50% Off Make-up Offer Case Study

# Background

Inspire Brands measures coupon effectiveness using hold out groups (control groups) that qualify for the offer but are suppressed for measurement. This allows marketing to understand the **incremental** responders and sales driven by a specific effort.

Incremental Responders = (Test Responders) – (Control Responders)

Incremental Sales = (Test Sales) – (Control Sales)

# Case Study

The dataset contains fake customer level data of a 50% off makeup offer from a fictitious women’s product company. We’d like to understand the performance of the campaign.

Data Dictionary:

|  |  |  |
| --- | --- | --- |
| Column | Type | Description |
| CUSTOMER\_ID | String | Unique identifier of a customer |
| CONTROL\_IND | String | Defines test vs control (control customers do not receive the offer) |
| RESPONSE\_IND | Number | Flags who made a purchase during the promotional window.  1 = purchased, 0 = did not purchase |
| NET\_SALES | Number | Amount of spend during the promotional window |
| GENDER | String | Gender of customer |
| FREQUENCY | String | Customer’s pre-period frequency of purchase (light, medium, heavy) |

Using SQL and Excel, answer the following questions. Provide any additional insights or recommendations based on your analysis in a few PowerPoint slides for discussion during the panel interview.

Note: the dataset is larger than Excel’s maximum row limit, so RStudio’s SQLDF function is recommended to aggregate the data.

1. How many customers are in test vs control? How could these counts impact measurement?
2. Looking at test vs control overall, how many incremental responders and incremental sales did the coupon drive?
3. Looking by frequency, how many incremental responders and incremental sales did the coupon drive? Which frequency group performs best?
4. Looking by gender & frequency group, how many incremental responders and incremental sales did the coupon drive? Which gender & frequency group performs best?
5. What bias may exist in any of the results provided?