

Turning anecdotes into insights

Mixed methods research in support of design

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UX Research Lead // Shopify



$$\frac{dN}{dt} = \frac{1}{q_{\text{fact}}} - q_0(N - N_0)(1 - \epsilon S)S + \frac{N_e}{T_n} - \frac{N}{T_p}$$

$$\frac{dS}{dt} = T_0 q_0(N - N_0)(1 - \epsilon S)S + \frac{f_0 N}{T_n} - \frac{S}{T_p}$$

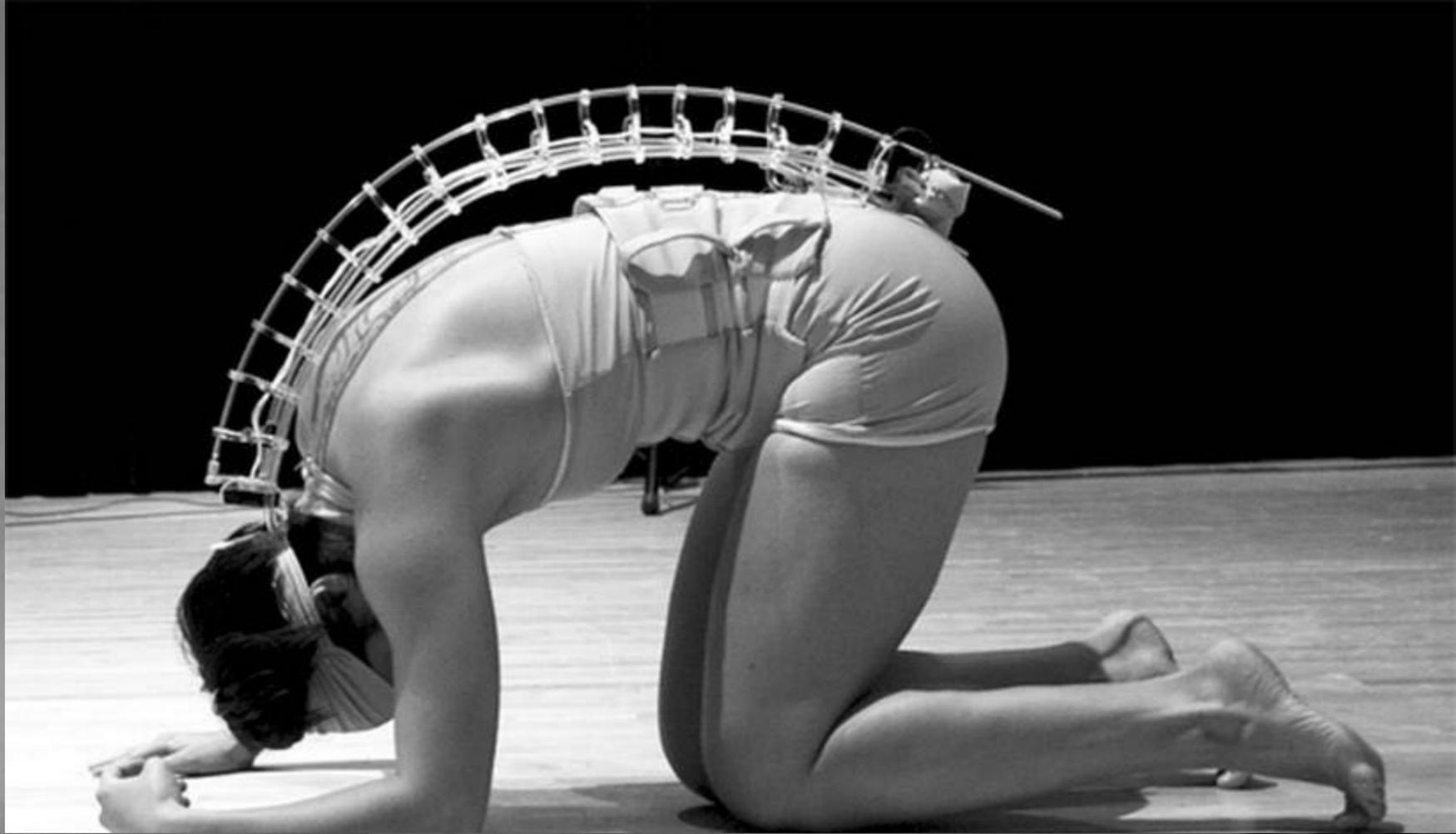
$$\frac{S}{P} = \frac{T_p \lambda_0}{V_{\text{act}} \eta_{\text{hc}}} = \text{②}$$



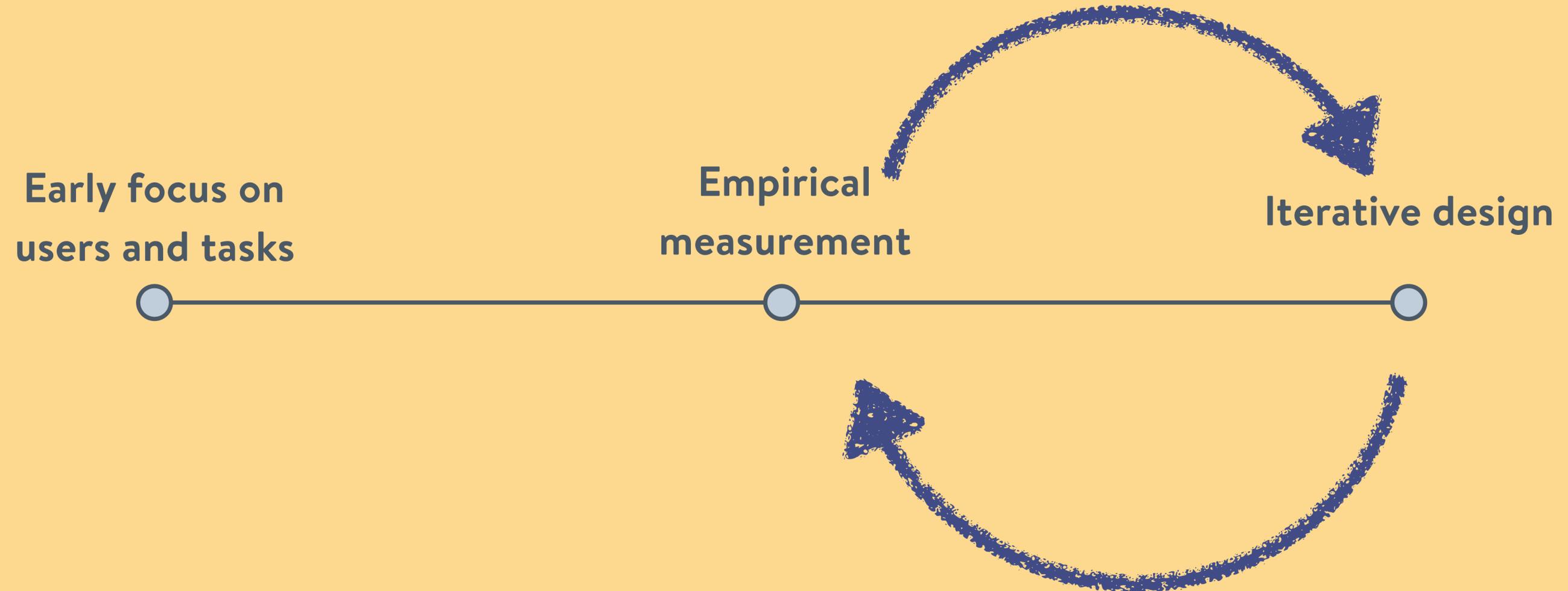
$N = 1$
 $P_f = (m$







Key principles of usability



Measuring tasks

- Time to complete
- Task completion rate
- Accuracy
- Error rate
- Satisfaction

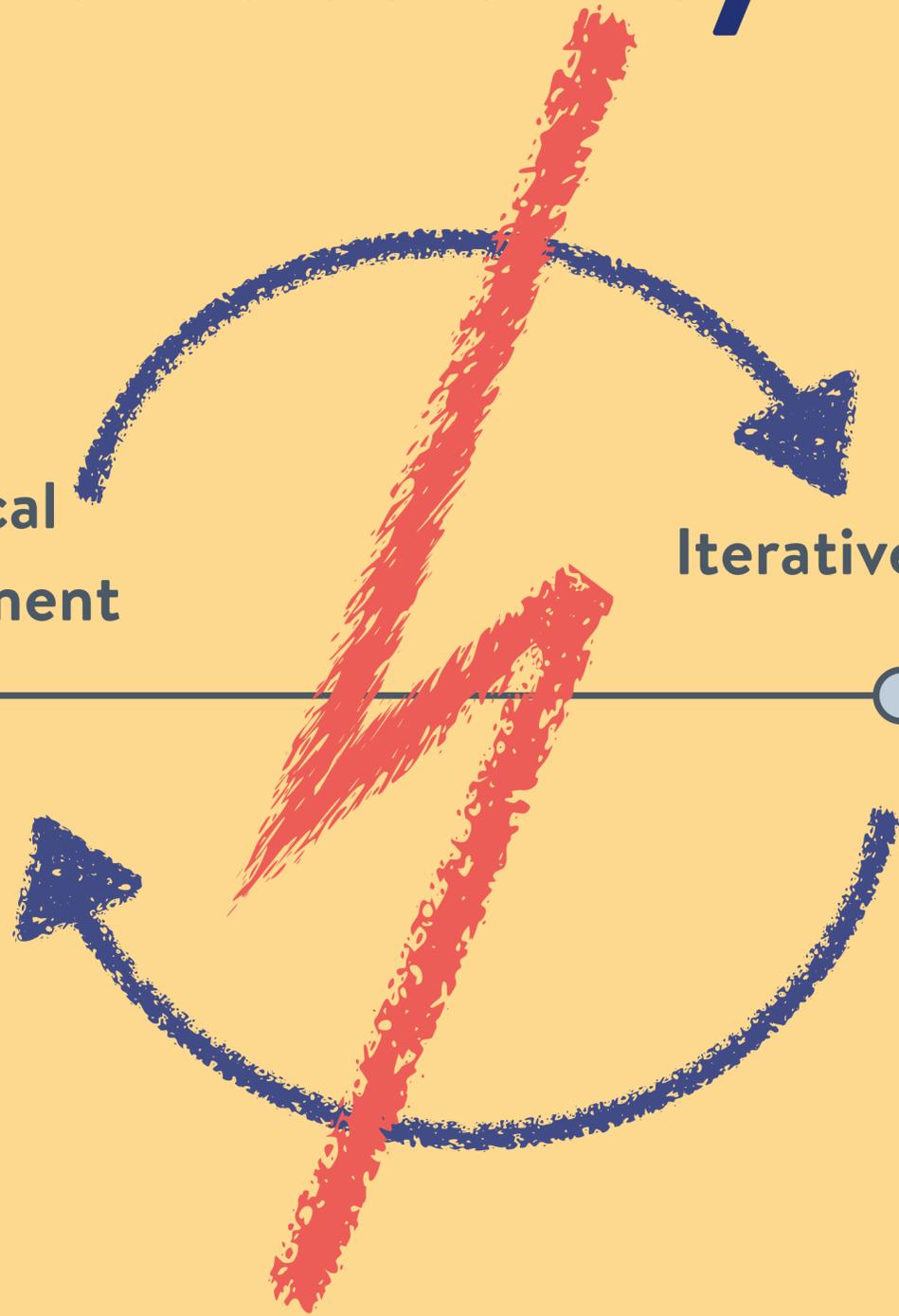


Key principles of usability

Early focus on
users and tasks

Empirical
measurement

Iterative design



“What of technology not for accomplishing tasks but for **having experiences**, for **expressing** one’s identity, for **flirting** and **arguing** and **living**?”

[Kaye et al., 2007]



REDPATH LIBRARY

McGill
190

McGill University
Welcome

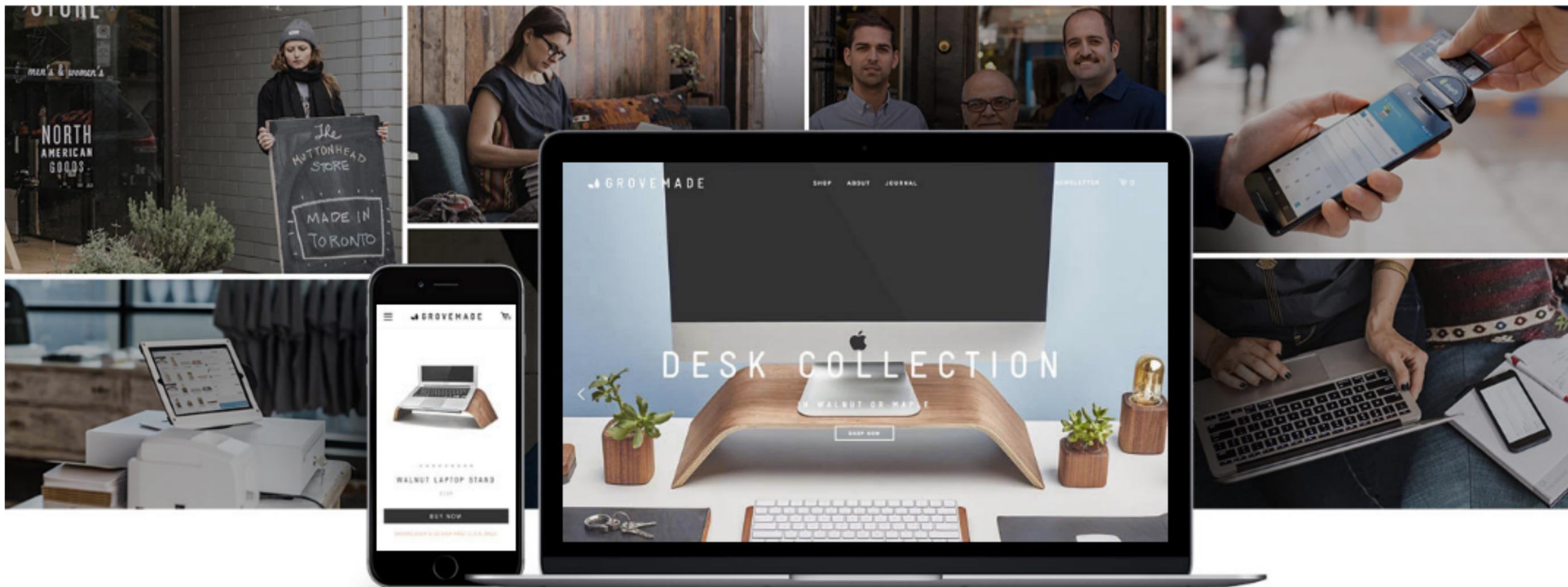


An ecommerce platform made for you

Whether you sell online, on social media, in store, or out of the trunk of your car, Shopify has you covered.

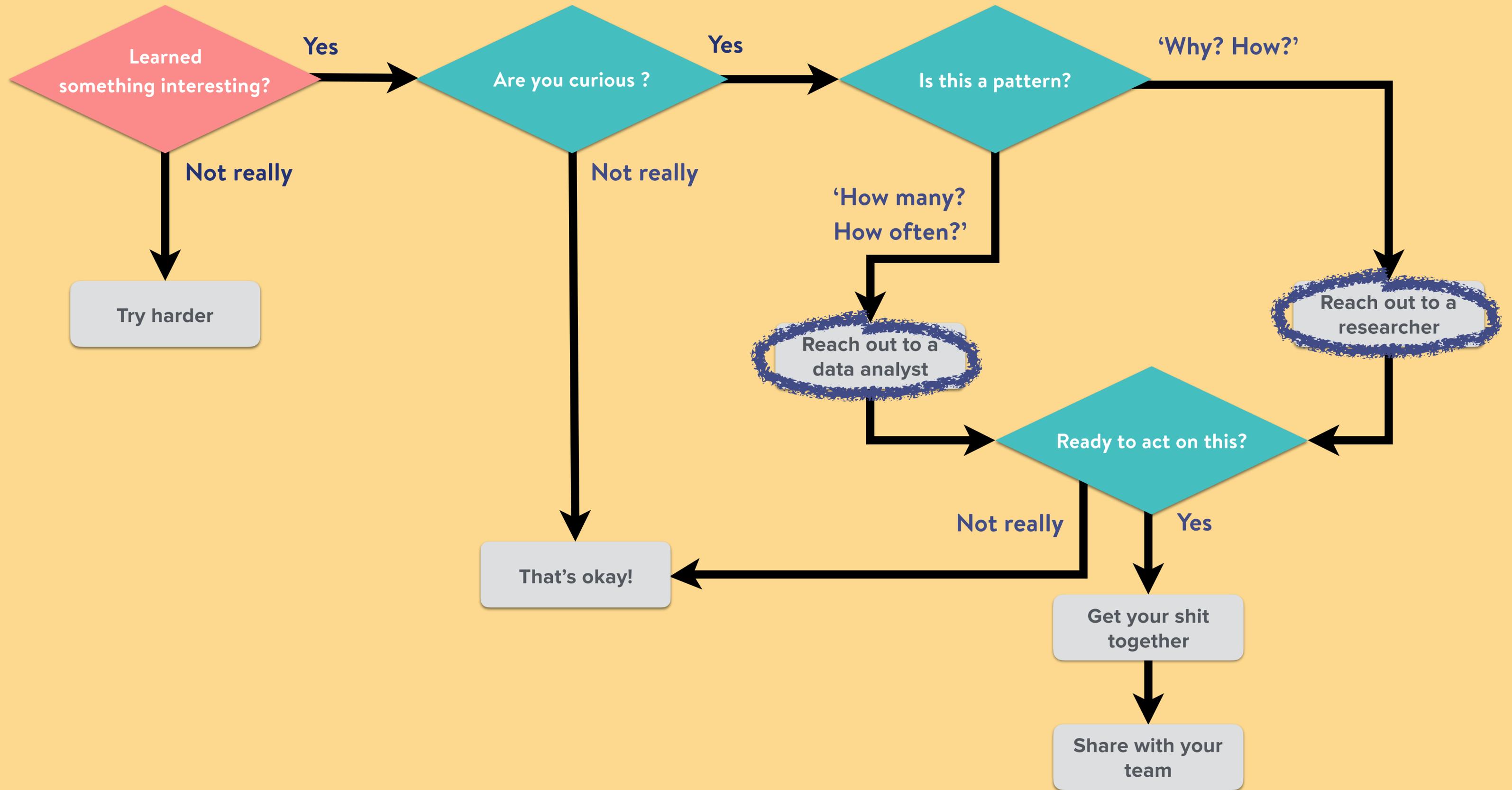
[Get started](#)

Try Shopify free for 14 days. No risk, and no credit card required.

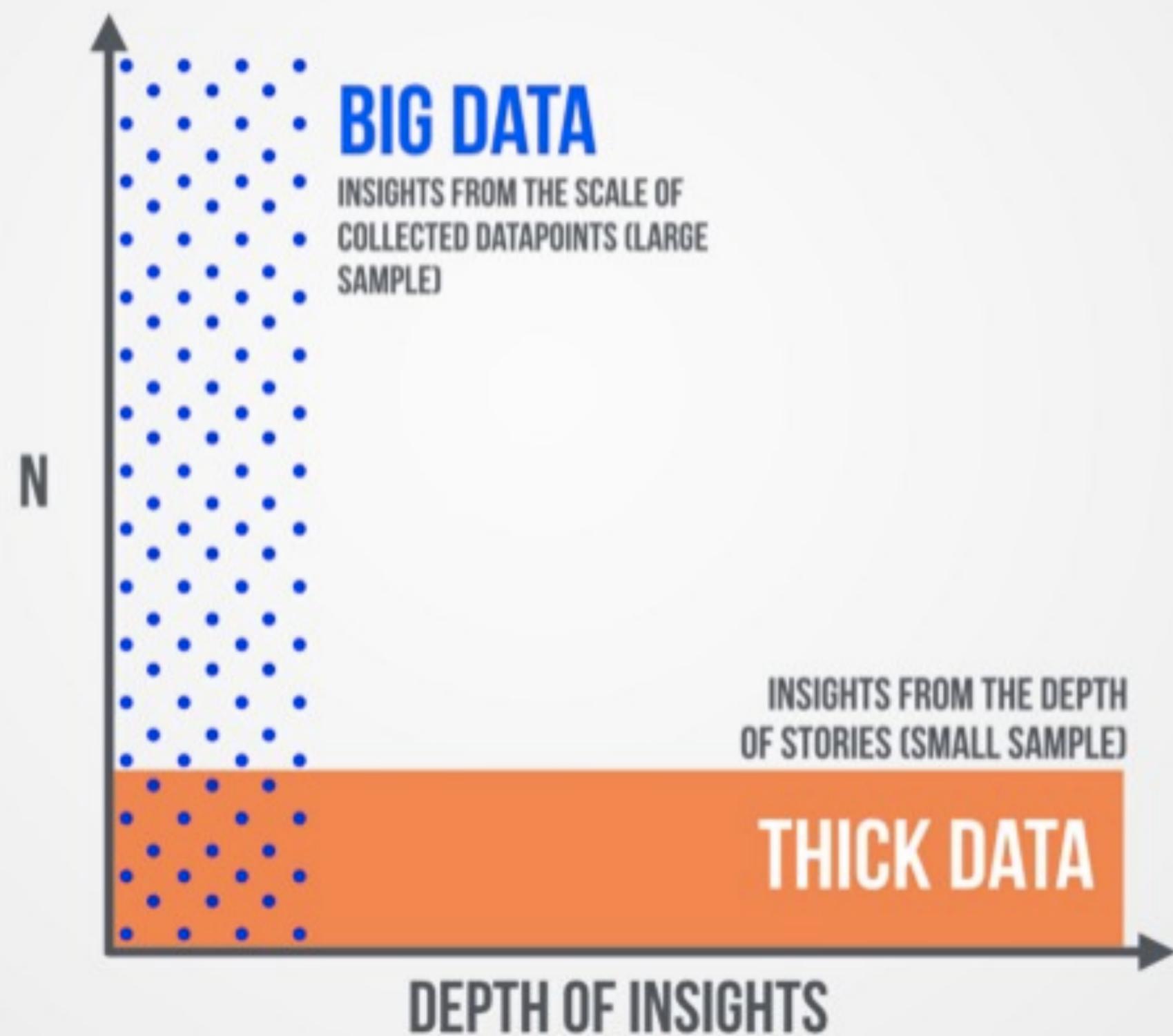








TO FORM A COMPLETE PICTURE, BOTH BIG AND THICK DATA ARE CRITICAL BECAUSE THEY PRODUCE DIFFERENT TYPES OF INSIGHTS AT VARYING SCALES AND DEPTHS



SHOULD TECH DESIGNERS GO WITH THEIR GUTS — OR THE DATA?

Curious about customer behaviour?

Making decisions about product quality?

Deciding between a small set of options?

Concerned with long-term impact?

Use data.

~~Use instinct.~~

Research!

A photograph of a desk with a laptop and a pen, overlaid with a semi-transparent blue filter. The laptop is open, and the pen is lying on the desk in front of it. The text is centered on the left side of the image.

When you combines **statistical trends** with **stories** and **personal experiences**, the collective strengths of both provides a better understanding of the research problem than either forms of data alone.

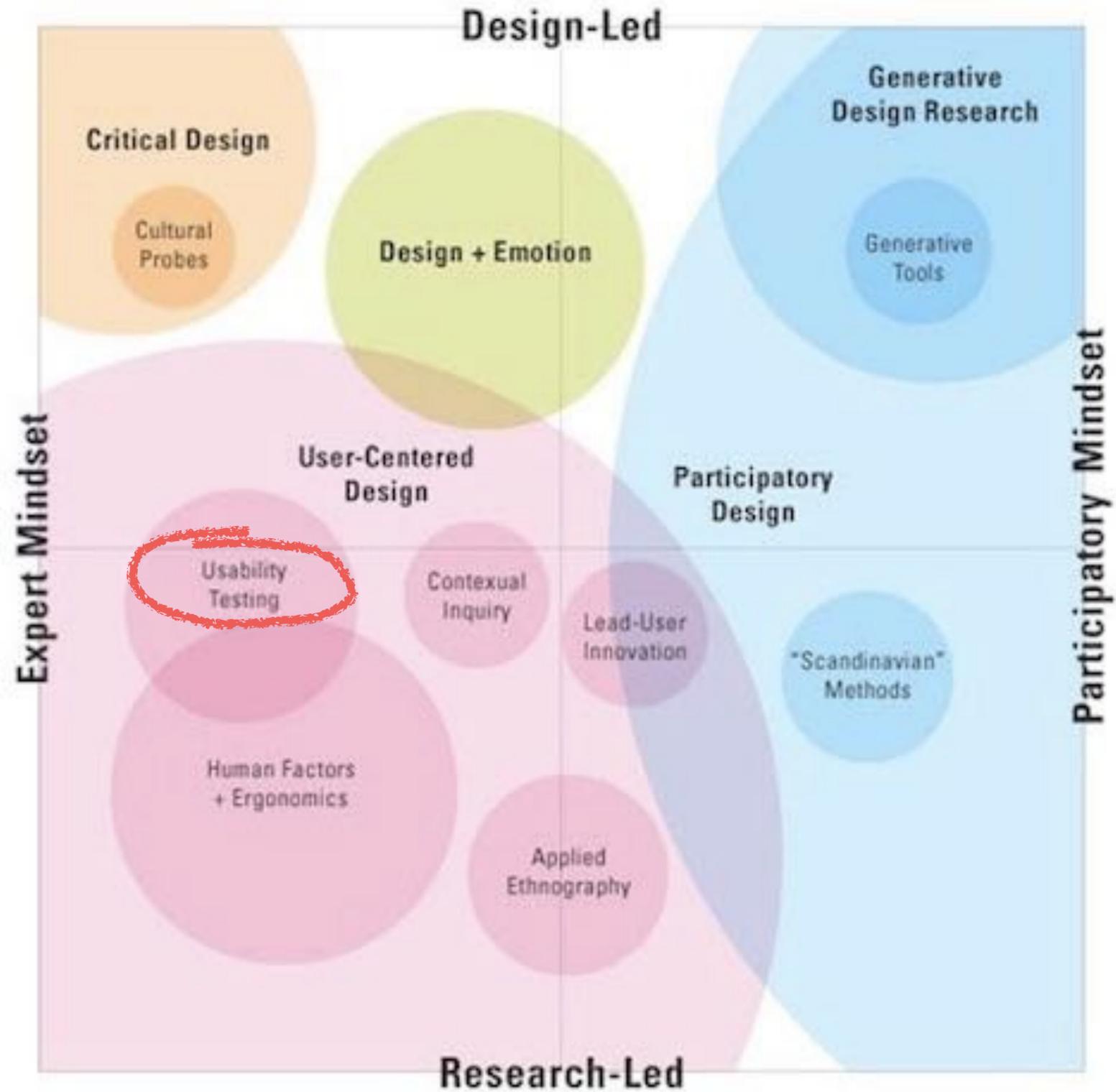
*“An approach to research in the social, behavioural, and health sciences in which the investigator gathers both **quantitative (close-ended)** and **qualitative (open-ended)** data, **integrates the two**, and then draws interpretations based on the **combined strengths of both** sets of data to understand research problems.”*

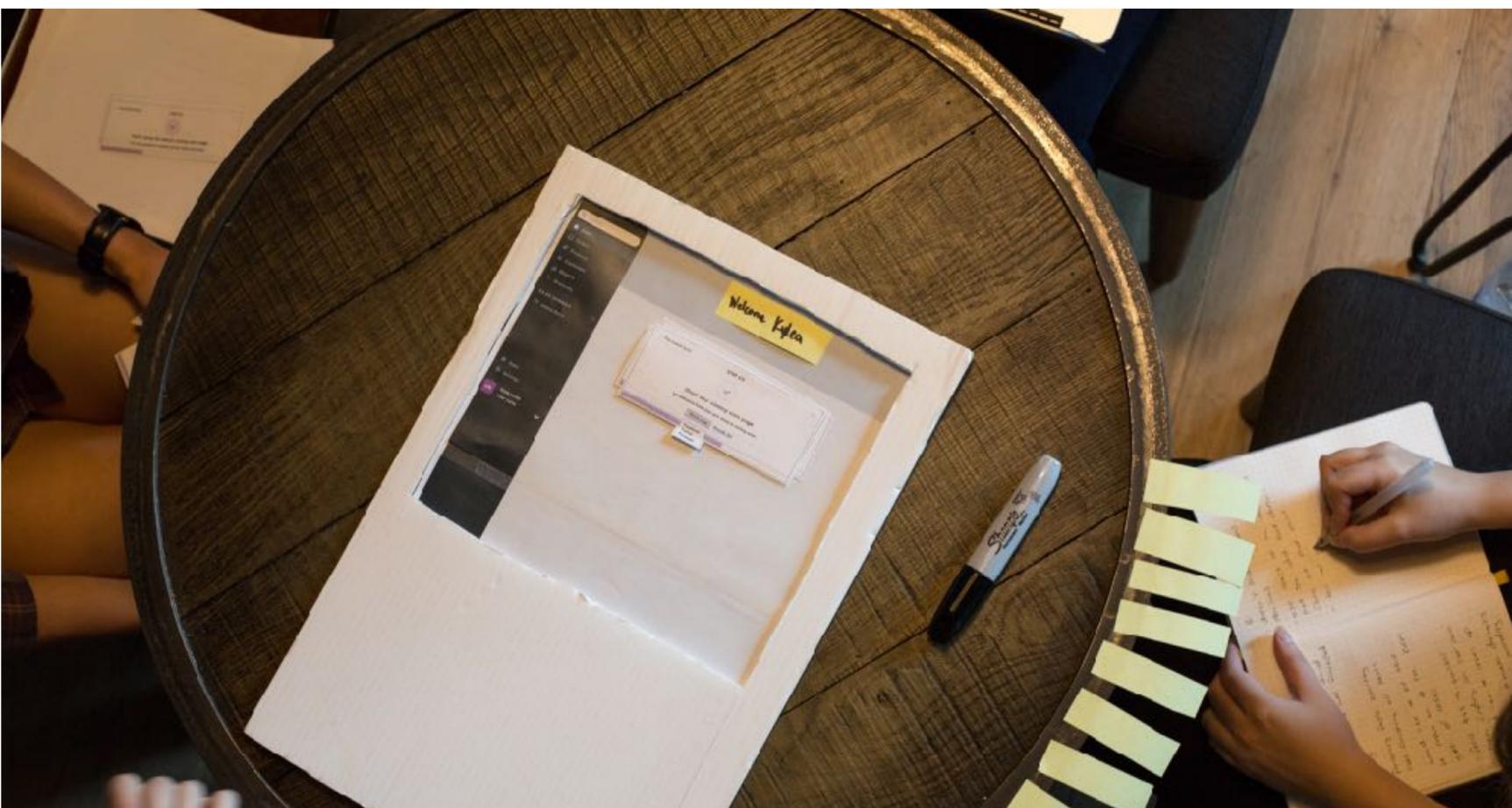
- John Creswell





Let's talk about **qualitative**
research









Journal study

Elyse's Shopify Journal

Welcome back Elyse, and thanks for taking the time to fill out your journal today!

*** 1. How's your theme coming along?**

- I'm still working on it.
- It's ready to go live on my store.

Next





b.cycle

ES
CES
&
JER
1920
1925

LOMA
A LOMA
875 29
000 62

VIZ
EDEL



Shoppin' Cart

Shoe
Chi



Décor

Décor &
Cie.



Shopping Cart

Red Velvet
Cupcake



\$2.75

\$10 gift card

Don't you just love cupcakes? Especially when they're on sale? Well, it just so happens your favourite pastry shop, Sweet Delights, is celebrating its 4-year anniversary by having a special promotion on their all-time favourite celebration flavour: a strawberry cupcake with chocolate icing. Hurry up and grab some of these delicious cupcakes for yourself!

shopping cart:
chocolate cupcakes

1A

Dapper
Gents



Let's talk about **quantitative**
research



This is your chance to directly influence the upgrades we'll make to Shopify over this year. The more we understand what's important to you, the better we can develop solutions to help you make sales and grow your business.

This survey will only take about 10 minutes.

Complete the survey by Monday, January 16th for your chance to win a \$1,000 pre-paid Visa card.

*** 1. How would you describe yourself?** 

- Shopify store owner
- Working for a Shopify store owner
- Shopify partner or expert
- Previously owned a Shopify store
- Did the free trial but never launched my store

Next



REPORT PARAMETERS

Refresh

Date Interval

Last 4 weeks

Ticket Topic

Support Tickets Analysis

Number of support tickets for a chosen topic and period, with comparisons to an equal previous period, normalization by total number of customers, and as percentage of total support tickets.

Number of Tickets
and rate of change from previous period

14,583

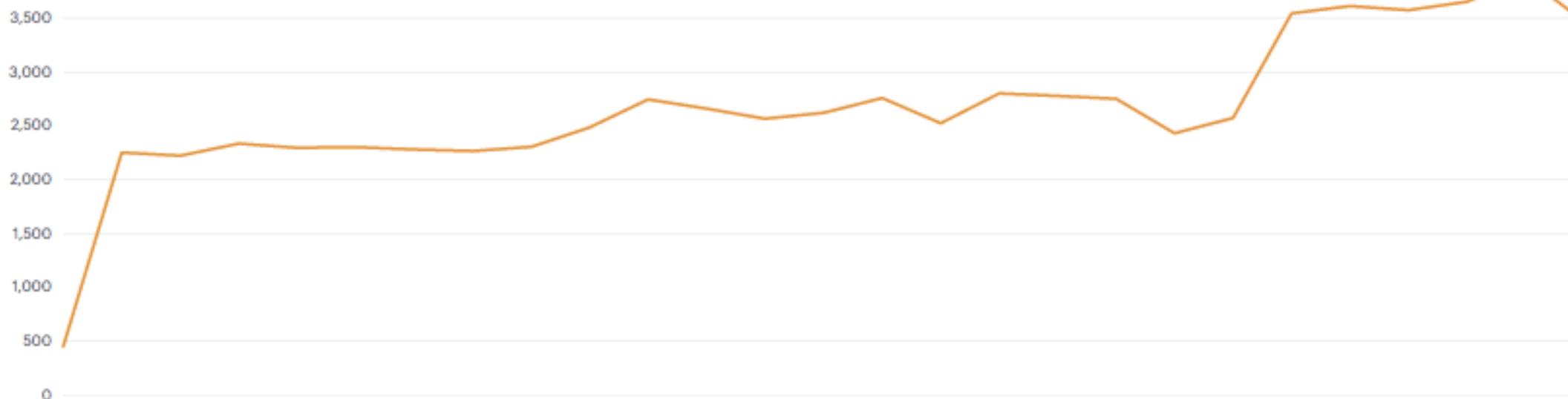
▲ 19.8%

Percent of All Support Tickets
and rate of change from previous period

7.04%

▼ 1.7%

Number of tickets for this topic per week (last 6 months)





Search reports & help

All Users
100.00% Sessions

+ Add Segment

Dashboards

Shortcuts

Intelligence Events

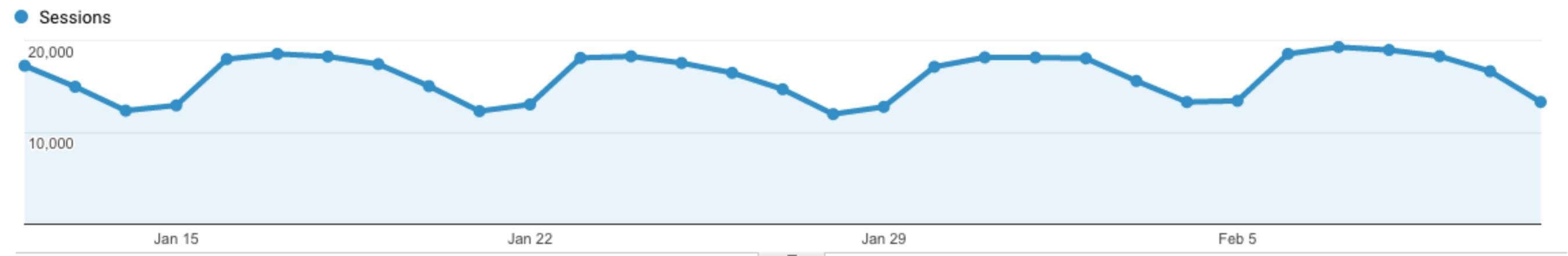
Real-Time

Audience

Overview

Sessions vs. Select a metric

Hourly Day Week Month



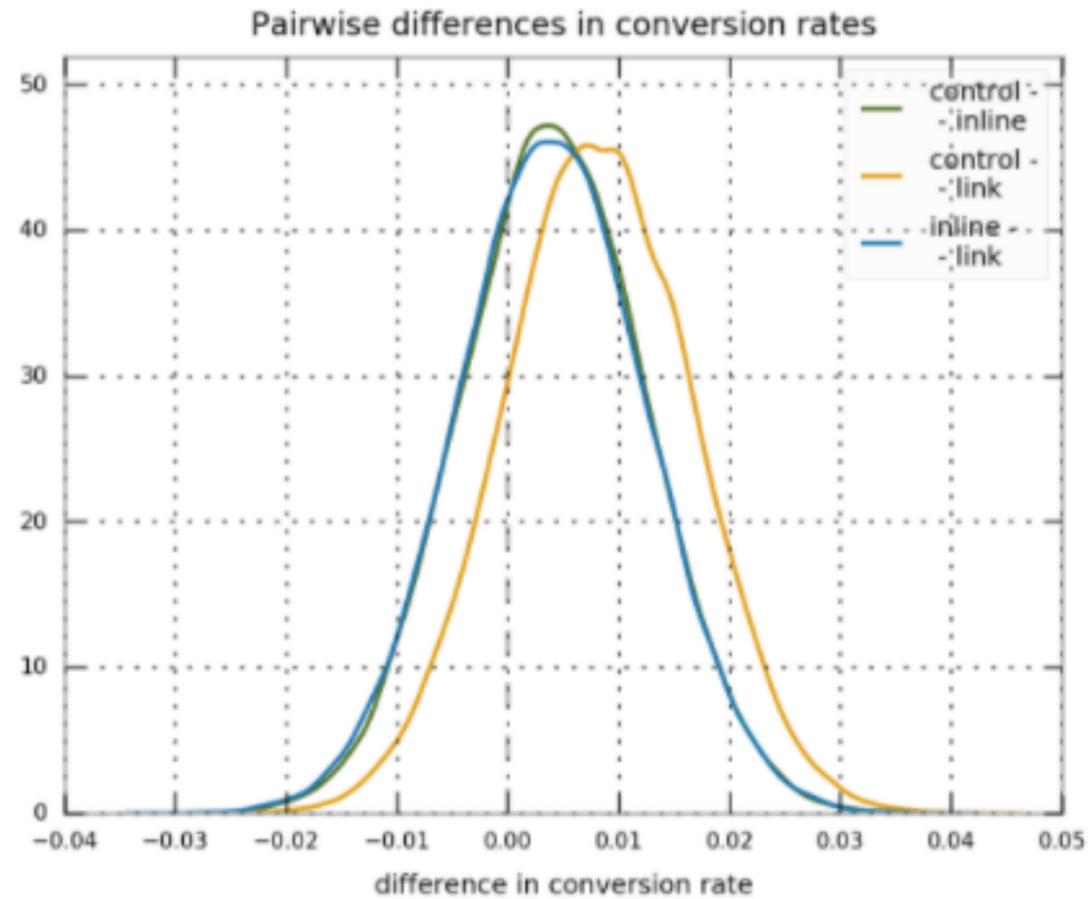
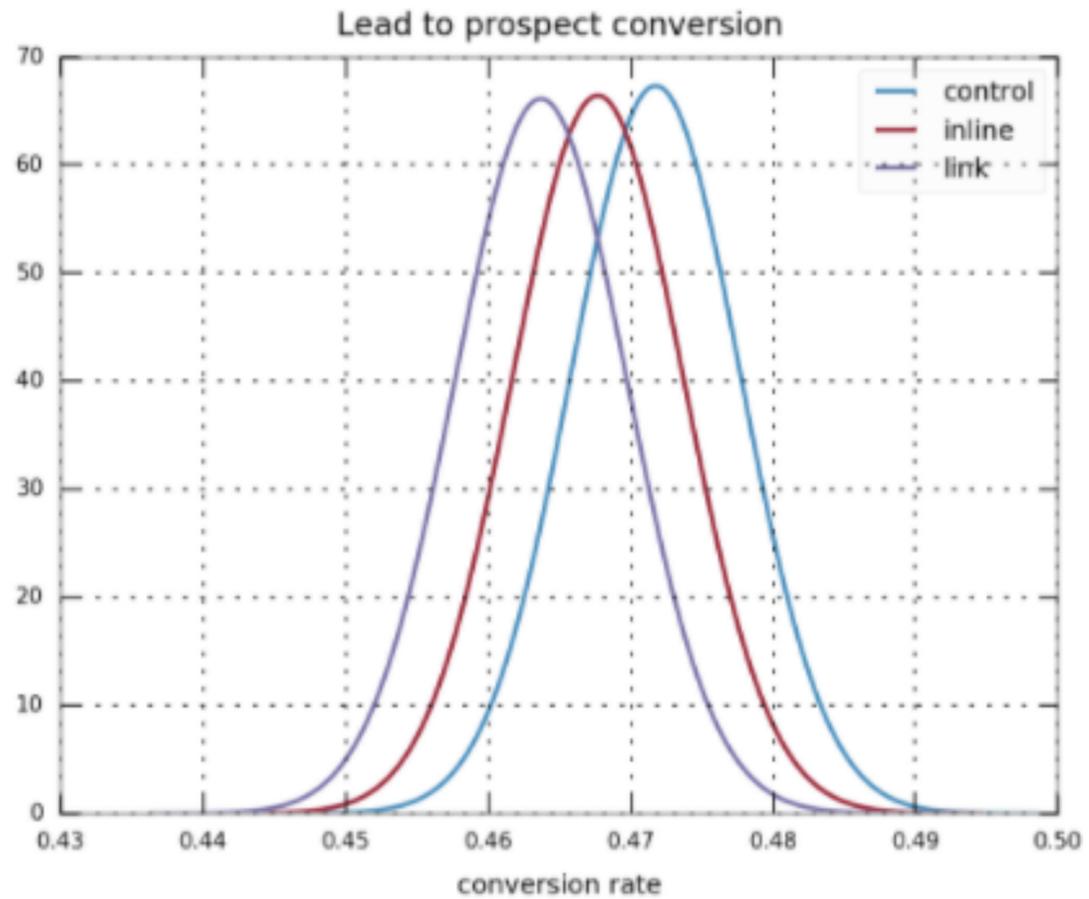
- Overview
- Active Users
- Cohort Analysis **BETA**
- User Explorer
 - Demographics
 - Interests
 - Geo
 - Behavior

Sessions 498,621	Users 255,457	Pageviews 3,147,725	Pages / Session 6.31
Avg. Session Duration 00:04:40	Bounce Rate 30.86%	% New Sessions 42.16%	



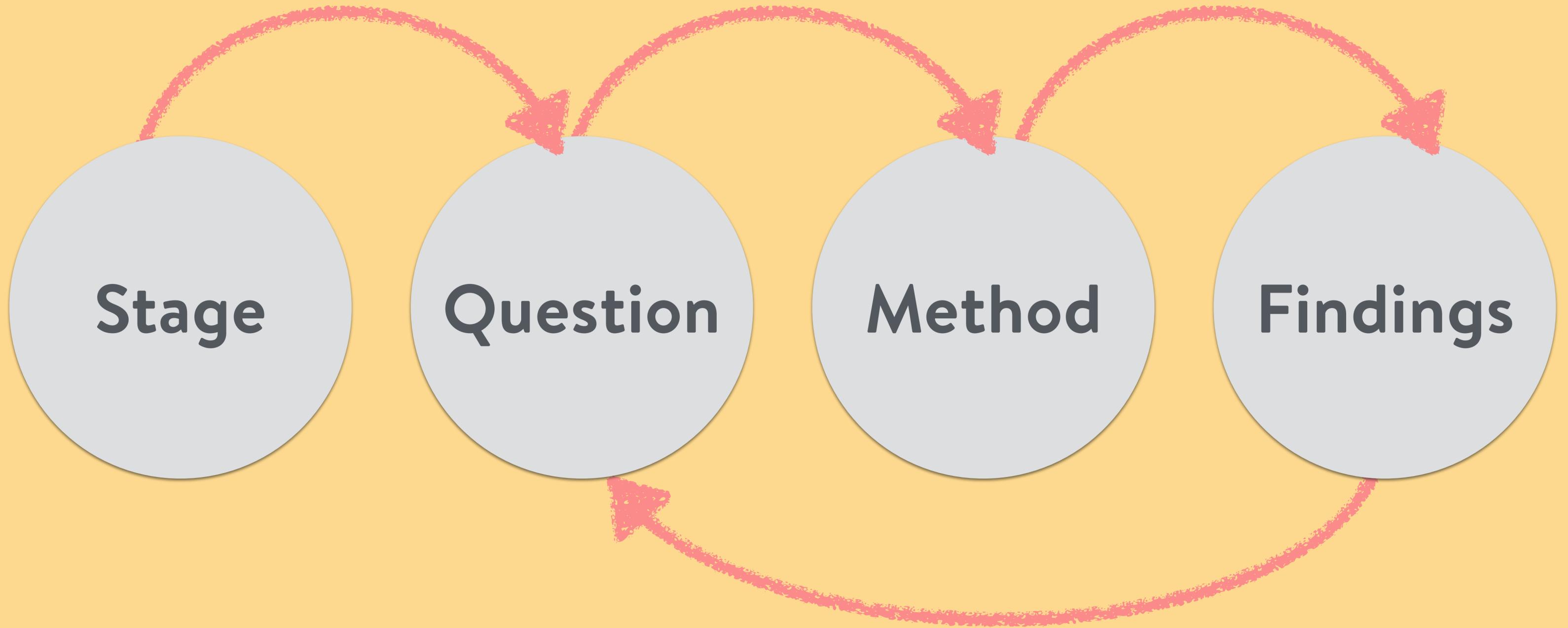
Comparison	Confidence	Rel. Increase
control converts higher than inline	69%	--
control converts higher than link	83%	--
inline converts higher than link	68%	--

Group	Conversion	Total	Observed rate
control	3,347	7,095	47.17%
inline	3,227	6,900	46.77%
link	3,167	6,830	46.37%

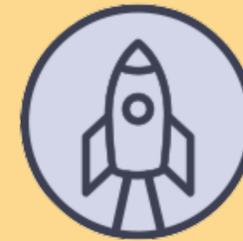


A person is holding a camera, capturing a photograph of a white shirt. The scene is overlaid with a semi-transparent blue filter. The camera's LCD screen is visible, showing a live view of the shirt with a focus square. The text 'So how do we choose the right technique?' is overlaid on the left side of the image. The word 'right' is highlighted in yellow.

So how do we choose
the **right** technique?



Getting shit done



Getting shit done



Idea

Gather initial thoughts on impact and reasons



Think

Become experts of the problem domain, both internally and externally



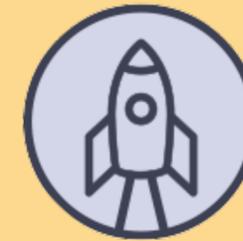
Explore

Plan how the problem will be solved, and what you will run into with the solution



Build

Iteratively build and ship small, quality components of the feature



Launch

Publicly release the feature to customers



Tweak

Iterate on the solution based on customer feedback and usage

Getting shit done

Questions:

- What potential problems might we solve?
- How might we gather context on the problem?



Idea

Qualitative:

- Looking at existing research (internal and external)
- Interviews, observations, surveys, diary studies to establish baseline of current problem
- Team kickoff workshop

Quantitative:

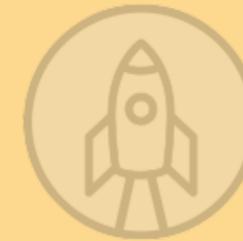
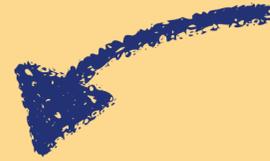
- Mining existing data for potential hypotheses or insights
- Establishing facts, confirming/disproving assumptions



Getting shit done

Questions:

- What are the root problems?
- What are the biggest challenges we might focus on?



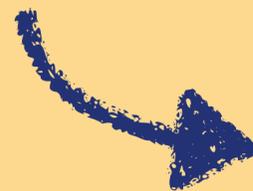
Think

Qualitative:

- Profiles/segments/personas to identify who might be impacted by the project
- More interviews and observations
- Workshops with users to further dive into the problem space
- Team workshops to explore and scope down the problems to be addressed

Quantitative:

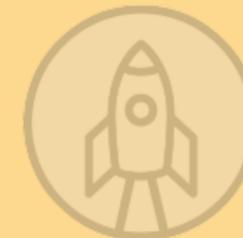
- Quantify how big are the segments that would benefit from this product



Getting shit done

Questions:

- How might we be resourceful and effective when testing assumptions and hypotheses?



Explore



Qualitative:

- Lo-fi prototype/clickable mockup testing

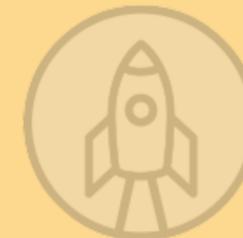
Quantitative:

- Define success metrics and measure baselines

Getting shit done

Questions:

- Can people use what we're building?
- Is what we're building addressing the initial problems and goals?



Build

Qualitative:

- High-fidelity usability tests
- Diary studies, beta testing

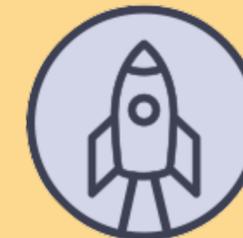
Quantitative:

- A/B tests, instrumentation, start building out reports

Getting shit done

Questions:

- Are people using it in the way we thought they would?
- Did we successfully solve the problem we identified?



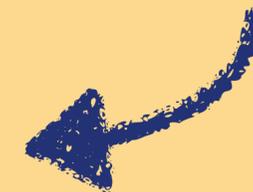
Launch

Qualitative:

- Forums/social media monitoring
- In-context feedback forms

Quantitative:

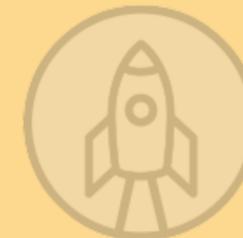
- Populate reports, monitor success metrics



Getting shit done

Questions:

- What incremental improvements might be worthwhile?
- What revisions should we make to our roadmap?



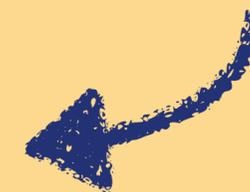
Qualitative:

- Retrospectives, post-mortem
- Analysis of support tickets
- Triangulate previous insights with quantitative data

Quantitative:

- A/B tests
- Monitor reports

Tweak



How questions change over time

Are we building
the right thing?

Are we building
the thing right?



Inception

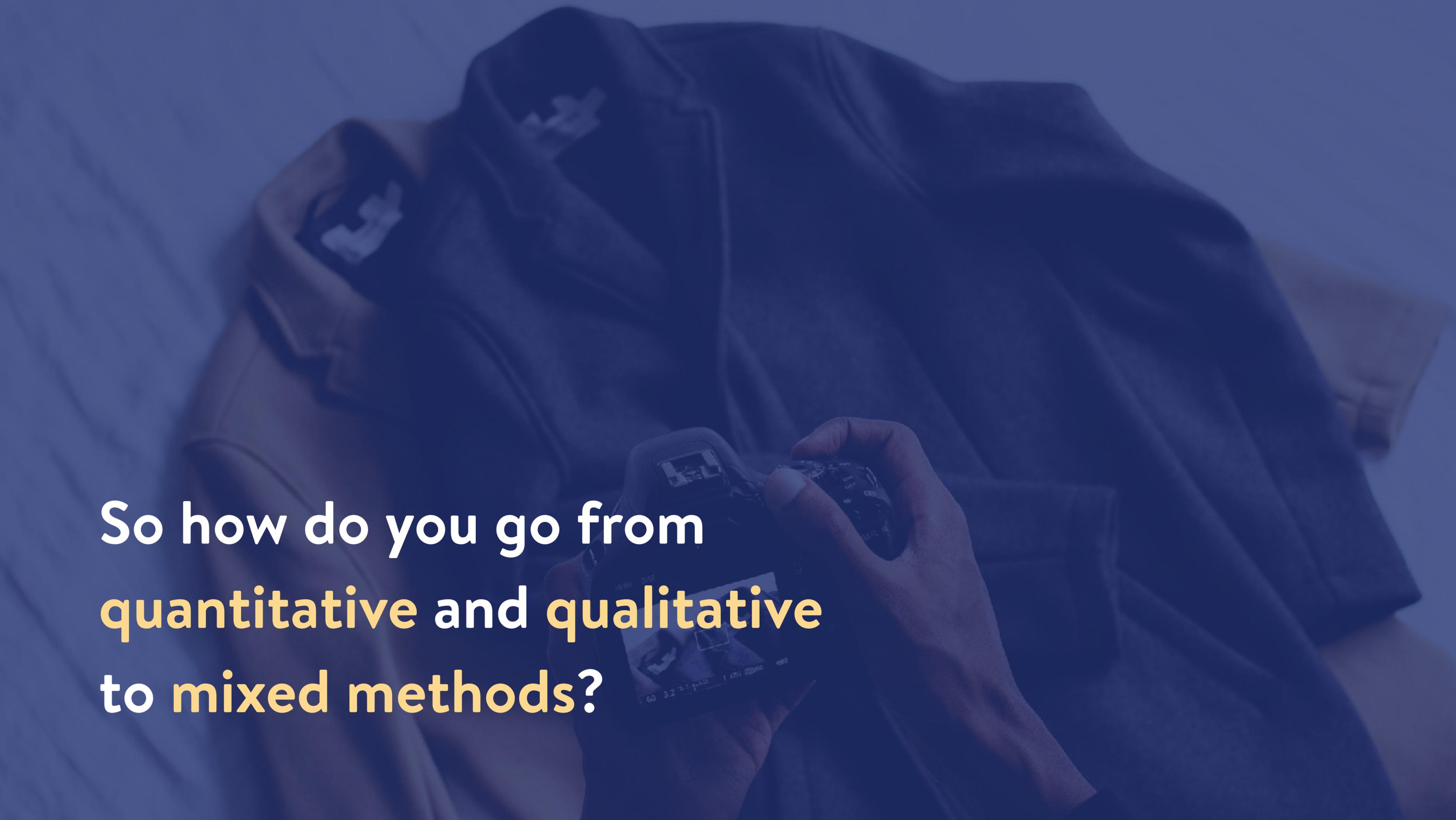


Completion

Stage	Question	Qualitative	Quantitative
Idea	What potential problems might we solve?	Existing research, observations, diaries, surveys, workshops	Establish facts, confirm/disprove assumptions
Think	What are the root problems?	Identify segments, interviews, observations, workshops	Quantify segments
Explore	How might we test assumptions	Lo-fi prototype/mockup testing	Define success metrics, measure baselines
Build	Can people use what we're building?	High-fidelity usability tests, diary studies, beta tests	A/B testing, instrumentation, reporting
Launch	Are people using it in the way we thought they would?	Forums/social media monitoring, feedback forms	Populate reports, monitor success metrics
Tweak	What improvements might be worthwhile?	Analysis of support tickets, retrospective, triangulate	A/B testing, monitor reports

This framework is also a **negotiation tool**.

Knowing which **method** is the **correct** one to use during each **stage** of your project empowers you to **say “no”** when uninformed requests come down the pipeline.

A person is holding a camera, with a blue overlay and text. The background is a blurred image of a person's hands holding a camera. The text is overlaid on the left side of the image.

So how do you go from
quantitative and qualitative
to **mixed methods**?

“An approach to research in the social, behavioural, and health sciences in which the investigator gathers both **quantitative (close-ended)** and **qualitative (open-ended)** data, **integrates the two**, and then draws interpretations based on the **combined strengths of both** sets of data to understand research problems.”

- John Creswell



Strengths

Weaknesses

Qualitative

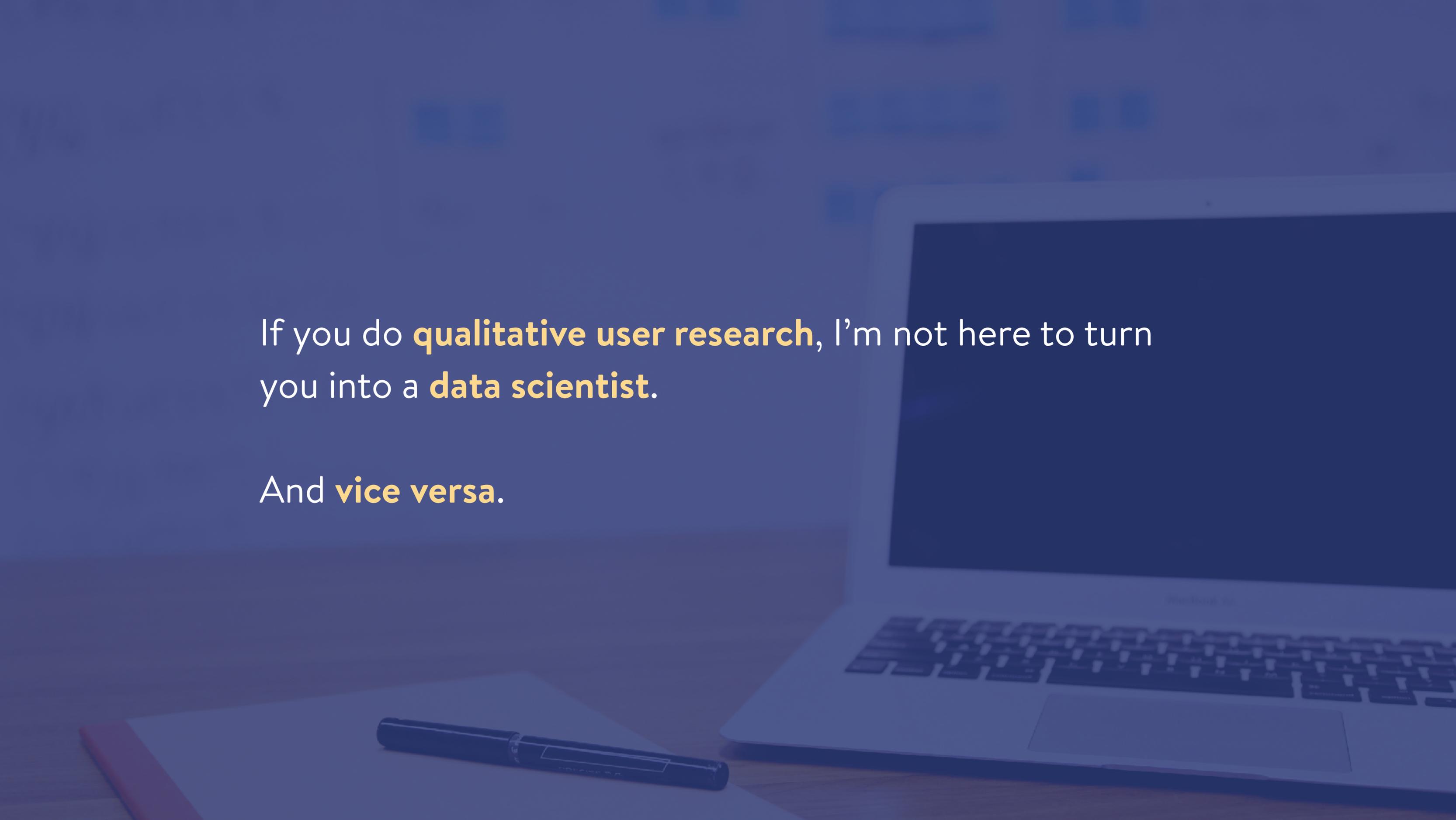
Provides detailed perspectives
Captures the voices of the participants
Captures complex phenomena
Is based on the views of the participants,
not the researcher
Appeals to people's enjoyment of stories
Adapts to context

Is time-intensive when it comes to data
collection and analysis
Studies few people
Has limited generalizability
Is subject to the researcher's biases

Quantitative

Is relatively efficient when it comes to
data collection and analysis
Draws conclusions for large numbers of
people
Investigates relationships within data
Appeals to people's preference for
numbers

Does not record the words of the
participants
Is impersonal
Provides limited understanding of the
context of participants
Is largely researcher driven



If you do **qualitative user research**, I'm not here to turn you into a **data scientist**.

And **vice versa**.

A photograph of a desk with a laptop and a pen, overlaid with a semi-transparent blue filter. The laptop is open, and the pen is lying on the desk in front of it. The text is centered on the left side of the image.

The real power lays in understanding enough about **both types** of methods, and their respective **strengths** and **weaknesses**, to be able to have **informed** conversations and forge **collaborations**.



A real life **example.**

- Home
- Orders 55
- Products
- Customers
- Analytics
- Discounts
- Apps
- SALES CHANNELS +
- Online Store 👁
 - Themes
 - Blog posts
 - Pages
 - Navigation
 - Domains
 - Preferences
- Buy Button
- Facebook
- Point of Sale
- View all channels
- Settings

Themes

[View your store](#)

Current theme

Your customers see this theme when they visit your online store.

Narrative Actions ▾ Customize

Last saved on Sep 8, 2017

Slideshow video

Slideshow video

More themes

Manage your store's themes. Add and publish themes to change your online store's appearance.

Theme name	Last saved	
Minimal	-	Actions ▾ Customize

Modelling user journeys through Online Store #352

🔔 Open



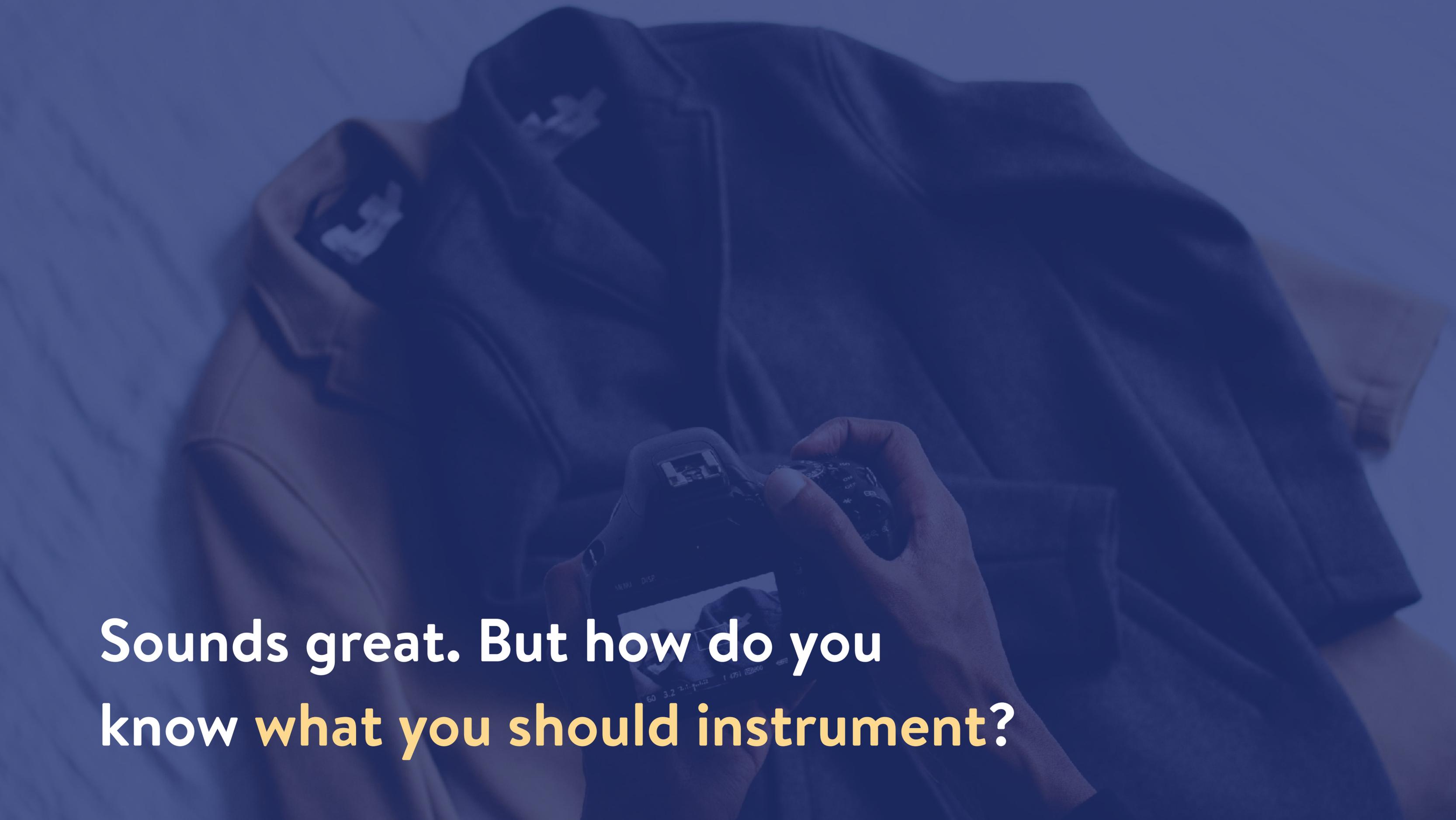
Developer



We have quite a few questions about user interactions with all things Online Store (themes, navigation, pages, blogs, etc...), but our sources of data are currently limited to MySQL, Clickstream, and what little data we log to Kafka).

Given our long term commitment to Online Store, it's worth spending some time setting up structured data collection to help us make better decisions.

Based on @ **Data analyst** 's feedback, here's a tentative list of action items:

A person is holding a camera, with their hands visible. The camera's LCD screen is turned on and displays a photograph of a person. The background is a blue jacket hanging on a rack. The entire scene is overlaid with a semi-transparent blue filter.

Sounds great. But how do you
know **what you should instrument?**



delshimy commented on Aug 24, 2017



ermgherd YES.

I can put together a draft to get us going, but we should make sure we have a trace of everyone's needs.

Can we **book a sesh and do this collaboratively** with post-its and shit? I think a lot of people will have a lot of really helpful views on this.



What are the broad segments of merchant profiles using the OS?

HOW MUCH TIME IS SPENT IN ANY GIVEN AREA?

Beyond editing sections, what are the most frequent actions merchants do on theme editor?

How many products do merchants have when they launch editor first time?

What is ~~the~~ distance between first and later use?

What is the min/max number of sections that should be in a preset?

what happens after a theme is duplicated?

how often many merchants different users can edit a single theme?

What activities are carried out different devices?

How can we gather certain types of data?

When/how often do merchants save in the editor?

How many people click on "publishing" and then exit the modal?

What settings are merchants using?

How are merchants editing code?

How are merchants interacting with the theme store?

How are merchants using online store pages?

What are merchants doing with menu inside the Editor?

What % of merchant use/don't use Google Analytics?

How are merchants using Online Store Docs?

What's the last thing they did before going to docs?

How can we segment merchants using the online store?

- Crack your business
- Find a product to sell
- Find a niche for your shop
- Buy domain
- Set up a page to validate demand
- Set up Analytics
- Find best product and apply
- Learn to sell
- competitive research
- Find a product to design or develop
- Over other features (access)
- Click on online store
- Click on explore free themes
- Go to free themes (ready)
- Explore collections, individual, all themes, state shared
- Subscription that works with business content
- Click on a theme
- View theme details
- Click "view demo"
- Select a product
- Click "install" so you can test it
- Click "go to theme manager"

What prompt a theme session?

- Editing Checklist
- Click checkout
- upload a logo
- Realize you can't see changes
- CREATE fake order
- go to cart
- click on checkout
- click gen settings
- click checkout
- SHARE STORE TO GET FEEDBACK
- go to settings, preferences, search to find your password
- Paste it in your email or write it down
- Click eye on or view your store
- copy / paste URL
- Send by email / SMS with password
- Get feedback from tested people

How do other parts of the Shopify store affect online store?

How does behaviour change over time?

- look at available app
- copy/paste a snippet
- go to help center
- go to theme doc
- go to experts
- click checkout
- click checkout
- click checkout
- Tweak dem settings
- upload a logo
- Realize you can't see changes
- create fake order
- go to cart
- click on checkout
- click gen settings
- click checkout

- test your store
- Duplicate theme to test changes
- test store on other devices
- SHARE STORE TO GET FEEDBACK
- go to settings, preferences, search to find your password
- paste it in your email or write it down
- Click eye on or view your store
- copy / paste URL
- Send by email / SMS with password
- Get feedback from tested people
- Modify the text
- Save changes
- Go back to previous tab
- REFRESH
- see new changes in preview

What happens around publishing?

- Launch Store
- publish as store theme
- Publish theme (or main)
- Remove Password
- SEO optimized
- Begin Ads
- Influencer Marketing
- Set up promo and discounts
- Personalize and target marketing

Market for store

	A	B	C	D	E	F	G
1	Colour code:	✓ = Measuring this could help with answering this question					
2	Can be measured						
3	Cannot be measured						
4	Out of scope						
5				How can we segment merchants using the online store?	How do newcomers to Shopify behave?	How does behaviour change over time?	What prompts a Theme Editor session?
	Merchant goals	Merchant actions					
6	Start your business	Have a business idea					
7		Do competitive research					
8		Source or create your product					
9		Choose a name for your business					
10		Buy a domain					
11		Set up social media accounts					
12		Research ecommerce platforms					
13		Go to www.shopify.com		✓	✓		
14		Sign up for Shopify		✓	✓		
15		Fill out the 10-field questions		✓	✓		
16	Land in Home		✓	✓			
17							
18	Create your brand	Search for inspiration					
19		Choose fonts/colours					
20		Create a logo					
21		Create brand assets					
22							
23	Find a theme	Find a Shopify Partner to design your store	Go to experts.shopify.com				
24			Browse through "Designers"				

Online Store events to instrument #368

🔔 Open



Developer

Part of [#352](#)

⚠️ This is very much a work in progress. It was put together by @ **Data analyst**, **Data analyst**, and **Developer** based on the **workshop report put together by @delshimy.**

Qualitative research informed **what to measure**, and **why**.
Quantitative data added a level of **breadth** the research could not.

And an understanding of the **respective strengths** of both helped forge an **effective collaboration**.

A person is holding a camera, taking a photograph of a blue jacket. The camera's LCD screen is visible, showing a preview of the jacket with a white focus box. The background is a solid blue color.

So how you actually **mix** methods?

Three mixed methods designs

1

Convergent
design

2

Explanatory
sequential
design

3

Exploratory
sequential
design

Convergent design



Study large numbers
of people



Captured detailed
perspectives
and complex phenomena

Explanatory sequential design

Discover patterns
for large numbers
of people

Enrich them with
details and context



Exploratory sequential design

Capture the stories
of few

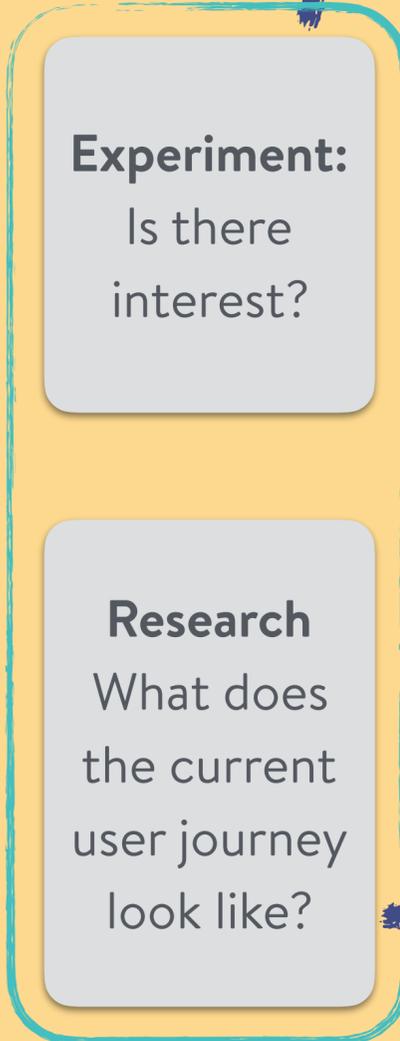


Draw conclusions
for large samples



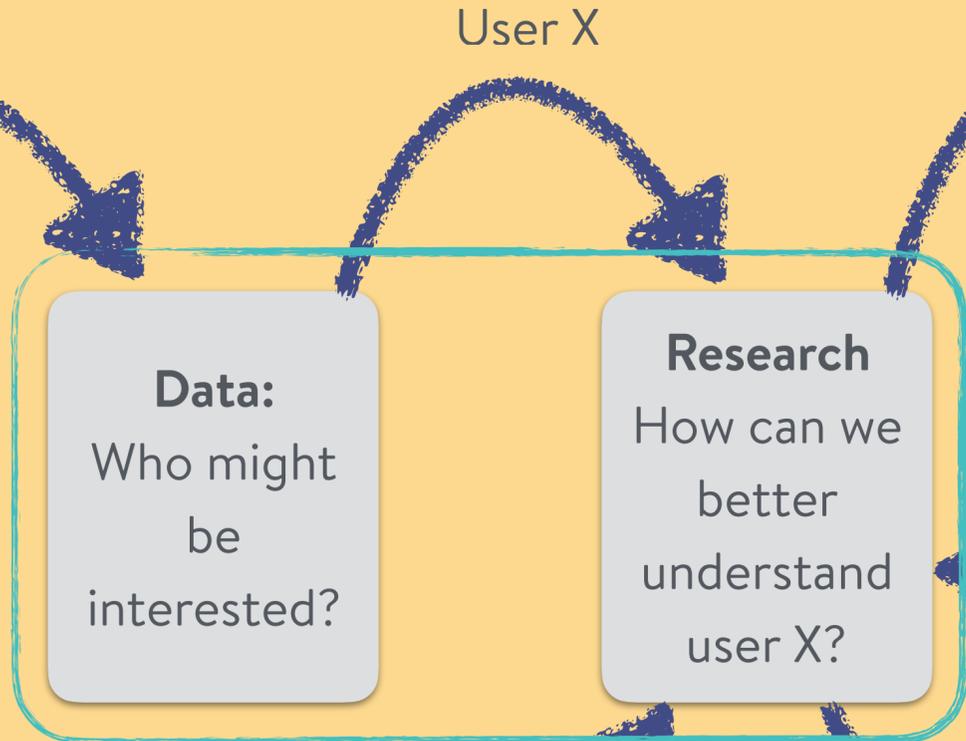
1

Convergent design



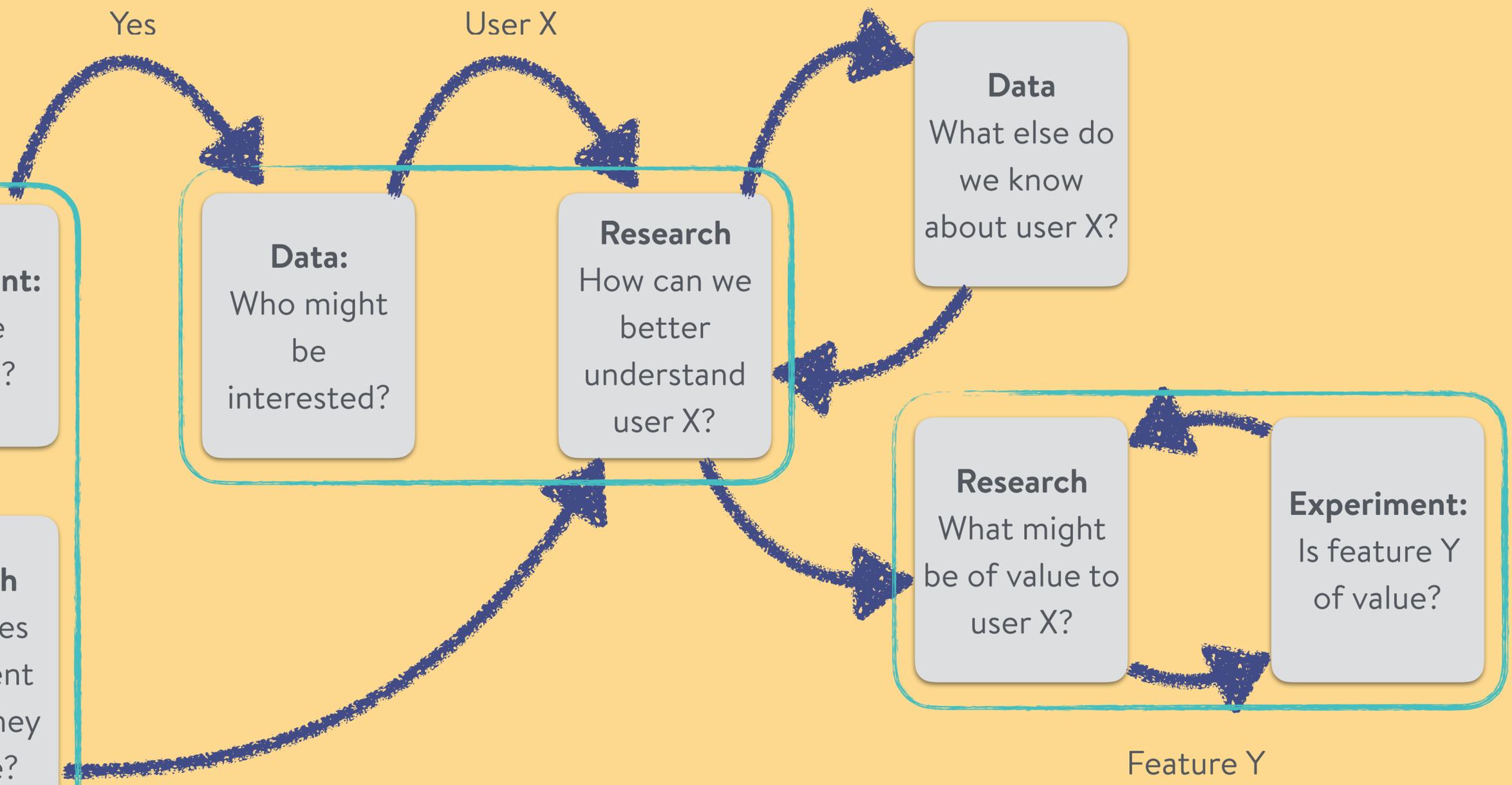
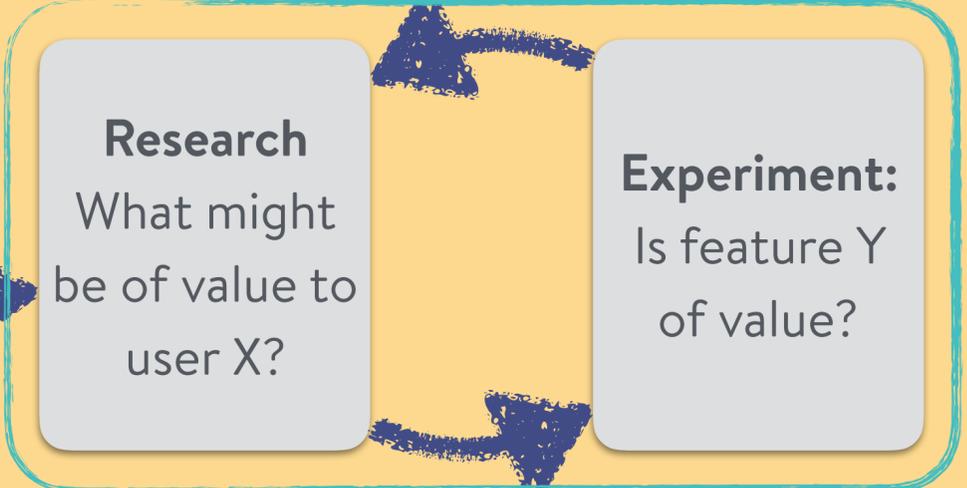
2

Explanatory sequential design



3

Exploratory sequential design



So leverage the strengths of each method...



Voices, stories,
complex phenomena,
details



Objectivity, efficiency
statistical trends,
relationships between data

... to go from anecdote to an insight





Thank you!

dalia@shopify.com