GloBox

A/B Test Experiment:

To increase revenue, by improving GloBox's online marketplace homepage

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Context:

- GloBox is an e-commerce company

- GloBox's food and drink offerings have grown tremendously in the last few months, and the company wants to bring awareness to this product category to increase revenue.

- A/B test experiment was conducted to understand the impact level.

- The A/B test experiment focused on two key hypotheses:

  - User conversion rate &
  - Average spending per user.
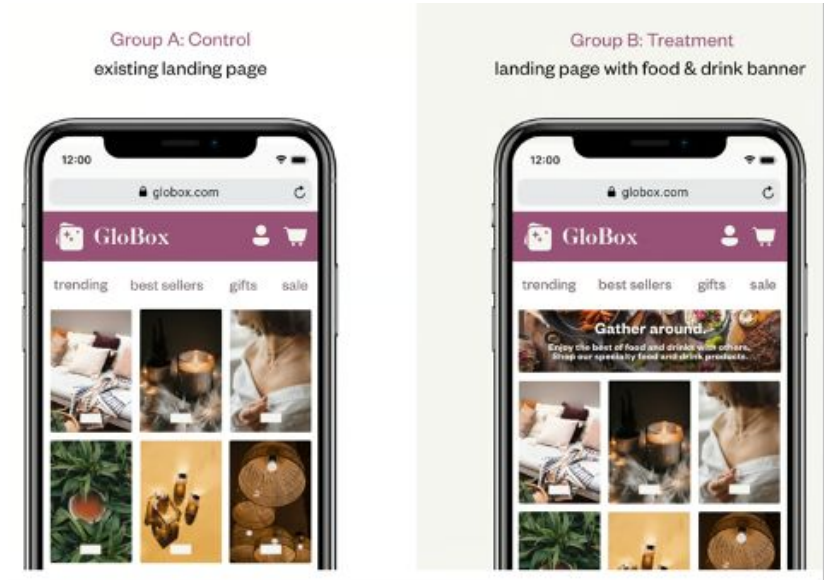
An A/B test that highlights key products in the food and drink category as a banner at the top of the website.

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Sample Size and Duration:

Simple size:

	Number of users in the experiment
Group A: Control group	24,343
Group B: Treatment group	24,600
Total	48,943

A/B test experiment duration	
Start date	**End date**
January 25th, 2023	February 6th, 2023
Total: 13 days	

A/B test Analysis result:

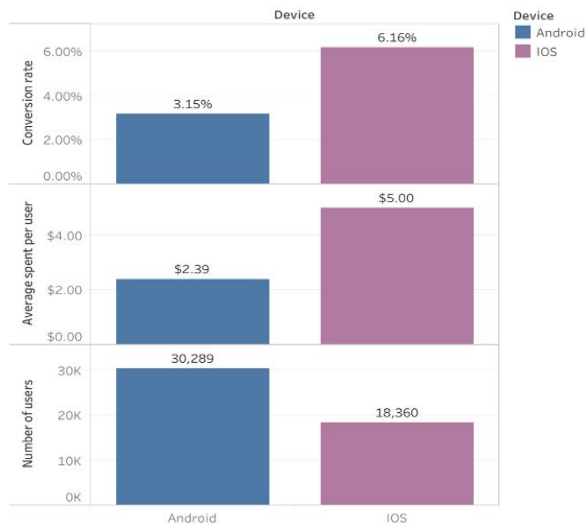Test group comparision_conversion rate vs average amount spent per user
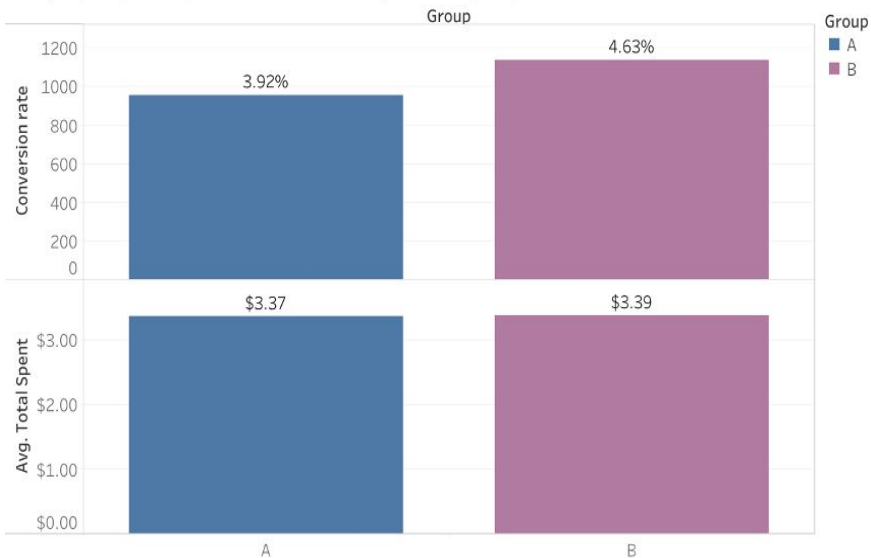
Result interpretation:

- The treatment group is more effective at getting users to take the desired action, such as visiting the site and making a purchase, compared to the control group. This seems to be a positive outcome.

- Although the conversion rate is higher, the lack of significant difference in the average amount spent per user suggests that the treatment group may not generate significantly more revenue per user than the control group.
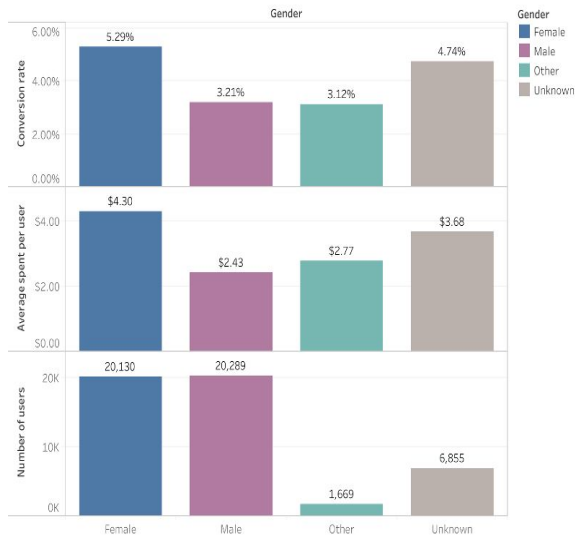
Analyzing Test Metrics: User's Devices and Gender:

Relationship Between Test Metrics and User's Device

Device
- Android
- IOS

Conversion rate:
- Android: 3.15%
- IOS: 6.16%

Average spent per user:
- Android: $2.39
- IOS: $5.00

Number of users:
- Android: 30,289
- IOS: 18,360

Despite a lower number of IOS users participating, they exhibit substantially higher conversion rates and average spending per user.

Male and female user counts are similar, ensuring a fair and balanced sample. Females demonstrate both higher conversion rates and greater average spending per user.


Relationship Between Test Metrics and User's Gender

Gender
- Female
- Male
- Other
- Unknown

Conversion rate:
- Female: 5.29%
- Male: 3.21%
- Other: 3.12%
- Unknown: 4.74%

Average spent per user:
- Female: $4.30
- Male: $2.43
- Other: $2.77
- Unknown: $3.68

Number of users:
- Female: 20,130
- Male: 20,289
- Other: 1,669
- Unknown: 6,855

Analyzing Test Metrics: User's Country

Relationship between test metrics and user's country
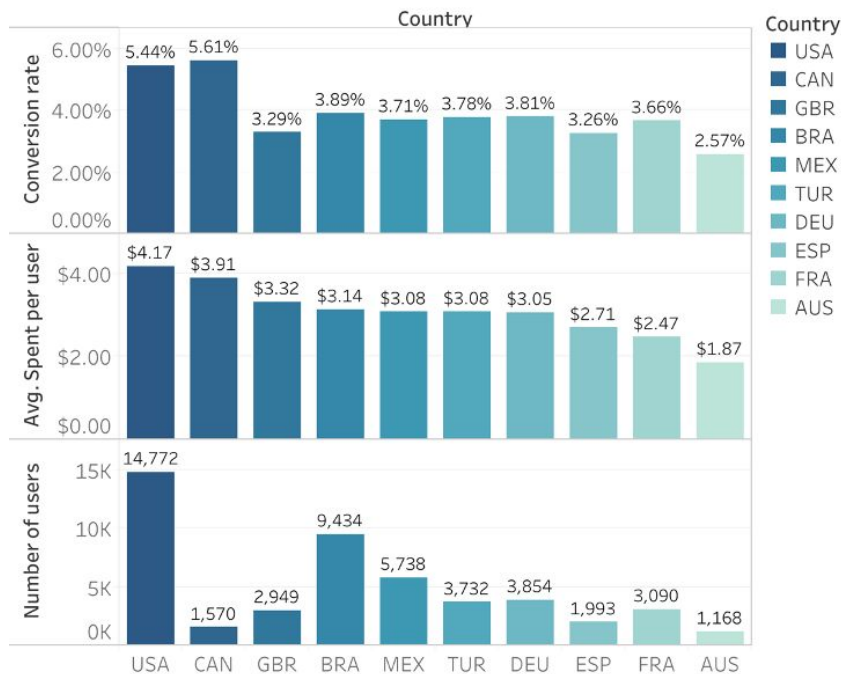
- The United States and Canada stand out with the higher conversion rates and average amount spent per user.

- In contrast, Australia records the lowest conversion rate and average amount spent.

Novelty Effect Analysis:

- The treatment group consistently outperformed the control group in terms of conversion rate, demonstrating a steady increase during the second week.
- The average amount spent per user in the treatment group did not exhibit significant differences in the first week. However, in the subsequent week, there was a noticeable upward trend in this metric.

- While we may be observing the early stages of the novelty effect, the data collected thus far may not capture its full extent.

- Further observation and analysis are necessary to ascertain the lasting impact of the changes implemented.

Recommendation:

Launch the experiment! and continue iterating.

- The test results indicated a significant increase in the conversion rate, despite potential limitations in sample size according to power analysis. This banner implementation is relatively low-cost in terms of engineering and operations.

- Even if only the conversion rate improves and not the average revenue per user, it's considered a positive step in attracting more paying customers, with the potential to increase purchases in the future.

- Additionally, the power analysis and awareness of the novelty effect highlight the non-representative sample size and experiment duration, emphasizing the need for a follow-up experiment to address these issues and obtain more reliable insights.

In summary, we recommend to proceed with the banner launch.

Further a follow-up experiment is strongly recommended to ensure accurate conclusions