

## AB TESTING & FUNNEL ANALYSIS – PRODUCT MANAGEMENT CASE STUDY

1. PROJECT OVERVIEW This project analyzes a product signup funnel and performs an A/B test to measure the impact of UI changes on signup conversion.

2. DATASET Synthetic dataset of 5000 users including: views, signup status, purchase status, and random A/B assignment.

3. FUNNEL ANALYSIS Total Users: 5000 Viewed: 5000 (100%) Signed Up: 1606 (~32%) Purchased: 800 (~16%) Conversion Funnel: View → Signup: 32% Signup → Purchase: 50% Overall: 16% Key Drop-off: 68% drop between View → Signup.

4. A/B TEST RESULTS Group A: 2504 users, 794 signups (31.7%) Group B: 2496 users, 812 signups (32.5%) Z-statistic: -0.629 P-value: 0.533 Interpretation: Difference between A and B is not statistically significant ( $p > 0.05$ ).

5. PRODUCT INSIGHTS • Signup page shows largest drop. • Current UI change not impactful. • Need deeper UX improvements such as reducing form fields, adding social login, faster loading.

6. RECOMMENDATIONS 1. Run new A/B test with stronger UI changes. 2. Expand sample size. 3. Conduct user interviews. 4. Improve CTA clarity and trust signals.

7. SUMMARY This project demonstrates funnel analysis, conversion measurement, A/B testing, PM insights, and recommendations suitable for a Product Intern or PM role.