# Summary of Performance

The video ad campaigns are performing amazingly well, so well that it tends to raise some eyebrows. With an industry average CTR that rarely goes over 5%-6% for a video ad, a whopping 60% is hardly realistic. That is even more evident if we compare CTR and Activation Rate, the first ranging from 30% to 20%, the second hanging at 9%. This is possible, but frankly, not really realistic, especially considering the extreme short air time of the ads. I would expect a much lower CTR and lower interval ratios between CR and Activation.

On first look, that makes me question the reliability of the tracking. This is consistent with the fact that a whole day's worth of data is missing, which skewed our result by at least 10%. Even if we took that into account, we would still have values that I would consider outliers.

That being said, as the the ad campaigns continue and numbers reach statistical significance, chance are CTR and relative ratios would gradually decrease. However, if I were working on a project like this and saw those values, I would start looking at the campaigns with the performer marketer and looking for mistakes in the tracking and data collection process, just to make sure.

All that said, there are different ways to determine the campaign's success; it depends on the way you look at it and on your assumptions. If we pretend that the industry average KPIs were higher, I would consider this one a relatively successful campaign, with room for improvement. The fact the campaign is successful is evident if we analyze the results by ad.

For instance, if we rule out absolutes from the equation and consider the relative ratios of the KPIs against one another, you see they are consistent. The distance between them suggests there are no significant leaks. So if we take Science, for example, the difference between CTR and Conversions from the total is only 25%. Relatively speaking, this means that almost half of the people who clicked signed up. In the same way, the difference between Conversions and Activation is roughly 40%, which means that more than 4 people out of 10 who signed up bought a subscription.

The positivity of results is confirmed if we analyze the results day by day. If you look at the visualization, it will be immediately clear to you. Still, just to make a point: overall, the ads generated a maximum of 17 customers and a minimum of 7 customers each day, an average of 9 customers per day. Of course, these values do not have to be considered absolutes; whether they are good or bad depends on the relative ad spend.

Let's put ad spend into the equation. To do so, let's first examine the impressions of the ads. The average reach of the ads each day is 500-600 people, a number I would pretty much expect for a week worth of ads *with a conservative budget*. So if we go with the assumption that the money spent on those ads was on the lower end, our hypothesis that the results are indeed promising would be confirmed.

It is hard to gauge if the reach falls within the expected range by knowing only the given variables and not knowing the targeting criteria and ad spend because the two are strictly correlated.

Regardless of the aforementioned results, if we look closely, two evident **bottlenecks** need to be addressed:

* Both Science and Computer Science Impression/Click ratio is lower compared to the other ads, while it remains consistent moving on the customer journey;
* On the other hand, math has the highest ad engagement, but the subscription rate falls behind, with relative leads/subs at 29%, more than 10% lower than computer science, despite the higher engagement.

The first case suggests that both Science and Computer Science ad creatives and overall setup can be improved. The second case is relatively more severe. We can rule out a conversion problem because the relative clicks/subs ratio is relatively high; that means there is not a mismatch between the ad proposition and the landing page proposition. It does suggest, however, that customers are not motivated enough to buy a subscription; so we are basically losing customers.

There's certainly much more going on. However, the dataset provided allowed only to determine a few KPIs; therefore, the analysis is not generalizable to assess the extent to which these ads impacted the business' results. Further variables will have to be examined to evaluate the advertising performance against the company's growth objectives, such as view rate, cost, targeting (and then cost per activation, cost per lead, cost per mille and so on).

# Next Steps & Recommendations

Once I am confident about the narrative behind the results, I want to make sure that every relevant person in the team knows exactly how the campaign performed. So I will prepare a dashboard that (1) is clear for everybody—even someone who has never done advertising before should be able to understand—and (2) tells a meaningful story.

Second, I will investigate the missing data issue with the performer marketer, ensuring the analytics software is working as it should and fixing any technical issue.

Third, I would first suggest which are the major areas of focus to improve the campaign. We know that from the results we got. There are three key areas that we need to focus on:

1. **Improving the ad's engagement for both Science and Computer Science** - focus on the ads: improve creative, rationale, targeting and overall setup;
2. **Lifting conversions for Science and Computer Science, trying to catch up with Math** - focus on onboarding process: mine data for insights, check product messaging, do heuristics, perform CRO, A/B tests;
3. I**nvestigating and progressively fix the customer leak we found with Math** - focus on the product: experience, product-related variables;

Fourth, I will tackle each point individually. Ideally, I like to move all of them forward together, but I still want to prioritize the ones that will bring more ROI. In this case, I would start from point #3, then #1, then #2 (but other factors have to be considered, such as time of implementation, resources, etc.)

When tackling areas of improvement, I like to follow a process that allows me to stay on track, stay focused on what matters, and allows met to track things every step of the way:

1. *Analyze*
2. *Prioritize*
3. *Test*
4. *Analyze*

I would follow this methodology for each of the focus are we identified, like so:

* **Point 3 (Fix subscription leakage)**
  + *Analyze*: mine existing data, tap into customer experience and use of the platform, perform further quantitative and marketing analysis and research competitors to extract best practices, confront with the others in the growth team. What can we improve? What are our customers saying? What do they love? What they don't like about the platform? What are their motivations, points of friction?
  + *Prioritize* quick fixes first, then prioritize action items based on predicted ROI, time and effort of implementation.
  + *Test* different pricing models, value propositions; brainstorm and perhaps even create MVP for new courses, games, quizzes, topics; perform contact setting, walk-through the customer journey. When performing A/B tests, I like to have a baseline rate. Once I have that baseline, I would then want to know what kind of lift or effect we are looking for, or the smallest difference that would actually matter. If the change to the product would be small, maybe even a small increase would be meaningful, but if it’s a bigger change, a bigger lift may be necessary to justify the cost of making the change. Figuring out this number will determine the power needed for the experiment and, consequentially, the sample size. Next, I would find out what significance level we are looking to achieve. Typically I want to see .95 significance, but I would want to check with the team to be sure this is adequate as it is another driving factor in how big our sample size needs to be. Finally, to figure out how long we would need to conduct the test, I would want to know how many people per month interact with the product to estimate how long it would take.
* **Point 1 (Improve Ad Engagement)**
  + *Analyze* the creative, the copy, value proposition, length, CTA; understand if viewers drop-off happens over a specific timestamp; understand if the targeting is aligned. Does the ad stand out? Is the ad aligned with the user's intention? Does it resonate with their needs? Is the message clear? Is it believable?
  + *Prioritize* testing elements based on the size of the audience, predicted impact and confidence of seeing a lift in engagement.
  + *Test* audiences and keywords; optimize based on audience performance; go inside each ad group, rank them by CPC, test different keywords to optimize budget spend; test other videos for the same audience, and try different messaging strategies, length, CTAs, and design.
* **Point 2 (Lift Conversions)**
  + *Analyze* data and discover what matters. Are we asking the right questions? Do we have data that answers conversion questions? If not, what kind of data should we gather that helps us answer our questions? Are we falling into biases? I would dig deeper into the data and gauge what parts of the platform/landing page help increase the conversion rate and which parts lower the conversion rate; analyze the signup process. Perform mouse tracking analysis (what are the focus points?), user testing (is the UX helping conversions or hindering conversions?), heuristic analysis (user motivation, relevancy, clarity, friction), technical analysis (is the platform fast, what about responsiveness?). Have a look at surveys.
  + *Prioritize* testing elements starting with quick no-brainer wins; then follow a framework and rank the testing hypothesis: is the action noticeable? Does it address an issue discovered via user testing, qualitative feedback, analytics, heatmaps? Is it easy or hard to implement? Do we perceive it will make a tangible lift if addressed?
  + *Test* (or directly implement) the elements of the signup process/landing page in order of prioritization. Here the same elements of product testing apply. I want to make sure that we reach statistical significance. Ideally, I would calculate the necessary sample size to reach significance beforehand or calculate the maximum significance for the sample size. Then, communicate this to all stakeholders and be sure everyone is aware of the implications before conducting the test. I also want to be aware of business cycles, not creating false positives. Testing elements may include messaging, page design, CTA.