



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	gindr	num_accts	bal	calls_6_mnth	logons_6_mnth	label
	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
36976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test
836976	6.0	73.0	60.5	U	2.0	45105.3	6.0	9.0	Test
4905	7.0	94.0	58.0	U	2.0	110860.3	6.0	9.0	Control
05	7.0	94.0	58.0	U	2.0	110860.3	6.0	9.0	Control

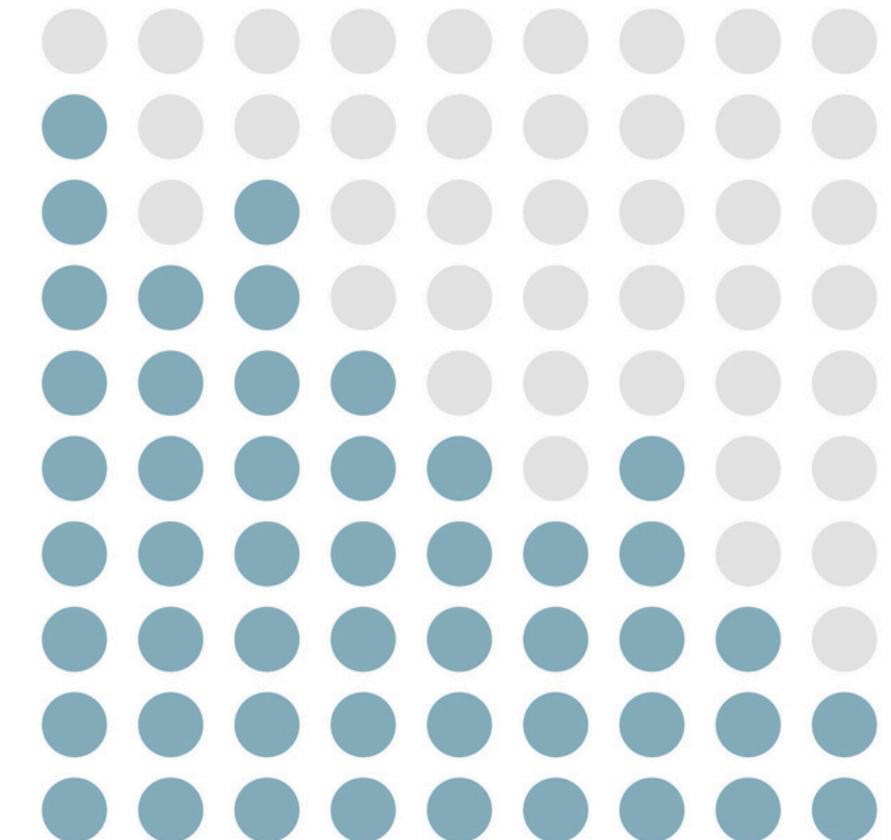
Sample

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)

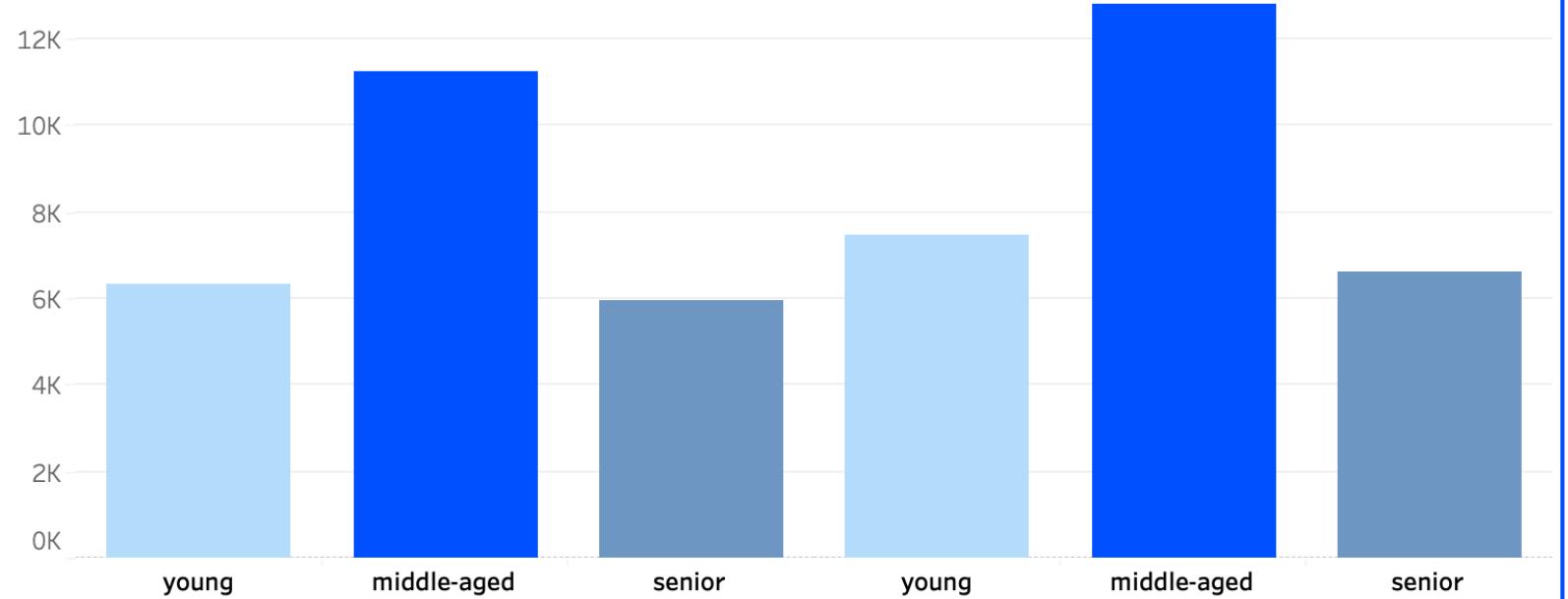


Digital customer journey Control & Test

Variation
 (All)
Control
Test

• Client's Age

Number of Client age by variation



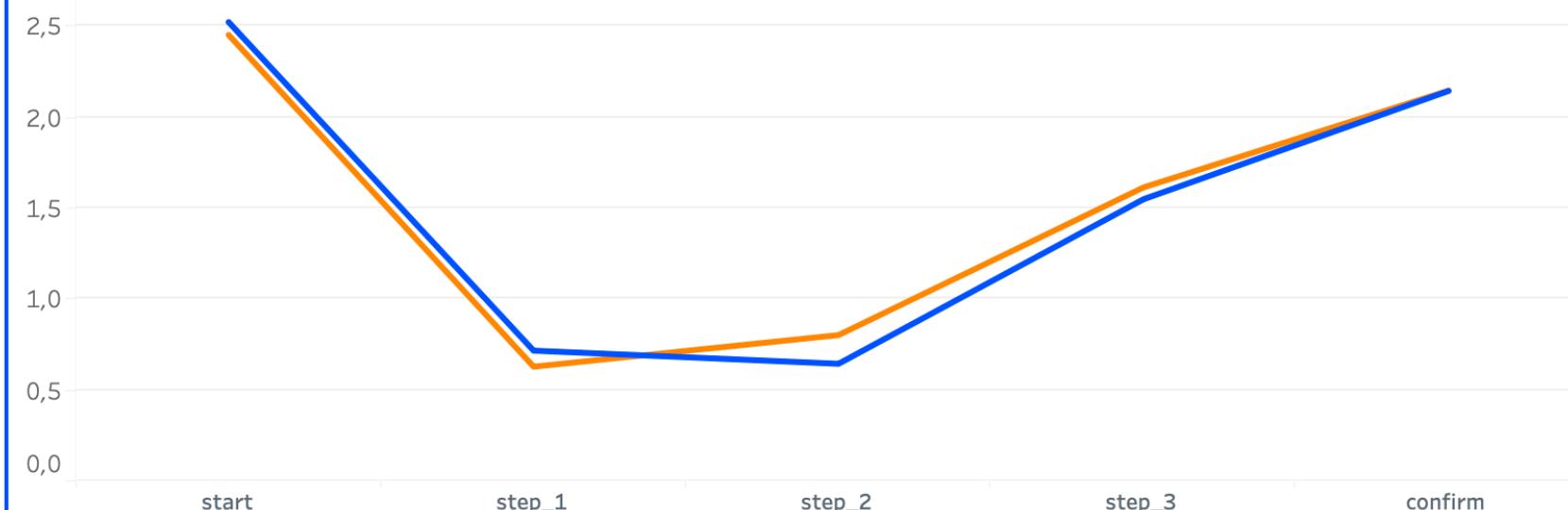
Average Age



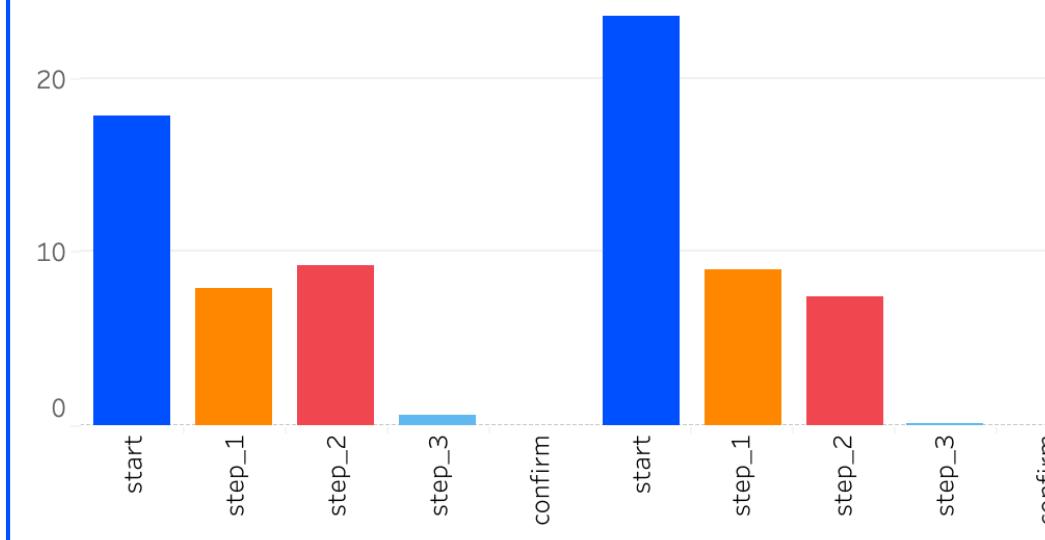
Client Profile

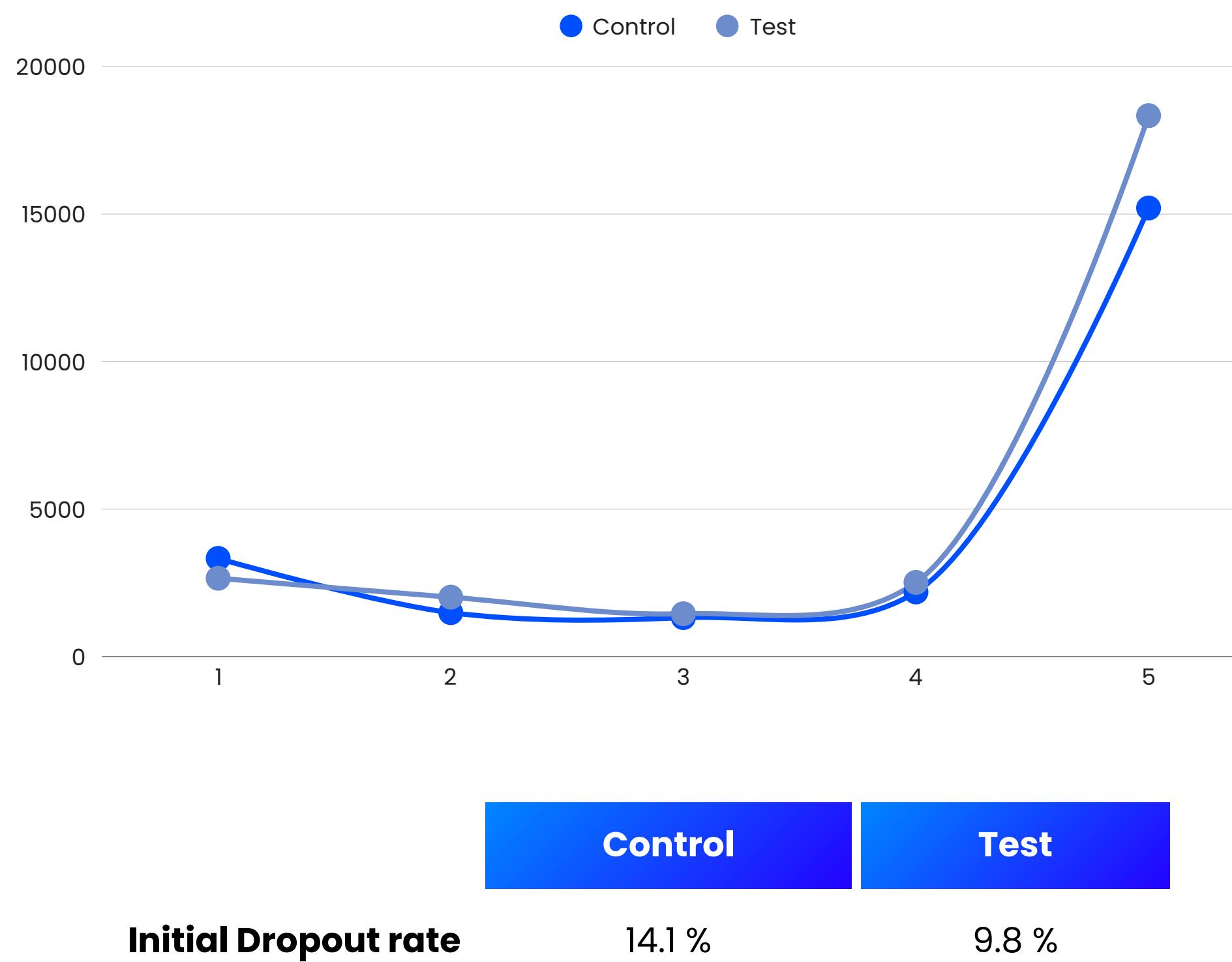
• Process steps

Average time spent by steps (minutes)



Error rate by Step - Test vs Control





Process steps

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	0,70%

- **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

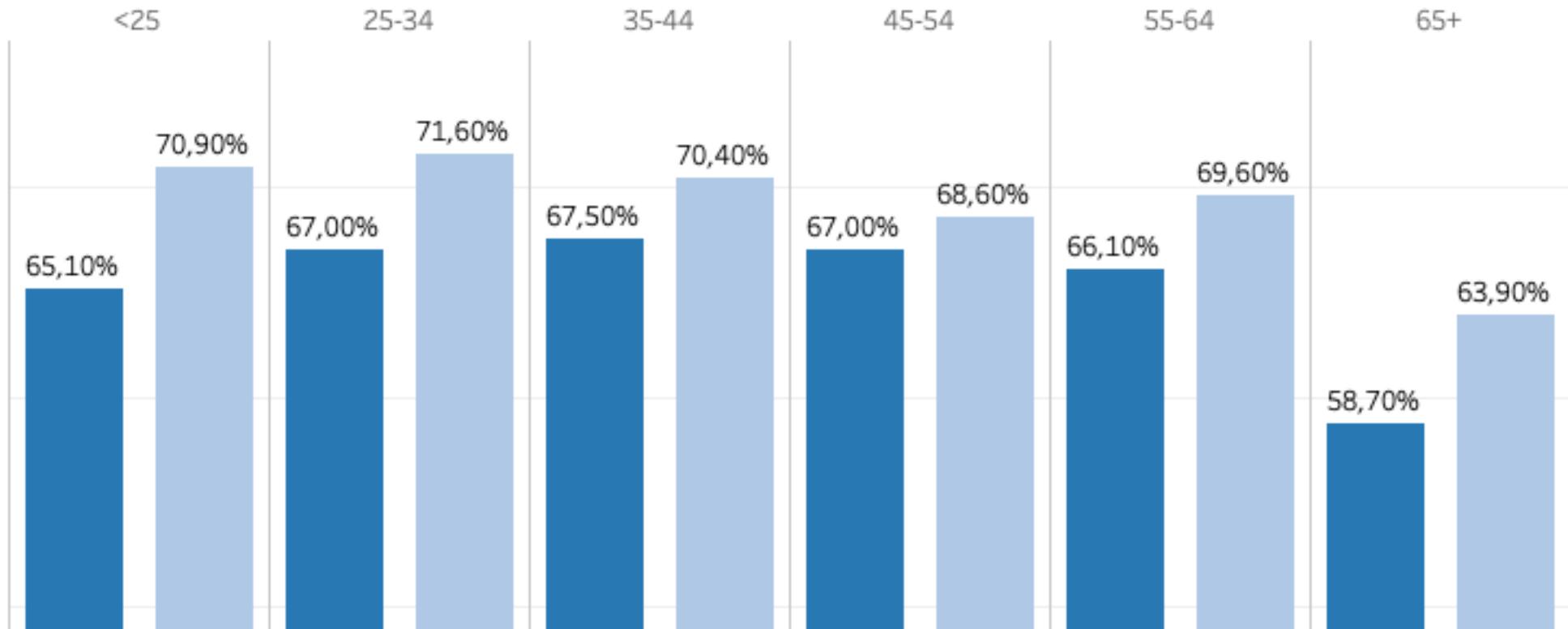
UI Impact Across Age Segments

Variation

Control

Test

% Completion

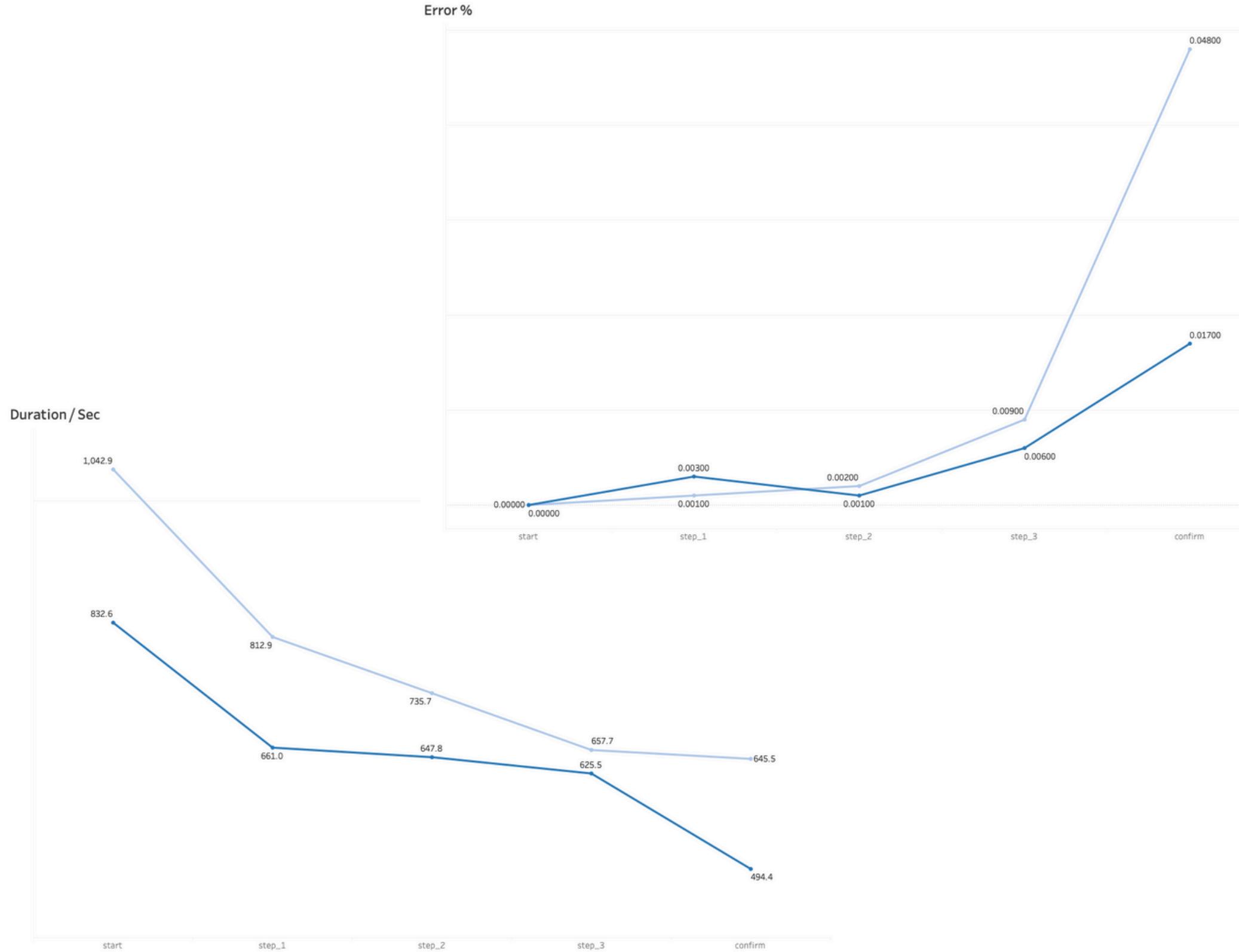


- **Completion Rate:** Higher in Test across all age groups
- **Error Rate:** Slightly higher in some steps for Test
- **Insights:** Largest gains in younger users (<25, 25–34)

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.

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





Thank You!

Velia - Lucie