Vanguard - US-based investment management company

Customer Experience Analysis

Velia - Lucie

The Experiment

- **What ?** Client behavior in the old online process and the new one
- **Why ?** Vanguard believed that a more intuitive and modern User Interface (UI) could make the online process smoother for clients.
- **Who ?** Some of Vanguard's clients
- **When ?** 3 months (15/3/2017 - 20/6/2017)

Would these changes encourage more clients to complete the process?

Dataset Overview

4 dataframes : informations, variation, clients in 2 parts

50500
clients

2
variations

	_yr	clnt_tenure_mnth	clnt_age	gendr	num_accts	bal	calls_6_mnth	logons_6_m		
		73.0	60.5	U	2.0	45105.3	6.0	9.0	Te	
	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test	
6	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test	
976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test	42
36976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test	427
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test	4270
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test	42707
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test	42707
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test	42707
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test	4270
36976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test	427
4905	7.0	94.0	58.0	U	2.0	110860.3	6.0	9.0	Control	3
95	7.0	94.0	58.0	U	2.0	110860.3	6.0	9.0	Control	

Sample

Important factors :

- Variation : Control or Test (no NaN)
- Process Steps
- Group Age

The factors that we have not taken into account :

- Tenure
- Number of accounts
- Balance
- Gender (undetermined value)

Digital customer journey
Control & Test

Variation
- (All)
- Control
- Test

• Client's Age

Number of Client age by variation

Average Age

• Process steps

Average time spent by steps (minutes)

Error rate by Step - Test vs Control

Client Profile

Process steps

	Control	Test
Initial Dropout rate	14.1 %	9.8 %

Steps completed

- 18 338 customers reach the last step on Test
→ The largest group

Dropout rate

- Percentage of customers who abandon the online process at the first step.

- **Overall** : In the Test version, once customers start the process, they progress further and are more likely to complete it.

Performance Metrics

Did the New UI Deliver?

Variation
- Control
- Test

Completion Rate		Avg Duration (sec)		Avg Error Rate	
65,60%	69,30	604.9	773.2	0,70%	1,50%

- **Completion Rate:** Test 69.3% vs Control 65.6% → +3.7pp improvement
- **Average Duration**: Test 773.2 sec vs Control 604.9 sec → sessions took longer under the new UI
- **Error Rate**: Test 1.5% vs Control 0.7% → higher error rate in the test group
- **Overall**: *The new UI increased completions but led to longer sessions and slightly more errors.*

KPIs by Demographics

UI Impact Across Age Segments

- **Completion Rate:** Higher in Test across all age groups
- **Error Rate**: Slightly higher in some steps for Test
- **Insights**: Largest gains in younger users (<25, 25–34)

UI increases completion, with minor error trade-offs

Step - Level Insights

Step-Level Analysis - Where the UI Excels and Struggles

- **Completion Rate (% reached)**
  - Higher completion in Test group across most steps
- **Step Duration:**
  - Test group sessions take longer at nearly all steps
- **Step Error Rates:**
  - Slightly higher errors in later steps for Test
- **Insights**: *UI improves completion but increases time and some errors*

Hypothesis Testing

Is the Difference Statistically Significant?

KPI	Result	Significance	Comment
Completion Rate	3.70%	❌ NS	Not statistically significant
Cost-Effectiveness	3.71%	⚠️	Below 5% threshold
Age (mean)	Test > Control	✅	Slight difference, significant
Duration	Test > Control	✅	Longer sessions, significant
Error Rate	Test > Control	✅	Higher errors in most age groups

More in details...

Tableau Link

Challenges & Learnings

Technical challenges

- Data quality and preparation : A lot of data, chose the relevant ones
- Customer segmentation : By age group

Analytical challenges

- User navigation complexity : The steps order, the errors, abandonments
- Meaningful statistical analysis

Interpretation challenges

- Clear dashboard on Tableau : pick the good visualizations to be easy to understand and read

Key Findings

Process Steps

More customers complete all steps in the Test version.

The Test design **drives higher completion**, confirming a **positive impact on client engagement**.

The effect of Age

Completion rates vary by age.

Younger and middle-aged clients complete more often than older clients.

Time spent

Customers spent **less time** at the beginning of the Test version, suggesting it is more effective and clearer.

The Test interface streamlines the journey. **Clients invest slightly more time but achieve higher completion.**

Errors

The Test interface is **less intuitive at first**.

But, despite initial friction, the Test interface **reduces errors and enhances process flow.**

The new digital interface

- **Cost-effectiveness threshold evaluation**

  This difference of the completion rate is statistically significant (p value < 0.001), but **does not reach the 5 percentage point threshold defined as the business objective.**

  The Test overall improves customer progress through the journey.

- **Recommendations**

  Seniors complete the process less often, which may indicate a need for support or a UX tailored to this segment.

  Tthe start and first step can be reviewed to reduce errors.

Thank You!

Velia - Lucie