A/B Testing Analysis: Evaluating the Impact of Advertising Banner on Mobile Website

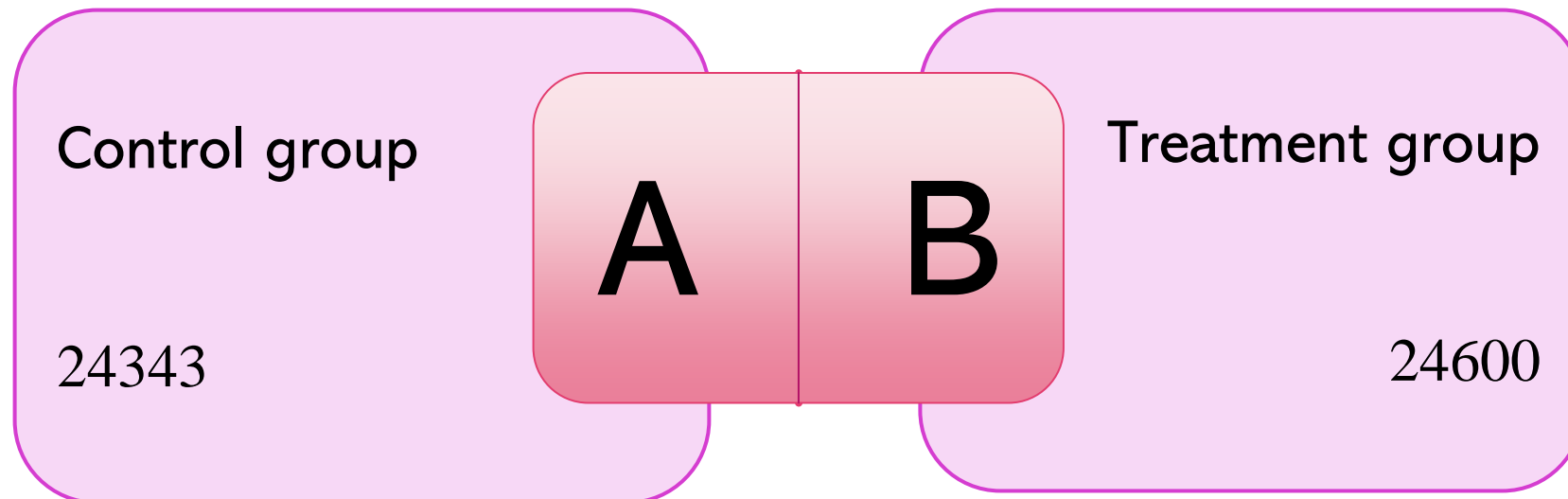ZEINAB ASKARI NEJAD

Overview

- **Context**

  - A/B groups

  - Conversion rate VS Average amount Spent(Metrics)

  - The probability that our findings are due to chance(**p-value**)

  - Differences between both metrics

  - Metrics VS Different Objects

- **Key results**

- **Recommendation**

Context (A/B groups)

- During13 days in 2023

Control group

A   B

24343

Treatment group

24600

Conversion rate VS Average amount Spent(Metrics)

▶ **Converted:** People who purchased

▶ **Conversion rate:** converted /all users

▶ **Average spent:** Average of total spent

Conversion rate
3.92%

Average amount Spent
3.375$

A B

Conversion rate
4.63%

Average amount Spent
3.391$
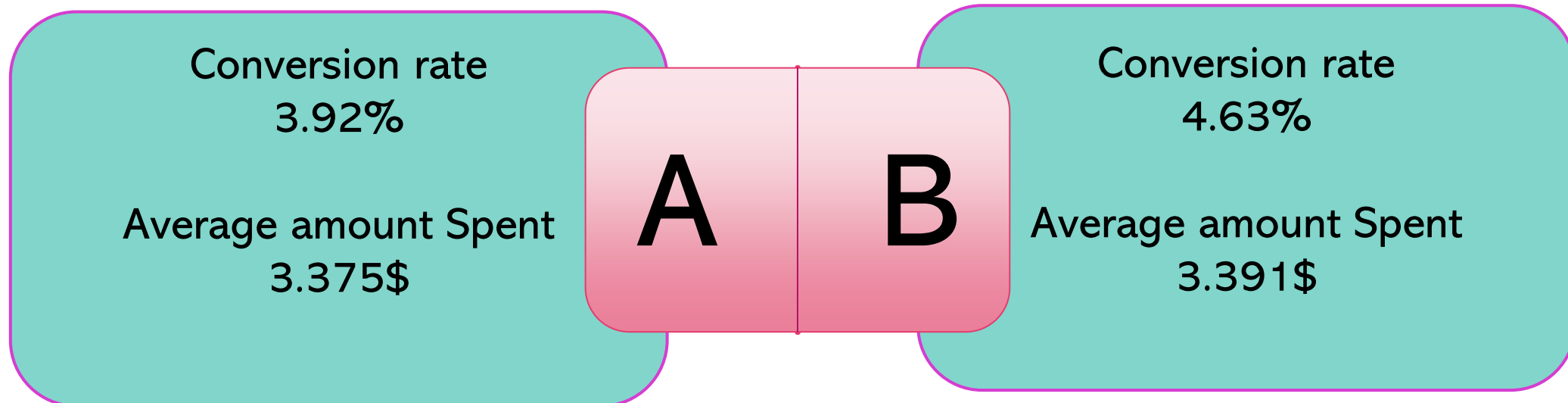
The probability that our findings are due to chance(**p-value**)

Conversion rate

▶ P-value = 0.00011

▶ Error tolerance = 0.05

▶ P-value<0.05

▶ Null hypothesis=Reject

Result:

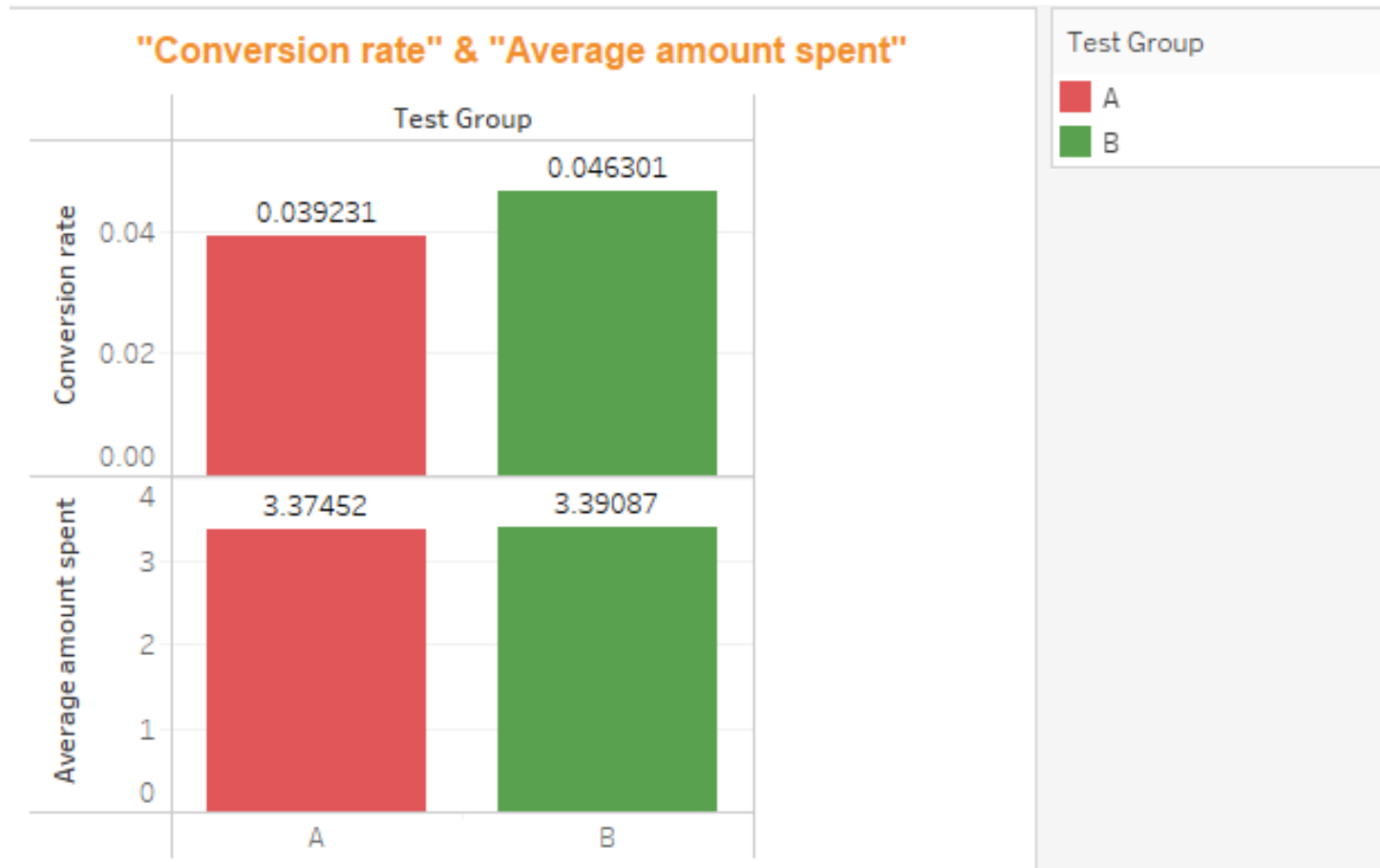1. strong evidence of the positive impact of the advertising banner

Average amount spent

▶ P-value = 0.94386

▶ Error tolerance = 0.05

▶ P-value>0.05

▶ Null hypothesis= Fail To Reject
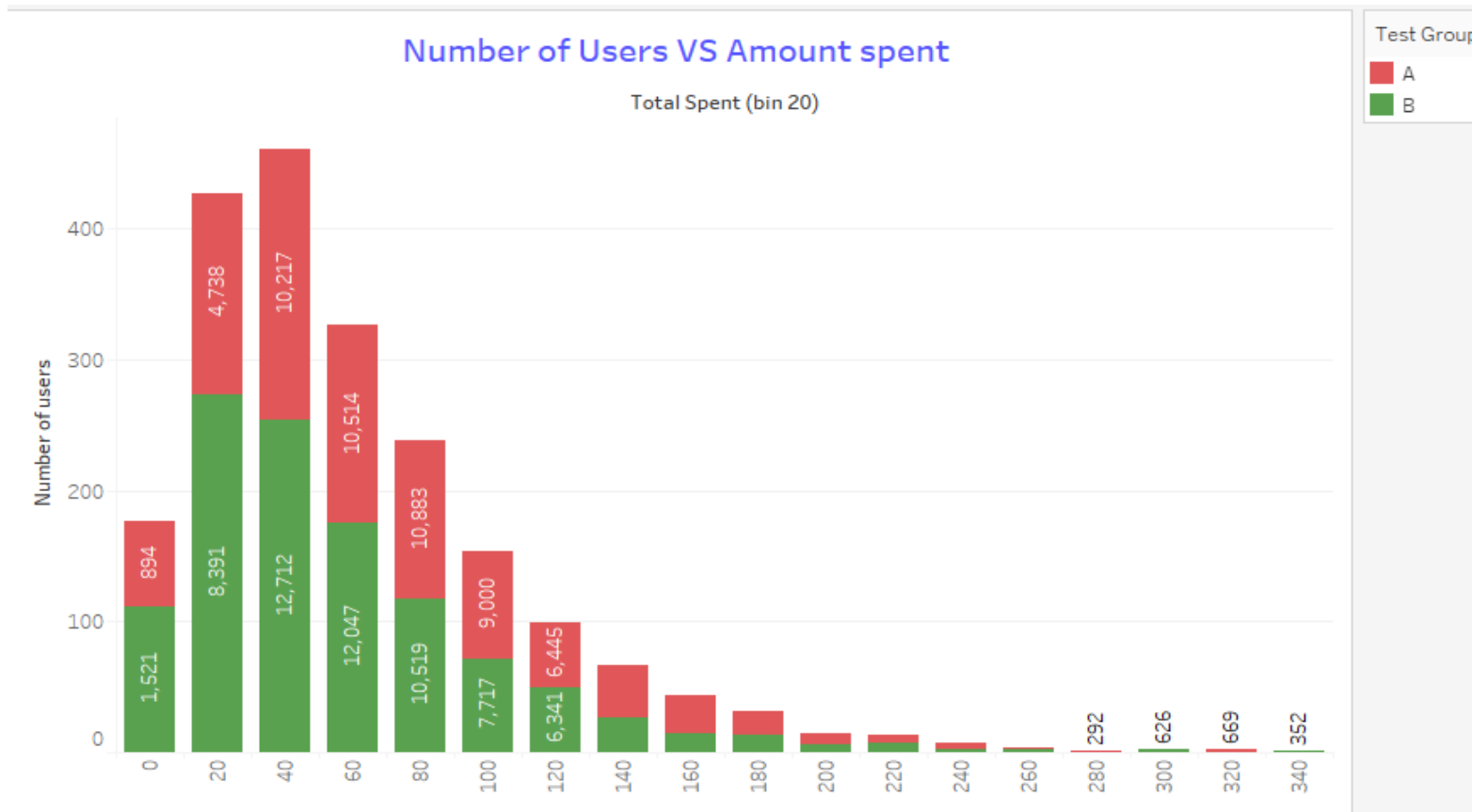
Result:

1. lack of significant evidence advertising banner

Differences between both metrics

"Conversion rate" & "Average amount spent"

The number of users VS The amount spent

Number of Users VS Amount spent
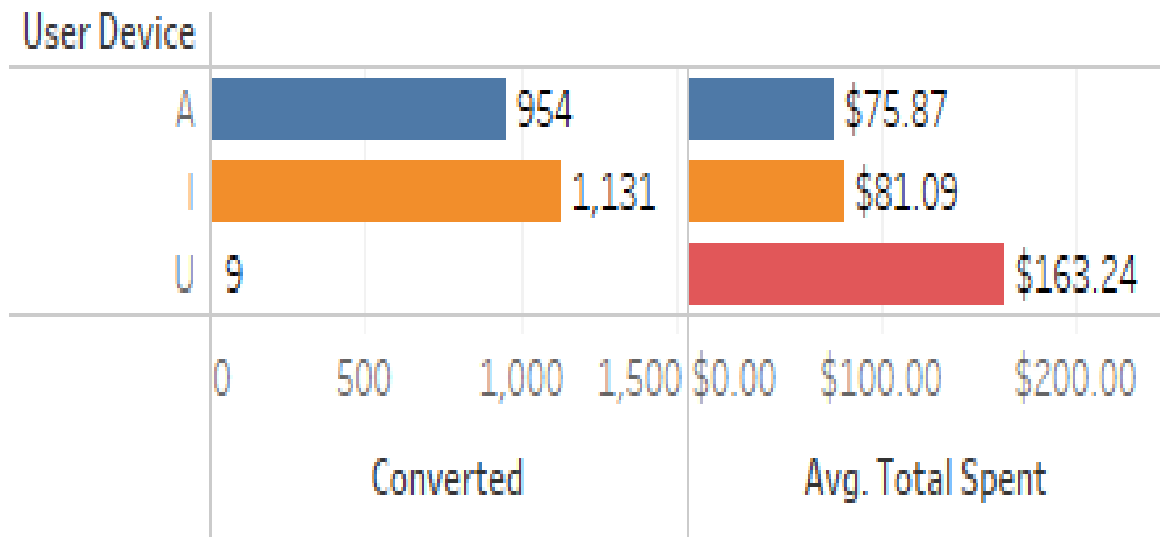
Total Spent (bin 20)

Test Group
- A (red)
- B (green)

Result:

At first there is an increasing trend, and then with the increase in the number of users, the amount spent by them decreases successively.

Metrics VS device types

"Metric's VS User device"

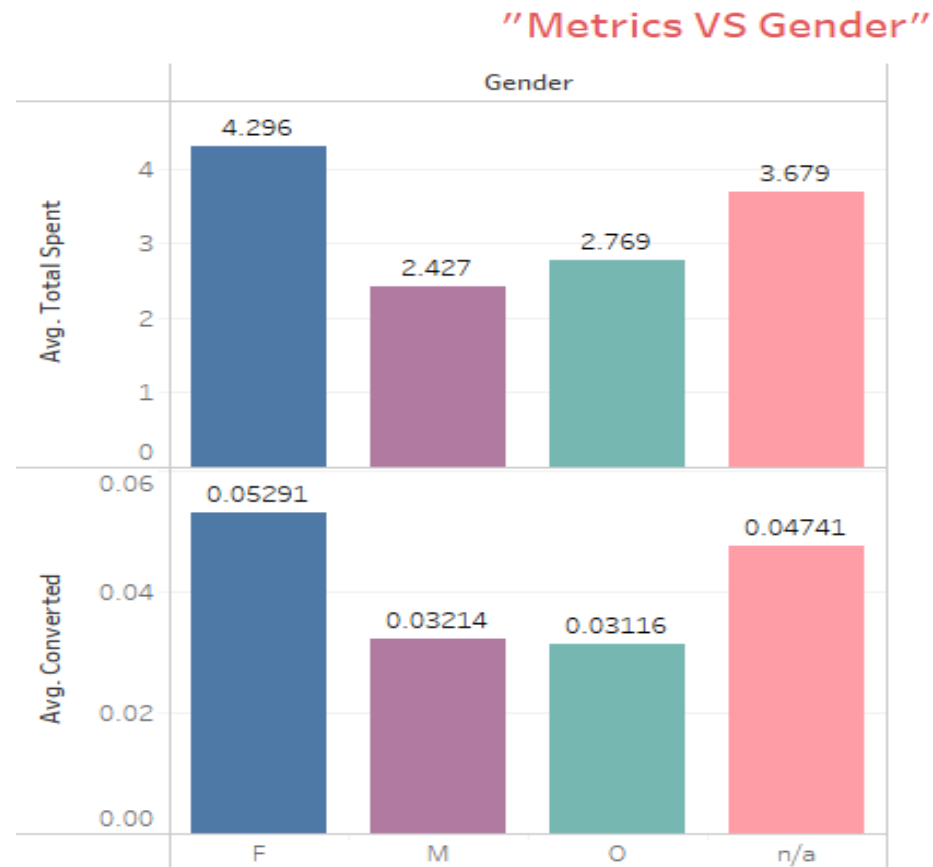| User Device	Converted	Avg. Total Spent
A	954	$75.87
I	1,131	$81.09
U	9	$163.24

User Device
- A
- I
- U

Result:

Conversion rate:

Iphone>Android>Unknown Device

Average amount spent:

Unknown device>Iphone> Android

Metrics VS Gender

"Metrics VS Gender"

Gender

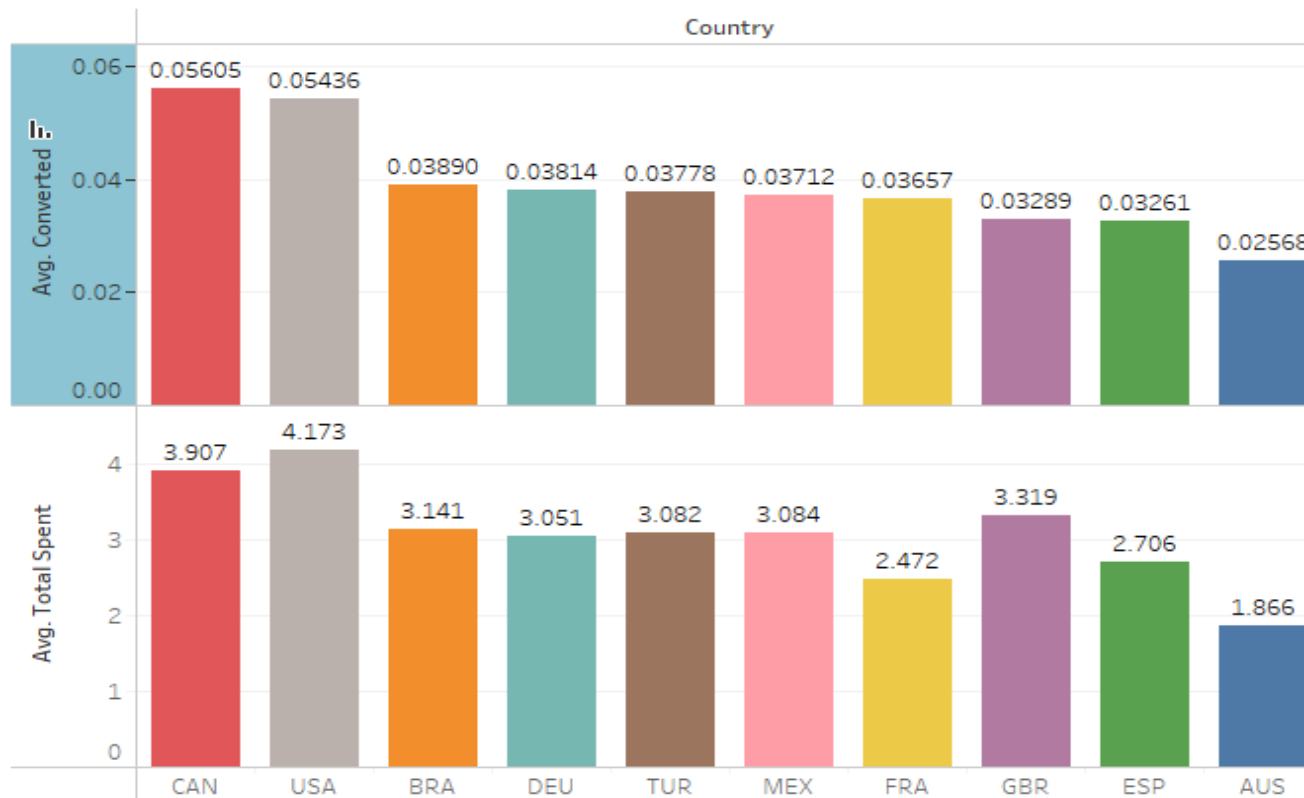| Gender	
■	F
■	M
■	O
■	n/a

Result:

Conversion rate:

Female>Non-available>Male>Other

Average amount spent:
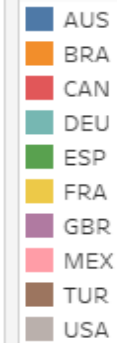
Female>Non-available>Other> Male

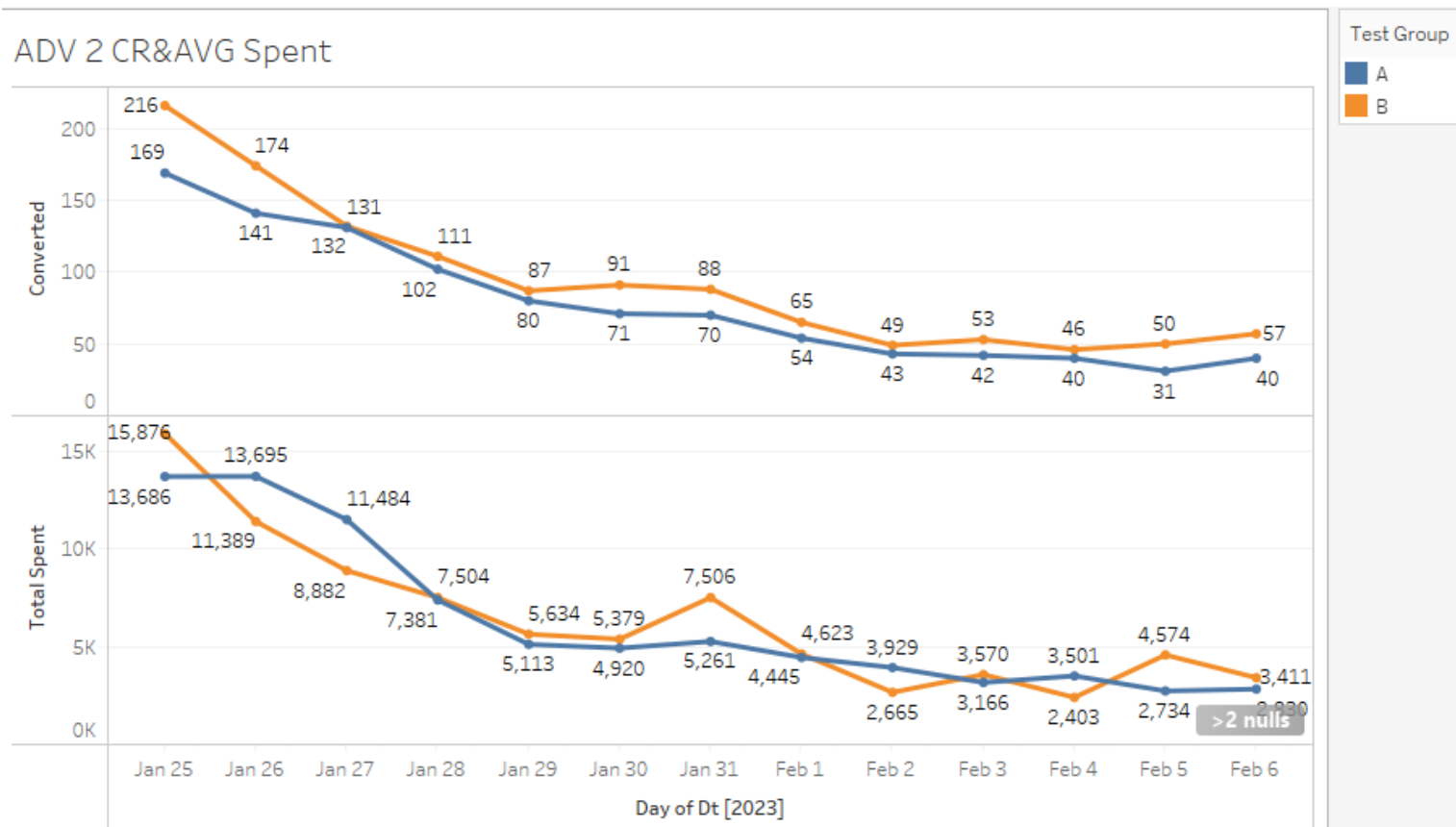# Metrics VS Country

"Metrics VS Country"

Result:

Conversion rate:

CAN>USA>BRA>DEU>TUR>MEX
>FRA>GBR>ESP>AUS

Average amount spent:
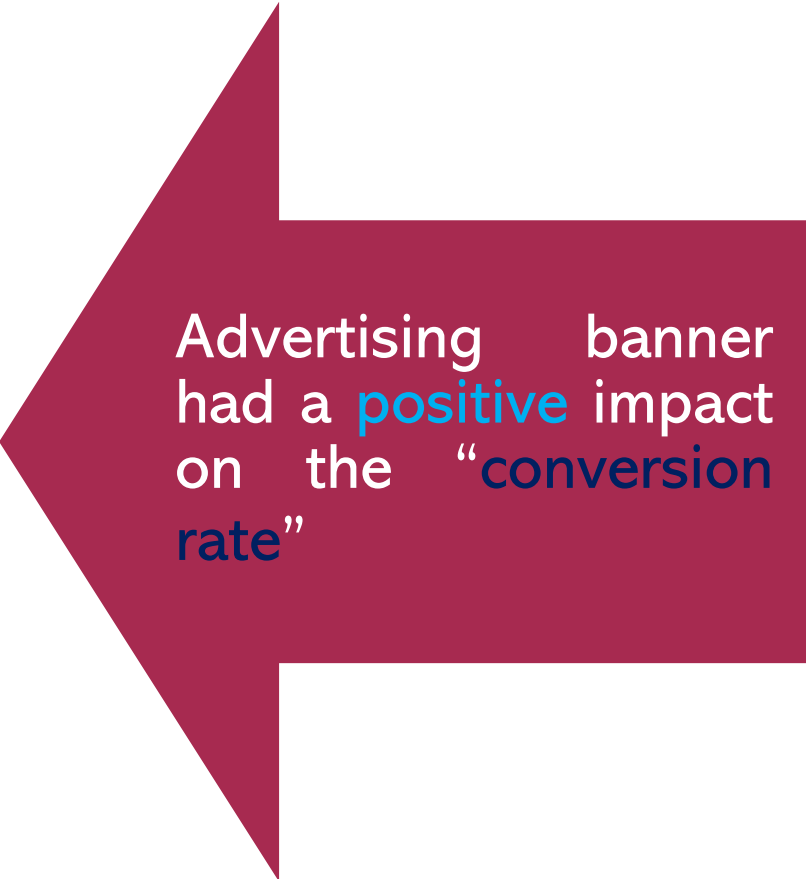
USA>CAN>GBR>BRA>MEX>TUR
>DEU>ESP>FRA>AUS

Metrics Over Time

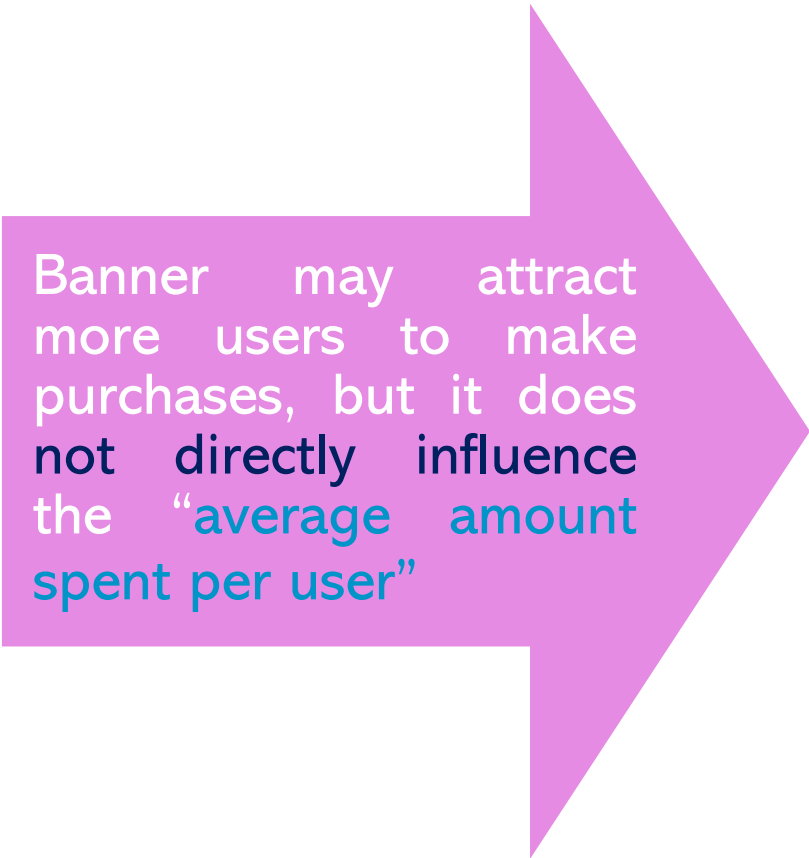

ADV 2 CR&AVG Spent

Result:

Almost consistent decrease

in both conversion rate and

average amount spent over

time for both Group A and

Group B

Key Results

Advertising banner had a positive impact on the "conversion rate"

Banner may attract more users to make purchases, but it does not directly influence the "average amount spent per user"

Recommendation

- Continue using the advertising banner on the mobile website.

- Considering its positive impact on the conversion rate.

- Additional strategies may be required to further enhance the average amount spent per user.

- Continuous monitoring and analysis of user behavior and testing various approaches can provide valuable insights for future optimization efforts.