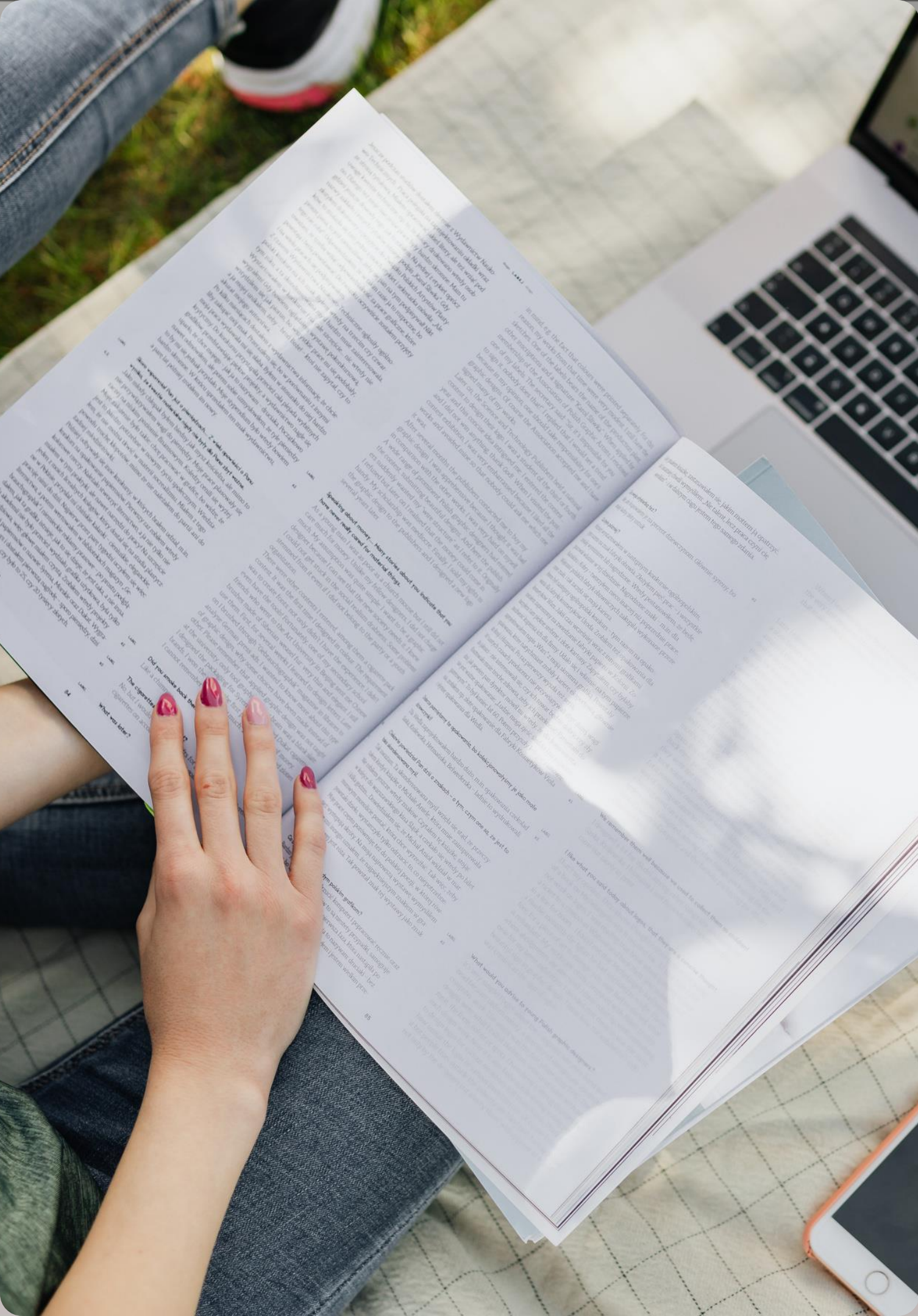# A/B Testing

By Felice Benita

DESCRIPTION

A/B testing, also known as split testing, is an experimental approach used to compare two versions of a variable (webpage, email, app, or other marketing asset) against each other to determine which performs better.

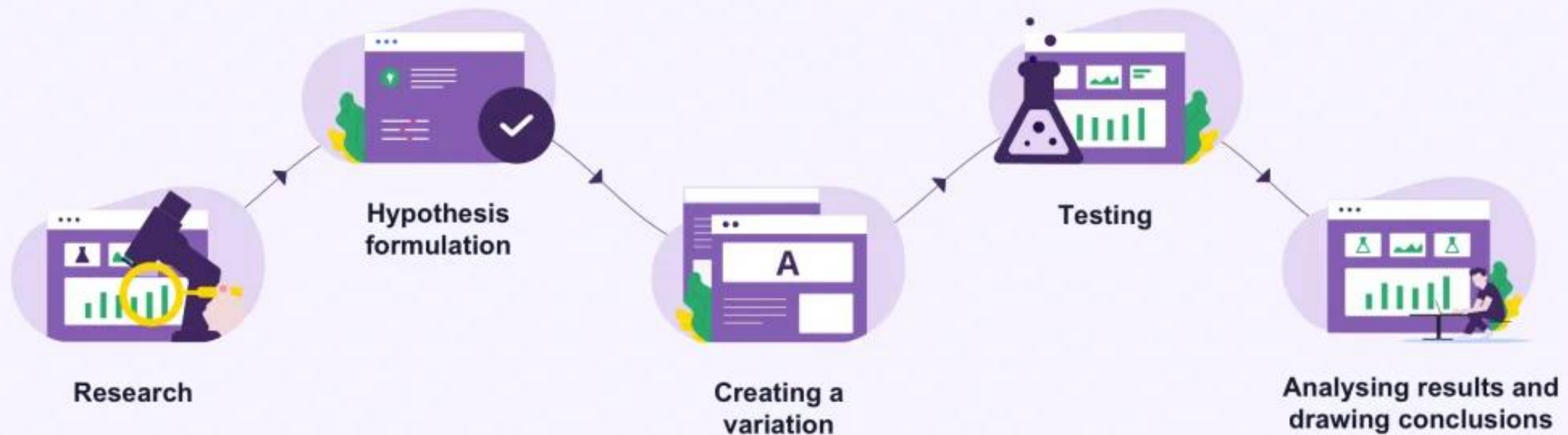# THEORITICAL FRAMEWORK

Theori 1

The testing involves selecting two elements — for example, a red call-to-action (CTA) button and a blue CTA button. You show each version to random sample groups within your target audience to measure their impact.

Theori 2

You then compare the control version (A) against a variant (B) to determine which delivers the best outcome. Such as the highest CTR.

CORE COMPONENTS

Research

Hypothesis formulation

Creating a variation

Testing

Analysing results and drawing conclusions

TEST GROUP

Control group

Select a random sample of consumers who will only see the original version (A) of your social media post, email copy, or whatever elements you're testing.
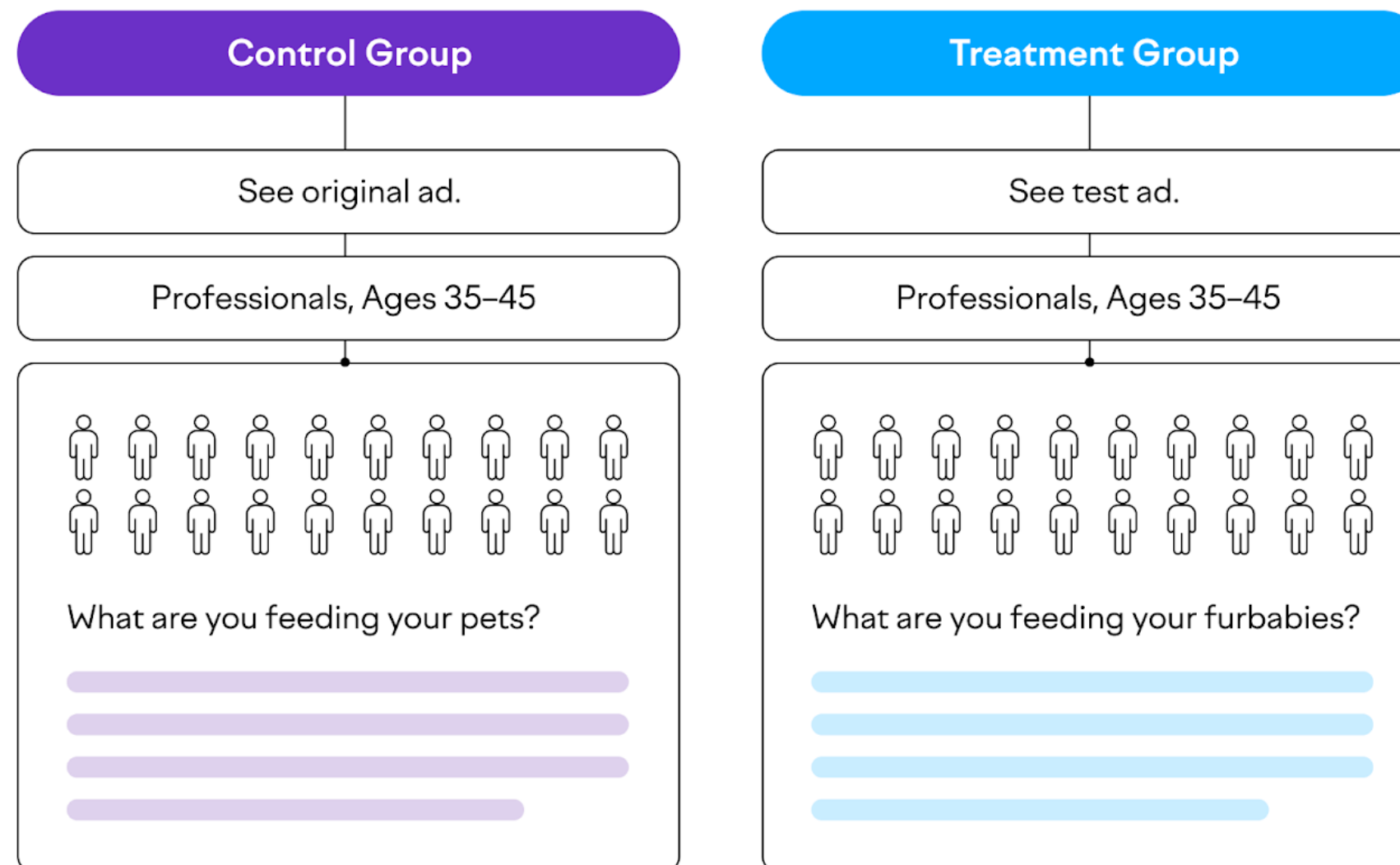
Treatment group

Choose a random group with similar characteristics to those of the control group. These users will see the modified version (B) of your social media post or other digital assets.

Why should you conduct A/B testing?

Lower bounce rates

Test your copy and other elements on your site to determine which ones boost visitor retention and engagement.

Increased conversions

Experiment with different headlines, CTA buttons, product photos, or other variables that impact conversion rates.

Improved customer experience

Tweak your website layout, copy, emails, and social media posts to deliver seamless experiences across all channels.

Time and cost savings

See which of your ads, email campaigns, and social media strategies drive the best return on investment.

Data-driven decision-making

Plan, manage, and optimize your marketing efforts based on hard facts.

Examples of Elements

- Headlines and sub headlines
- Website copy
- Email copy
- Email subject lines
- Product page layouts
- Button styles
- Subscription forms
- Social proof

A/B Testing Method

T-test

It is generally used to compare the means of 2 groups to understand of there is any statistical difference. T-test assumes that the distribution is Gaussian (or normal). However, it may produce non-reliable metrics if the distribution is not normal.

Chi-square-test

Chi-square test is used to determine associations between 2 or more categorical variables. The Chi-square formula is used in data that consist of variables distributed across various categories and helps us to know whether that distribution is different from what one would expect by chance.

A/B Testing Method

Null Hypothesis : H0 : The two categorical variables have no relationship (independent)

Alternate Hypothesis : H1 : There is a relationship (dependent) between two categorical variables
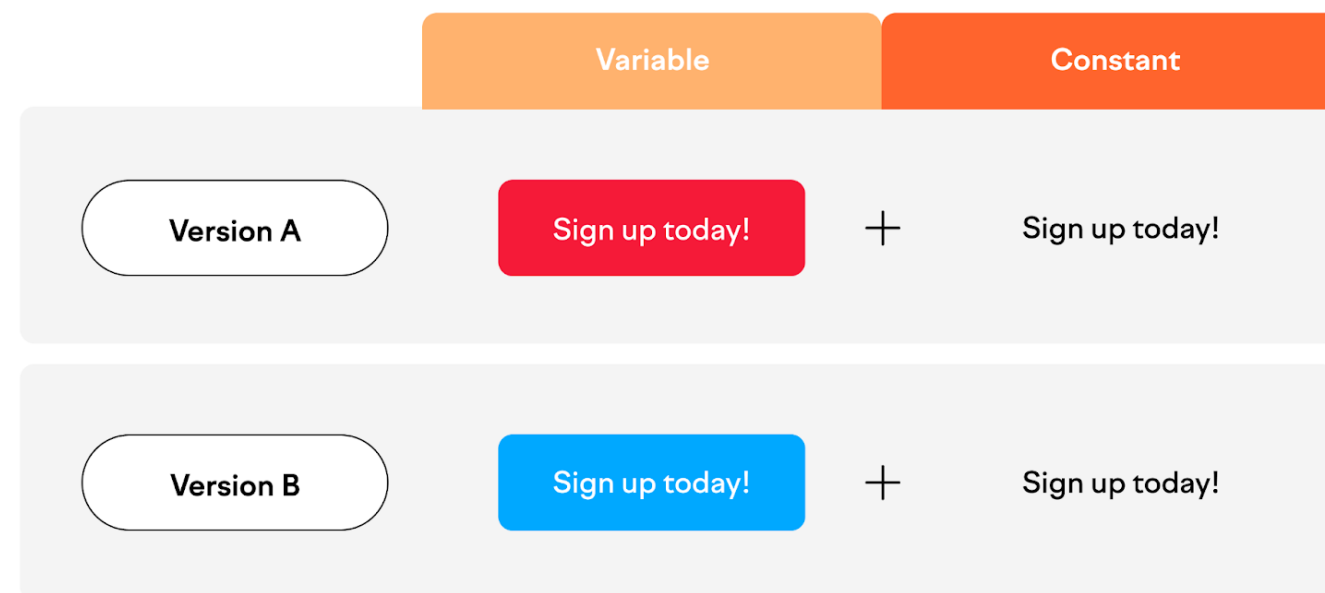
We will define a significant factor to determine whether the relation between the variables is of considerable significance. Generally, a significant factor or alpha value of 0.05 is chosen. This alpha value denotes the probability of erroneously rejecting H0 when it is true.

| P-value	Description	Hypothesis Interpretation
P-value < 0.05	It indicates the null hypothesis is very unlikely.	Reject Null Hypothesis
P-value > 0.05	It indicates the null hypothesis is very likely.	Accepted or it "fails to reject".
P-value = 0.05	The P-value is near the cut-off. It is considered as marginal	The hypothesis needs more attention.

A/B Testing in Practice

A/B Testing in Practice

	Variable	Constant
Version A	Sign up today!	+ Sign up today!
Version B	Sign up today!	+ Sign up today!

Continue Testing Variations

	Variable	Constant
Version A (winner)	Sign up today!	+ Sign up today!
Version B	Sign up today!	+ Sign up today!

In the above example, 50% of users will see a red CTA button, and 50% will see a blue button. The version that gets the most clicks "wins."
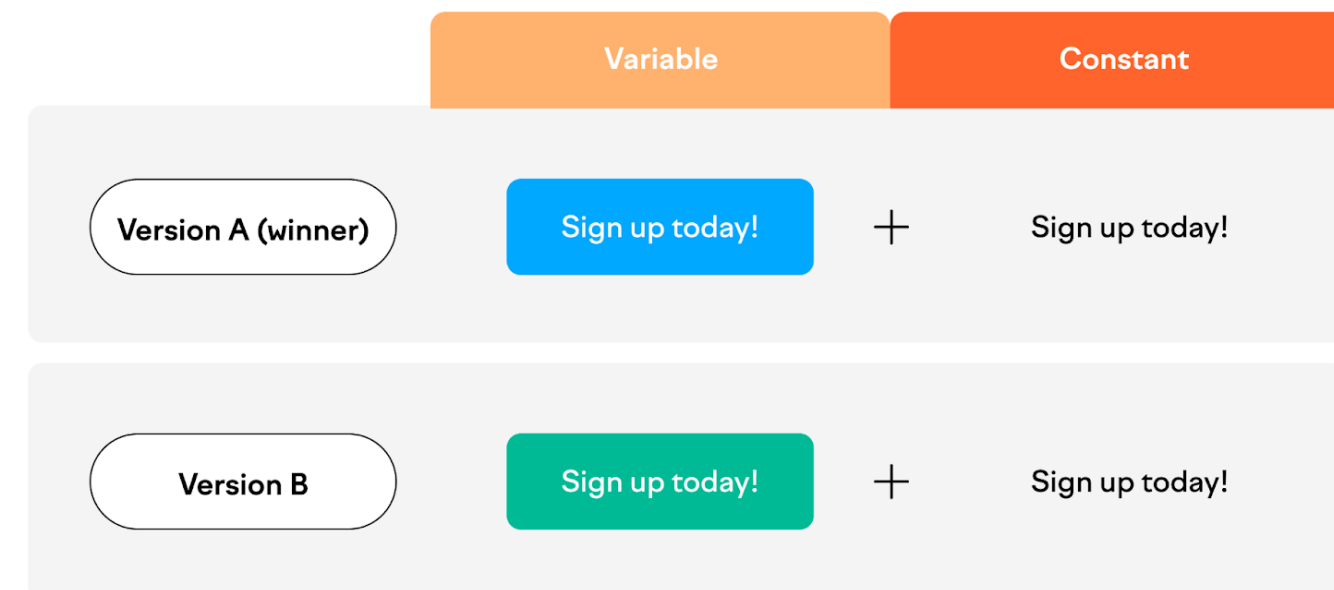
Compare the winning version against a new variant, such as a green CTA button. Repeat until you achieve the best possible results.

CONCLUSION

A/B testing can provide the insights you need to optimize your website, sales funnel, email campaigns, and online ads. When done right, it can lead to a better user experience, higher click-through rates, and increased engagement.
Use the tool to conduct A/B testing, measure the results in real time, and fine-tune your testing strategy, such as Google Optimize.

THANK YOU

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