Final Assignment: Item-level AB Testing

1. Data Quality Check

Does this table have everything you need to compute metrics like 30-day view-binary?

No, this table does not have everything needed to compute metrics like 30-day view binary. The table is missing key data such as the start date of the test treatments, and the number of orders ordered after the treatment.

1. Data Quality Check

| | item_id | test_a | test_b | test_c | test_d | test_e | test_f |
|---|---------|--------|--------|--------|--------|--------|--------|
| | item_id | test_a | test_b | test_c | test_d | test_e | test_f |
| 1 | 2512 | 1 | 0 | 1 | 1 | 0 | 1 |
| 2 | 482 | 0 | 1 | 1 | 1 | 0 | 0 |
| 3 | 2446 | 0 | 1 | 1 | 0 | 1 | 0 |
| | 1010 | _ | ^ | _ | _ | _ | - |

This table only shows the first 1,000 rows. View complete results in Report Details.

2. Reformat the Data

Reformatted the assignment table to include the item_id, a binary column test_assignment (1 for the treatment and 0 for control), test_number (the type of test performed), and added a test_start_date column for the starting date of the treatment

2. Reformat the Data

| | item_id | test_assignment | test_number | test_start_date |
|---|---------|-----------------|-------------|---------------------|
| | item_id | test_assignment | test_number | test_start_date |
| 1 | 3409 | 0 | item_test_1 | 2013-01-05 00:00:00 |
| 2 | 301 | 1 | item_test_1 | 2013-01-05 00:00:00 |
| 3 | 2491 | 0 | item_test_1 | 2013-01-05 00:00:00 |
| | 1000 | ^ | | 2012 01 05 00 00 00 |

This table only shows the first 1,000 rows. View complete results in Report Details.

3. Computing Ordinary Binary

Below is the result table of calculating the order binary for the 30 day window after the test assignment, for item test 2

3. Compute Order Binary

| | test_assignment | items | ordered_items_30d |
|---|-----------------|-------|-------------------|
| | test_assignment | items | ordered_items_30d |
| 1 | 0 | 1130 | 341 |
| 2 | 1 | 1068 | 319 |

4. Compute View Item Metrics

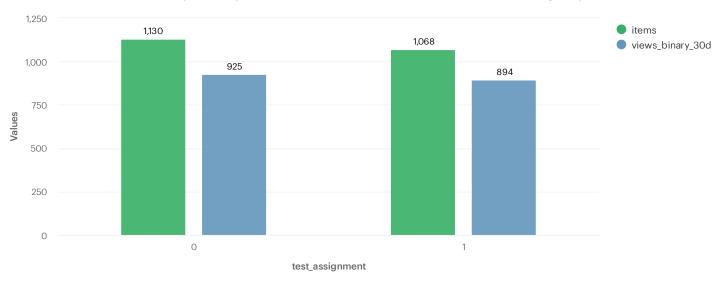
Below is the result table of calculating the view binary for the 30 day window after the test assignment, for item_test_2

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4. Compute View Item Metrics

| | test_assignment | items | views_binary_30d | |
|---|-----------------|-------|------------------|-----|
| | test_assignment | items | views_binary_30d | |
| 1 | 0 | 1130 | | 925 |
| 2 | 1 | 1068 | | 894 |

Viewed items within 30 days, compared to total items for control and treatment groups



5. Compute lift and p-value

I computed the lift and p-value using the AB tool available on https://thumbtack.github.io/abba/demo/abba.html

There is an insignificant change in the view_binary metirc, the p-value is 0.2 (which does not meet the threshold for significance) and the lift caused in the success metric by the treatment is 2.3%

Therefore, there is no statistically significant change to the metrics viewed percent as a result of the treatment.