



The Ultimate Guide to Test & Learns

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Hi Brighton! I'm Giulia

 In-house Director of Customer Acquisition

 Freelance Consultant

 Figure skater, aerialist and fire breather



I've also done a lot of
test and learns



So I usually get some
questions



*‘How do I select
test & control
groups?’*



*‘What **metrics**
should I track?’*



*‘What timeframe
& test design
should I use?’*



*‘How should I
analyse & report
data?’*



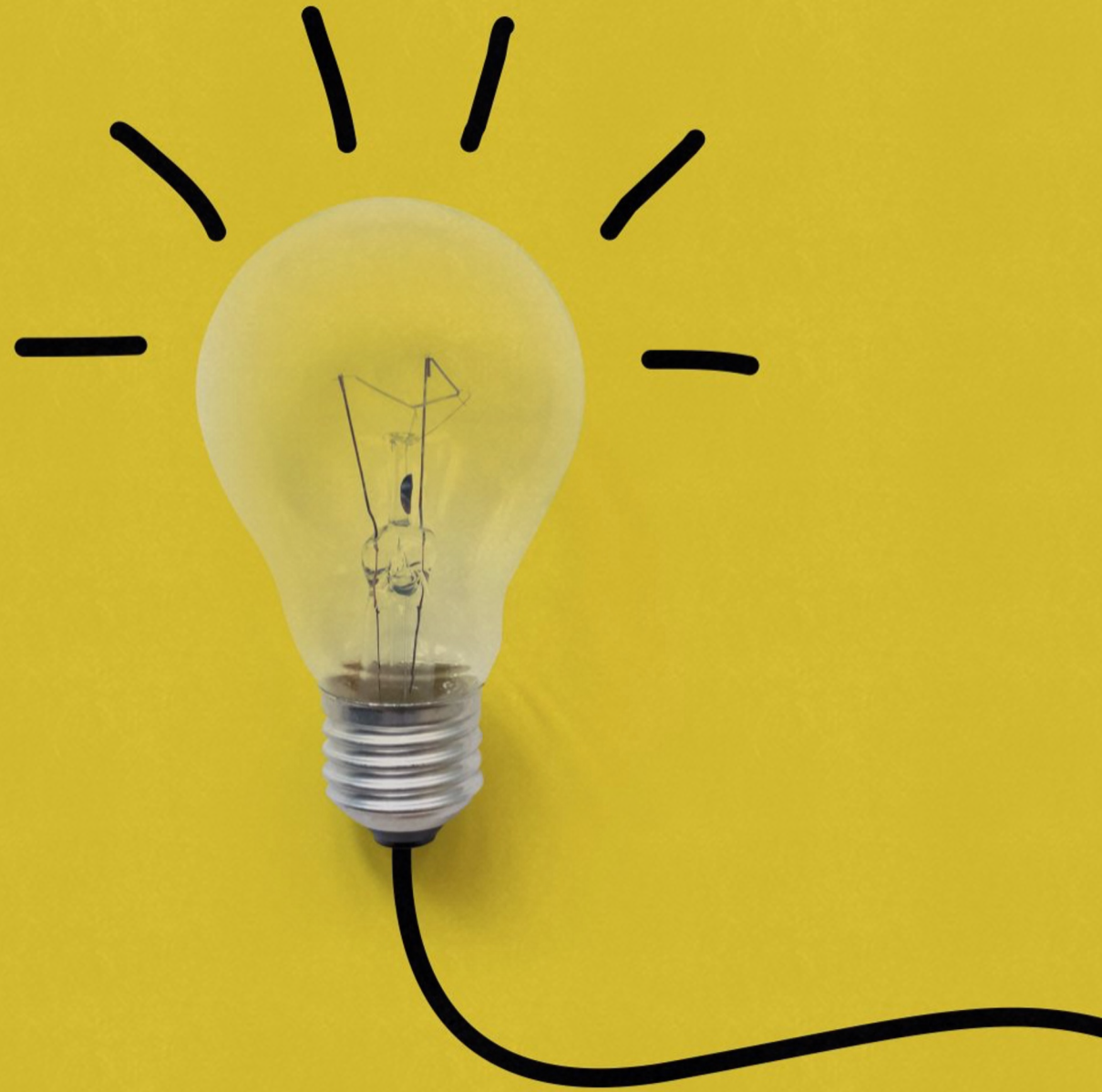


Let's dive into it

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Hypothesis



What **questions are you
trying to answer?**



“Updating my **titles** to
include a **recency signal** will
significantly improve **CTRs**”



Example.com

<https://www.example.com> › london › best-restaurants-i...



The best restaurants in London



Example.com

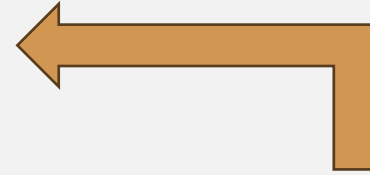
https://www.example.com › london › best-restaurants-i...



The best restaurants in London | Summer 2023



Independent variable



“Updating my **titles** to include a **recency signal** will significantly improve **CTRs**”

Dependent variable



**Some other example questions
that might drive your
testing strategy**



'How can we improve our **content** strategy to increase **traffic**?'

Your London Holiday

From its rich history to its cosmopolitan vibe and diversity, you'll find tons of compelling reasons to be in the riverside city of London. Experience all this and more with a holiday package to London. Want to start exploring your surroundings? [Buckingham Palace](#), [Big Ben](#) and [Tower of London](#) are just three of the leading places to visit during a trip to London. Stop dreaming and start doing.

VS

From Our Customers

"My husband and I had the best time in London. We visited all of the main landmarks on and near the riverside city, including [Buckingham Palace](#), [Big Ben](#) and [Tower of London](#). Every corner of the city feels like a magnificent discovery, we felt like we were dreaming! This was our first time visiting London, but surely not the last."



‘How do we leverage *internal linking* to improve *rankings*?’

Related products



IKEA Family price

ODGER
Chair



MÅNHULT
Chair



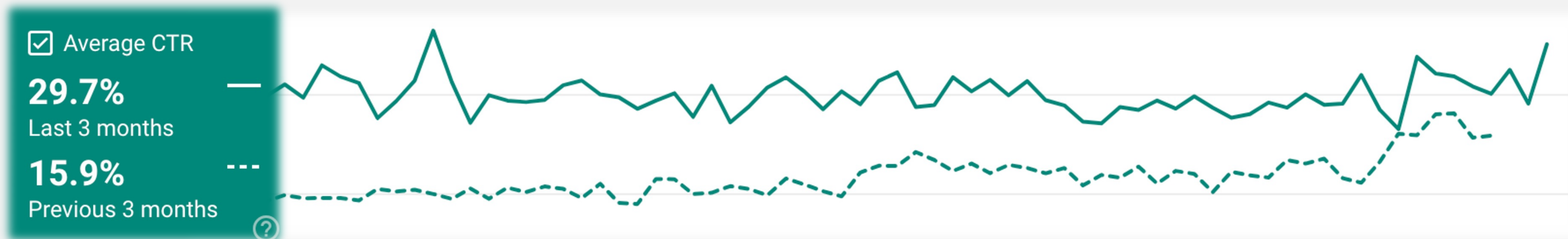
HANSOLA
Chair



KARLPETTER
Chair



*'What **on-page elements** do we need to focus on to improve **CTRs**?'*



‘What kind of **schema mark-up** ensures us the most **SERP real estate**?’



Skyscanner

<https://www.skyscanner.net> › Flights › Europe

Cheap Flights to Greece from £33 Return

Looking for the best ticket prices to Greece? It looks like **January** is currently the cheapest time to fly. Aug. from £99.

Cheapest month to fly: November

Most popular airline: easyJet

Flights per week: 883

Possible destinations: 39

When is the cheapest time to fly to Greece? ▼

Can I get a direct flight to Greece? ▼



Need inspiration?



[SEOClarity Split Testing Ideas](#) | [SearchPilot Newsletter](#)
(*free*)

[SEO Case Study Database by Adam Gent](#) (*paid*)



Test Design

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

$$f(x) = \lim_{h \rightarrow 0} \frac{(x+h)^2 - x^2}{h}$$

$$= \lim_{h \rightarrow 0} \frac{x^2 + 2xh + h^2 - x^2}{h}$$

$$= \lim_{h \rightarrow 0} \frac{2xh + h^2}{h}$$

$$= \lim_{h \rightarrow 0} \frac{h}{h(x+h-x)}$$
$$= \lim_{h \rightarrow 0} \frac{1}{x+h-x}$$

$$= \frac{1}{2\sqrt{x}}$$

$$f(x) = \lim_{\Delta x \rightarrow 0} \frac{f(x+\Delta x) - f(x)}{\Delta x}$$

$$f(a) = \lim_{h \rightarrow 0} \frac{f(a+h) - f(a)}{h}$$



To decide, ask yourself

What are the **variables** I
am testing?



To decide, ask yourself

What kind of **changes**
do I intend to make?



To decide, ask yourself

What **tools** do I have
to implement my changes?





A/B Testing





A/B Testing



Multivariate





A/B Testing



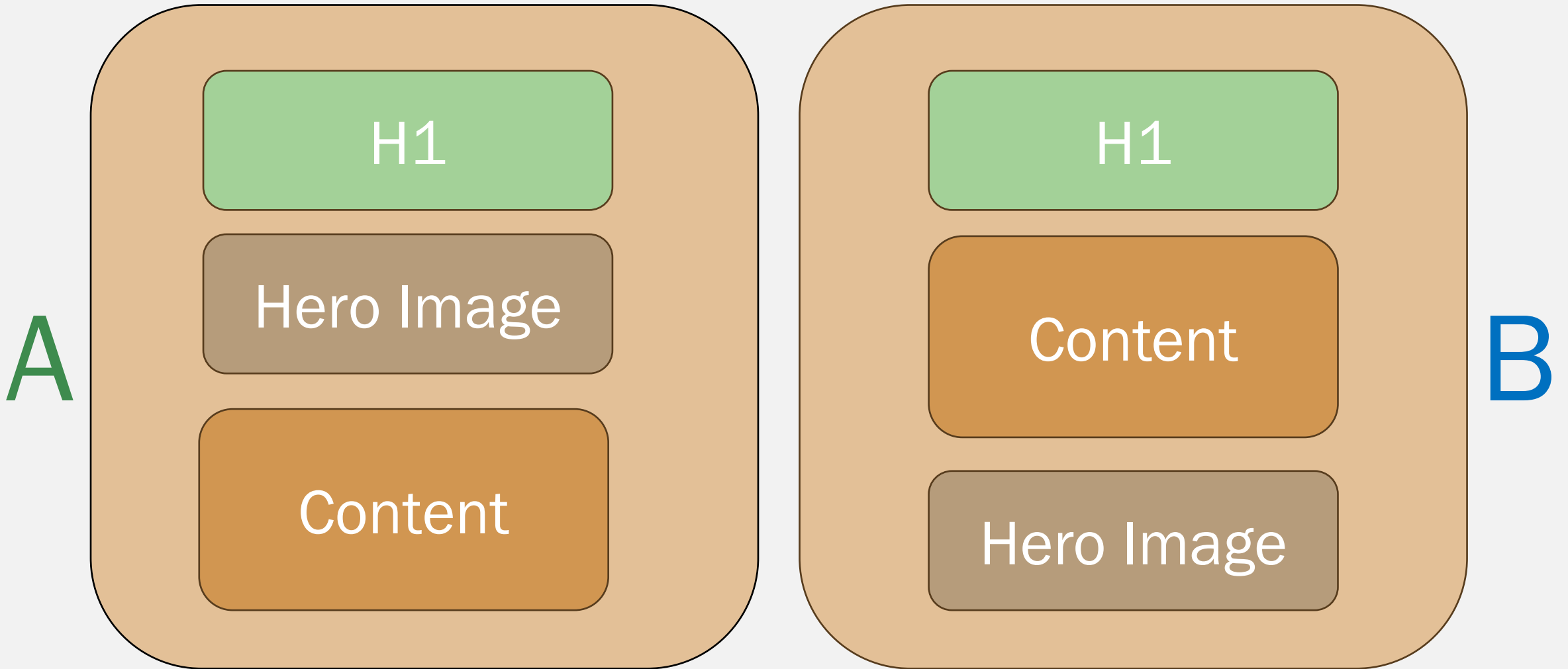
Multivariate



Pre-post



A/B Testing

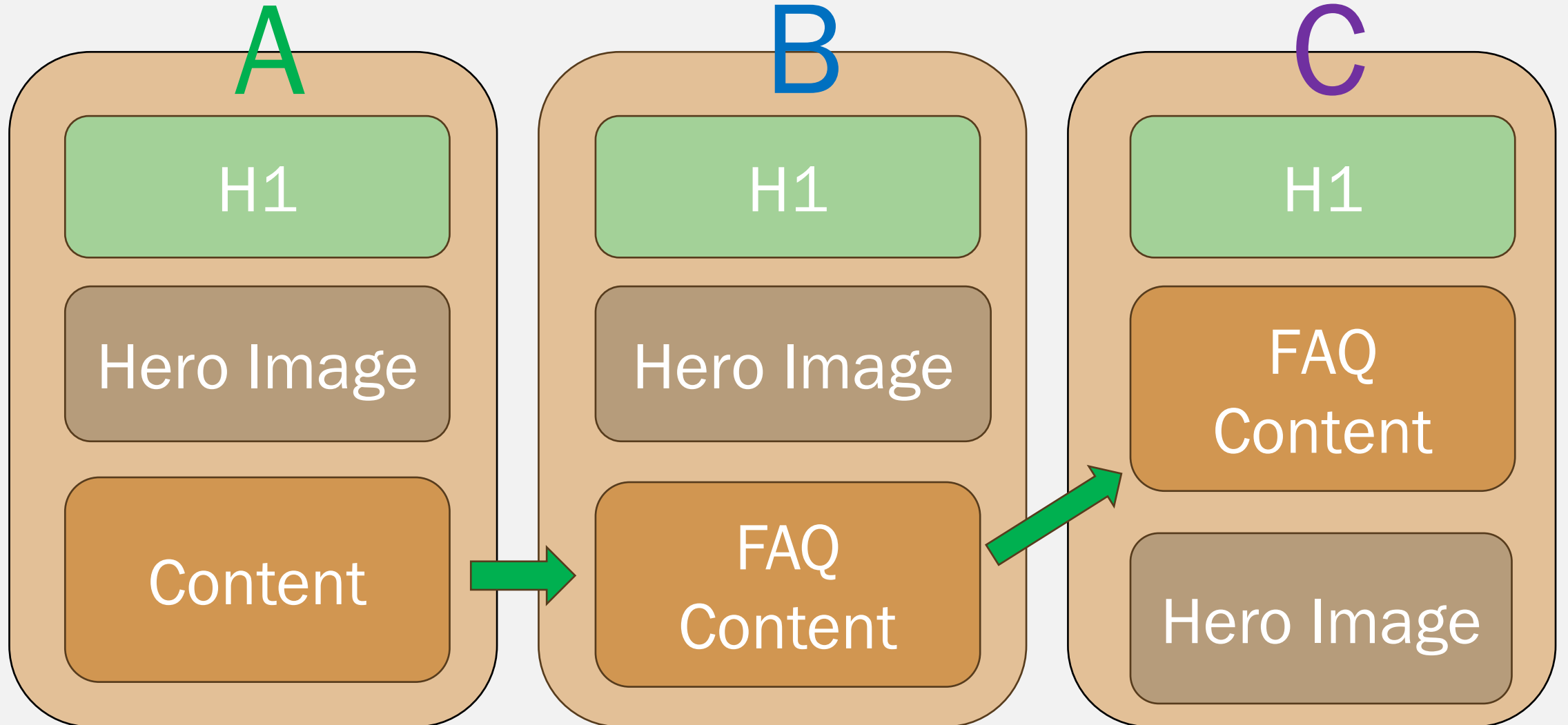


A/B Testing

Both variants (A & B) are tested
during the **same timeframe**



Multivariate



A/B & Multivariate Testing

Type of test	Testing Timeframe	Traffic required
A/B	Same	Low/Medium
Multivariate	Same	High



A/B & Multivariate Testing

Better suited for



CRM



A/B & Multivariate Testing



UX & CRO



A/B & Multivariate Testing



Marketing landing pages



A/B & Multivariate Testing



Paid campaigns



A/B & Multivariate Testing



Some kinds of on page SEO
(if running at the edge)



Some Technical Directions for SEO




No cloaking

Source: Google Search Central Testing Guidelines



Some Technical Directions for SEO

 **302 redirects VS 301**
(or JS-based redirects)

[Source: Google Search Central Testing Guidelines](#)



Some Technical Directions for SEO



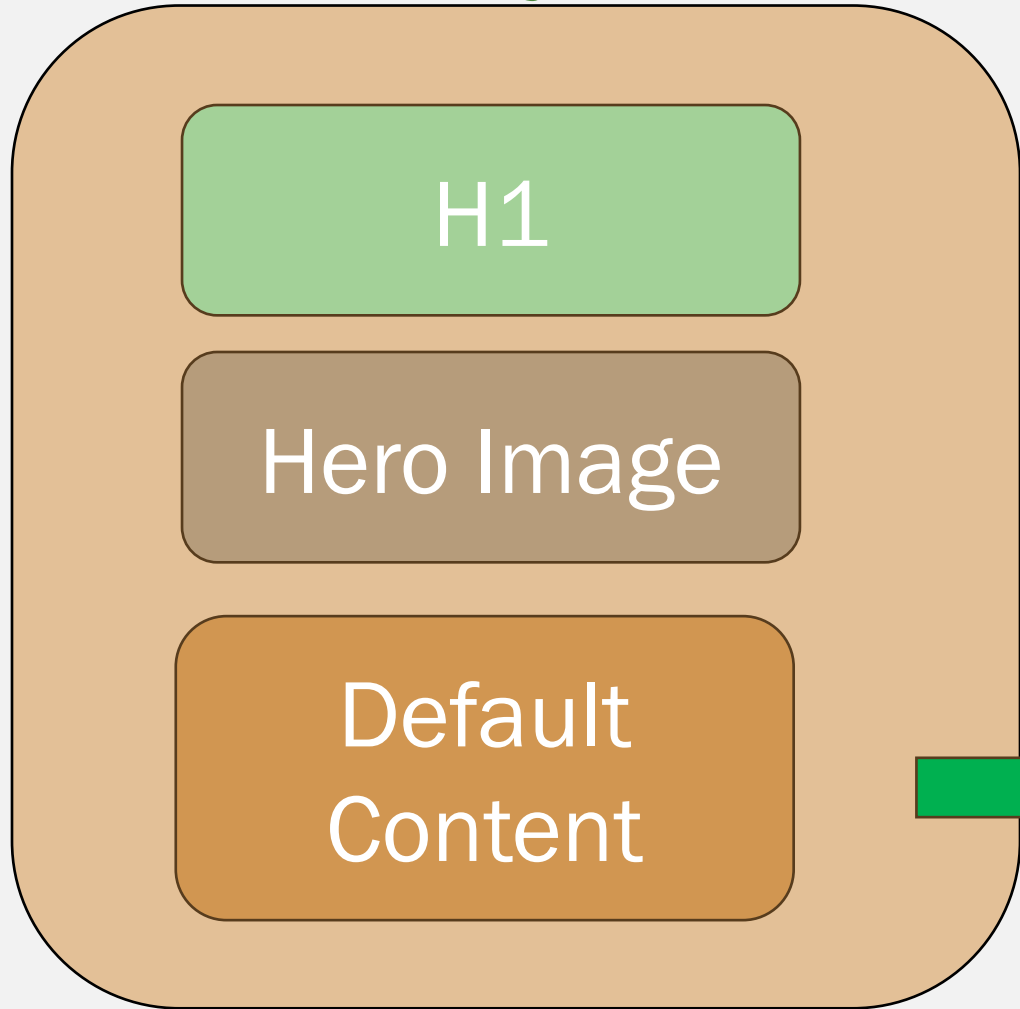
Use rel= "canonical" attributes

[Source: Google Search Central Testing Guidelines](#)

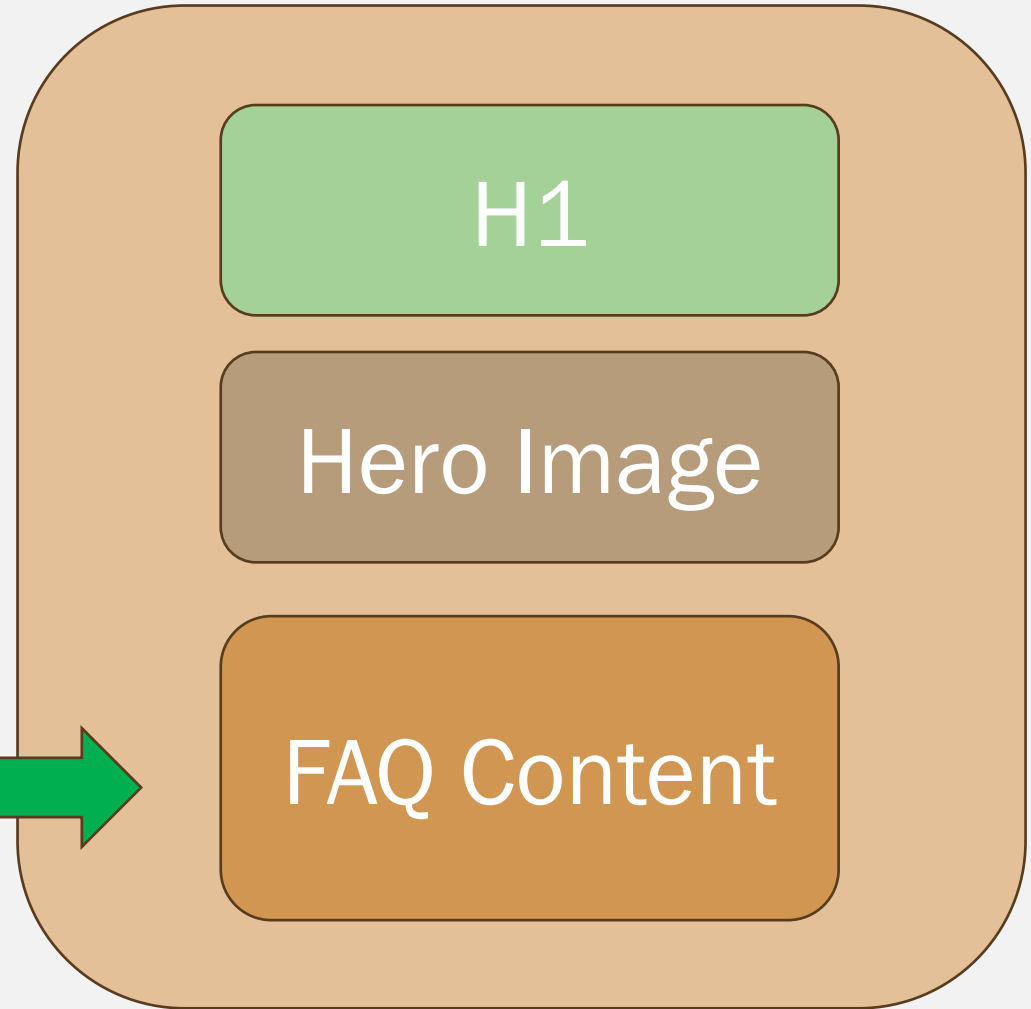


Pre-post

July



August



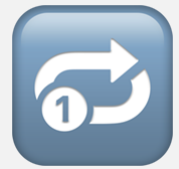
Pre-post

**Control and Variant are
tested in
2 subsequent periods**



Pre-post

Better suited for



Single on-page changes



Pre-post

!? Groups that cannot be
matched for other conditions



Pre-post



Off page campaigns



Test & Control Groups



How do I select my *test* group?

 Pages with enough traffic



How do I select my *test* group?



Pages with enough traffic



Not your outliers



How do I select my *test* group?



Pages with enough traffic



Not your outliers



Pages of the same type (e.g. PLPs)



All to help reach
statistical significance



How do I select my **control** group(s)?

Tldr: keep everything
as close as possible
to the test group



A few options (non mutually exclusive)



Same page types
as the test group
with similar 6-12
months traffic



Ideal for **small scale**
websites & tests

Top pages	Clicks	Group
https://example.com/categorypage12	720572	Test
https://example.com/categorypage7	710574	Control
https://example.com/categorypage17	678566	Test
https://example.com/categorypage6	652376	Control
https://example.com/categorypage16	275832	Test
https://example.com/categorypage14	275716	Control
https://example.com/categorypage15	263687	Test
https://example.com/categorypage9	254678	Control
https://example.com/categorypage13	235511	Control
https://example.com/categorypage5	205651	Test
https://example.com/categorypage3	142783	Control
https://example.com/categorypage4	130077	Test
https://example.com/categorypage8	128904	Control
https://example.com/categorypage2	128691	Test
https://example.com/categorypage11	117108	Control
https://example.com/categorypage1	114754	Test



Same pages as
test group, but in a
different,
untreated market



Ideal for
international
websites & tests

Test Group (FR)	Control Group (UK)
https://example.com/fr-fr/blog1	https://example.com/en-gb/blog1
https://example.com/fr-fr/blog2	https://example.com/en-gb/blog2
https://example.com/fr-fr/blog3	https://example.com/en-gb/blog3
https://example.com/fr-fr/blog4	https://example.com/en-gb/blog4
https://example.com/fr-fr/blog5	https://example.com/en-gb/blog5
https://example.com/fr-fr/blog6	https://example.com/en-gb/blog6
https://example.com/fr-fr/blog7	https://example.com/en-gb/blog7
https://example.com/fr-fr/blog8	https://example.com/en-gb/blog8
https://example.com/fr-fr/blog9	https://example.com/en-gb/blog9
https://example.com/fr-fr/blog10	https://example.com/en-gb/blog10
https://example.com/fr-fr/blog11	https://example.com/en-gb/blog11
https://example.com/fr-fr/blog12	https://example.com/en-gb/blog12
https://example.com/fr-fr/blog13	https://example.com/en-gb/blog13
https://example.com/fr-fr/blog14	https://example.com/en-gb/blog14
https://example.com/fr-fr/blog15	https://example.com/en-gb/blog15
https://example.com/fr-fr/blog16	https://example.com/en-gb/blog16
https://example.com/fr-fr/blog17	https://example.com/en-gb/blog17
https://example.com/fr-fr/blog18	https://example.com/en-gb/blog18



Overall website trend
across same dates



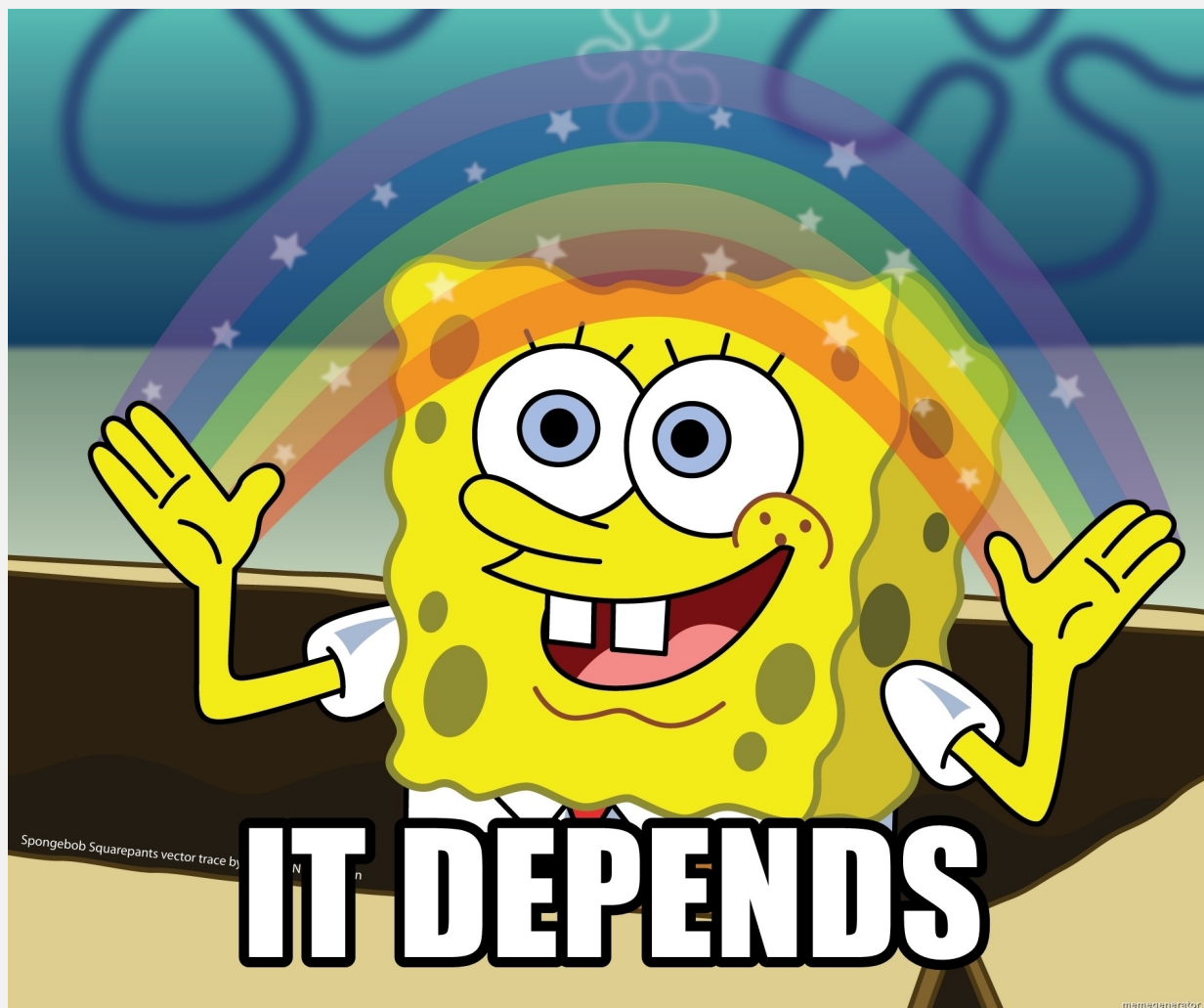
Ideal for **ecom and
large scale**
websites & tests

Date	Clicks
2023-05-01	528,768
2023-05-02	547,195
2023-05-03	505,769
2023-05-04	512,974
2023-05-05	478,663
2023-05-06	466,258
2023-05-07	479,757
2023-05-08	505,087
2023-05-09	493,479
2023-05-10	526,750
2023-05-11	501,293
2023-05-12	468,099
2023-05-13	486,410
2023-05-14	485,428
2023-05-15	496,398



Timeframe





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How long should I let my test run?

For SEO tests:

2-4 weeks

(with

intermediate
check-ins)

14 days	Position Test	Position Control 1	Position Control 2
Pre	5.45	5.28	6.17
Post	5.41	5.88	6.42
Change	-0.61%	11.36%	4.00%

28 days	Position Test	Position Control 1	Position Control 2
Pre	5.42	4.85	6.41
Post	5.34	4.74	6.69
Change	-1.42%	-2.20%	4.42%



When are my 'pre' and 'post' periods?

Date	Position
11/02/2022	5.4 T7 pre
12/02/2022	5.4
13/02/2022	5.5
14/02/2022	5.4
15/02/2022	5.2
16/02/2022	5.2
17/02/2022	5.6
18/02/2022	5.5 Launch
19/02/2022	5.6
20/02/2022	5.5
21/02/2022	5.4
22/02/2022	5.8
23/02/2022	5.4
24/02/2022	5.3
25/02/2022	5.4 T7 post



Launch date

For SEO tests, check when changes have been
crawled rather than **implemented**

Scree@mingfrog

 ContentKing

botify



Analysis



This is tricky because it depends on the **test design** and the **resources** you have



Flying solo?



1 Good old delta formulas

$$\frac{(\text{Post} - \text{Pre})}{\text{Pre}}$$

OR

$$\left(\frac{\text{Post}}{\text{Pre}}\right) - 1$$



%

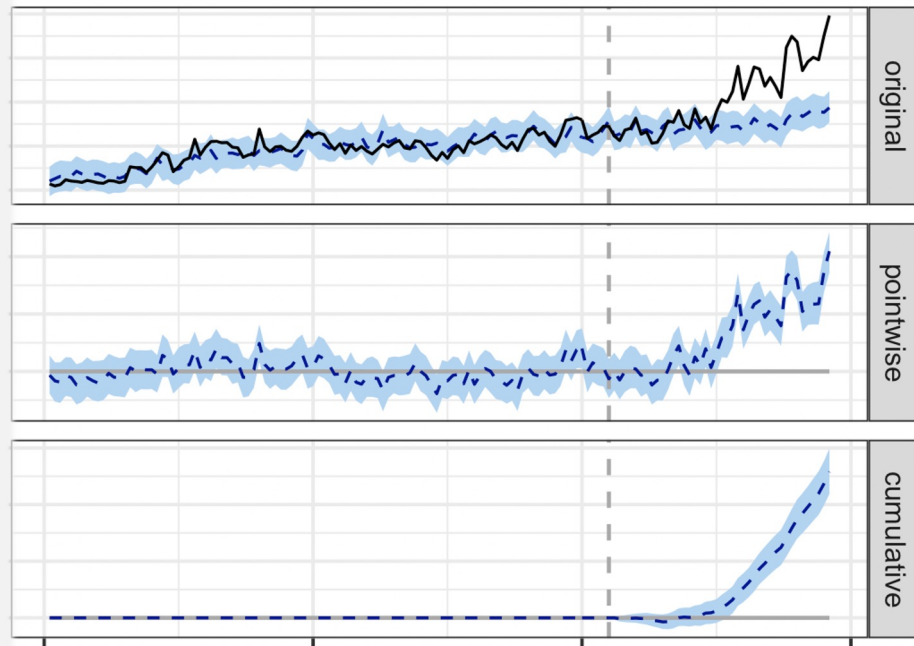
Test Group - US Website		
	Average Rank	Weighted Average Rank
Pre	5.09	5.00
Post	5.08	5.38
Delta	-0,32%	12,67%



Flying solo?



2 Causal Impact Analysis



MeasureFest



Winner or Loser?
Analysing Your Test Results with Causal Impact on R Studio

Giulia Panozzo



Got budget? 

Then invest in tools that can make this
easier and faster



And more...



Report





**A LOT OF
NUMBERS
WITHOUT
CONTEXT**



**VISUALS
AND
SUMMARY**



Provide a top-level **summary**

Hypothesis

Groups & Treatment

**Launch & Check-In
Dates**

**Results &
Classification**



Provide a top-level **summary**

Hypothesis

Groups & Treatment

**Launch & Check-In
Dates**

**Results &
Classification**

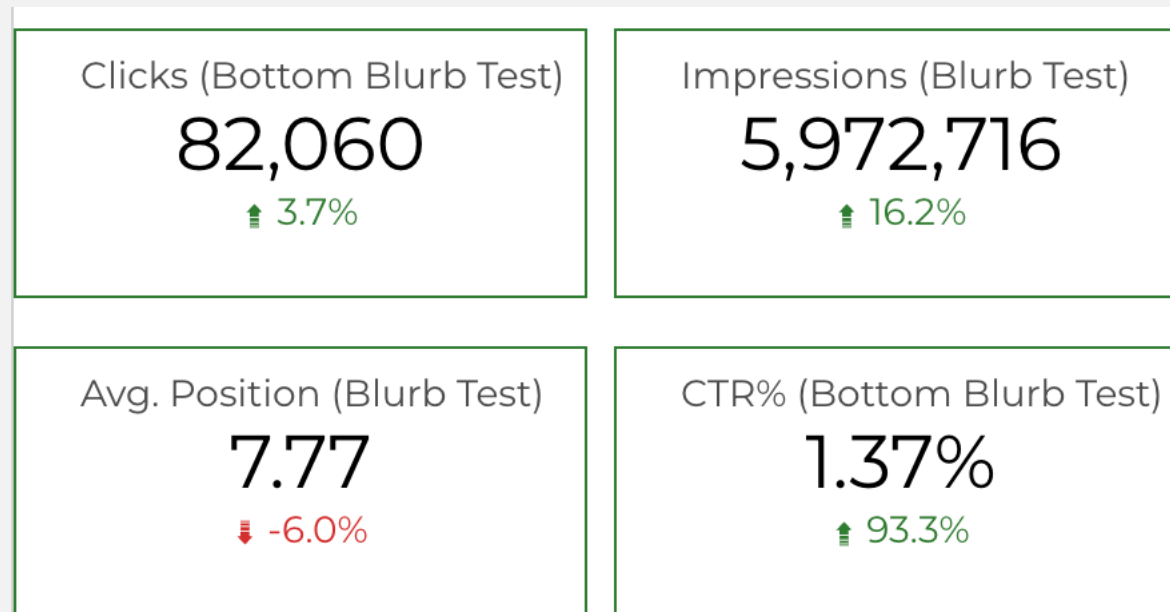
Next Steps



Tell a story with the help of **data visualisation**



Build **live dashboards** when you can, in order to easily spot trends



Make a note of **anything that could have impacted** your test in the same timeframe

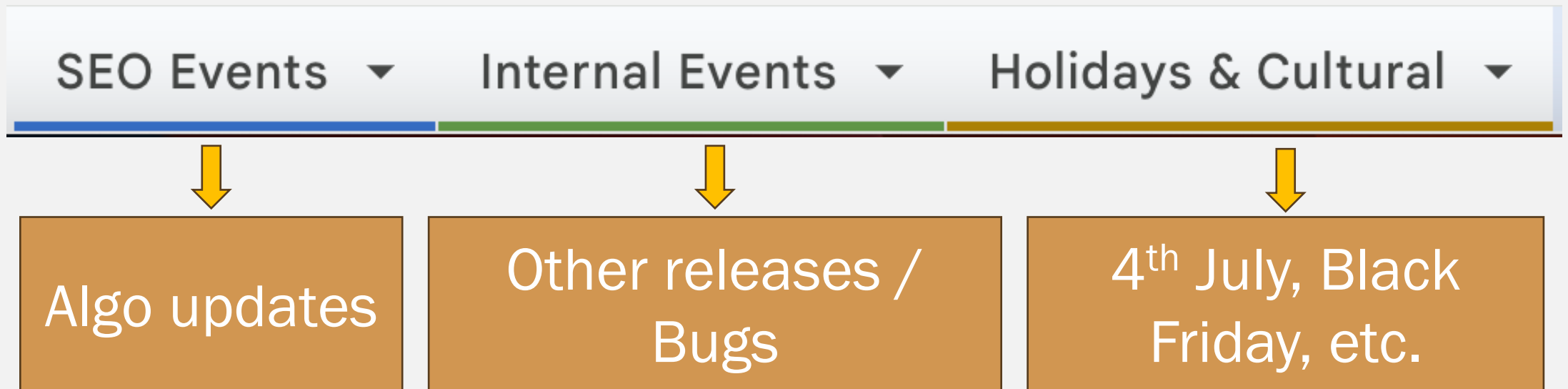
SEO Events ▼

Internal Events ▼

Holidays & Cultural ▼



Make a note of **anything that could have impacted** your test in the same timeframe



Summing it up



Hypothesis



Test Design



Hypothesis

```
graph TD; A[Hypothesis] --> B[Test Design]; B --> C[Test & Control Groups];
```

Test Design

Test & Control Groups



Hypothesis

```
graph TD; A[Hypothesis] --> B[Test Design]; B --> C[Test & Control Groups]; C --> D[Analysis];
```

A vertical flowchart with four steps: Hypothesis, Test Design, Test & Control Groups, and Analysis. Each step is in a colored box, and they are connected by downward-pointing arrows. The boxes are arranged in a descending staircase pattern from top-left to bottom-right.

Test Design

Test & Control Groups

Analysis



Hypothesis

```
graph TD; A[Hypothesis] --> B[Test Design]; B --> C[Test & Control Groups]; C --> D[Analysis]; D --> E[Reporting];
```

Test Design

Test & Control Groups

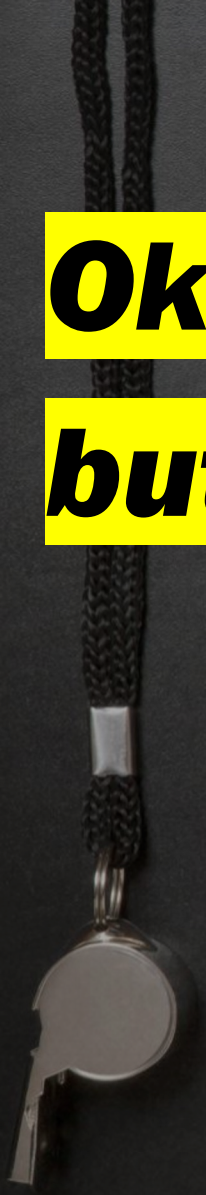
Analysis

Reporting






Ok, we tested...

but what about the learnings?

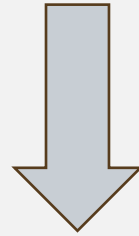


Create your own repository

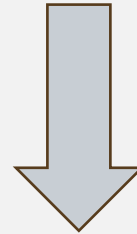
Date	Test name	Dependent Variable	Hypothesis	Duration	Result	Label
05/06 - 26/06	 Price point in titles	Clicks	Adding a price point to the titles of category pages will increase clicks by 10%.	4 weeks	12% uplift in clicks as compared to previous period for treated pages VS control.	Winner
27/06 - 11/07	 Localised product names	CTR	Replacing EN product names with localised IT names will improve CTRs to product pages by 15% VS control.	2 weeks	- 9% CTRs as compared to previous period.	Loser
12/07 - 23/08	 Copy at the top of the page	Average rank	Placing the introductory copy at the top of PLPs will improve average ranks by 10% VS previous period.	4 + 2 weeks	1% improvement average position - spurious result due to other technical initiatives running at the same time.	Inconclusive



More **Learnings**



More **Strategic Testing**



Better Customer **Insights**



Get my **template here**



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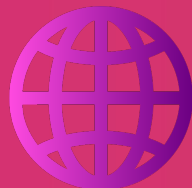
Thank you!



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