

A/B Testing Report

Product Metrics Analysis — Statistical Results & Business Recommendations

Generated: February 20, 2026 13:46

1. Dataset Summary

Attribute	Value
Total Users	20000
Columns	7
Control Users	10000
Variant Users	10000
Date Range	last 30 days

2. Metrics Summary

Metric	Control	Variant	Difference
Conversion Rate	11.45%	14.85%	+3.40%
Avg Time Spent (min)	7.5541	8.8652	+1.3111
Avg Clicks	3.1968	3.9406	+0.7438
Avg Session Count	3.0811	3.3926	—
Total Conversions	1145	1485	—

3. Hypothesis Testing Results

Conversion Rate

Parameter	Value
Test Type	Two-Proportion Z-Test
Test Statistic	7.114
P-Value	0.0
Alpha	0.05

Significant?	YES - Significant
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Conversion rate: Control=0.1145 (11.45%), Variant=0.1485 (14.85%). Uplift=29.69%. Statistically significant difference detected.

Time Spent

Parameter	Value
Test Type	Independent T-Test (Welch)
Test Statistic	-18.3169
P-Value	0.0
Alpha	0.05
Significant?	YES - Significant

time_spent: Control mean=7.5541, Variant mean=8.8652. Difference=1.3111. Statistically significant difference detected.

Clicks

Parameter	Value
Test Type	Independent T-Test (Welch)
Test Statistic	-27.9284
P-Value	0.0
Alpha	0.05
Significant?	YES - Significant

clicks: Control mean=3.1968, Variant mean=3.9406. Difference=0.7438. Statistically significant difference detected.

4. Confidence Intervals (95%)

Metric	Point Estimate	95% CI	Confidence Level
Conversion Rate	0.034	[0.024645, 0.043355]	95%
Time Spent	1.3111	[1.1708, 1.4513]	95%
Clicks	0.7438	[0.6916, 0.796]	95%

5. Power Analysis & Effect Sizes

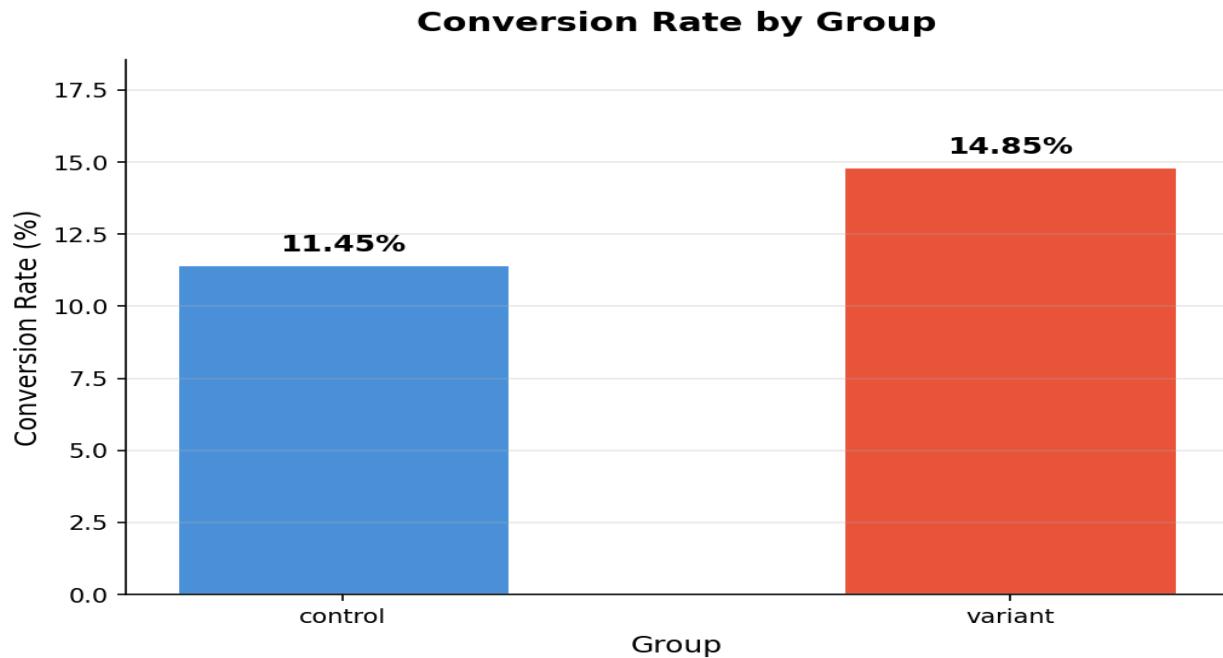
Metric	Uplift / Effect	Effect Size	Required N per Group
Conversion Rate Uplift	29.69%	0.1008	773

Time Spent	—	0.259	234
Clicks	—	0.395	101

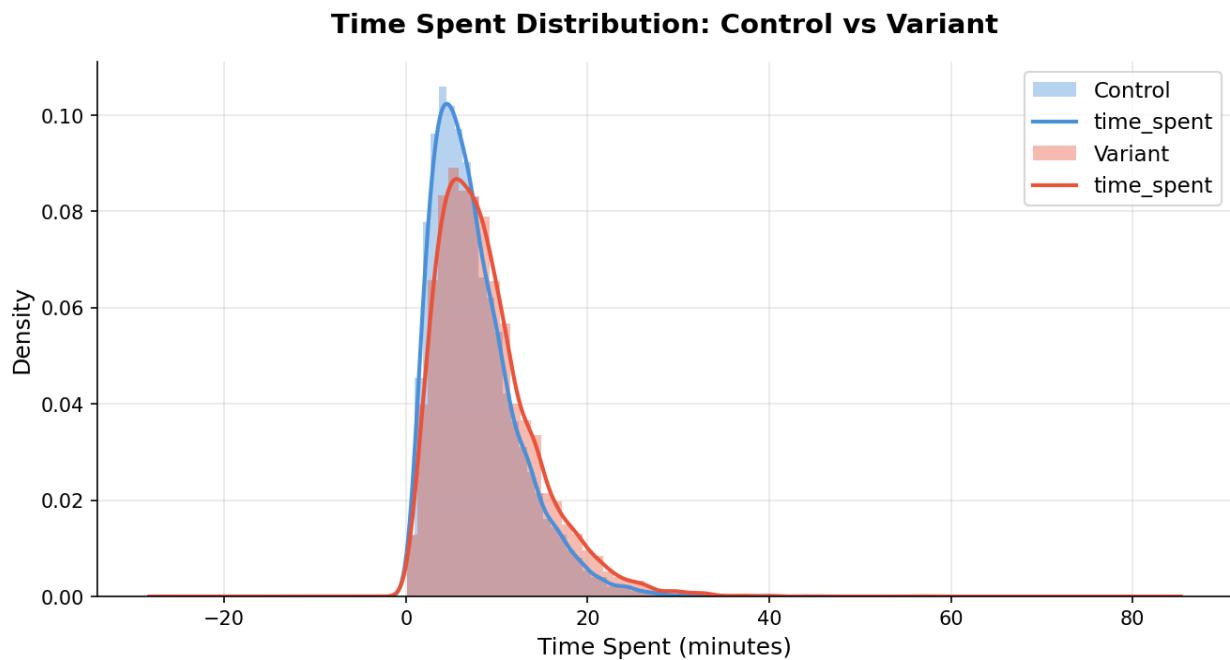
Actual sample size per group: 10000

6. Visualizations

Conversion Rate Comparison

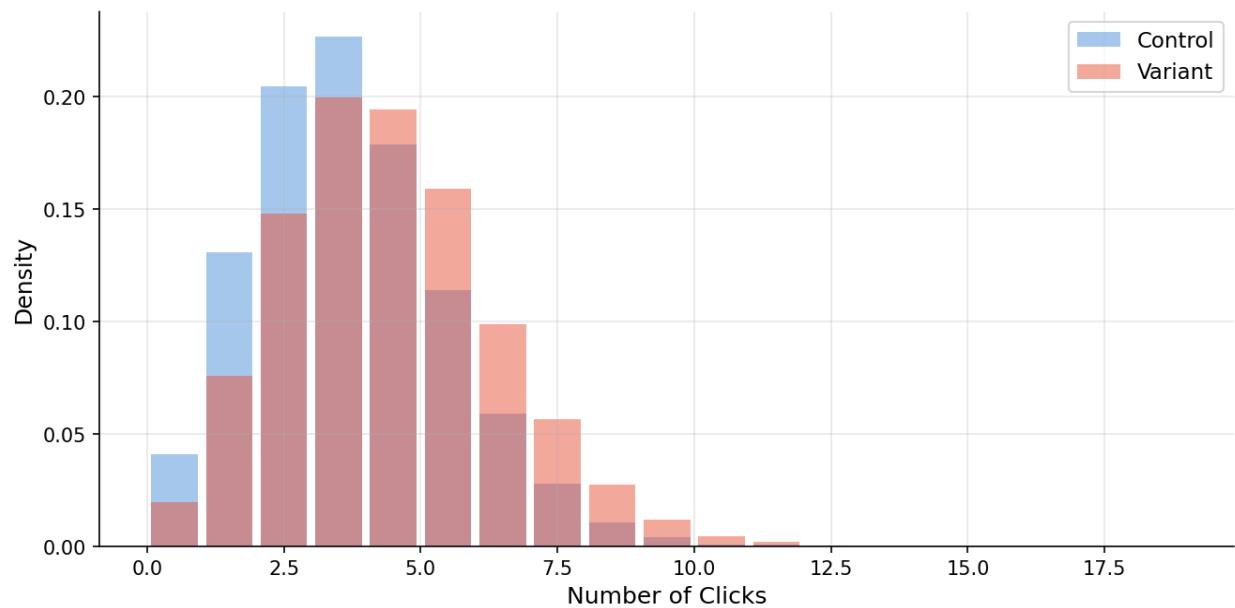


Time Spent Distribution



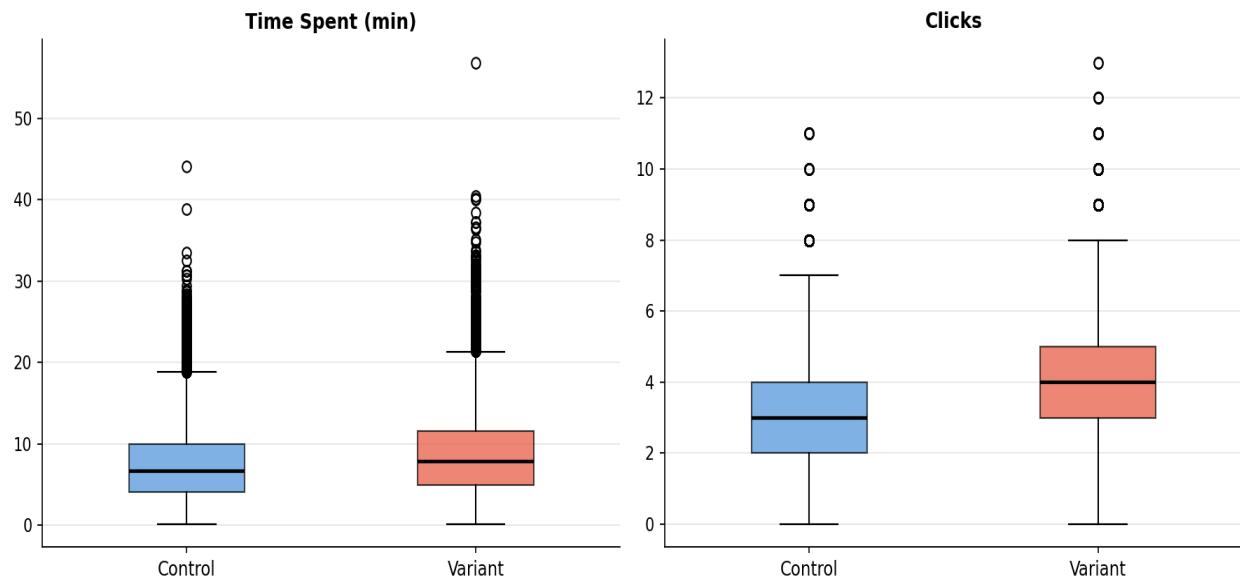
Clicks Distribution

Clicks Distribution: Control vs Variant



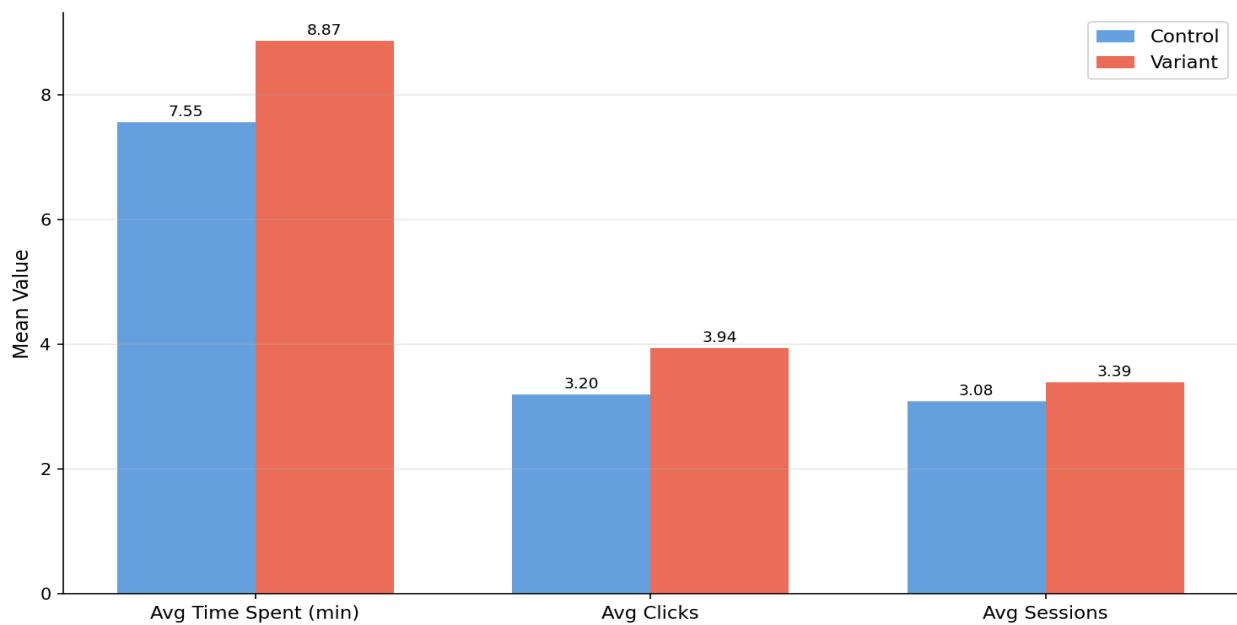
Boxplot Comparison

Boxplot Comparison: Control vs Variant



Metrics Comparison

Metrics Comparison: Control vs Variant



7. Business Insights

- The variant group achieved a statistically significant lift of 29.69% in conversion rate (11.45% → 14.85%). This directly impacts revenue.
- Users in the variant spent on average 1.31 more minutes per session, indicating improved engagement.
- Variant users averaged 0.74 more clicks, suggesting better interaction with the product.

8. Final Recommendation

RECOMMENDATION: ROLLOUT

Multiple metrics show statistically significant improvement in the variant. A positive conversion uplift with increased engagement metrics strongly supports deploying the variant to all users.