

CASE: New experiment Neptune

In order to test a new value proposition and evaluate its impact on several different KPIs, SUP launched a new experiment on the city of Neptune, on May/17/2021.

This experiment consisted in giving out high fee discounts if the **merchant** (our client, the owner of the card reader) had a monthly **TPV** (Total Payment Volume) **higher than R\$12,000**. Our hypothesis was that we'd be able to increase sales (due to the discounts) as well as increase average TPV brought by the merchants in Neptune (i.e. if we give out higher discounts to people with high TPV, we would bring in more of them and thus our average TPV in Neptune would be higher).

A couple of months after the test, we're interested to know how the following KPIs moved (after the test vs. before the test):

- Number of sales per week
- Number of new merchants per week
- Average TPV per merchants per week
- Total TPV in Neptune per week (**before and after the experiment***)
- # of live merchants (i.e. merchants that had one transaction in the last 4 weeks - or 30 days, whichever is easier)

Please, prepare a simple presentation - 3 slides max - prior to the next interview. You're gonna have 20 minutes to present. When you're designing the slides, pretend you'll be presenting this material to a director or board member (what are the main things they would ask you?)

Things that are important for you to know:

- TPV, in this case, is the total volume of sales (in R\$) in which the merchant uses the SUP card reader
- SALE DATE is the date in which a merchant buys a SUP card reader

- Merchants have mixed levels of TPV throughout their lives (as an example, the first week after the SALE DATE is usually the one with the lowest TPV level). Maybe that will affect your analysis
 - We'll be looking for strong analytical skills, but also an ability to present and communicate your findings
 - Feel free to make any simplifications you believe will not impact the quality of your delivery (or to add any analysis you think are insightful)
 - If you have any questions that prevent you from completing the work, please, reach out to me. Otherwise, feel free to make any assumptions you find appropriate. Your ability to solve this on your own will also be evaluated
- * This is a challenge. Since a merchant that comes to SUP before the experiment starts will not be impacted by the new fees, how are you gonna separate their TPV from the TPV of the merchants that is impacted by the experiment?