



A/B Testing: Marketing Email Conversion Optimization



B2B SaaS Scenario Portfolio Project

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Objective

Evaluate which email **'Call to Action' (CTA)** variant performs better and if the results are statistically significant.

Email Campaign Optimization – Key Insights

Insight:

Variant B achieved a **43.6% higher conversion rate** than Variant A ($p = 0.0042$).

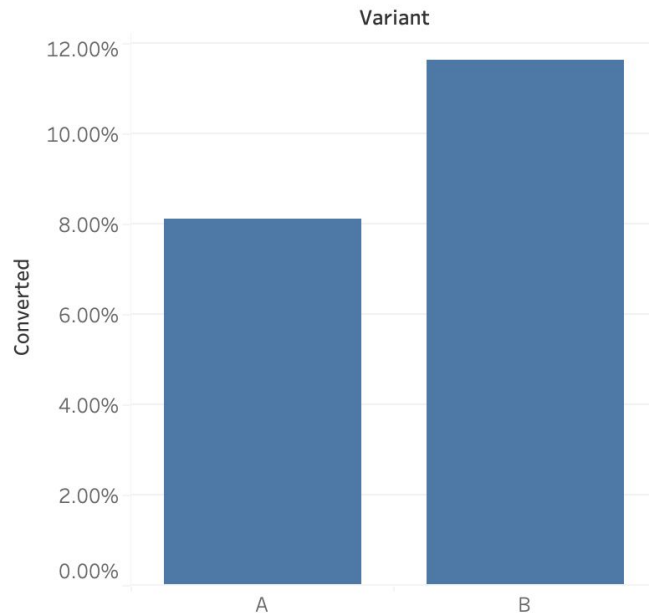
Recommendation:

Adopt Variant B in all email demo campaigns to boost marketing ROI.

Lift: Variant B vs A

43.61%

Conversion Rate by Email Variant





Methodology

- Simulated 1,000 users (A) and 980 users (B)
- Conversion defined as demo sign-up (binary outcome)
- Calculated conversion rate per group
- Ran z-test for proportions
- Visualized results with a bar chart



Results

- Variant A: 8.10% Conversion Rate
- Variant B: 11.63% Conversion Rate
- Lift: +43.6%
- Z-Score: 2.638
- P-Value: 0.0042 (Significant at $p < 0.05$)



Takeaways

- Variant B significantly outperformed A
- Higher conversion rate and statistically valid improvement
- Rollout Variant B for future campaigns



Tools & Portfolio Value

- Python, Pandas, NumPy, Matplotlib
- Statistical analysis (z-test)
- Demonstrates ability to apply testing methods
- Clear, data-driven storytelling with visuals