A/B Testing Report: Improving Email Conversion Rates

1. Objective

The goal of this A/B test is to determine whether a new email design (Version B) improves the conversion rate (users clicking the “Buy Now” button) compared to the existing design (Version A).

2. Experimental Setup

Feature	Group A (Control)	Group B (Variant)
Email Design	Old	New (Improved layout + CTA)
Emails Sent	5,000	5,000
Key Metric	Conversion Rate	Conversion Rate

3. Results Summary

Group	Total Users	Conversions	Conversion Rate
A	5,000	611	12.22%
B	5,000	741	14.82%

4. Statistical Analysis

• Hypothesis Test Used: Chi-Square Test for Independence
• P-value: 0.00003
• Interpretation: Since $p < 0.05$, the difference in conversion rates is statistically significant.
■ We reject the null hypothesis and conclude that Version B performs better than Version A.

5. Visualization

A bar plot of conversion rates by email version is shown in the accompanying notebook or dashboard.

6. Conclusion

The new email design (Version B) significantly improved conversion rates. Based on statistical evidence, Version B is recommended for future email campaigns.

7. Recommendations

• Roll out Version B to all users.
• Consider further A/B testing on:

- Email subject lines
- Button placement/color
- Sending time

8. Tools Used

• Python (pandas, matplotlib, seaborn, scipy)
• Statistical Test: Chi-Square Test
• Visualization: Bar plots, 95% Confidence Intervals