# Week 1 Charts

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## Comparision between Impressions and Reach for each Campaign

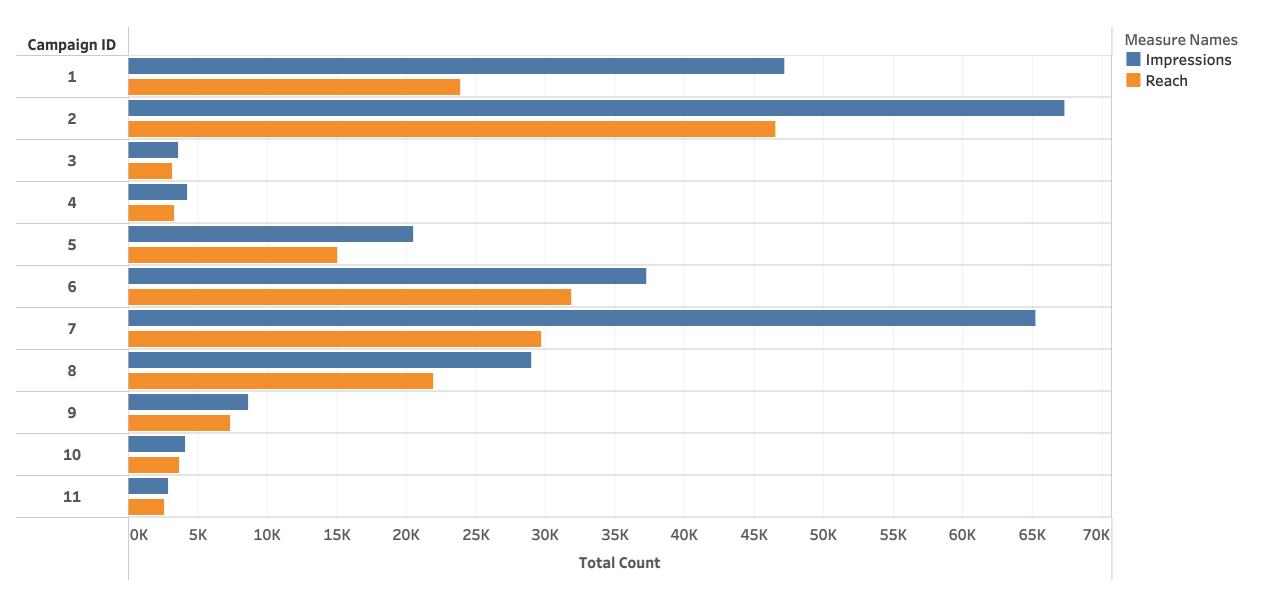


Figure 1. Impressions and Reach for each Campaign ID. Color shows details about Impressions and Reach. Campaigns 1, 2, and 7 accounted for the top three values in Impressions, while showing relatively large decreases in Reach values.

### Frequency broken down by Campaign ID vs. Age



Figure 2 illustrates the concept of Frequency, which refers to the average number of times each person viewed the ad. This metric can be calculated by dividing Impressions by Reach. In the figure, the size of each square indicates the value of Frequency and these values are labeled within the squares. Both Campaign 1 and 7 exhibit higher Frequency values compared to the other campaigns, and the highest Frequency value is associated with the 13-17 age group and Campaign 7.

## Total Clicks by Campaign/Geography and Age Group

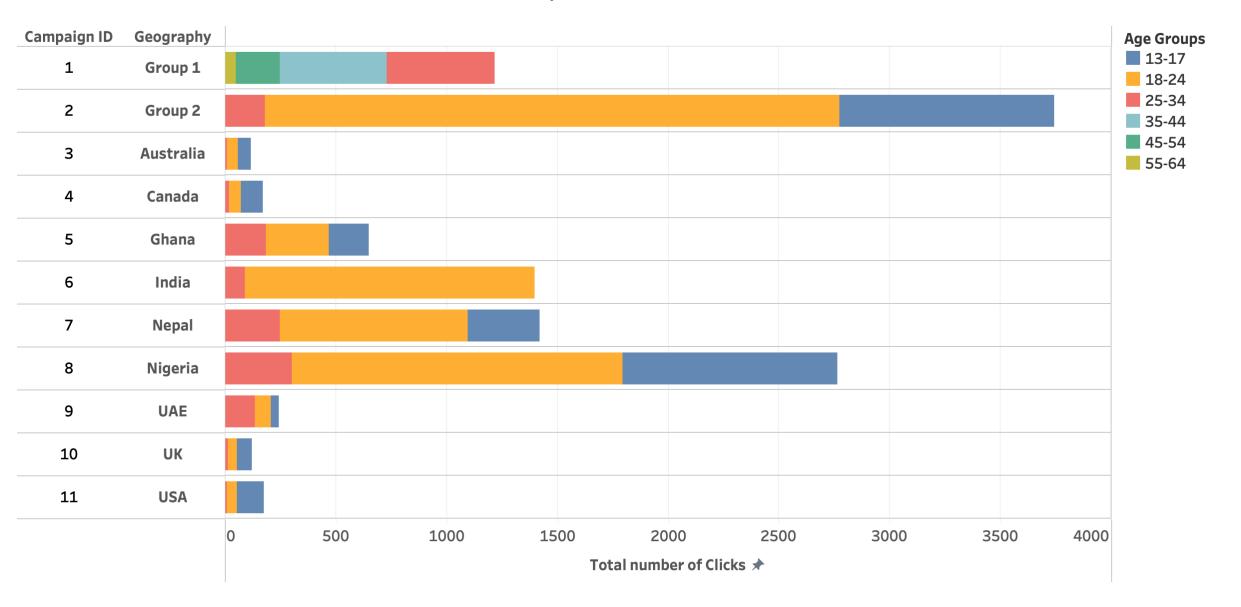
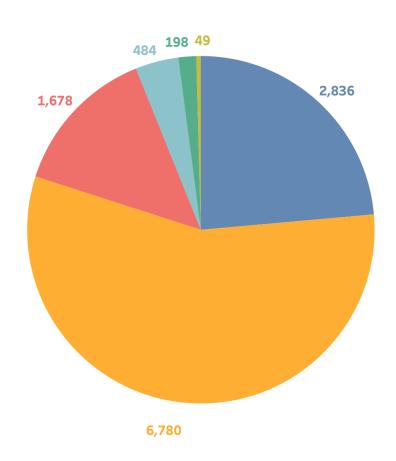
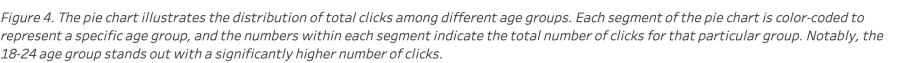


Figure 3. The total number of clicks for each campaign is presented in the chart and age groups are differentiated by color. In addition, each campaign was broadcast in a different country or group of countries. Group 2 (consisting of Australia, Canada, United Kingdom, Ghana, Niger, Nigeria, Nepal, Pakistan, Thailand, and Taiwan) exhibits the highest number of clicks, with Nigeria following as the second-highest clicks.

#### Total Clicks Distribution by Age Group







## Comparison of Unique Click (UC) and Unique Link Click (ULC) by Age Group

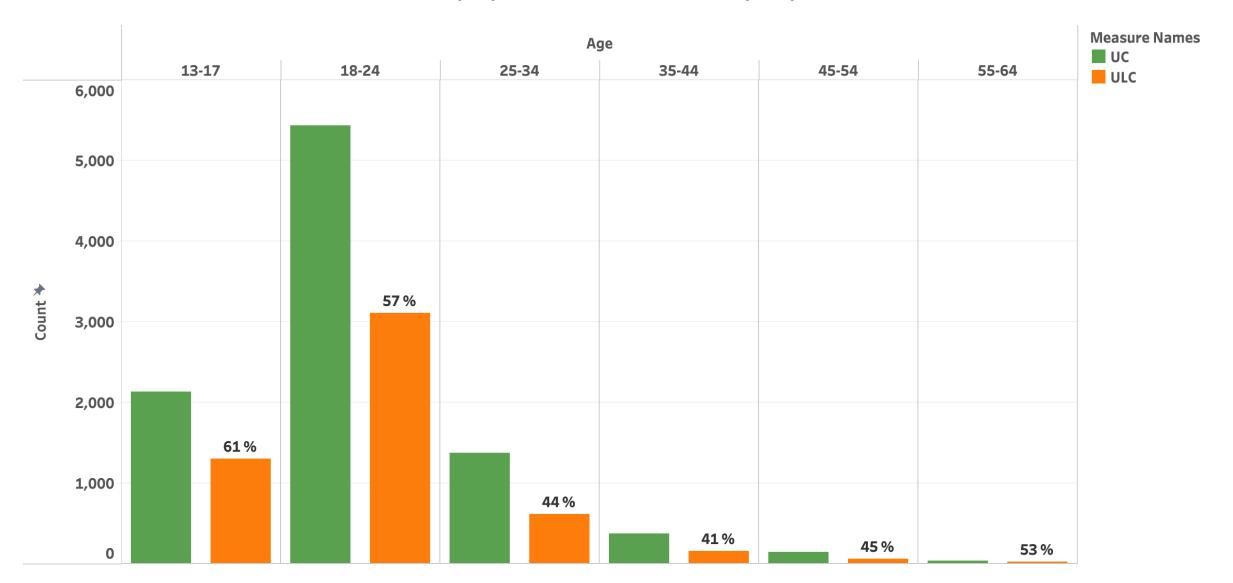


Figure 5. The graph presents a comparison of the percentage of people who clicked on an ad (UC, represented by green bars) and those who clicked a link after seeing the ad (ULC, represented by yellow bars) for each age group. Notably, more than half of individuals in their teens and early 20s clicked on a link after viewing an ad. The last age group also demonstrates over 50%, however, the total count for this age group is relatively small, which could influence the accuracy of the ratio.

#### Comparison of the average percentage of CTR and UCTR by Age Group

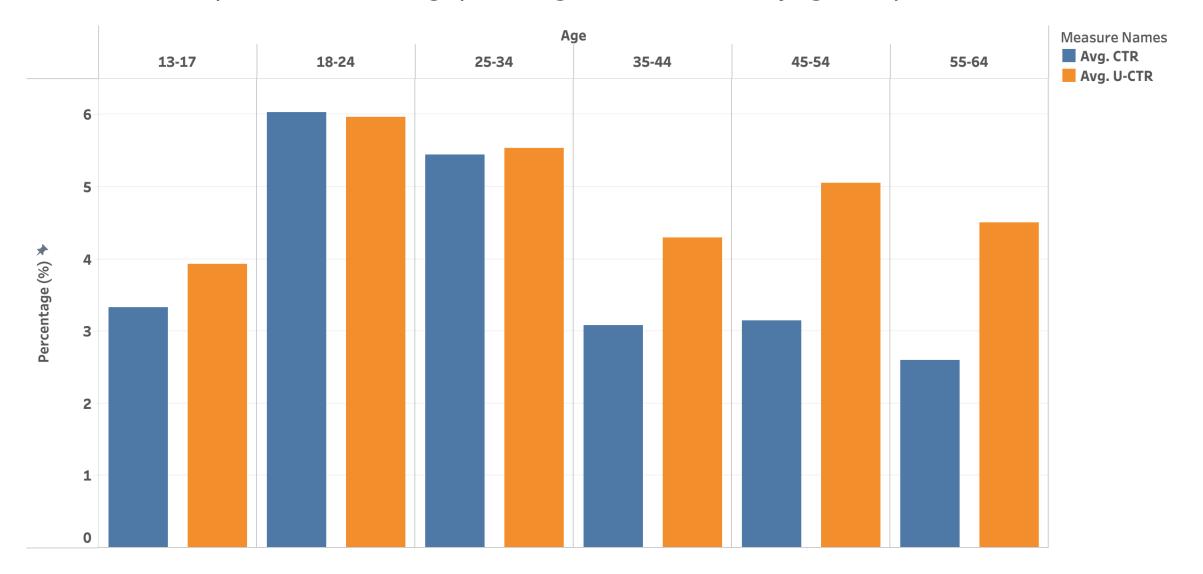


Figure 6. The chart provides a comparison of the average percentage of Click-Through Rate (CTR) and Unique Click-Through Rate (UCTR) across different age groups. The CTR is calculated by dividing the total number of clicks by the number of Impressions which represents the number of advertisements shown per day, and it shows high values in the 2nd and 3rd age groups. Conversely, the UCTR measures the case where individuals who viewed the advertisement (Reach) subsequently clicked on it (Unique Clicks), and it significantly increases in the 35-year-old or older age group. This indicates that Campaign 1, targeted at this age group, was particularly effective.

## Comparison of the average CTR and UCTR by Campaign

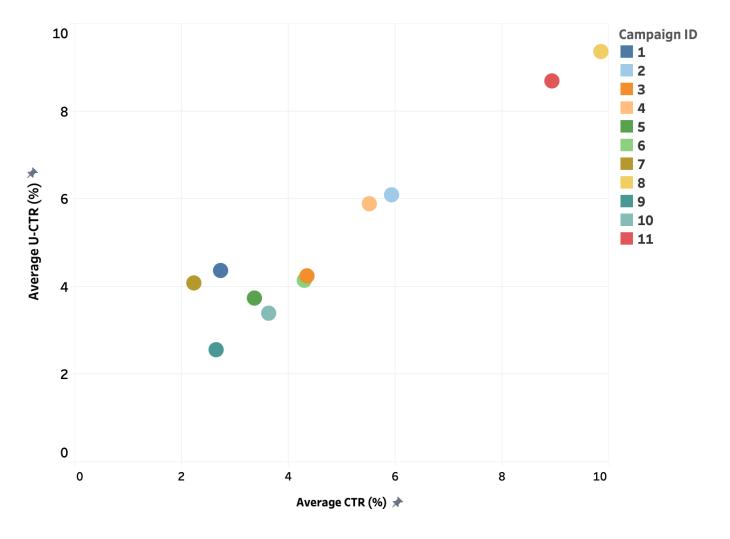


Figure 7. The scatter plot illustrates the average Click-Through Rate (CTR) on the X-axis and the average Unique Click-Through Rate (UCTR) on the Y-axis for each campaign. Notabley, Campaigns 8 and 11 exhibit higher average values compared to the other campaigns. Among the groups with lower average values, Campaigns 1 and 7 stand out because they show higher average UCTR values compared to CTR. This suggests that the efficiency of these two campaigns is superior to those with other low average values.

## **Comparison of Total Ad Cost and Total Clicks by Campaign**

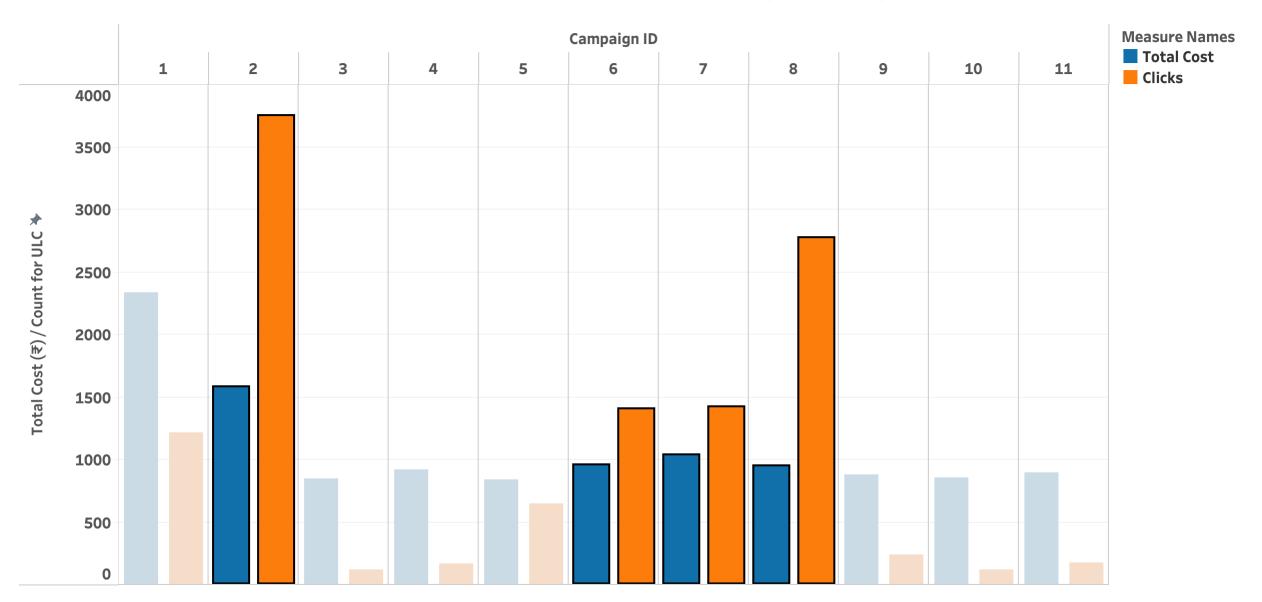


Figure 8, A direct comparison between each campaign's total ad spend and the total number of clicks generated serves as a measure of each campaign's effectiveness. Notably, campaigns 2, 6, 7, and 8 show significantly higher bars for clicks in comparison to their investment bars. This observation highlights a higher level of advertising efficiency relative to our investment in these campaigns when compared to the others.

## Comparison of Cost per Click (CPC) and Cost per Result (CPR)

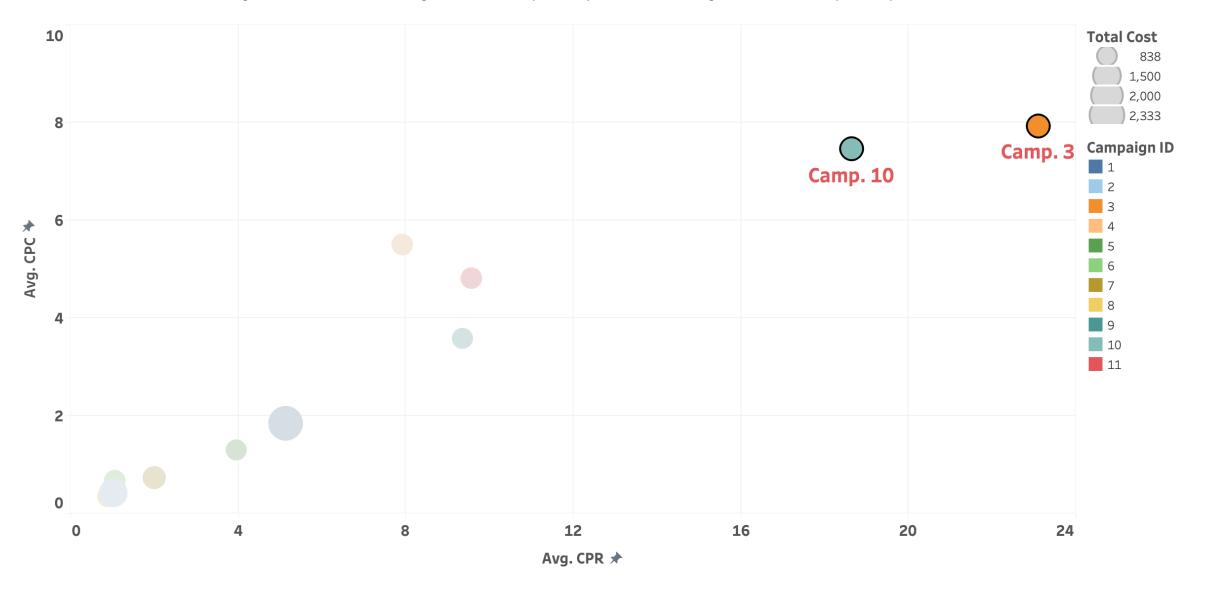


Figure 10. Cost per Click (CPC) represents the total cost divided by the number of clicks, while Cost per Result (CPR) represents the total cost divided by the number of unique link clicks. The plot illustrates that campaigns 3 and 10 exhibit high costs in both metrics, suggesting that both campaigns are not effective.

## **Cost per Link Click by Campaign**

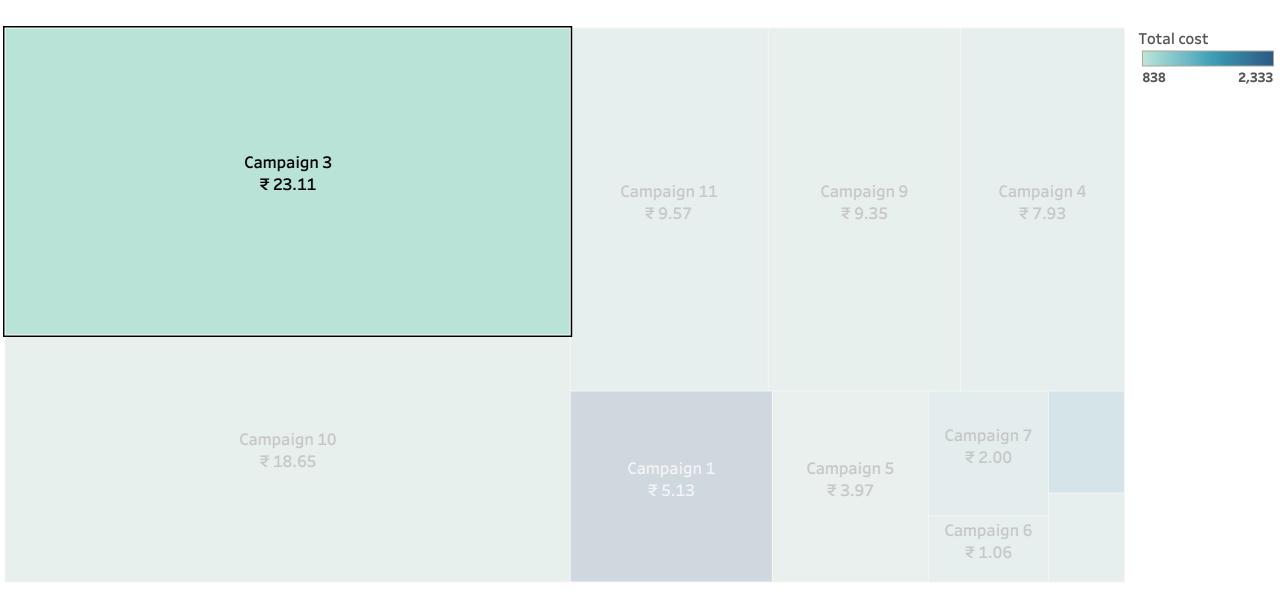


Figure 11. The plot examines the cost per Unique Link Clicks for each campaign. Campaign 3 shows the highest click cost, followed by campaign 8. A high cost per clicks typically indicates low advertising effectiveness.