

HomeLight Growth Analyst Test

Prompt

The key base metric for HomeLight’s Business and Marketing Channels is return on ad spend(RoAS)

During this time frame we saw the RoAS performance dropping in Marketing Campaign ABC. You have been tasked with investigating the cause of this decline, and you have pulled relevant data.

Dataset

There are ~8k rows in the dataset. Each row represents that day’s data for an ad group in Marketing Campaign ABC. Each day contains an ad group’s data which will include top funnel data such as cost, expected revenue, clicks and conversions. It will also contain bottom funnel data such as contact rate, referral rate and ref > ms rate. The top funnel metrics are performance related and down funnel metrics are operations related.

If something is wrong with the top funnel metrics it signals an issue with performance. If bottom funnel metrics are bad then it indicates an operations issue that needs to be addressed.

The column specification is as follows:

Field	Definition
lead_created_pst	Date the ad groups metrics are associated with.
campaign_name	Unique identifier for the marketing campaign.
ad_group	Unique identifier for the ad group name.
cost	Indicates the marketing costs.

expected_revnuue	Indicates the amount of revenue expected
clicks	Indicates a user clicked through to the landing page triggering a marketing cost.
conversions	Indicates the numbers of leads generated.
contact_rate	This rate tracks the rate in which leads are contacted.
referral_rate	This rate tracks the rate in which leads are referred to agents.
ref_ms_rate	This rate tracks the rate in which meetings are scheduled.

Prompt

1. Identify an ad group where performance is suffering because it has a high cost per click(cpc).
2. Identify an ad group where the RoAS is underperforming compared to the overall campaign's RoAS during this time period, prioritizing by spend.
3. Identify an ad group which might be experiencing ops issues based on underperforming down funnel metrics.

Tips

- Your document should be a maximum of 1 page on a Google Doc.
- Your document should have a clear structure and identify the underperforming ad groups using the data.

Logistics

- The dataset is attached to the email as a csv -- feel free to use any tool you want to analyze the data (a SQL database, Excel, or a Python / R dataframe)
- Please submit your final document as a PDF and include a link to your code / Excel for review.

Send an email to randall.ginsberg@homelight.com if you have any questions or need clarifications.

