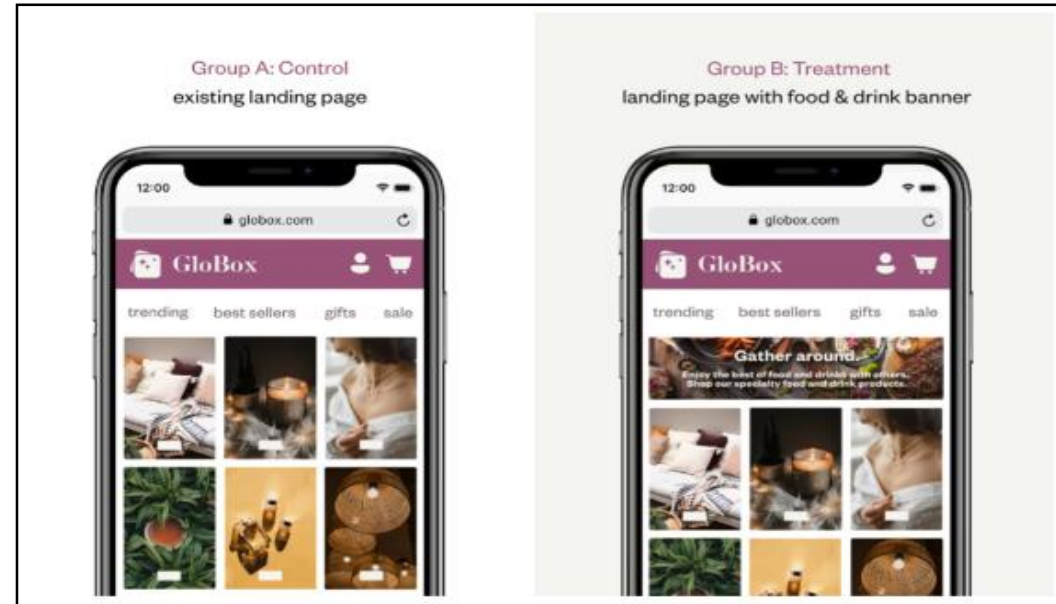


New Banner for GolBox

A/B Testing Analysis

Goal and brief background of the project

- Goal - Increase awareness of food and beverage section in order to increase sales
- The experiment was only being run on the mobile website
- Users randomly assigned to the control (A) or treatment(test) – (B) groups, this was the user's joining date



The task of the experiment

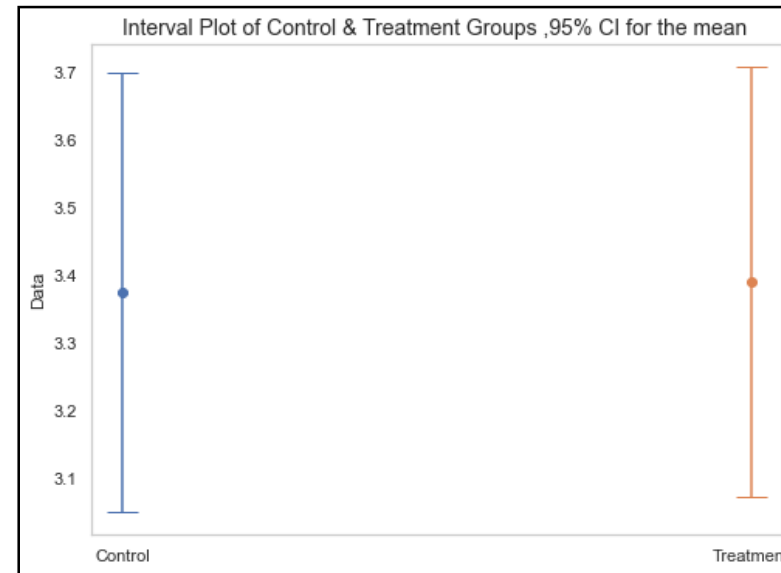
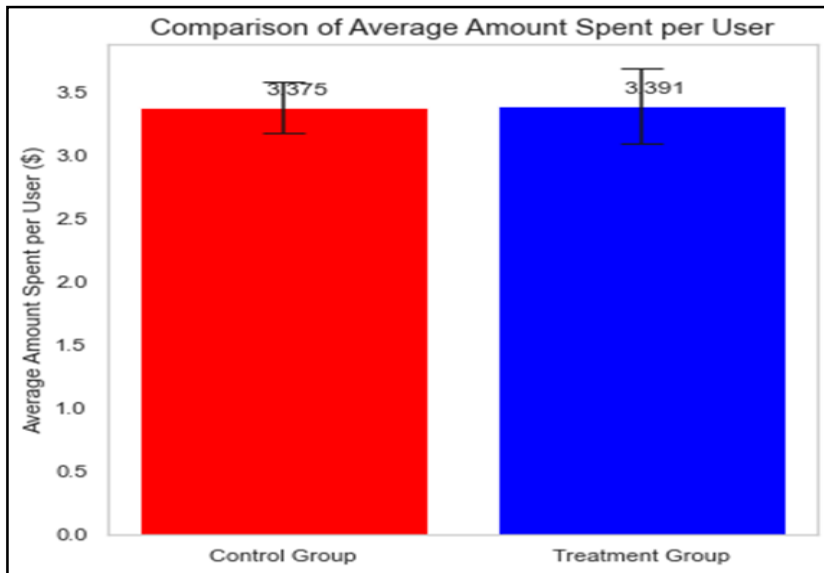
- Analyze the A/B test findings and make a recommendation to the relevant stakeholders about whether the GloBox should launch the experience to all users
- Duration of experiment was 13 days
- There were 48,943 users selected into two groups: 24,343 in the control group and 24,600 in the treatment group
- The Control group (A) had 10,069 female users, 10,054 male users, and 808 non-binary users.
- On the other hands, the Treatment group (B) consist of 10,061 female users, 10,235 male users and 861 non-binary users.

A/B testing Metrics

First Metrics

1). What is the average amount spent per user for the control and treatment groups?

Test Results



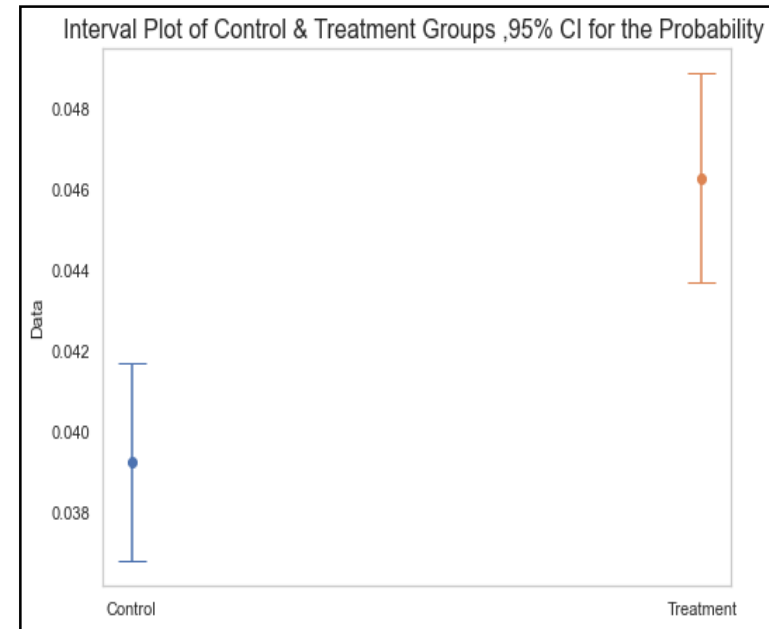
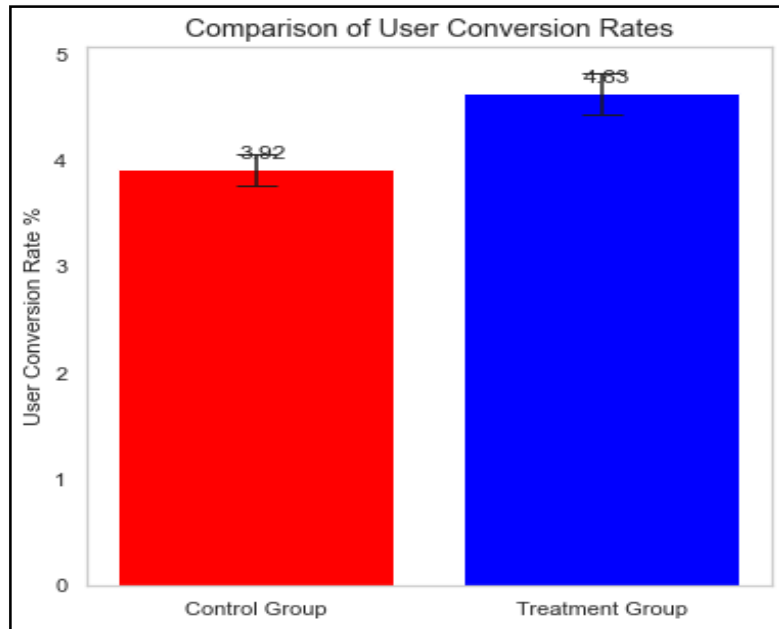
Results and Conclusion

- Probability of findings are due to chance 0.0938 which is higher than the probability of error which is 0.05
- Therefore, no strong evidence for increased average amount spent per user in treatment group
- Based on these findings only, we are not in position to take a decision
- Therefore, we decided to conduct second metric and further segmentation analysis for data

Second Metric

- What is the user conversion rate for the control and treatment groups?

Test Results

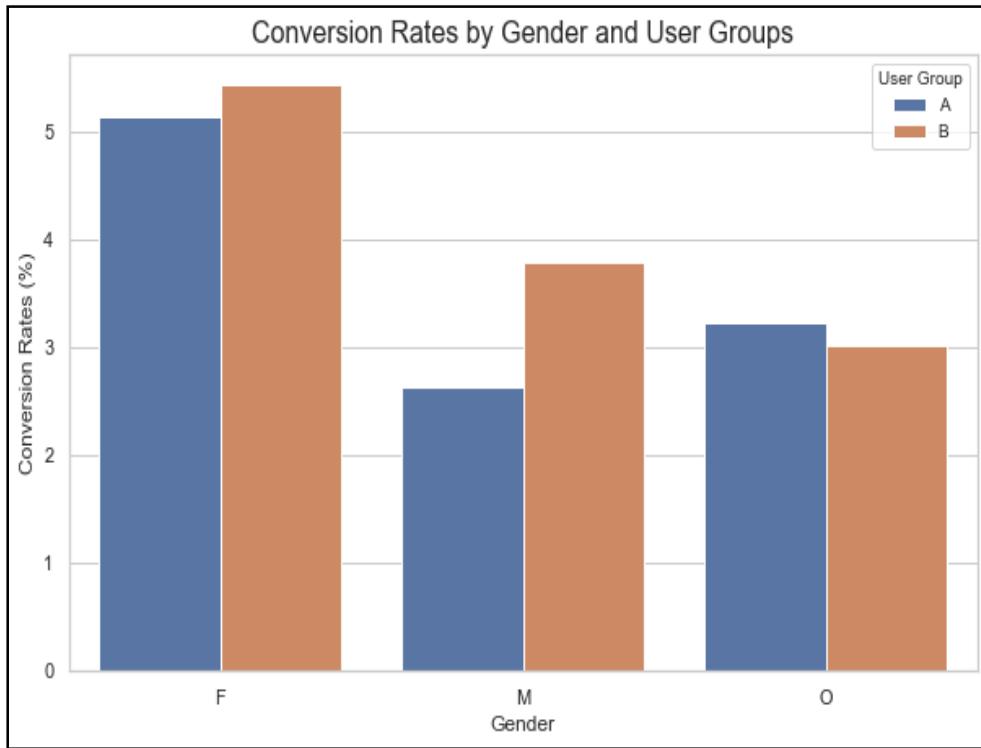


Results and Conclusion

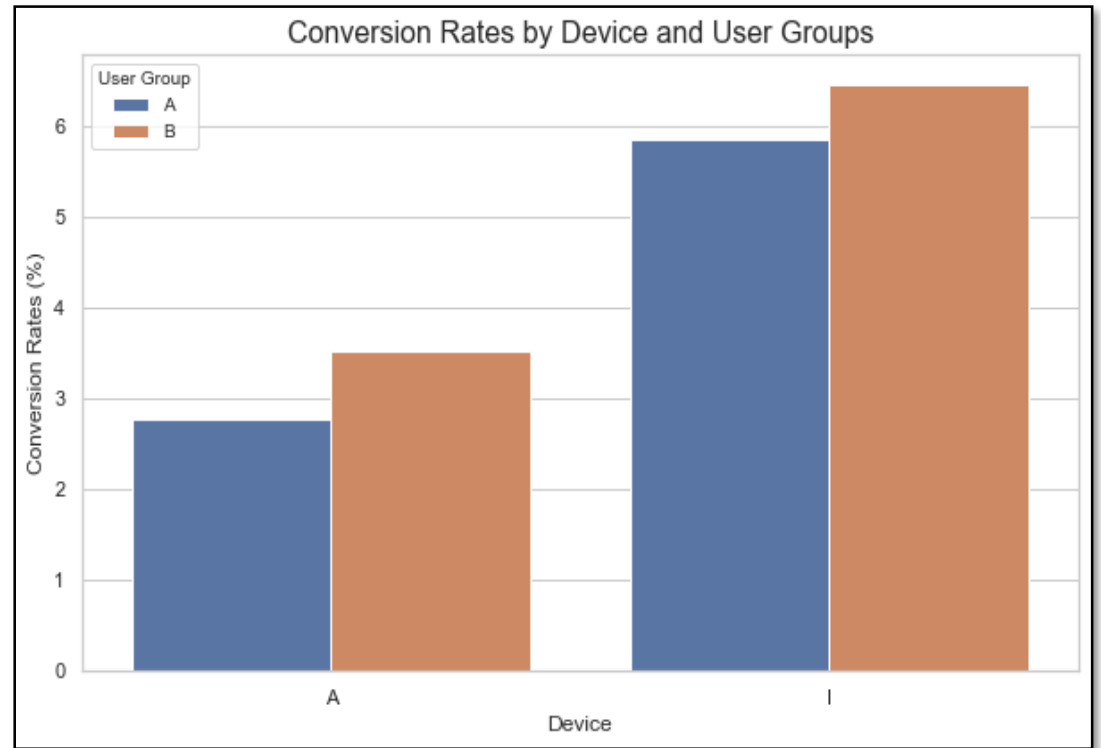
- Probability of findings are due to chance 0.00011 which is lower than the error tolerance which is 0.05
- We saw strong statistical evidence that the conversion rate was different between the control and treatment groups

Segment Analysis

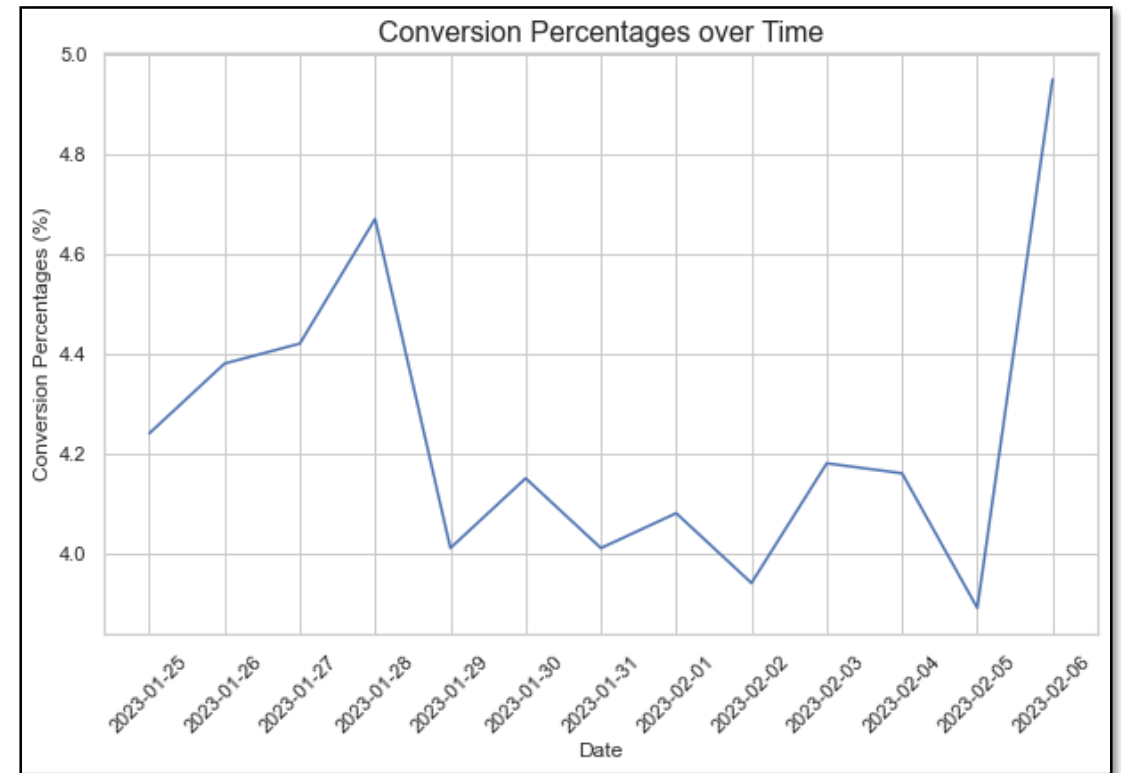
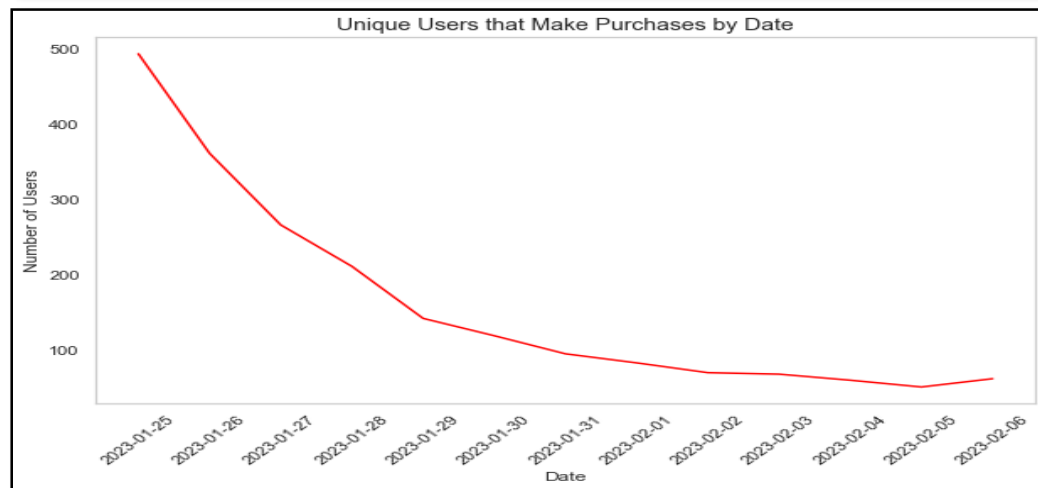
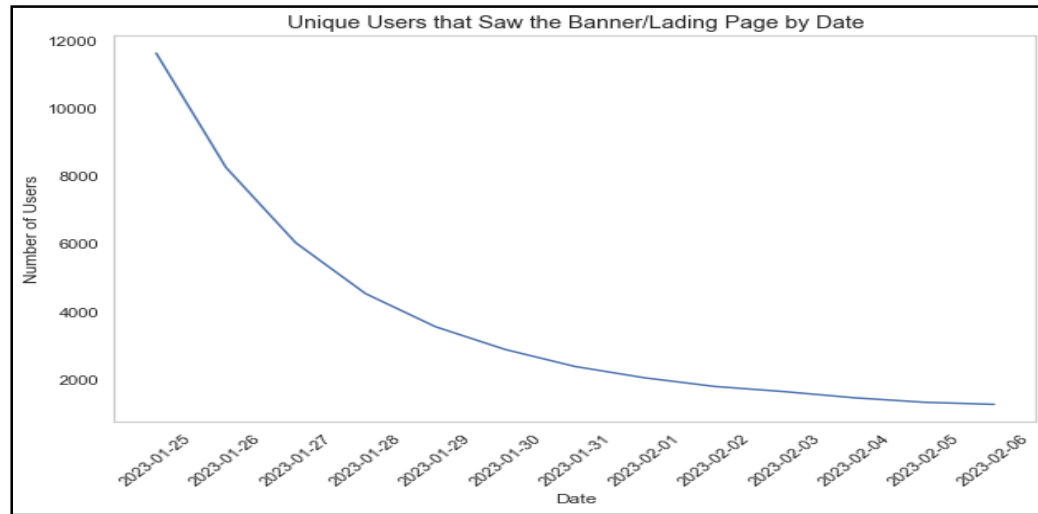
Conversion Rates by Gender



Device wise conversion rates

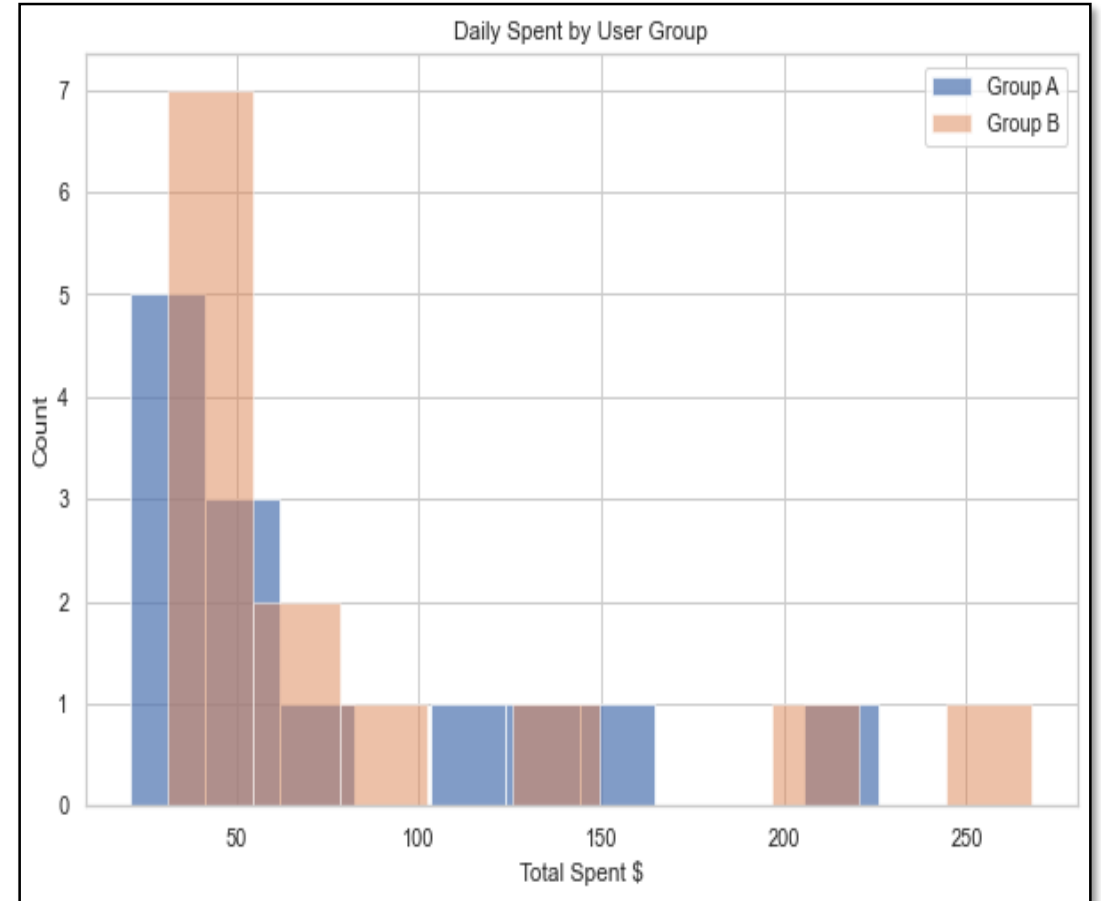


How many unique users saw the banner each day and purchases per day / Daily user conversion rates?

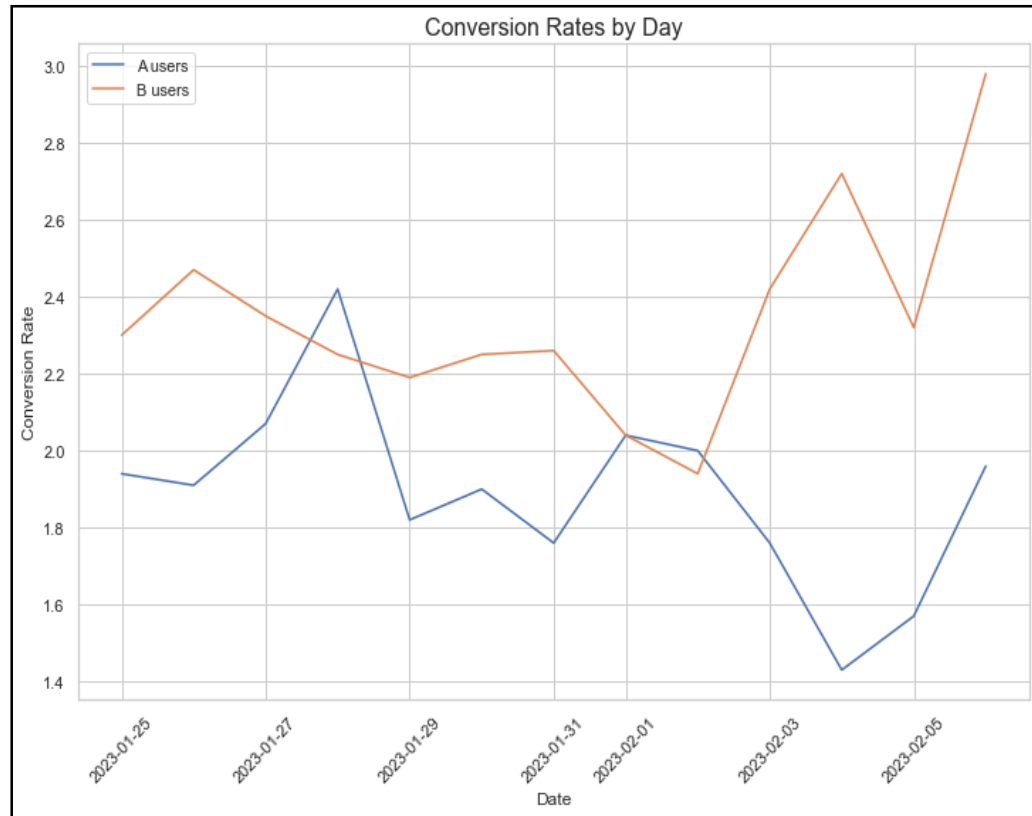


Spent users for control & treatment

	Date	Total_spent_users_A	Total_spent_users_B	Total_users_by_day	A users conversion rate by day	B users conversion rate by day
0	2023-01-25	226	268	11646	1.94	2.30
1	2023-01-26	158	204	8270	1.91	2.47
2	2023-01-27	125	142	6043	2.07	2.35
3	2023-01-28	110	102	4543	2.42	2.25
4	2023-01-29	65	78	3567	1.82	2.19
5	2023-01-30	55	65	2894	1.90	2.25
6	2023-01-31	42	54	2392	1.76	2.26
7	2023-02-01	42	42	2057	2.04	2.04
8	2023-02-02	36	35	1803	2.00	1.94
9	2023-02-03	29	40	1650	1.76	2.42
10	2023-02-04	21	40	1468	1.43	2.72
11	2023-02-05	21	31	1336	1.57	2.32
12	2023-02-06	25	38	1274	1.96	2.98

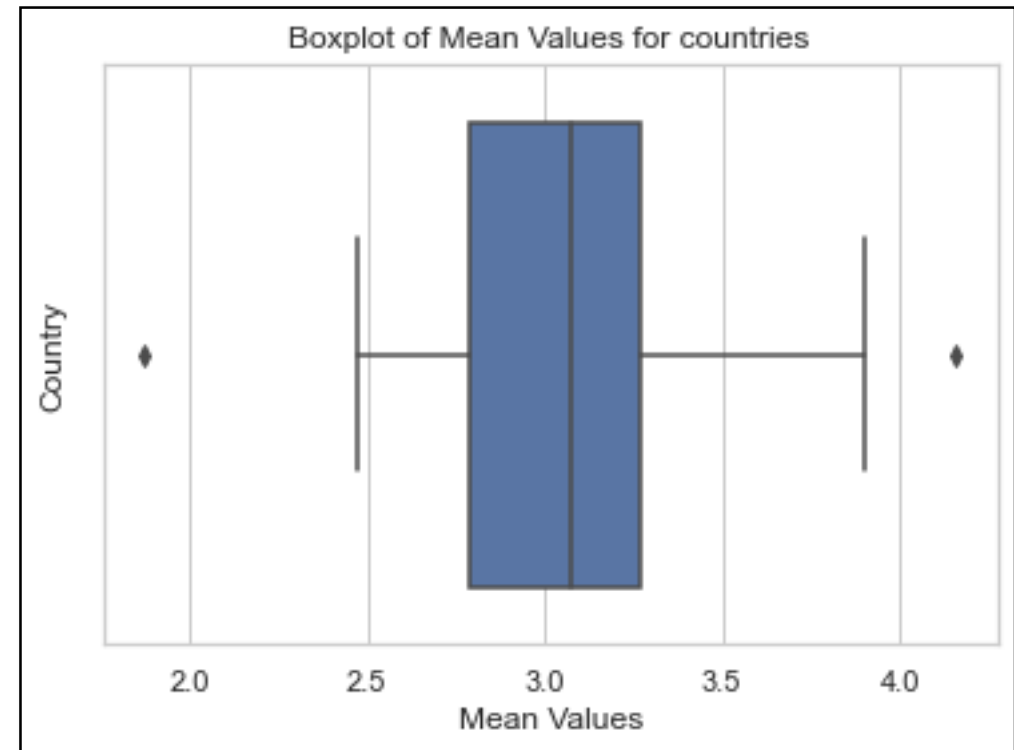
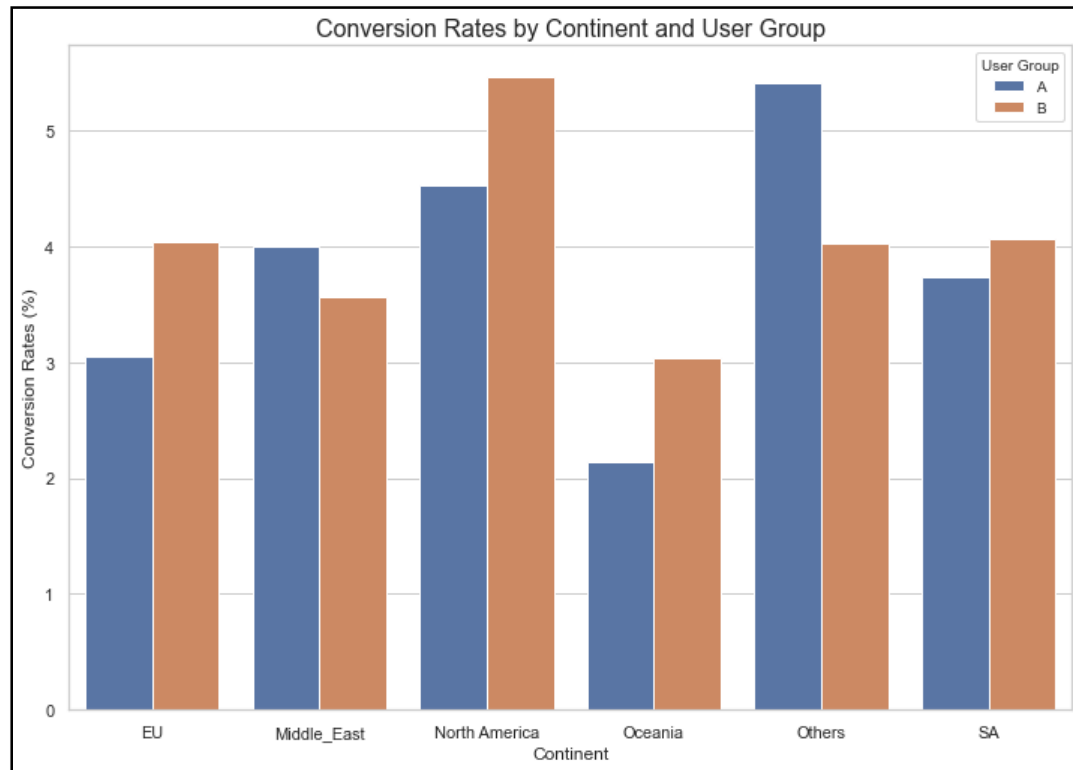


Conversion Rates by Date



- histogram and line chart, it can be concluded that the treatment group has a higher conversion rate compared to the control group.
- However, it is important to note that both groups had relatively low numbers of users who spent over \$100, suggesting that there may be room for improvement in terms of increasing overall revenue generated by the users.

Where the users are designated/located at & Conversions rates for each Continent?



USA & AUS Analysis

USA

	gender	user_device	user_group	User Counts_USA	User spent Counts_USA	Conversion_rates_USA %
0	F	A	A	1845	91	4.93
1	F	A	B	1935	94	4.86
2	F	I	A	1167	93	7.97
3	F	I	B	1081	94	8.70
4	M	A	A	1825	53	2.90
5	M	A	B	1928	83	4.30
6	M	I	A	1161	67	5.77
7	M	I	B	1163	73	6.28
8	O	A	A	153	8	5.23
9	O	A	B	180	3	1.67
10	O	I	A	82	1	1.22
11	O	I	B	71	3	4.23

AUS

	gender	user_device	user_group	User Counts_AUS	User spent Counts_AUS	Conversion_rates_AUS %
0	F	A	A	174	6.0	3.45
1	F	A	B	134	5.0	3.73
2	F	I	A	89	4.0	4.49
3	F	I	B	86	2.0	2.33
4	M	A	A	150	1.0	0.67
5	M	A	B	134	2.0	1.49
6	M	I	A	93	5.0	5.38
7	M	I	B	99	1.0	1.01
8	O	A	A	17	NaN	NaN
9	O	A	B	16	NaN	NaN
10	O	I	A	12	NaN	NaN
11	O	I	B	10	NaN	NaN

Project Conclusion

- Based on the strong evidence we have observed; I would highly recommend to launching the banner for all users
- Suggestion for next experiment is that, sample size of 156978 can be used as a guide for future studies aiming to detect similar effect sizes between control and treatment groups

**THANK
YOU**