

# Hospital Appointment Booking system UI, A/B Test Report

For Non-Technical Stakeholders

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Portfolio Project

# Business Problem

Our hospital has seen a decline in patient booking conversion rates over the past year (down **8% YoY**), resulting in an estimated **\$2.3M annual loss** in missed appointments. The current booking interface is outdated, leading to patient frustration and complaints.

# Experiment Setup

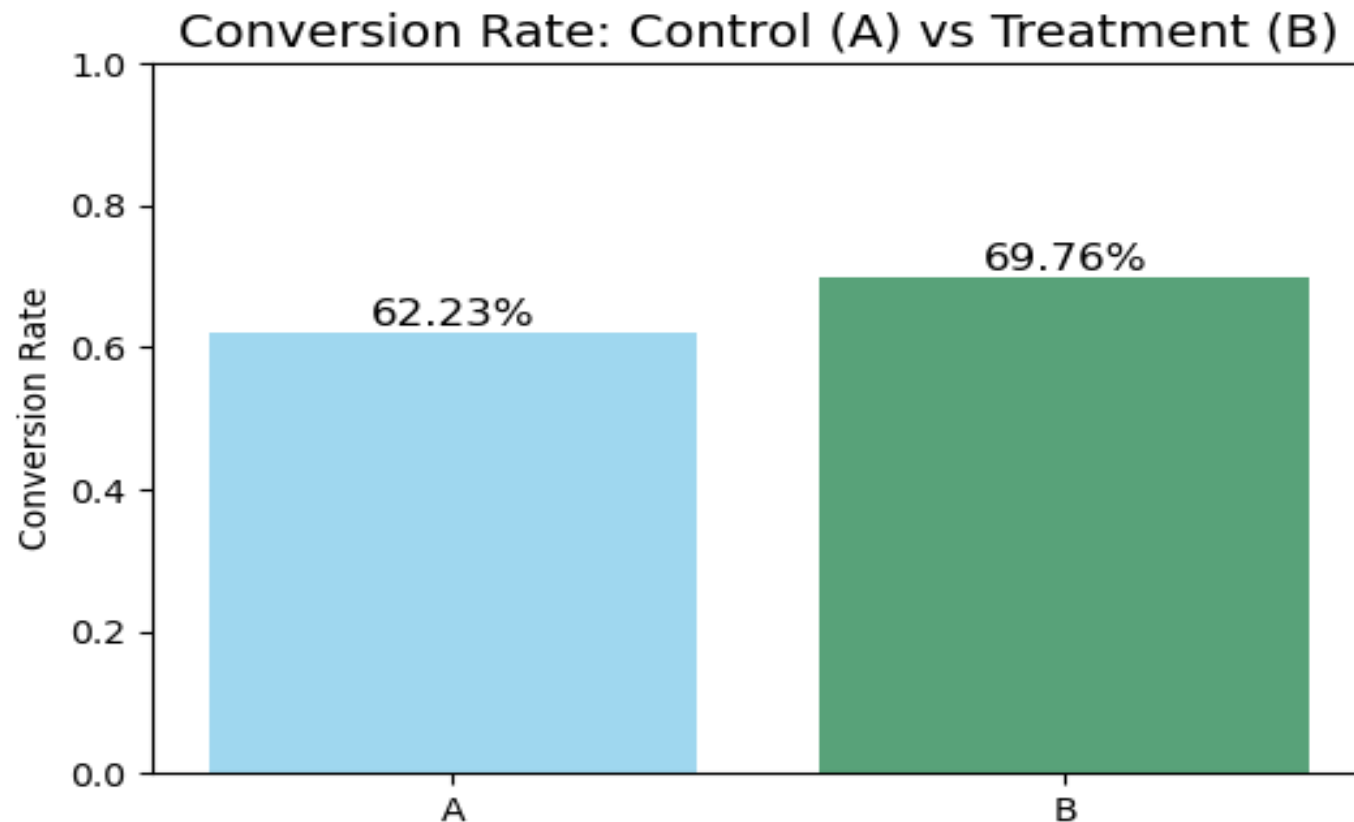
- Duration: Jan – Jun 2024
- Control (A): Current booking UI-UX
- Treatment (B): New streamlined UI-UX with simplified form and progress indicators
- Sample Size: ~29,500 sessions (A: 14,184 | B: 15,272)
- Avg. Booking Value: \$340
- Investment: \$200K rollout

# Hypotheses

- Null ( $H_0$ ): Conversion rate (B)  $\leq$  Conversion rate (A)
- Alternative ( $H_1$ ): Conversion rate (B)  $>$  Conversion rate (A)

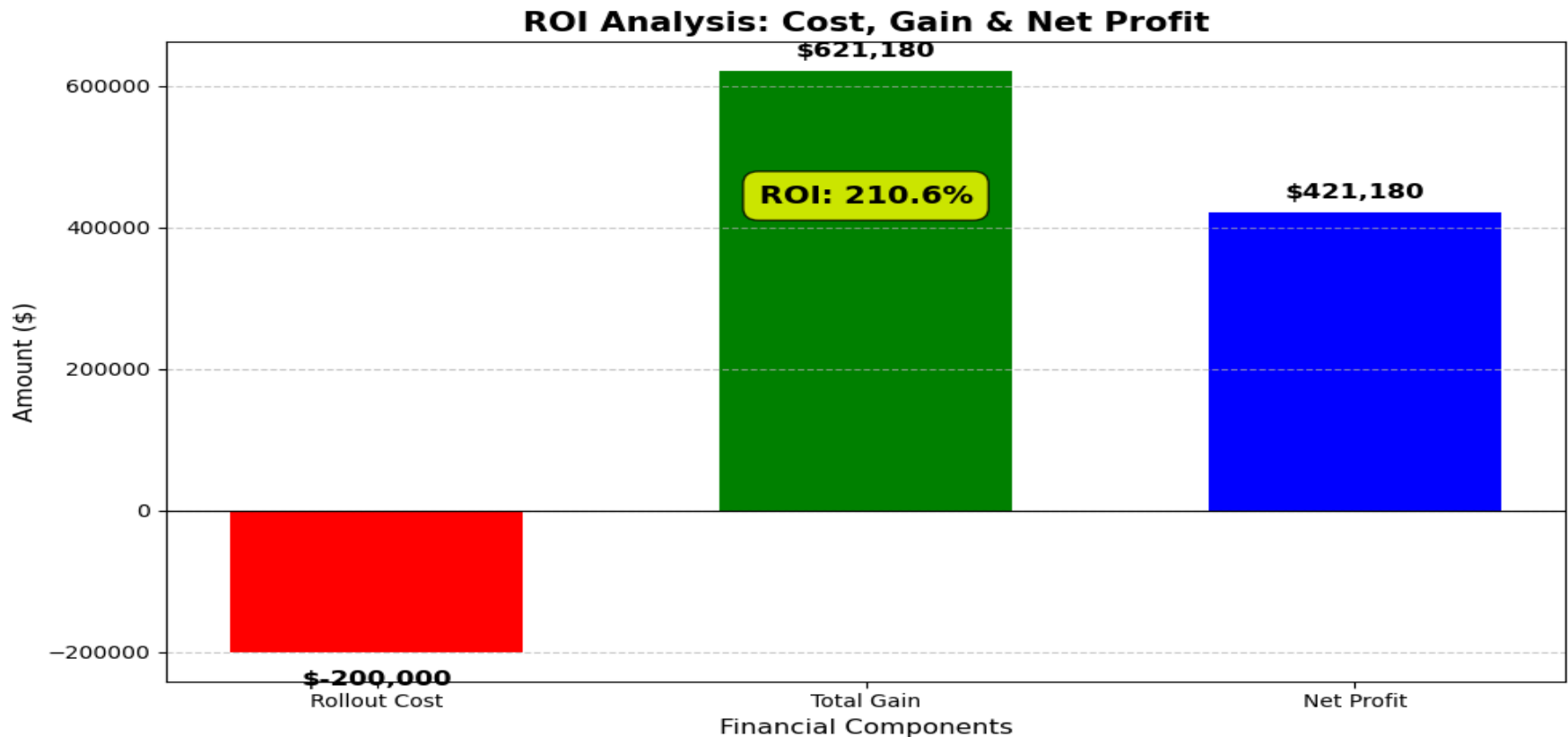
# Primary Results

- Conversion rate: 62.2% → 69.8%
- Absolute lift: 7.5%
- Relative lift: 12.1%
- Statistically significant ( $p < 0.001$ )



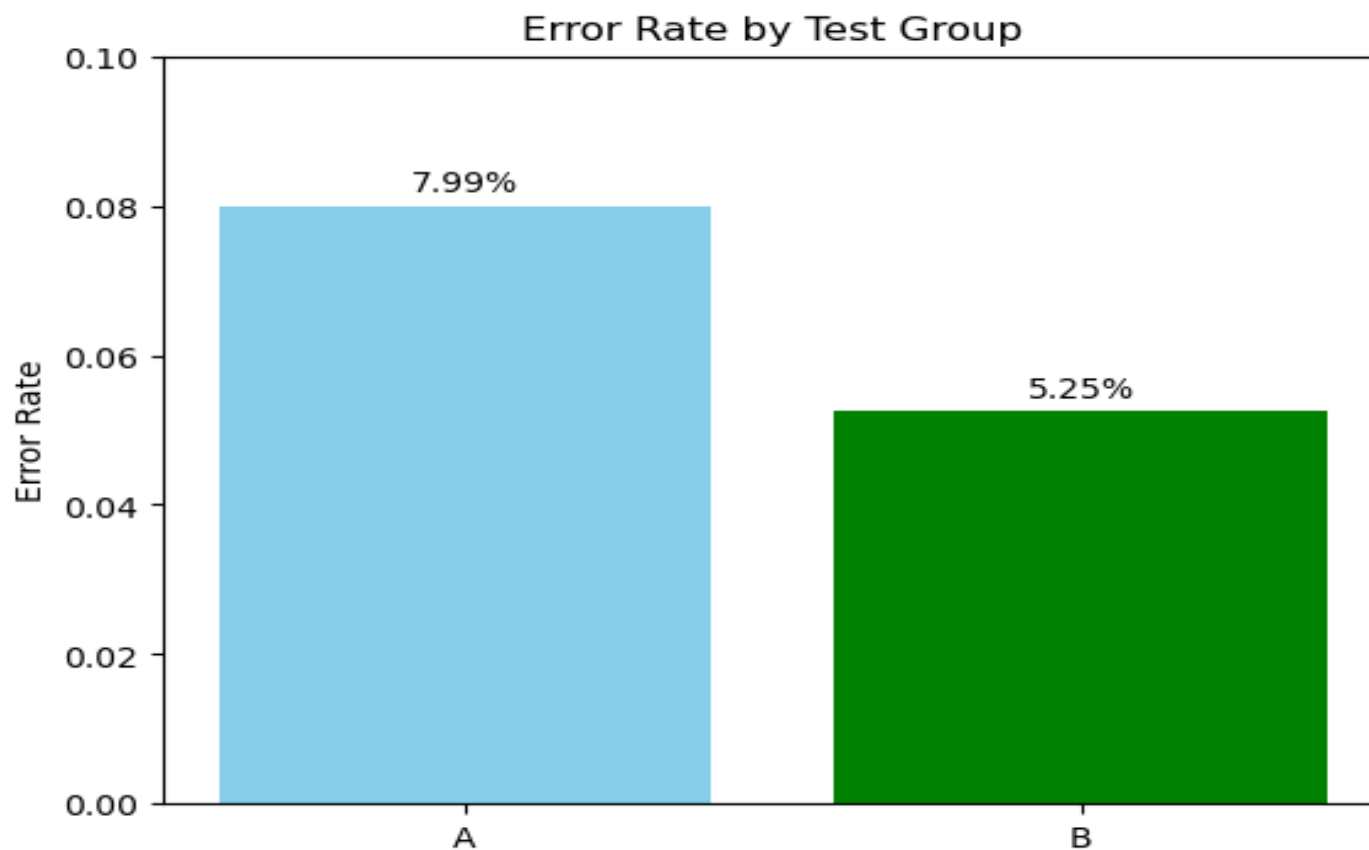
# Business Impact

- Net revenue uplift: \$190,631
- ROI on rollout cost (\$200K): 210%
- Payback period for Rollout cost: 2.9 months
- Confidence: 95% positive ROI



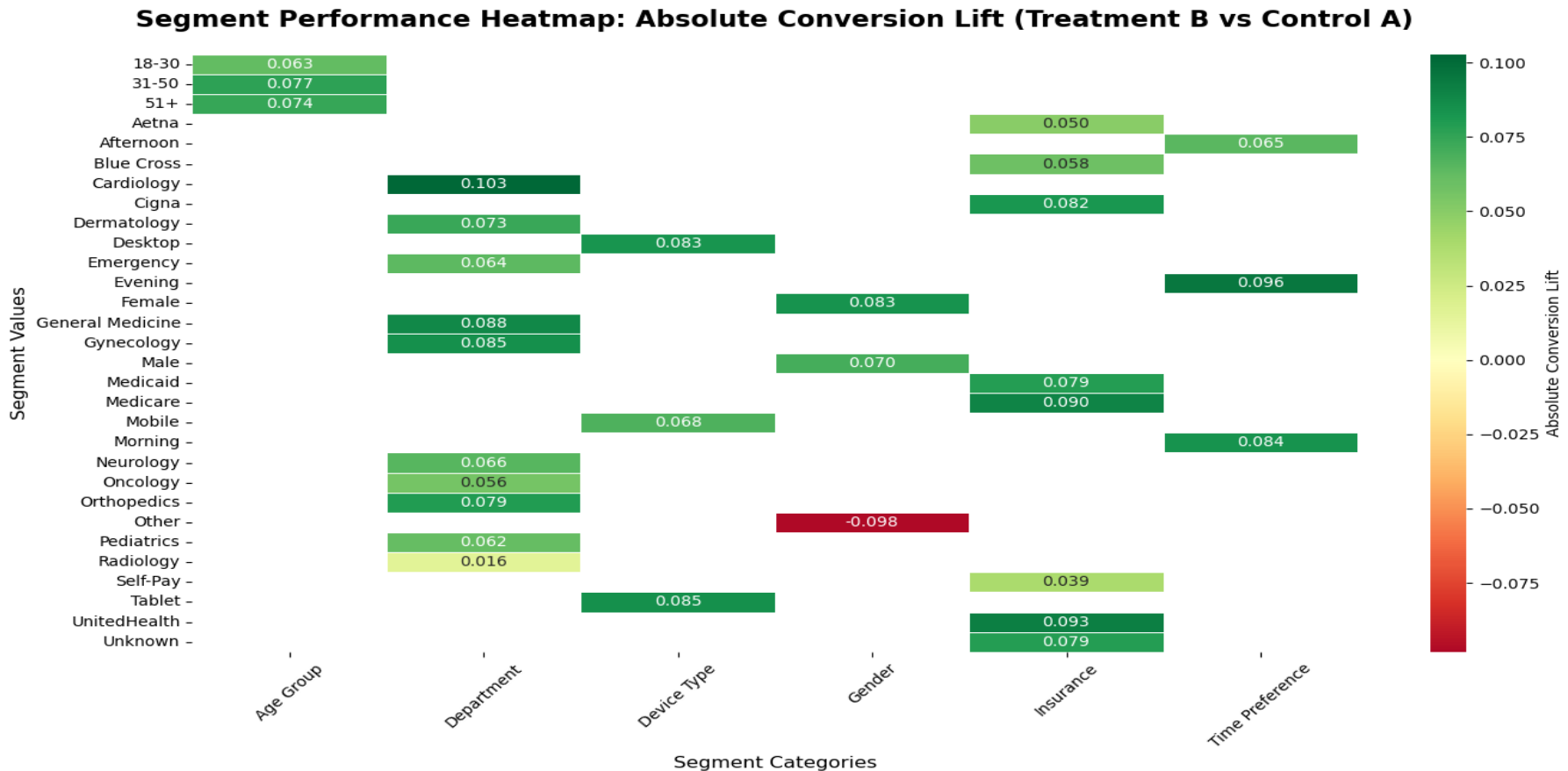
# Secondary Metrics

- Error rate: Decreased from 7.99% → 5.25%



# Segment Analysis

- All major devices, departments, and age groups showed positive lift
- Emergency department & peak booking hours benefited most
- Note: Gender = 'Other' showed negative lift (−13.7%)





# Risks & Mitigation

- **Risk: Segment-Specific Underperformance**

*Some subgroups (e.g., “Other” gender) showed weaker or negative lift.*

**Mitigation:** Targeted follow-up tests & segment-specific UI adjustments.

- **Risk: Mobile Experience Variability**

*Mobile shows less performance than desktop and tablet could drive complaints.*

**Mitigation:** Ongoing monitoring via dashboards, fast-track UX improvements for mobile.

- **Risk: Data Quality / Tracking Issues**

*Test data had missing values and possible bot traffic*

**Mitigation:** Strengthen tracking system to stop bot traffic.

# Recommendation

- Roll out Treatment B hospital-wide, supported by a statistically significant 7.5% conversion lift.
- Use monitoring dashboards and alerts to track ongoing performance across segments.
- Pay special attention to the "Other" gender segment post-rollout, where lift was weaker.

# Conclusion

- Treatment B significantly improves conversion, revenue, and usability
- ROI on rollout cost(\$200K) is strong (210%)
- Error rate decreased from 8% to 5%
- Absolute conversion lift by 7.5%
- Confidence Level 95% that New UI is better
- Recommendation: Full rollout with high confidence