

A/B Testing Final Project

1. Data Quality Check

item_id	test_a	test_b	test
2512	1	0	
482	0	1	
2446	0	1	
1312	0	0	
3556	1	1	
131	0	0	
1178	1	0	
110	0	1	
47	0	0	
1696	0	0	
3196	0	0	
1578	1	0	
0	1	0	
107	0	1	
487	0	0	
1777	1	1	
1122	0	1	

Page 1 of 22 Showing 1-100 of 2,198 results

-- 1) Data Quality Check

--We are running an experiment at an item-level, which means all users who visit will see the same page, but the layout of different item pages may differ.

--Compare this table to the assignment events we captured for user_level_testing.

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

-- NO

-- We still missing orders table

2. Reformat Data

item_id	test_number	test_assignment	dummy_test_start_date
2512	test_a	1	2020-01-01 00:00:00
482	test_a	0	2020-01-01 00:00:00
2446	test_a	0	2020-01-01 00:00:00
1312	test_a	0	2020-01-01 00:00:00
3556	test_a	1	2020-01-01 00:00:00
131	test_a	0	2020-01-01 00:00:00
1178	test_a	1	2020-01-01 00:00:00
110	test_a	0	2020-01-01 00:00:00
47	test_a	0	2020-01-01 00:00:00
1696	test_a	0	2020-01-01 00:00:00
3196	test_a	0	2020-01-01 00:00:00

Page 1 of 132 Showing 1-100 of 13,188 results

3. Order Binary

Computing the order binary, should result in an aggregated table with the values below.

If the number disagree slightly check the dates within the query. Small differences in the order binary based on whether the test assignment day is included are acceptable.

Below there is a subquery with item-level order binary.

Report run on Aug 18 2022 at 4:51PM CST (Beijing)

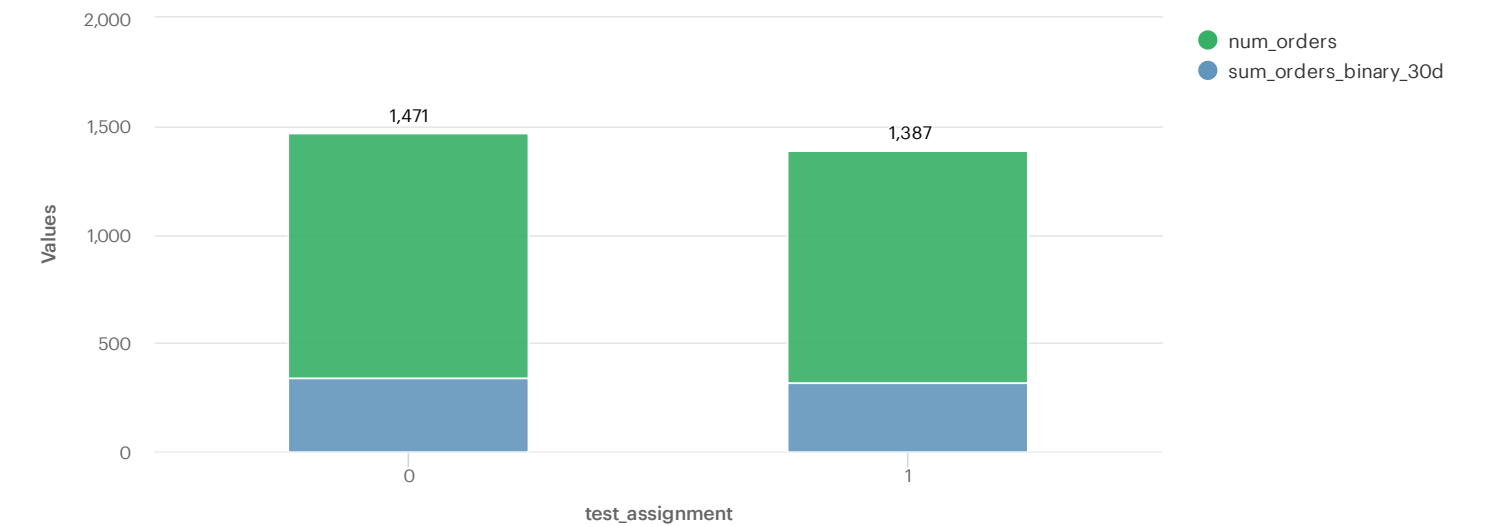
1/4

A/B Testing Final Project

3. Compute Order Binary

test_assignment	num_orders	sum_orders_binary_30d
0	1130	341
1	1068	319

Order Binary Bar Chart



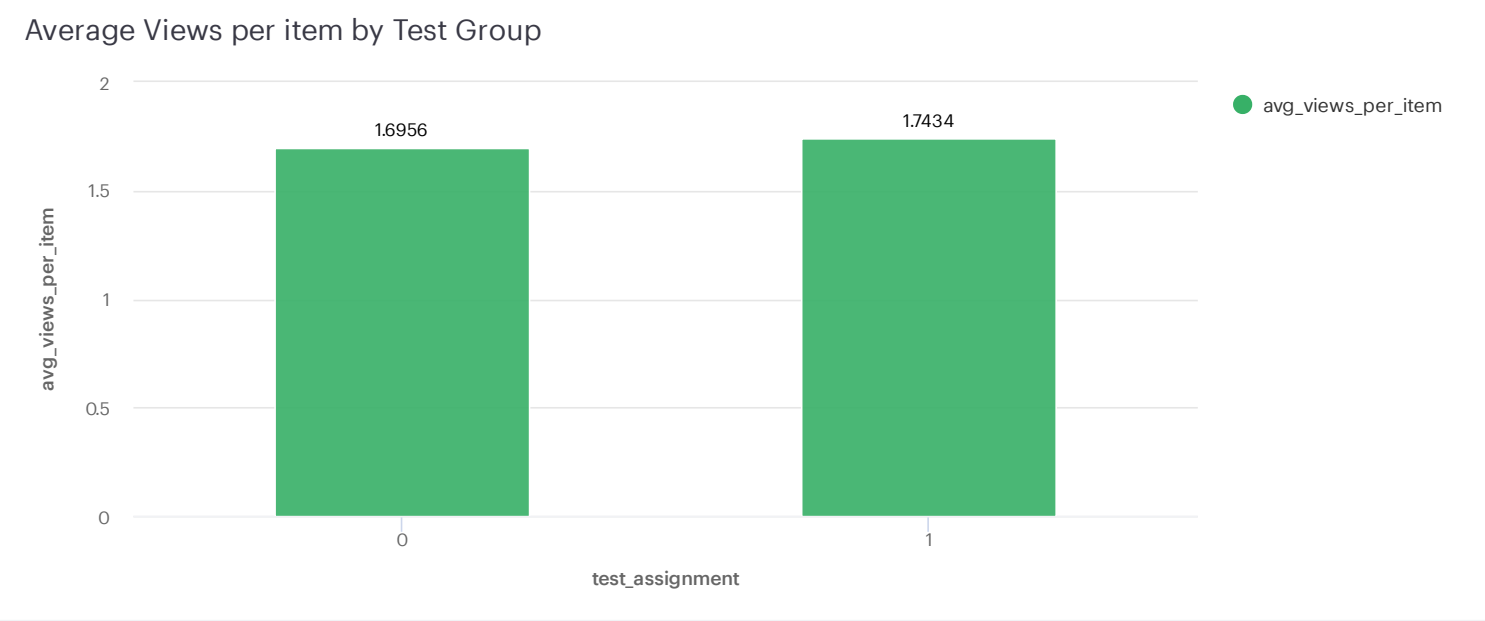
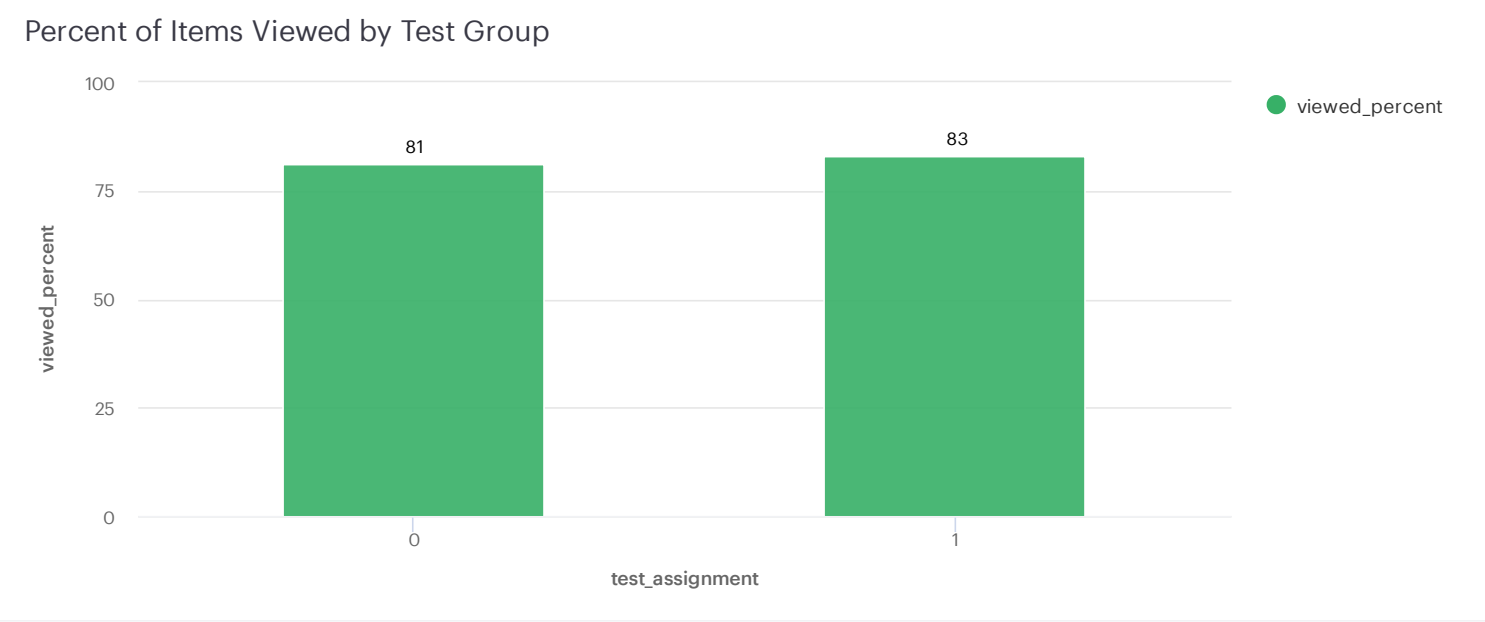
3.a Subquery

test_assignment	item_id	orders_binary_30d
1	3193	1
0	0	1
1	3209	1

4. Compute view items metrics

test_assignment	items	viewed_items	viewed_percent	views	avg_views_per_item
0	1130	918	81	1916	1.6956
1	1068	890	83	1862	1.7434

A/B Testing Final Project



5. Compute lift and p-value

- 30 Day View
- Control success rate: 82%
- Treatment success rate: 84%
- Lift of 2.6%
- p-value of 0.20
- The test group 1 had 2.5% more viewd items compared to test group 0, the p-value for this lift was 0.2 which does not meet our threshold for significance. There is no statistically significant change to the metrics viewed percent as a result of the treatment.

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