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A/B Testing Period

Wednesday, 25 January 2023

A/B testing start date

Monday, 6 February 2023

A/B testing end date

The experiment is only being run on the mobile website.
Visitors of the GloBox main page randomly assigned to either the control or test group.
New banner is loaded for the test group, no banner is loaded for the control group
"Conversion"– visitor makes a purchase

48.943K

Number of users involved in A/B testing

The
statistical confidence level **95%**

α = **0.05**

24.343K

Number of Control group users

24.600K

Number of treatment group users

Group Table

Distinct Count of users in Groups Table	Count of all users in Groups Table	Number of Users without device	Number of Users without join date
48.943K	48.943K	294	(Blank)

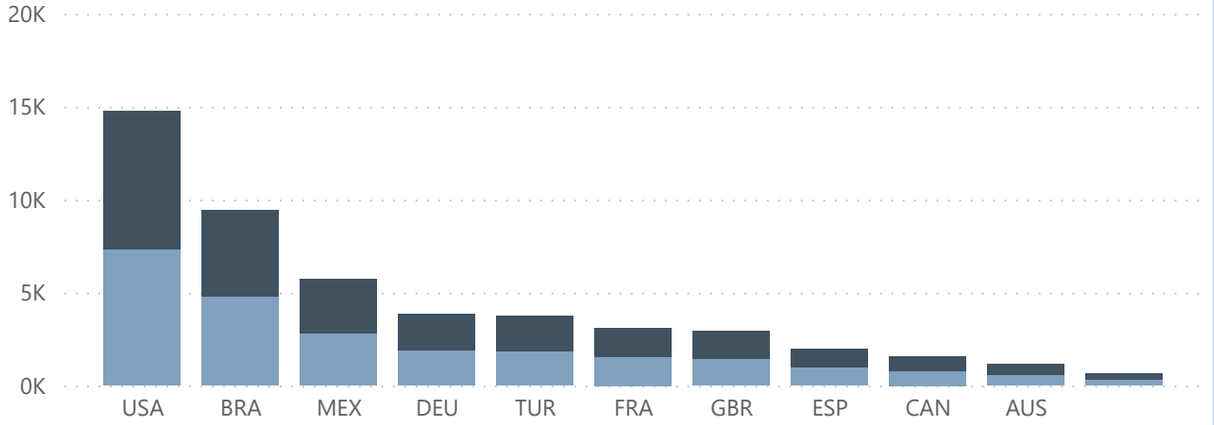
User table

Distinct Count of users in Users Table	Count of users in Users Table	Number of Users without gender	Number of Users without country
48.943K	48.943K	6855	643

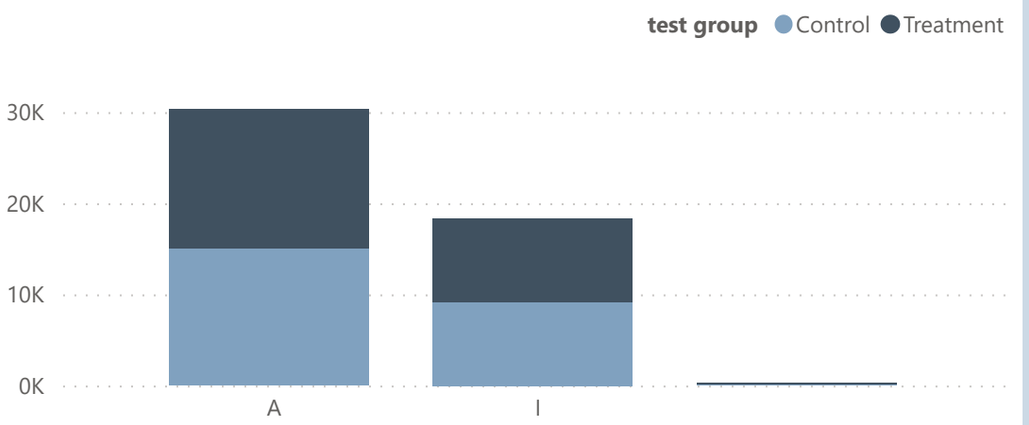
Activity table

Count of customers(records) in Activity Table	Distinct Count of customers in Activity Table Table	Number of customers without device	Number of customers without spent amount	Number of customers without date
2233	2094	10	(Blank)	(Blank)

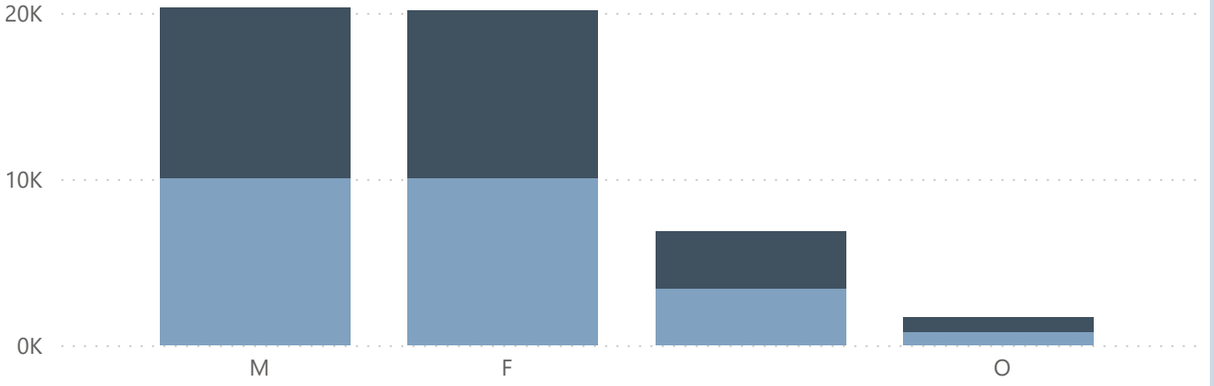
Number of users in A/B testing by country and group



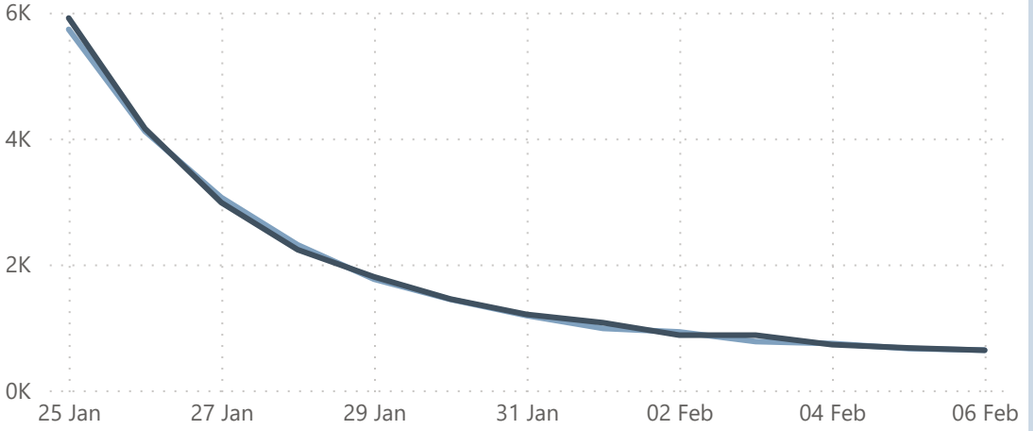
Number of users in A/B testing by device and group



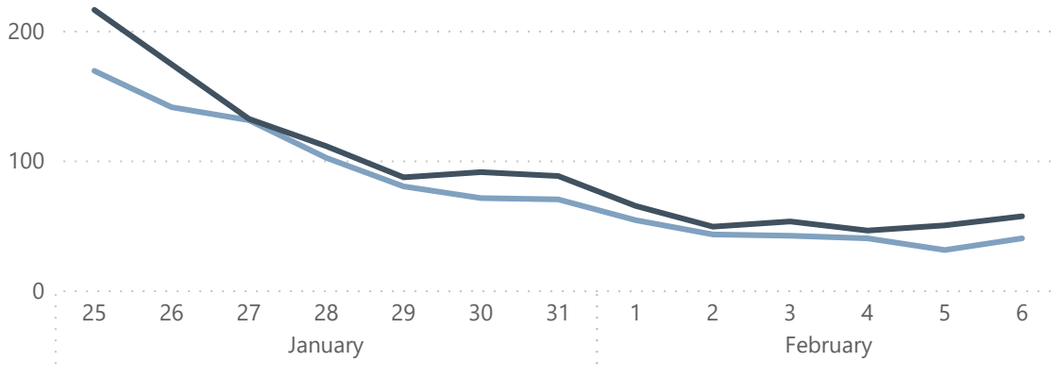
Number of users in A/B testing by gender and group



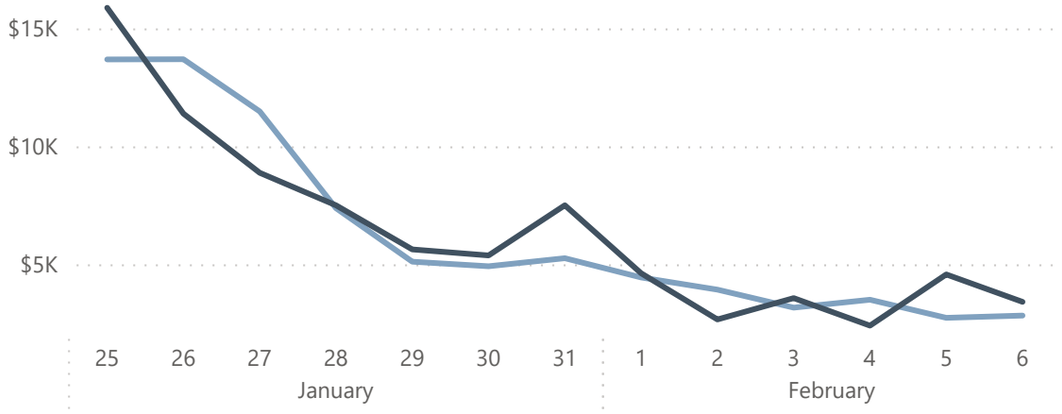
Number of users joint A/B Testing (new users visited the site) by date and group



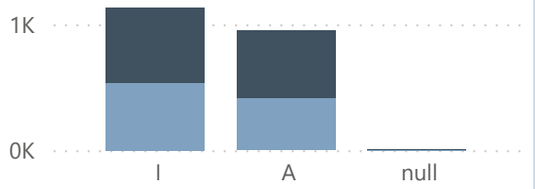
Number of purchasing customers by date and group



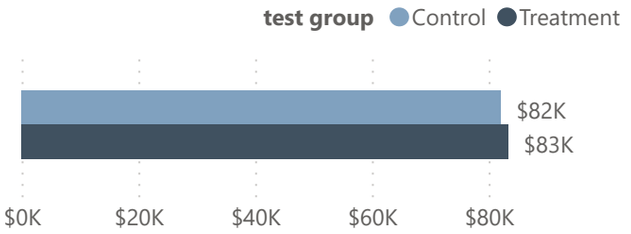
Total amount spent by purchasing customers by date and group



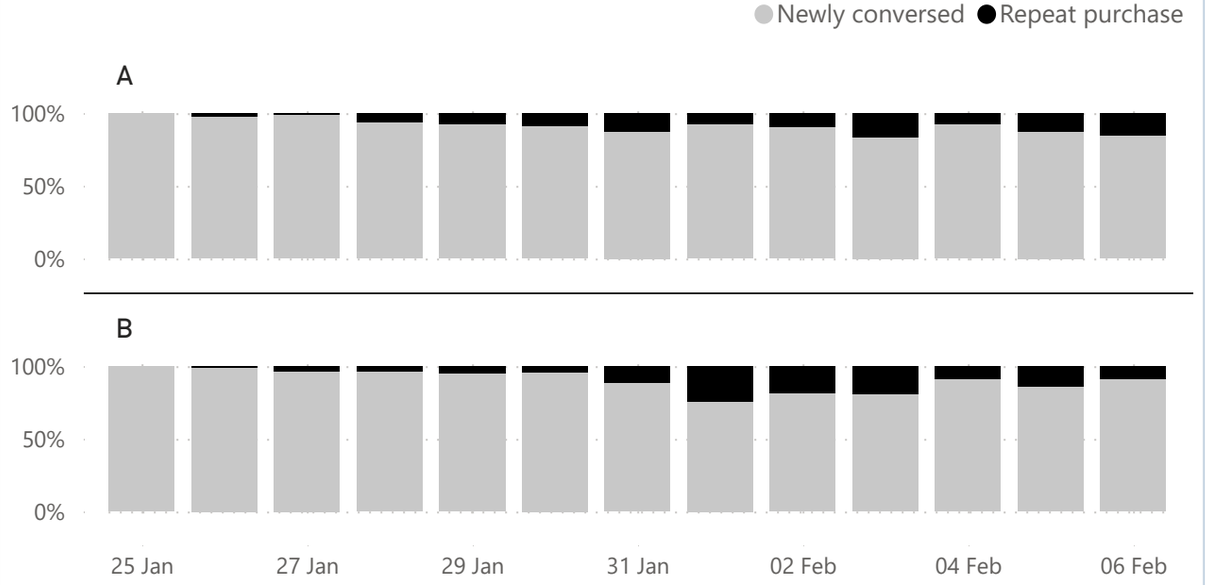
Number of conversed users by device and group

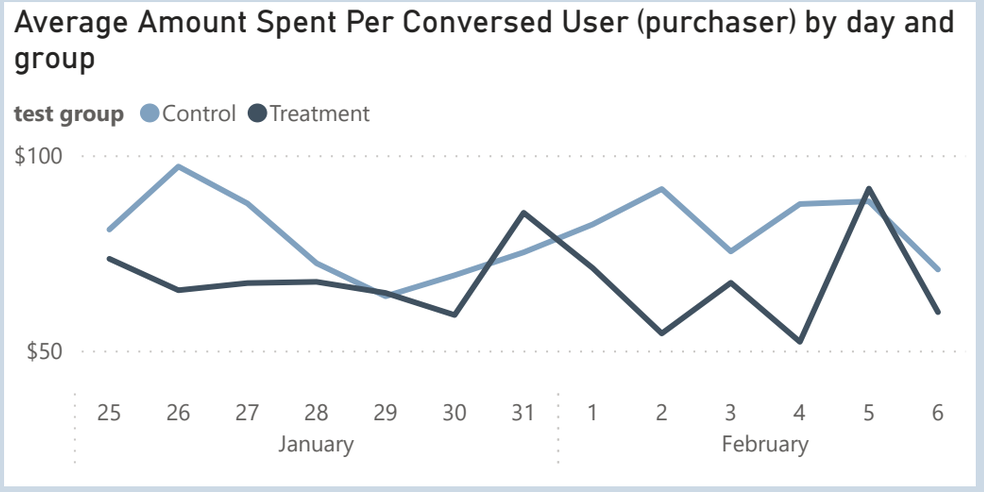


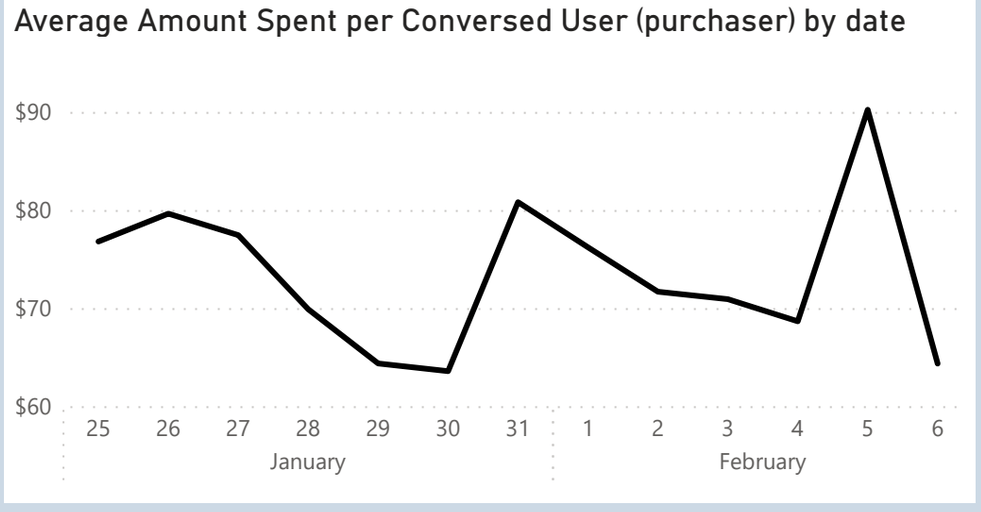
Total amount spent by conversed users by group



Newly conversed and Repeat purchase by Date and group







Average amount spent per user (visitor)

$3.383	$3.375	$3.391
All users (both groups)	Control group	Treatment group

Average amount spent per customer (purchaser)

$79.06	$86.02	$68.43
All customers (both groups)	Control group	Treatment group

Average amount spent per customer per day

$74.14	$81.01	$73.24
All customers (both groups)	Control group	Treatment Group

95% confidence interval for the average amount spent per user in the control group:

(3.049, 3.700)

95% confidence interval for the average amount spent per user in the treatment group:

(3.073, 3.708)

Group A average spent	SD for mean spent of A group	SE for mean A group	CI low for mean A group	CI high for mean A group
$3.375	25.94	0.17	3.049	3.700

Group B average spent	SD for mean spent of B group	SE for mean B group	CI low for mean B group	CI high for mean B group
$3.391	25.41	0.16	3.073	3.708

α =0.05

H_0: $\mu_{treatment} - \mu_{control} = 0$

H_a: $\mu_{treatment} - \mu_{control} > 0$

Where,

$\mu_{treatment}$ is average amount spent per user in the treatment group

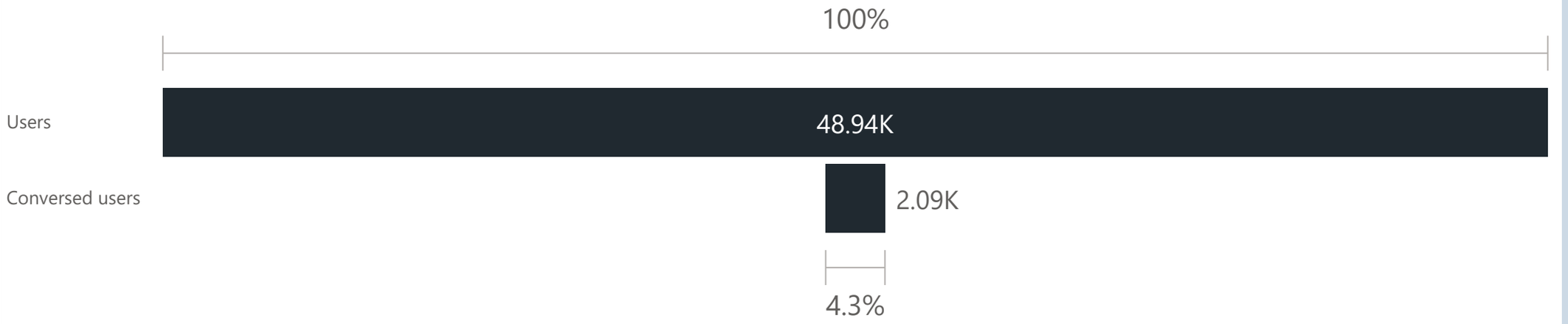
$\mu_{control}$ is average amount spent per user in the control group

Assuming unequal variance, using the unpooled standard error

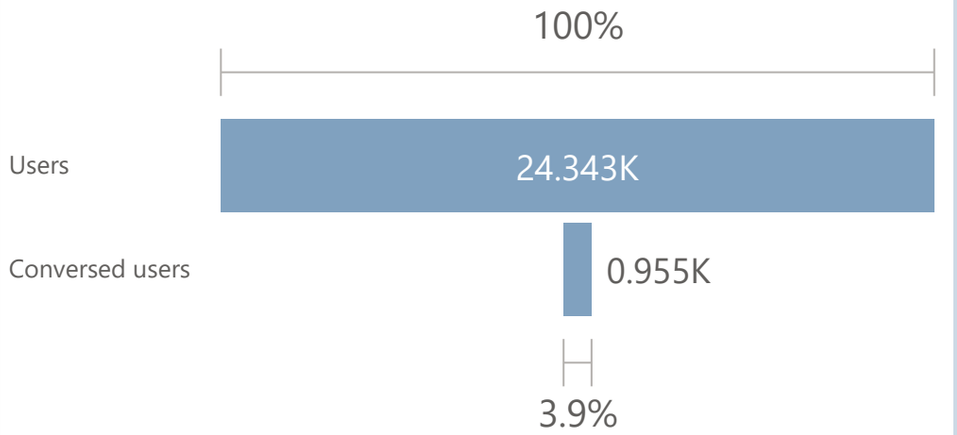
Mean difference	A group mean difference SD	B group mean difference SD	SE mean difference	T	P value two sided	P value right tail	CI low	CI high
0.016	25.94	25.41	0.232	0.0704	0.944	0.4721	-0.439	0.471

p value = 0.4721 , p>0.05 , fail to reject Ho, not enough evidence to reject the null hypothesis or we don't have enough evidence that amount spent per user in treatment group is greater than amount spent in control group

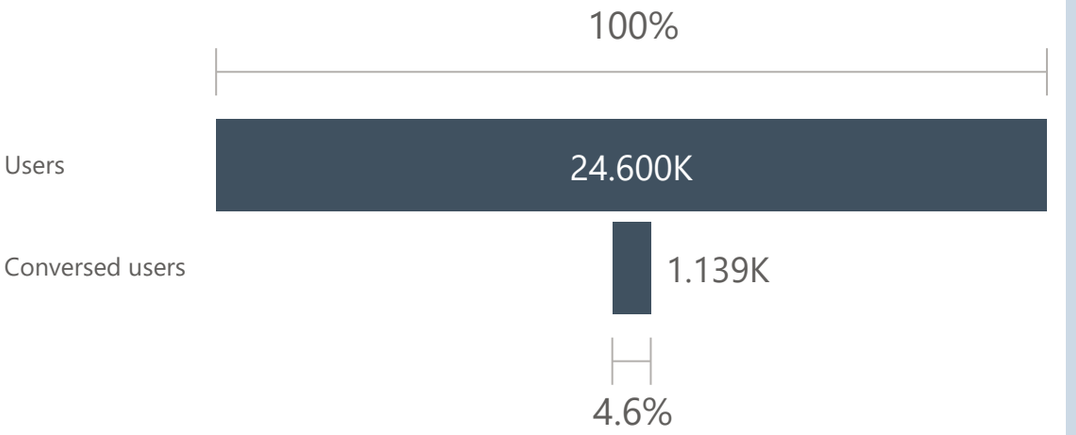
All Users Conversion Rate



Control Group Conversion Rate



Treatment Group Conversion Rate



95% confidence interval for the conversion rate of users in the control group:

(0.0368, 0.0417)

95% confidence interval for the conversion rate of users in the treatment group:

(0.0437, 0.0489)

Conversion rate (A users)	Number of A group users	SE for proportion of A group	CI lower for proportion A group	CI high for proportion A group
0.0392	24343.000	0.0012	0.0368	0.0417

Conversion rate (B users)	Number of B group users	SE for proportion of B group	CI lower for proportion B group	CI high for proportion B group
0.0463	24600.000	0.0013	0.0437	0.0489

α=0.05

Ho: $P_{treatment} - P_{control} = 0$

Ha: $P_{treatment} - P_{control} > 0$,

Where,

$P_{treatment}$ -conversion rate in treatment group

$P_{control}$ -conversion rate in control group

A group conversion rate	B group conversion rate	Conversion rate difference	SE conversion rate difference	p_hat	T	P value two sided	P value right tail	CI low	CI high
0.0392	0.0463	0.0071	0.0018	0.0428	3.8643	0.0001	0.000056	0.0035	0.0107

p value = 0.000056 , p<0.05 ,

reject Ho and accept Ha , the evidence suggest that conversion rate in treatment group is greater than conversion rate in control group

A/B testing process conclusions

Tested over incomplete period

Conversion rates can vary massively on different days of the week and even at different times of the day so a normal range of conversions should be respected

Best to be tested over at least one business cycle and ideally two

Internet users do not make a purchase as soon as they come across the site.
More than 12 days might elapse between the
time users are the subject of the test and the point at which they convert

The gap between average amount spent per customer and increased conversion rate should be considered to avoid negative impact on sales before launching the experience to all users.
There was no data available about the purchased products to conduct a research.

Possible sources of issues: pricing strategy, marketing strategy, discount policy

A/B testing conclusions

Revenue = Traffic x Conversion Rate x Average Amount Spent Per Customer (Conversed User)

Conversion rate increases, average amount spent per customer (purchaser) decreases

With the increase of conversion rates (e.g. thanks to a new, cheaper product), average amount spent per customer goes down (even though average amount per user stay the same) – the differences between these should be tracked, as a gap too large might be negative for the sales
See **Average Amount Spent** Page