Ad Campaign Analysis

The provided dataset contains data for 5 ad campaigns with 11 ad sets among them. The complete data and metrics for the date range 12/9 -18/9 are available in the link

Average of the Metrics for the date range 12/9 -18/9

Avg Target Result	4.2727
Average Results	1.948052
Avg Scale Score	0.45593
Avg Spend	25.05519
Avg Target CPR	8.5
Avg CPR	14.21566
Avg Cost Score	1.00949

Trends for the metrics for the date range 12/9 - 18/9

From the above table and image it can be seen that the average of results is less than that of the target and the average CPR is significantly higher than that of the target CPR. This means that the ad campaign during the 12/9 -18/9 period was inefficient and probably incurred significant losses.

The CPR for the given data had some values as 0, in the cases of 0 value for results.(for which CPR would result in undefined values).
Replaced these values with 'NA' so that average values calculated are not biased.

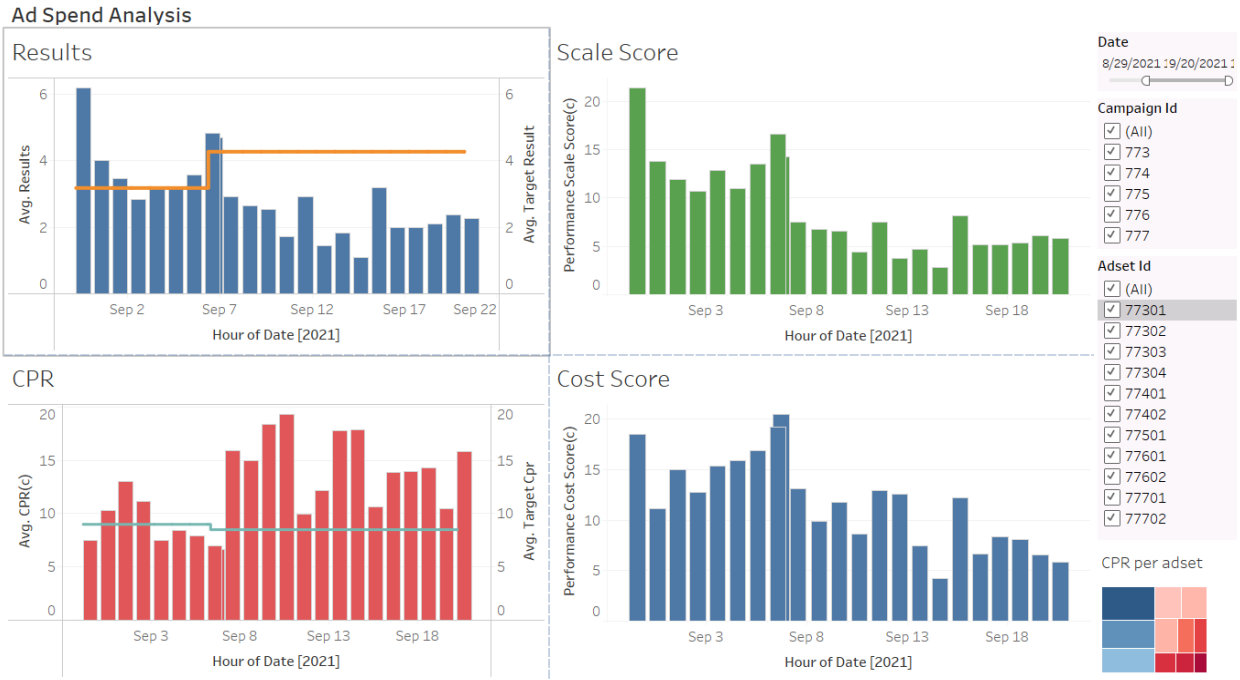
Best performing ad set can be defined by using the following three parameters.

1. CPR
2. Performance Scale score value - Current result / Target result
3. Performance Cost score value - Target CPR/ Current CPR

For an efficient ad campaign the **CPR must be low**.

For an ad set performance to be considered good it needs the current results to be better than target results *i.e.*, the **Performance Scale Score must be high**.

Moreover, with reference to CPR(cost per result), the current CPR needs to be lower than that of the target CPR *i.e.*, the **Performance Cost Score must be high**.



The above image shows the trends of the averages of Results, CPR, Scale Score and Cost Score over time.

Here are a few noticeable trends.

- It can be seen that results have decreased over time, with the initial results being above the target results till September 7, then we observe that the results fall well short of the desired target results.
- The CPR on the other hand follows the opposite trend with the initial values being low and gradually increasing. The average values of CPR stay close to the target CPR threshold till September &, then increase suddenly to significantly above the threshold and remain pretty constant.
- The Scale score which is derived from and is directly proportional to Results shows the same trend as results with gradually decreasing values.
- The Cost score which is derived from but inversely proportional to the CPR follows the opposite trend to that of CPR with the values staying pretty constant till september 7 and decreasing gradually.

Overall we can conclude that the ads were performing well during the initial period till september 7 (as can be seen from the good scale score and cost scores), then we see a significant dip in the performance (noticeable from the low values of Performance Score and Cost Score)

Analysis by Ad set:

Adset Id	Avg Target Result	Average Results	Avg Scale Score	Avg Spend	Avg Target CPR	Avg CPR	Avg Cost Score	Scale Score + Cost Score
77301	3.84	1.40	0.38	10.11	8.70	6.33	1.68	**2.07**
77302	3.84	2.64	0.71	17.04	8.70	7.49	1.83	**2.54**
77303	3.86	2.58	0.72	11.74	8.69	3.82	2.85	**3.58**
77304	3.86	2.13	0.58	33.35	8.69	20.81	0.63	**1.22**
77401	3.86	6.25	1.64	52.03	8.69	9.99	1.05	**2.69**
77402	3.85	3.58	0.91	33.35	8.69	10.67	1.17	**2.08**
77501	3.86	3.67	1.06	43.84	8.69	22.15	0.72	**1.78**
77601	3.84	2.60	0.71	36.31	8.70	17.69	0.64	**1.35**
77602	3.86	4.13	1.19	39.36	8.69	13.47	0.97	**2.16**
77701	3.86	2.04	0.58	20.78	8.69	9.26	1.27	**1.85**
77702	3.88	1.40	0.39	10.41	8.68	7.82	1.59	**1.99**

The complete data and calculations for the full date range is available at this link.

An ideal performing ad set will have high values of both Scale Score and Cost Score. So from the last column in the above table which consists of the sum of Scale Score and Cost Score, we can see that the top performing ad set is **77303** which has the highest score. It is followed by ad sets 77401 and 77302 which have pretty close scores.

The graphs for the ad set **77303** is shown below.

We see that the ad set performed exceptionally during the initial period with the results well above the target and CPR well below the target threshold. The Scale and Cost scores are also significantly high resulting in high performance.

The Tableau dashboard for the above analysis is available at this link

The graphs for the ad set **77401** is shown below.

The graphs for the ad set **77302** is shown below.