



Website performance evaluation for Vanguard

Rajashree Hajare

Business Question: “Vanguard” invest more resources in revamping it’s website to:

- a. Tapping new customers while retaining the existing
 - b. Improve Sales
-

Objectives:

- a. Assess the impact of a modern UI and in-context prompts on client behaviour
 - b. Determine if these changes increase the completion rate of online processes
 - c. Identify specific areas of improvement for the UI and in-context prompts
-

Key Questions:

- a. USABILITY: How does the new UI affect user experience and ease of navigation?
- b. ENGAGEMENT: Do changes increase interaction with platform ?
- c. CONVERSION: Does change in interface lead to completion of process?
- d. CUSTOMER SATISFACTION: are customers more satisfied ?

Key Indicator Performances (KPIs) Targeted

- **Business KPIs:**



Completion Rate

Percentage of users who complete the path



Time on Task

Average time taken to complete tasks within online platform



Drop-off Rate

Percentage of users who abandon the various stages

- **Sales KPIs:**



Conversion Rate

Percentage of users who convert from a prospect to a client after interacting with new UI



Satisfaction proxy

Ratio of avg. logons to avg. Number of calls



Customer Retention

Percentage of client retained over the period.

Experiment layout

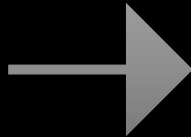
Group

- **Control**

Group

- **Test**

Vanguard's
website page



Feature
changes

customers

Website: No change

Website: with changes

Study time

- 4 months (March to June 2017)

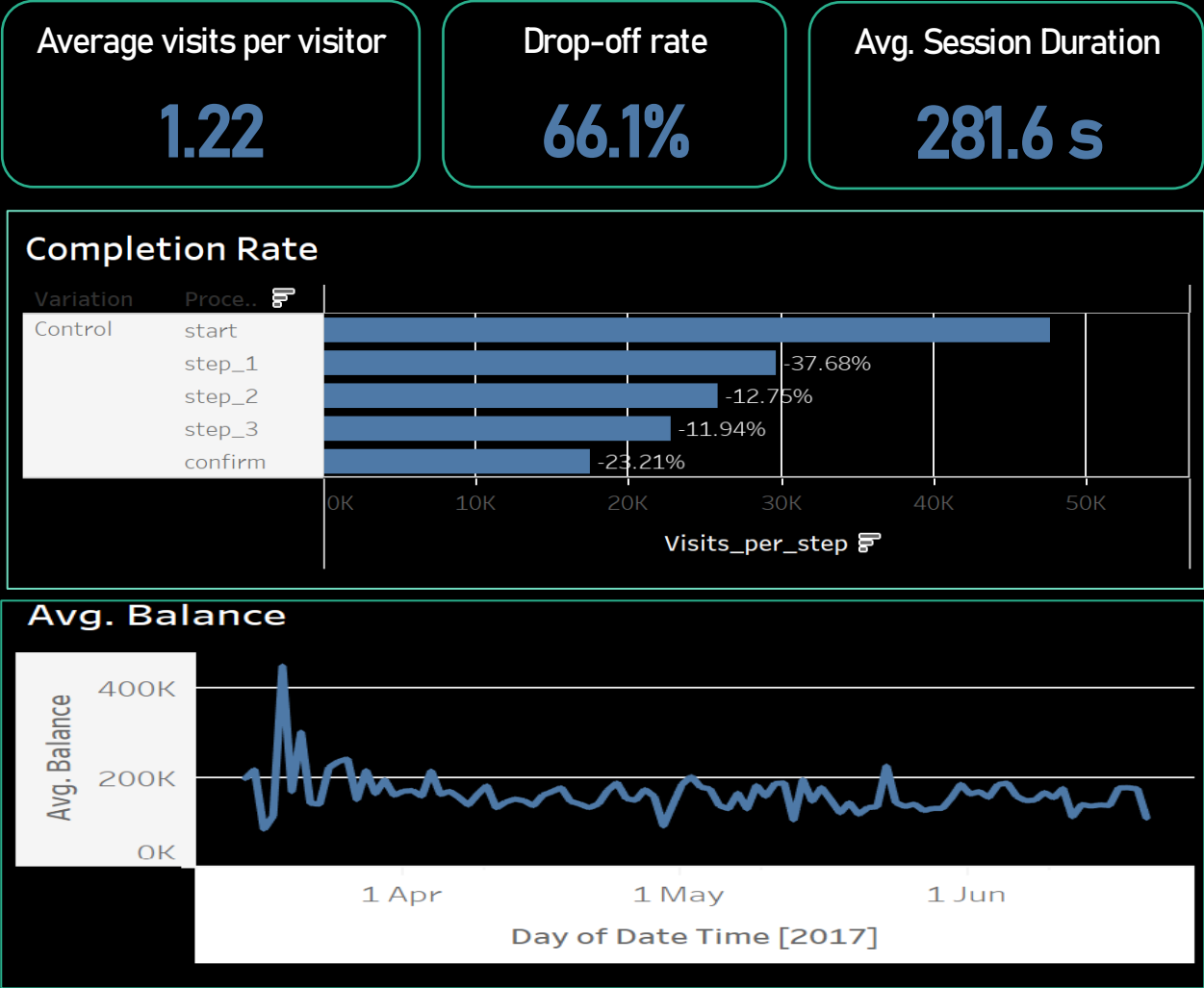
Data details:

- ~755,500 observations
- Features: client_log in details, age, gender, log_ons, tenure, date_time, process_step,

Business KPIs: Control group

Demographics

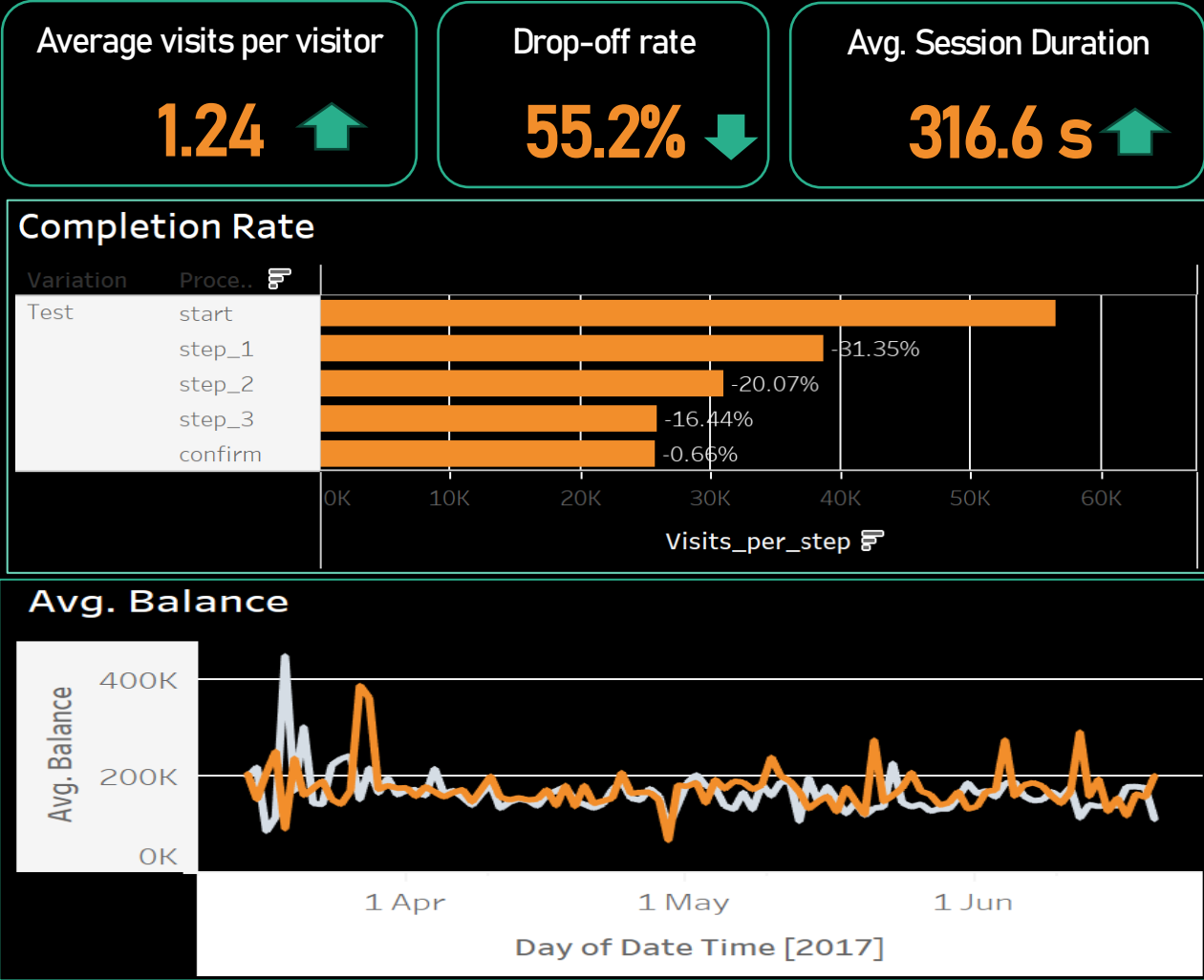
M	F
Counts	
12050	11476
Average age	
47	47.5
Avg. a/c per customer	
2.3	2.2
Avg. Tenure	
137	137



Business KPIs: Test group

Demographics

	M	F
Counts	13608	13353
Average age	46.6	47.1
Avg. a/c per customer	2.3	2.2
Avg. Tenure	133	136



Sales KPIs : Control Group

Avg. steps completed

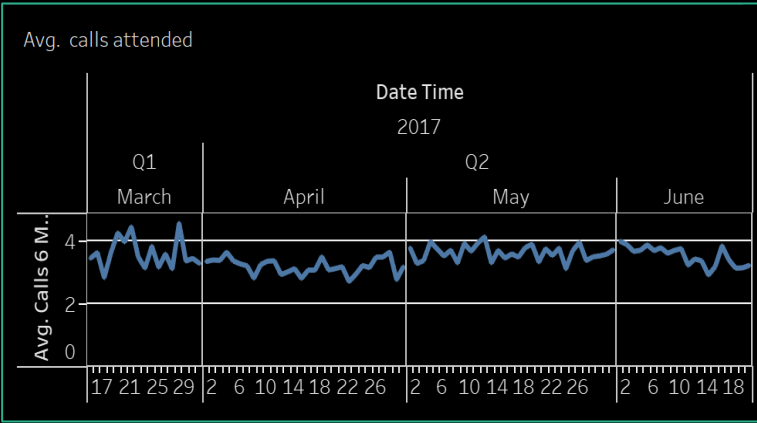
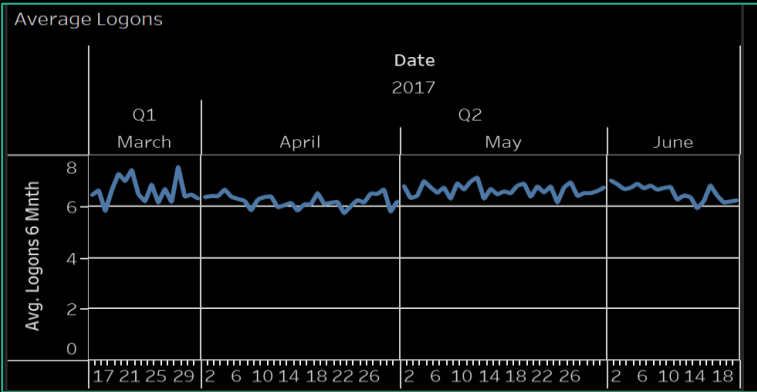
3.38

Avg. Online engagements

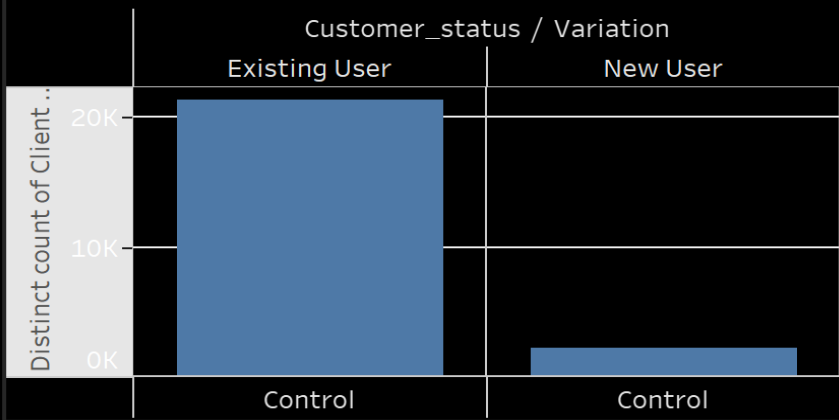
3.13

Customer Satisfaction proxy

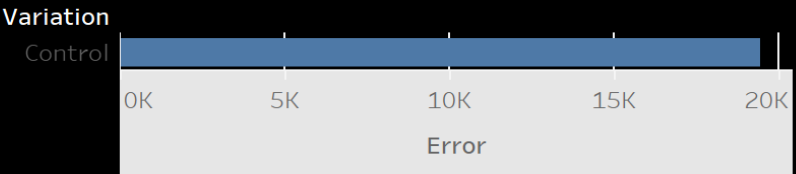
1.901



Customer_retention



Error_counts



Sales KPIs: Test Group

Avg. steps completed

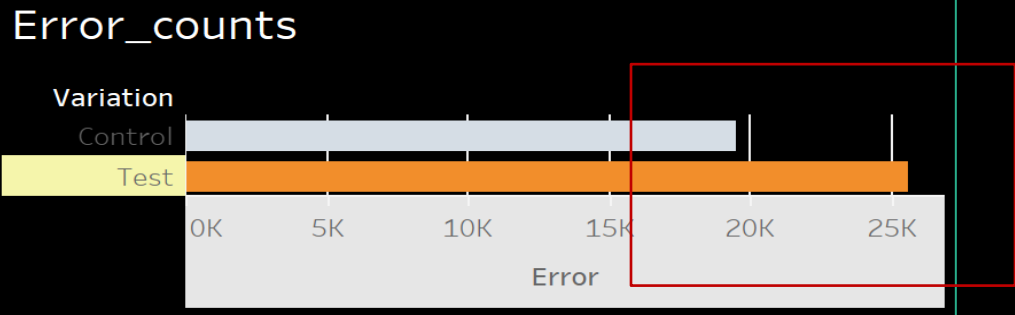
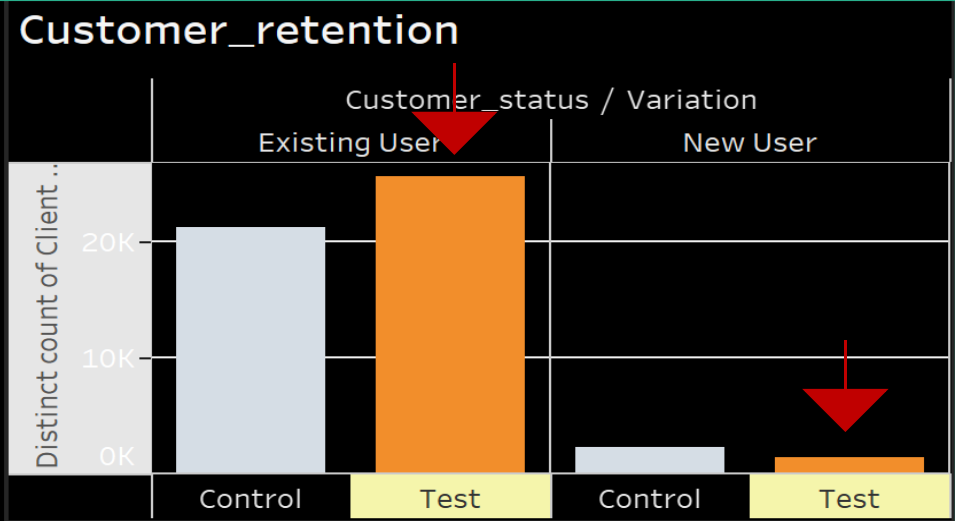
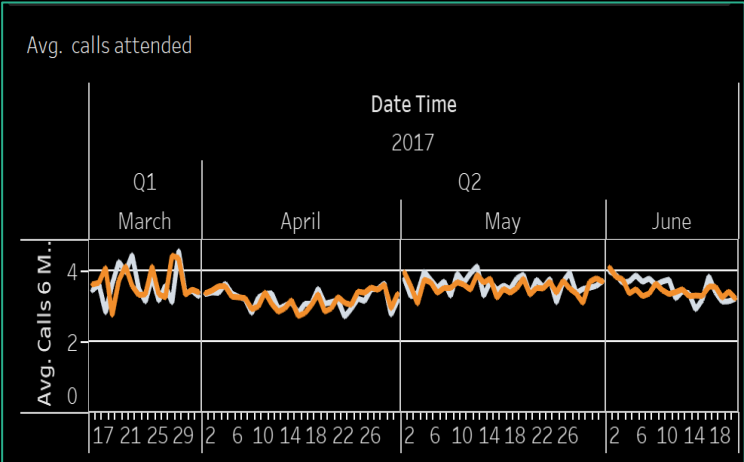
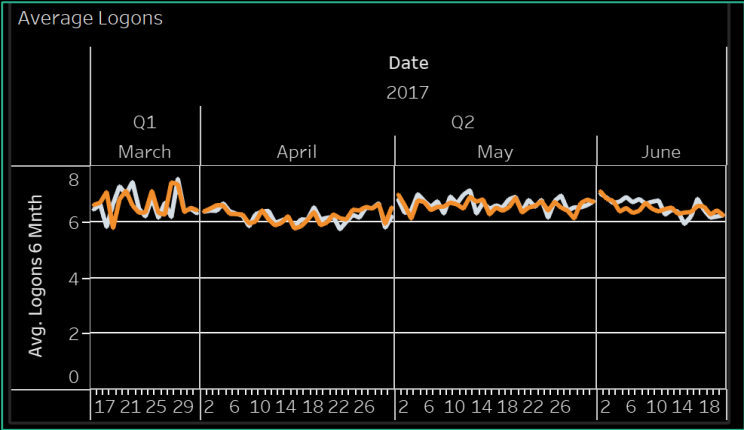
3.50 

Avg. Online engagements

3.06 

Customer Satisfaction proxy

1.999 



Performance statistics:

Completion Rate:

$$H_0 = \text{mean CR}_{\text{control}} = \text{mean CR}_{\text{test}}$$

$$H_a = \text{mean CR}_{\text{control}} \neq \text{mean CR}_{\text{test}}$$

t-statistic = -9.94,
p-value = 2.86e-23

Result: Reject H_0



Completion Rate Improved

Retention Rate:

$$H_0 = \text{RR}_{\text{control}} - \text{RR}_{\text{test}} = 0$$

$$H_a = \text{RR}_{\text{control}} - \text{RR}_{\text{test}} \neq 0$$

Chi_2 test = 359.94,
p-value < 0.001

Result: Reject H_0



Retention Rate Improved

Error Rate:

$$H_0 = \text{ER}_{\text{control}} - \text{ER}_{\text{test}} = 0$$

$$H_a = \text{ER}_{\text{control}} - \text{ER}_{\text{test}} \neq 0$$

Chi_2 test = 1928.94
p-value < 0.001

Result: Reject H_0



Difference in Error Rate

Overall findings

-Business Metrics:

- Stable Balance:** No significant change.
- Increased Completion Rate: Users are completing more processes online.
- Reduced Volatility: Smoother performance metrics.

-Sales and Customer Behavior:

- Increased Average Steps Completed: Users are navigating more steps successfully.
- Reduced Online Engagement: Indicates a more intuitive and self-explanatory design.
- Increased Customer Satisfaction: Positive feedback and improved user experience.
- Increased Error Rates:** Potentially indicating confusion in users because of recent change in features

-Website Engagement:

- Increased Average Visits per Visitor
- Decreased Drop-off Rate
- Increased Average Duration of Time on Site:** Potentially indicating either higher engagement or confusion.

-Statistical Analysis:

- Completion Rate and Retention Rate: Positive change, as null hypothesis is rejected.
- Uncertainty in Error Rates:** Need further analysis to confirm the robustness of findings.

Recommendations

1. Continue Monitoring Engagement:

- Analyse whether the increased duration on site is due to higher engagement or confusion.
- Implement **user feedback mechanisms** to understand time spent on site.

2. Enhance user support:

- Provide **additional in-context prompts** or help resources to further reduce drop-off rates.
- Ensure that the website **remains user-friendly** and intuitive.

3. Address Error rates:

- Investigate sources of error
- Ensure data accuracy** and refine methods to **reduce uncertainty**
- Increased Average Duration of Time on Site: Potentially indicating either higher engagement or confusion.

4. Focus on new users attention:

- Investigate further to increase new users attention using **surveys**
- Iterate and improve

THANK YOU.