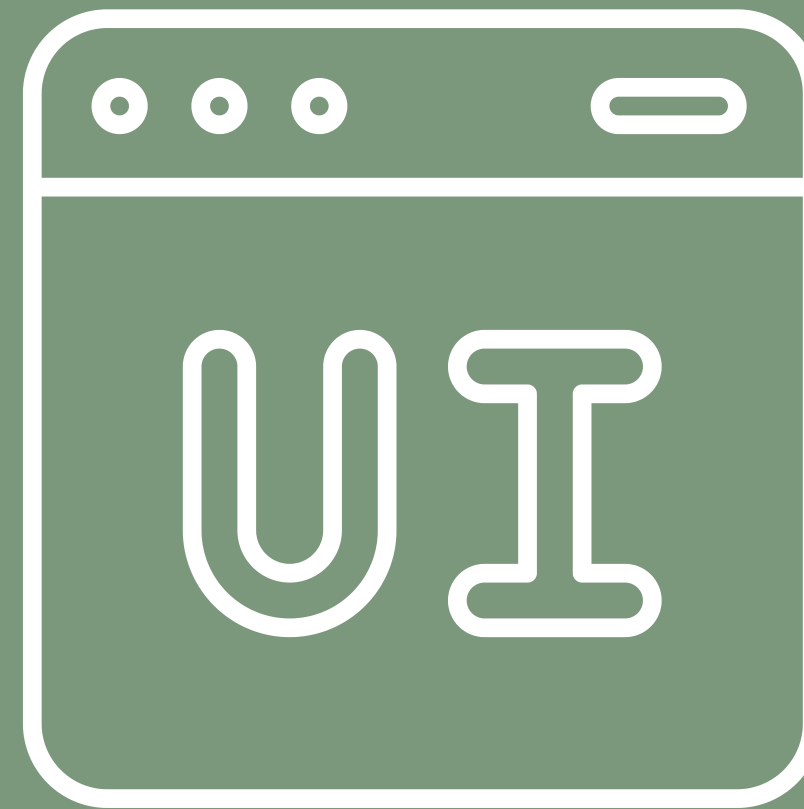


# New User Interface Experiment



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Vanguard

# Agenda



- Introduction
- Data Overview
- Exploratory Data Analysis (EDA)
- Key Performance Indicators
- Hypothesis Testing
- Final Analysis & Design Evaluation



# Introduction

- Vanguard updated its online system, thinking a new look could help clients finish tasks better.
- From March 15 to June 20, 2017, they tested the old system against the new one.
- Two groups: Control & Test
- Main question: **Did more people finish tasks with the new system?**

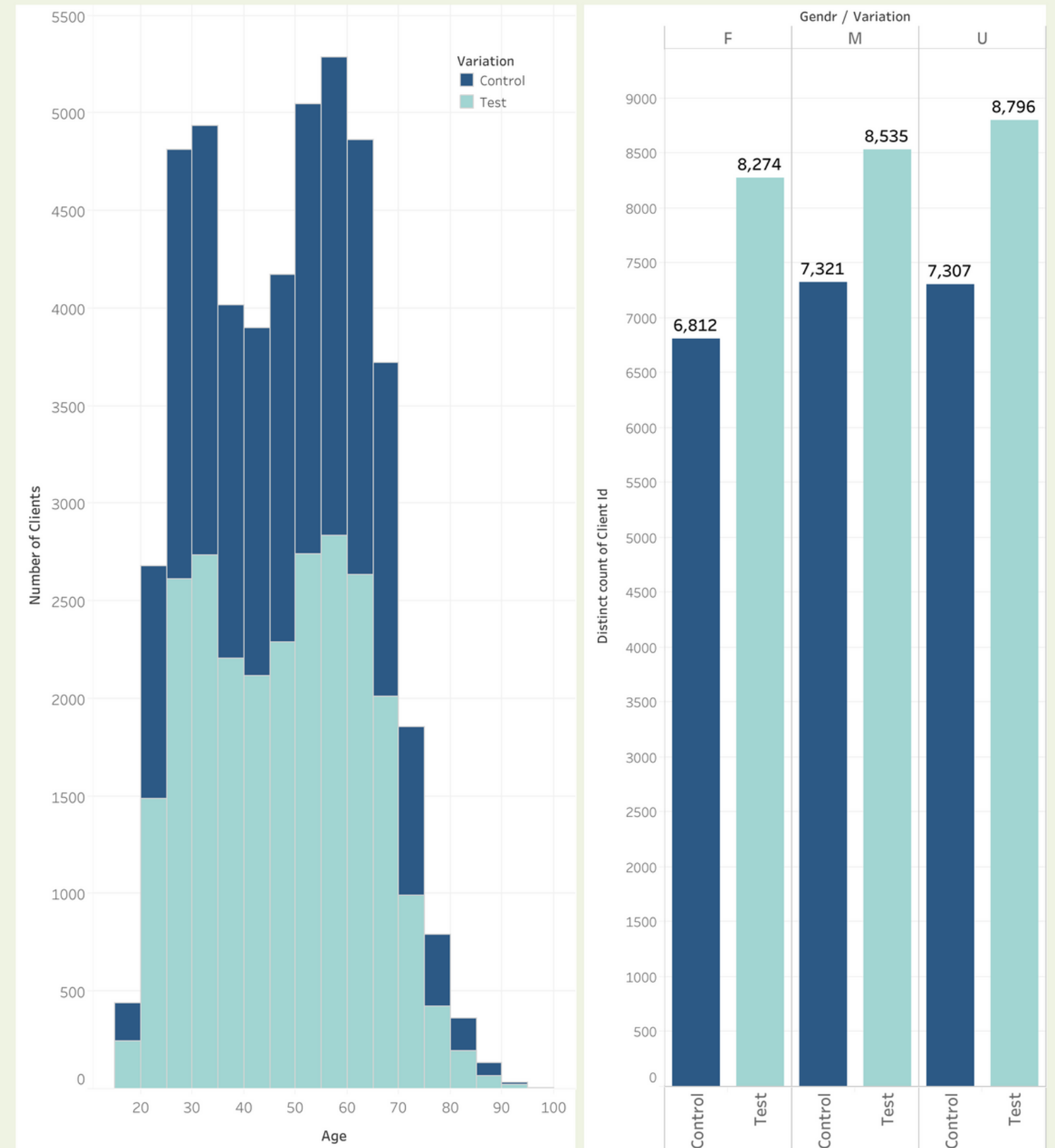
# Data Overview



- **Three Datasets Integrated**
  - Combined demographics, online interactions, and experiment participation details.
- **Handling Null Values**
  - Deleted rows with missing information to ensure data completeness.
- **Gender Simplification**
  - Consolidated gender categories to Female, Male, and Undisclosed for clarity.
- **Fixing Outliers**
  - Took out extreme cases from the time data to make the analysis more accurate.

# Exploratory Data Analysis

- **User Age Diversity:** Wide age range of individuals from 18 to 96 years old, with a mean age of 49, showcasing broad demographic appeal.
- **Experiment Participation:** A total of 47,075 unique clients, split between Control (21,440) and Test (25,605) groups
- **Gender Distribution:** Evenly distributed among groups, ensuring the experiment's outcomes are not biased by gender differences.

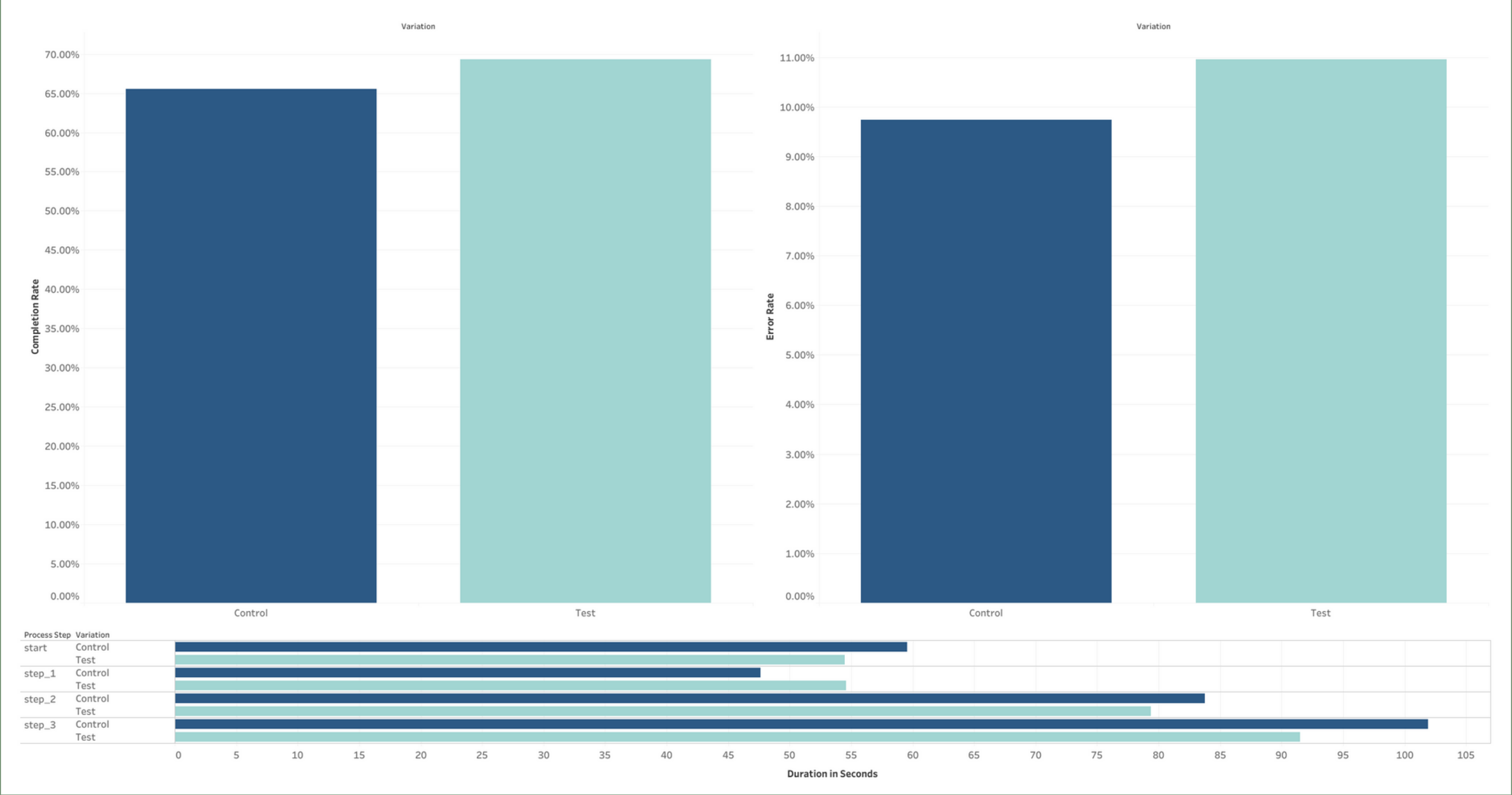


# Key Performance Indicators



- **Completion Rate:** The percentage of users reaching the final step
- **Time Spent:** The average time users spend on each step of the digital journey
- **Error Rates:** The frequency of users revisiting previous steps

# KPI Analysis





# Hypothesis Testing

## Completion Rate

- Null Hypothesis ( $H_0$ ): There's no difference in completion rates between the Test and Control groups.
- Alternative Hypothesis ( $H_1$ ): The Test group has a higher completion rate than the Control group.
- P-value: Less than 0.05
- Outcome: Significant difference observed, supporting  $H_1$ .

## Cost-Effectiveness of UI Redesign

- Threshold for Success: At least a 5% increase in completion rates.
- Increase of 3.71%
- Outcome: The observed increase falls short of the 5% benchmark



$H_0, H_1$



# Final Analysis & Design Evaluation



## Final Analysis

- New UI showed an uptick in completion rates but didn't achieve the 5% target for significant improvement.
- Higher error rates were observed with the new UI, indicating potential usability issues.

## Design Evaluation

- There were some extreme cases in the time data, which needs further analysis
- The increase in error rates suggests revisiting certain design elements of the new UI.
- Future enhancements should focus on reducing error rates and improving user guidance and feedback mechanisms.

Thank you!