clicks and duration days.

Channel_Used Performance

Which channel is getting more views/impressions ?

- Google Ads, Email, Youtube & Website are into top 4 channels with most number of impressions and clicks, it is possible to say that these channels covers majority of the population with varied age groups, hence getting more views and clicks.
- Instagram & Facebook are at bottom 2. But still differences are quite similar.

How do acquisition costs vary across different channels?

All channels are having almost equal acquisition cost. Email channel is having a little edge over others.

What is the impact of channel used on revenue generated?

- Google Ads, Email, Youtube & Website are into top 4 channels through which more number of revenue is being generated, which is justified as these channels are having higher impressions and views specifically.
- Instagram & Facebook are again at bottom 2 with least number of revenue generated, as we know these channels are producing lower views and clicks.

Which channel is getting more conversion rate ?

Email is having highest conversion rate of 7.96%, followed by Google Ads and Website both are having 7.95%.

Thoughts

- Channels like Google Ads, Email, Youtube, Website are among top 4 channels those are producing higher views, clicks and revenue.
- Different companies can target these channels on priority for their various campaigns rather than allocating all campaigns equally for these channels.

Customer_Segment Performance

How does the conversion rate differ by customer segment?

All customer segments are having equal conversion rate on an average

Is there a correlation between customer segment and revenue generated?

- Foodies is the segment which is trending on the top with higher amount of total revenue being generated.
- Fashionistas is at bottom

How do clicks vary across different customer segments?

Foodies segment are getting more clicks and Fashionistas at bottom.

What is the relationship between customer segment and ROI?

All segments are having similar ROI on an average.

Which customer segment is generating higher profits to the business ?

Foodies customer segment is on top in terms of higher profits whereas Fashionistas is at bottom.

Which customer segment is having higher acquisition cost to the business ?

Foodies segment is having higher acquisition cost whereas Fashionistas having lower acquisition cost.

How many customers are acquired from each customer segment ?

Foodies customer segment is having strong fanbase as it is having edge for having higher customers acquired count and Fashionistas is again at bottom.

Location Performance

How does the conversion rate differ by location?

All locations are having equal conversion rate.

Is there a correlation between location and acquisition cost?

Miami is having higher acquisition cost followed by LA and Houston at bottom

How do clicks vary across different locations?

All of the locations are having almost similar click counts, Newyork is having a slight edge over others.

What is the relationship between revenue generated and location?

Miami is generating higher revenue, whereas Houston is at bottom.

Is there any relation among Location and Campaign Types ?

In most of the locations, it could be seen that Search and Influencer campaigns are having slight edge.

How conversion rate differ among different locations ?

All locations are having equal conversion rate.

Language Performance

What is the impact of language on conversion rate?

All languages are having equal conversion rate.

Is there a difference in acquisition costs based on language?

Spanish is having little higher acquisition cost over others, whereas French is at bottom.

How do clicks differ across languages?

Almost all of the languages are having similar clicks count, specifically French is at the bottom.

Acquired_Customer Performance

What is acquisition cost per acquired customer ?

- On an average 289 is the per head acquisition cost involved.
- All companies are getting similar per head acquisition cost.

Is there a correlation between acquired customers and revenue generated?

No correlation exists between acquired customers and revenue generated.

What is the relationship between acquisition cost and acquired customers?

No correlation exists between acquired customers and acquisition cost.

Clicks, Impressions, Campaign Type

- Display and Social Media are having higher click through rates of 9.4%, followed by Influencer and others.

- Overall, the campaigns are performing consistently, with slight variations in Clicks and CTR.

Financial Metrics Performance

- Acquisition cost and revenue is showing strong correlation by 0.75, indicates as acquisition cost is increasing, revenue increasing.
- Acquisition cost and profit is also having moderately strong correlation of 0.68, indicates as acquisition cost increasing, profit increasing.
- Acquisition cost and conversion rate is having no correlation, indicates, it doesnot mean if acquisition cost is high, then conversion rates needs to be high.
- Profit and Revenue are related concepts, as profit is directly propotional with revenue in this dataset, hence it makes sense.

Year & Monthly Trend Analysis

Campaign Performance Over Time - Average Conversion Rate per Month

- Conversion rate is getting fluated throughout the year with no proper trend.
- Highest peak in conversion rate could be seen during the Month of April and lowest could be seen during May.
- Conversion rates varies month-to-month without proper capturing seasonal trend.

Campaign Performance Over Time - Total Revenue Generated Rate per Month

- Huge drop in revenue could be seen during the month of April, whereas recovery and stablization could be seen from march throughout whole year
- Highest revenue got generated during the month of August.

Language vs Location vs Conversion_Rate

- Average conversion rates could be seen similar for different combinations of language and location.
- Los Angeles with English and New York with French can be seen for getting highest conversion rate of 8%.
- English & French could be seen most preferred languages across all locations.
- German language in Houston and Mandarin in Los Angles could be seen as lowest performer with least conversion rate of 7.85%.

Campaign Type, Channel Used, Conversion Rate

- Influencer campaign on Email is having higher conversion rates by 8.06%
- Search campaign on Google Ads is having second highest conversion rates by 8%

Language vs Location vs Campaign_Type vs Conversion Rate

- Overall Influencer (7.80-8.14%) & Search(7.77-8.07%) campaigns are performing consistently well across different locations with languages.
- English in Los Angeles with Influencer type campaign is returning the highest conversion rate of 8.14%.
- English with Influencer campaign is performing well across all locations, accept little low in Newyork.
- French wth Influencer campaign would be a good alternative for Newyork.

- For Influencer campaign: German language across all locations should be a step down
- For Search campaign: Spanish language across all locations should be a step down
- Mandarin in Chicago of Display campaign is affecting the conversion rate most by 7.64% as the lowest. Hence, English in Chicago for Display campaign would be the best choice as it is returning 8.11% of conversion rate.
- Spanish in overall is not working good with different locations and Campaign Types.

Average Conversion Rate, Target Audience, Age_Group, Campaign Type, Channel_Used

- Women 25-34 Influencer on Email has shown highest conversion rate of 8.25%, followed by Women 35-44 Influencer on Email again by 8.20%.
- Men 18-24 Social Media campaign type on Website shows a high conversion rate of 8.12%.
- Women 25-34 Search on Youtube also performing good by giving 8.14% conversion rate.
- All ages audience on Facebook can be seen as lowest performance by 7.64% and also not a good performance on Email as well.

Average Conversion Rate, Company, Target Audience, Age_Group, Campaign Type, Channel_Used

- Datatech Solutions is getting highest conversion rate of 8.76% through women 25-34 Influencer type campaign on Email.
- Datatech solutions is getting second highest conversion rate of 8.64% through men 25-34 Display type campaign on Facebook.
- It can be seen that almost all companies are having good performance when it comes to Women-25-34-Influencer or Women-35-44-Influencer type combination on Email, except Techcorp.
- Innovate industries is getting third highest conversion rate of 8.59% through Men 25-34 Influencer campaign on Website.

Conclusion

Trending Campaign Type

Influencer campaigns are on trends, generating more revenue, ROI, conversion rate and most preferred precisely

Top channels with most conversion rate

Email is having highest conversion rate of 7.96%, followed by Google Ads and Website both are having 7.95%.

Engagement Score Analysis

Engagement score doesnot have any impact on financial factors as well as even not on target audience. This indicates that high engagement score doesnot means increase or decrease in conversion rate. Users just engaging with the campaigns by liking, commenting and sharing doesnot mean that they will buy or do the signup.

Favourable combinations of Campaign Type and Channel used

- Influencer campaign on Email is having higher conversion rates by 8.06%
- Search campaign on Google Ads is having second highest conversion rates by 8%

Financial Metrics

- Acquisition cost and revenue is showing strong correlation by 0.75, indicates as acquisition cost is increasing, revenue increasing.
- Acquisition cost and profit is also having moderately strong correlation of 0.68, indicates as acquisition cost increasing, profit increasing.

Impact of Campaign Type on Clicks, Impressions, CTR

All campaigns are maintaining CTR's ranging from 9.8 to 9.4%. Overall, the campaigns are performing consistently, with slight variations in Clicks and CTR.

Year & Monthly Trend Analysis

Campaign Performance Over Time - Average Conversion Rate per Month

- Conversion rate is getting fluated throughout the year with no proper trend.
- Highest peak in conversion rate could be seen during the Month of April and lowest could be seen during May.
- Conversion rates varies month-to-month without proper capturing seasonal trend.

Campaign Performance Over Time - Total Revenue Generated Rate per Month

- Huge drop in revenue could be seen during the month of April, whereas recovery and stablization could be seen from march throughout whole year
- Highest revenue got generated during the month of August.

Effect of Language, Location, Campaign Type on Conversion Rate

- Individually, New York is having most conversion rate of 7.95%, followed by Chicago, Miami and Los Angeles by 7.94%.
- Overall Influencer (7.80-8.14%) & Search (7.77-8.07%) campaigns are performing consistently well across different locations with languages.
- English in Los Angeles with Influencer type campaign is returning the highest conversion rate of 8.14%.
- English with Influencer campaign is performing well across all locations, accept little low in Newyork.
- French wth Influencer campaign would be a good alternative for Newyork.

Top performing Combinations using Target Audience, Age_Group, Campaign Type, Channel_Used by Conversion Rate

- Women 25-34 Influencer on Email has shown highest conversion rate of 8.25%, followed by Women 35-44 Influencer on Email again by 8.20%.
- Men 18-24 Social Media campaign type on Website shows a high conversion rate of 8.12%.
- Women 25-34 Search on Youtube also performing good by giving 8.14% conversion rate.

- All ages audience on Facebook can be seen as lowest performance by 7.64% and also not a good performance on Email as well.

Suggestion:

- Targeting Women of age group of 25-44 together with Influencer campaign on Email channel would be great fit for getting good conversion rates.
- Search Campaigns for All age groups might going to work great as well, as it shows 8.12% of conversion rate.
- Men with age group of 18-24 (younger generation) should also be targeted more as it shows good conversion rate altogether from various campaign types and channels.

Company with highest conversion rate with other combinations

Datatech Solutions is getting highest conversion rate of 8.76% through women of 25-34 age group by doing Influencer type campaign on Email as a channel.

