

Recommendations for an A/B Testing Simulation: Evaluating User Engagement Through Hypothesis Testing

Statistical Summary

Click-Through Rate (CTR)

- Webpage A CTR: 23.6% | Webpage B CTR: 31.3%
- Chi-Square Statistic: 14.5016 | P-Value: 0.00014 (< 0.05)
- Confidence Interval: (14.5006 to 19.5255). Does not include 0
- Conclusion: Significant difference; Webpage B performs better.

Time Spent

- Webpage A Mean: 29.8631 sec | Webpage B Mean: 29.7459 sec
- T-Statistic: 0.116 | P-Value: 0.91 (≥ 0.05)
- Confidence Interval: (-1.8632 to 2.0978). Includes 0
- Conclusion: No significant difference in time spent.

Conversion Rate

- Webpage A Conversion: 35.4% | Webpage B Conversion: 28.3%
- Chi-Square Statistic: 11.287 | P-Value: 0.00078 (< 0.05)
- Confidence Interval: (11.286 to 16.311) Does not include 0
- Conclusion: Significant difference; Webpage A performs better.

Actionable Insights

CTR

- Focus on Webpage B's design and content to understand why it performs better.

- Improve Webpage A's CTR by optimizing Call to Actions, layout, and content clarity.

Time Spent

- Investigate qualitative user behavior (e.g., scroll depth, interactions) to ensure time spent is meaningful.

Conversion

- Strengthen Webpage A's conversion strengths, like Call to Actions and subscription flows.
 - Analyze Webpage B's funnel to address points where users drop off.
-

Continuous Improvement

1. Iterative Testing: A/B test layout, Call to Actions, and visuals on both webpages.
 2. User Segmentation: Personalize content and design based on audience segments for better engagement.
-

Strategic Decisions

1. Traffic Allocation: Use Webpage B's strong CTR to drive traffic and redirect to Webpage A for better conversions.
2. Focus Efforts:
 - Improve Webpage A's CTR to attract more clicks.
 - Refine Webpage B's conversion funnel to retain users.
3. Performance Monitoring: Continuously track metrics to ensure improvements are sustained.