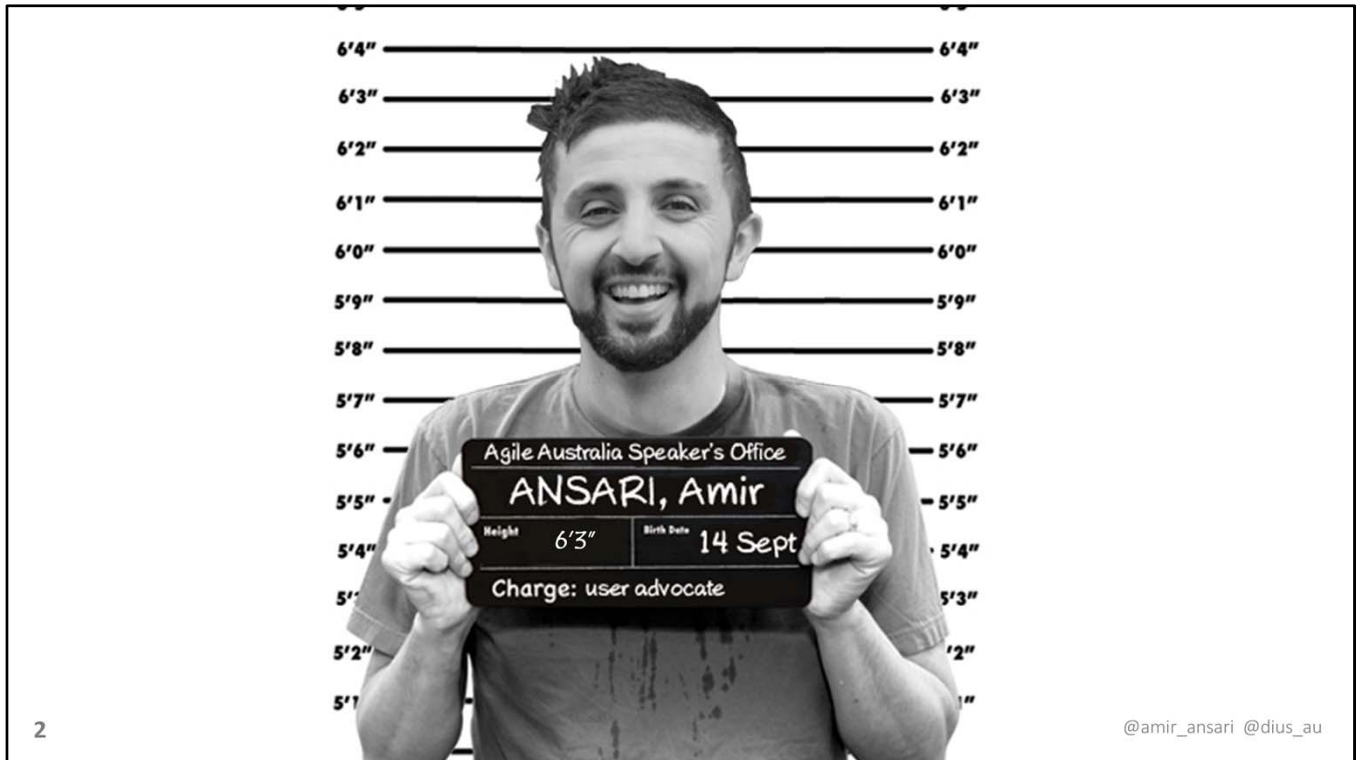




# UX: How to measure more than a gut feel

Amir Ansari – DiUS



15 years in the usability and UX space, most of it at the management level of some sort. Last stint before DiUS was 8 years at Stamford (Aus's largest specialised UX agency). I've done my 10000+ hours.



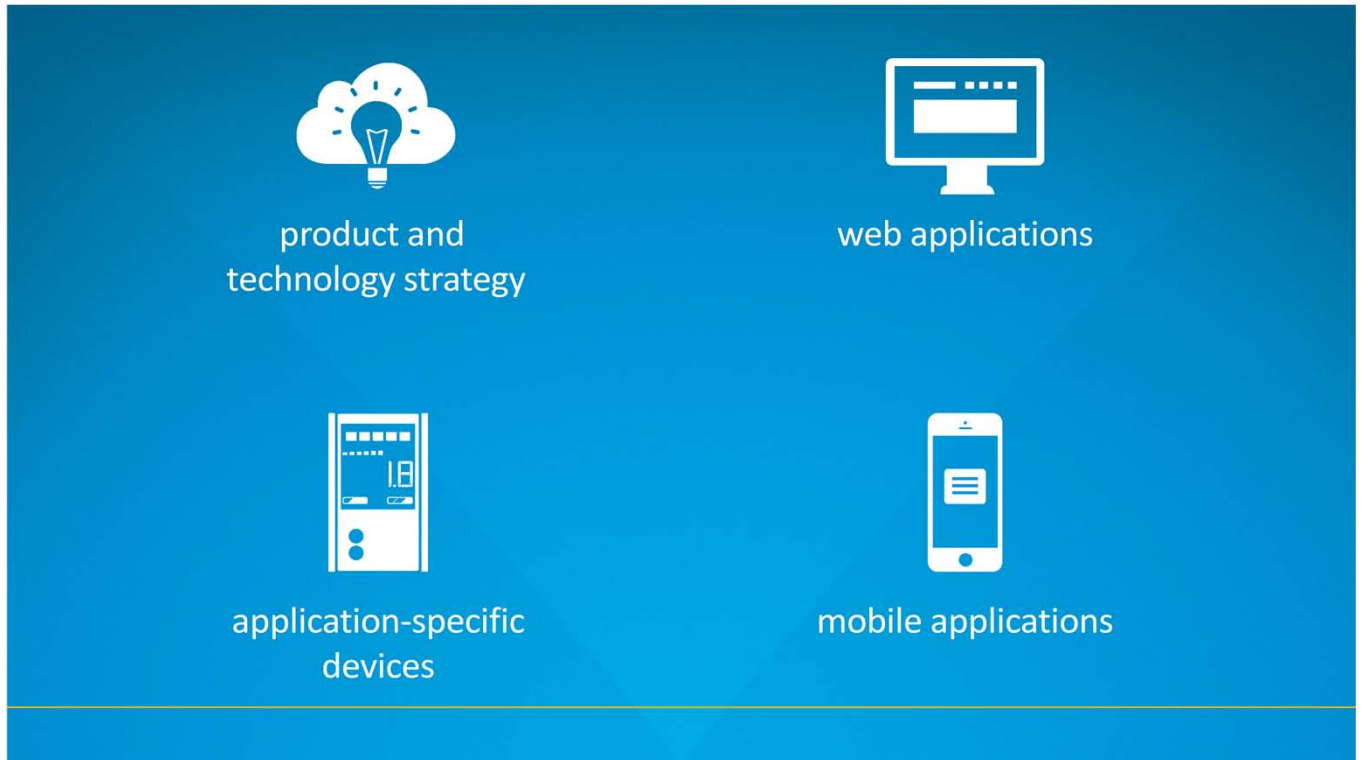
3

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Who knows DiUS?



Privately owned. 100 staff in both Melb & Syd. In May this year (2014) we turned 10 years old. SW engineers at heart, BA, hardware engineers, UX. Agile and nimble. People drive our culture to innovate. We believe in a strong and vibrant community. We sponsor conferences and meetups. Our employees give their time and skills to solve community problems.



Product and technology strategy: what product should be built, how to get it to market. We do this for our own products too. Web applications: QANTAS-Jetstar accommodation booking, Vodafone self-service. Application-specific devices: a fridge magnet for displaying in-home energy usage. Mobile applications: the iPad app for Australia Post Digital Mailbox.

What is UX?

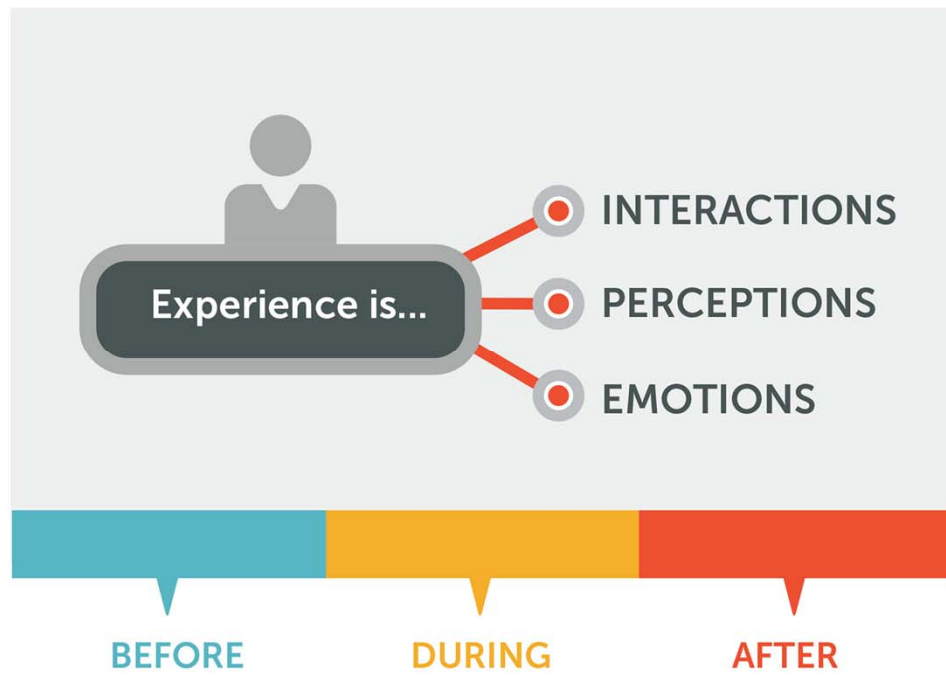


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Any user's out there? Hands up. Who can confidently define what UX means?

Study and Design of ALL aspects  
of a person's EXPERIENCE with a  
product or service





HOW UX WANTS TO BE SEEN	HOW UX IS TYPICALLY SEEN	<a href="http://www.uxisnotui.com/">http://www.uxisnotui.com/</a>
<ul style="list-style-type: none"><li>■ Field research</li><li>■ Face to face interviewing</li><li>■ Creation of user tests</li><li>■ Gathering and organizing statistics</li><li>■ Creating personas</li><li>■ Product design</li><li>■ Feature writing</li><li>■ Requirement writing</li><li>■ Graphic arts</li><li>■ Interaction design</li><li>■ Information architecture</li><li>■ Usability</li><li>■ Prototyping</li><li>■ Interface layout</li><li>■ Interface design</li><li>■ Visual design</li><li>■ Taxonomy creation</li><li>■ Terminology creation</li><li>■ Copywriting</li><li>■ Presenting and speaking</li><li>■ Working tightly with programmers</li><li>■ Brainstorm coordination</li><li>■ Design culture evangelism</li></ul>	<ul style="list-style-type: none"><li>■ Field research</li><li>■ Face to face interviewing</li><li>■ Creation of user tests</li><li>■ Gathering and organizing statistics</li><li>■ Creating personas</li><li>■ Product design</li><li>■ Feature writing</li><li>■ Requirement writing</li><li>■ Graphic arts</li><li>■ Interaction design</li><li>■ Information architecture</li><li>■ Usability</li><li>■ Prototyping</li><li>■ Interface layout</li><li>■ Interface design</li><li>■ Visual design</li><li>■ Taxonomy creation</li><li>■ Terminology creation</li><li>■ Copywriting</li><li>■ Presenting and speaking</li><li>■ Working tightly with programmers</li><li>■ Brainstorm coordination</li><li>■ Design culture evangelism</li></ul>	

9

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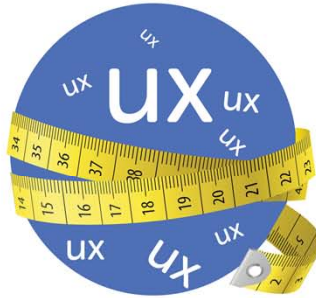
Firstly, most people still don't know the breadth of user experience skillset (uxisnotui).

Alternate designs

Likelihood to recommend

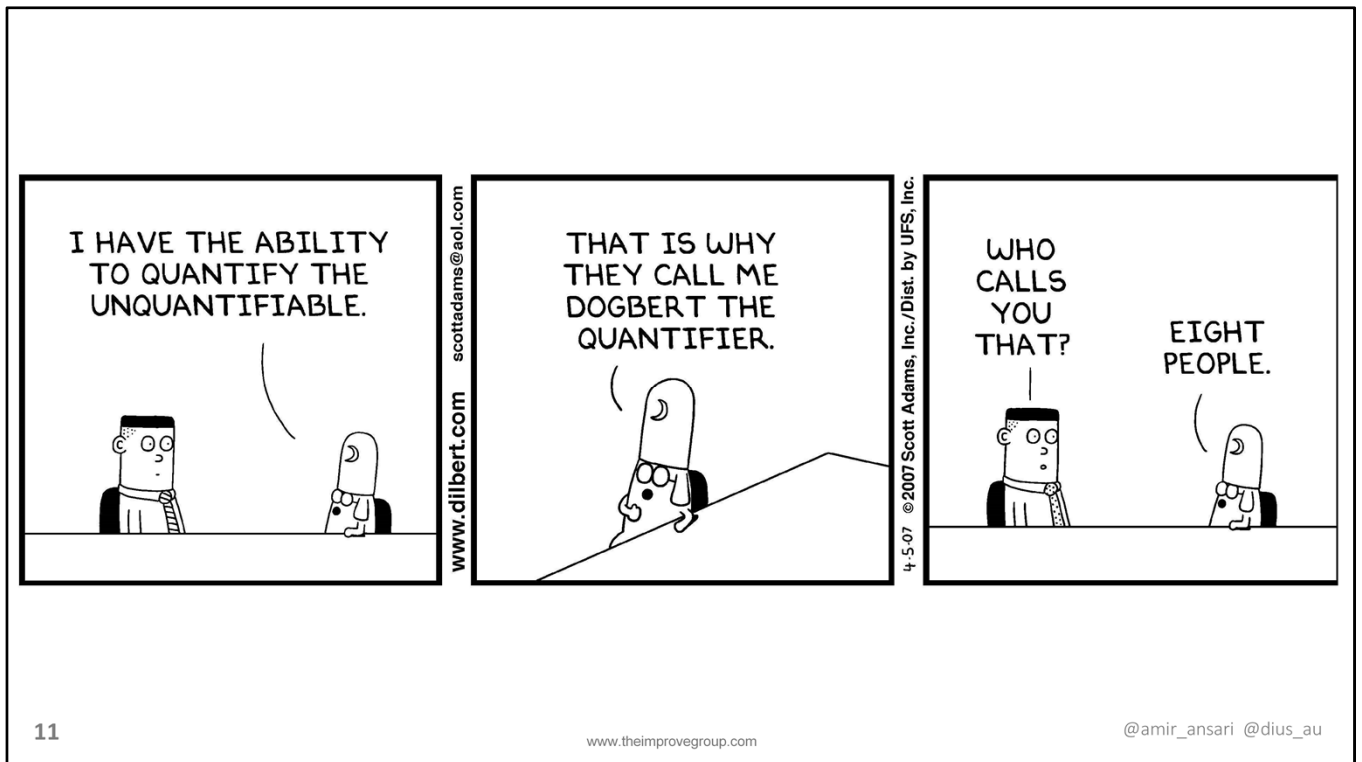
Current behaviours

Customer loyalty

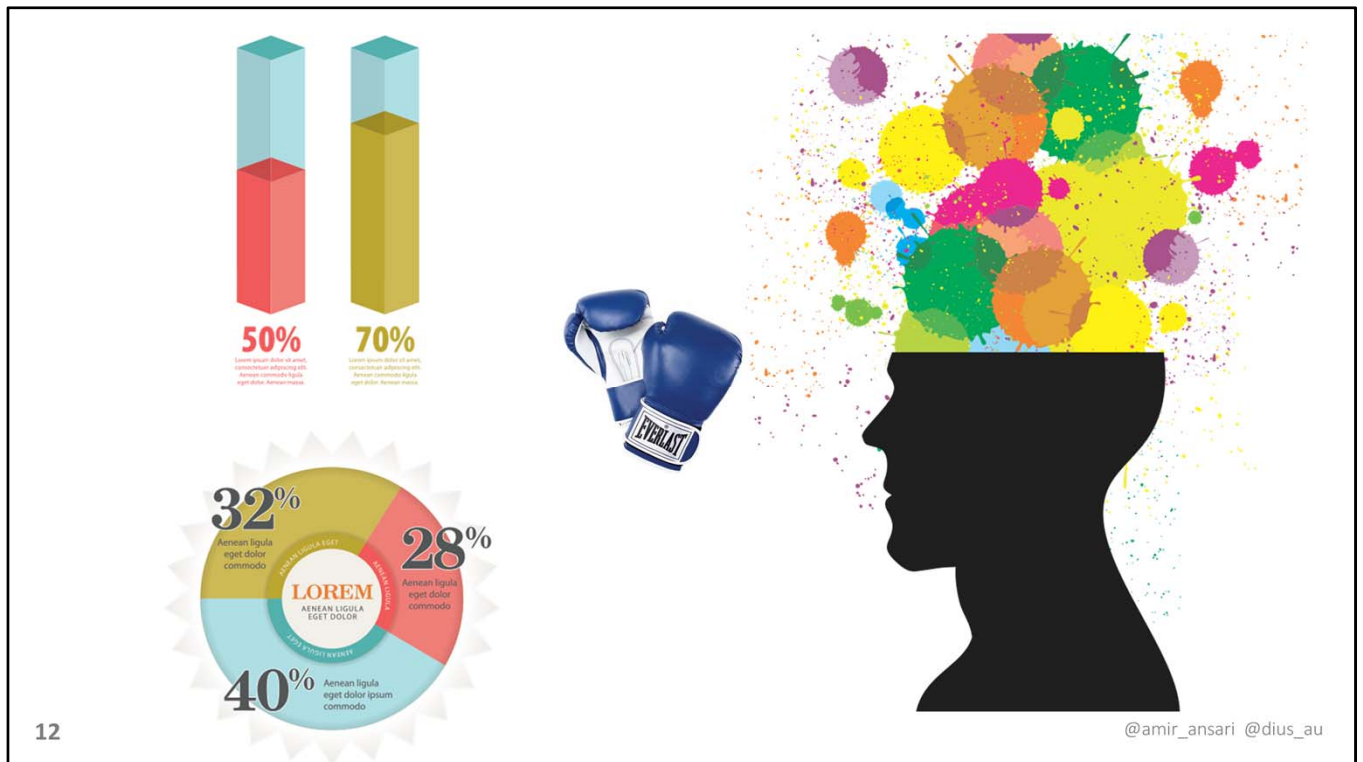


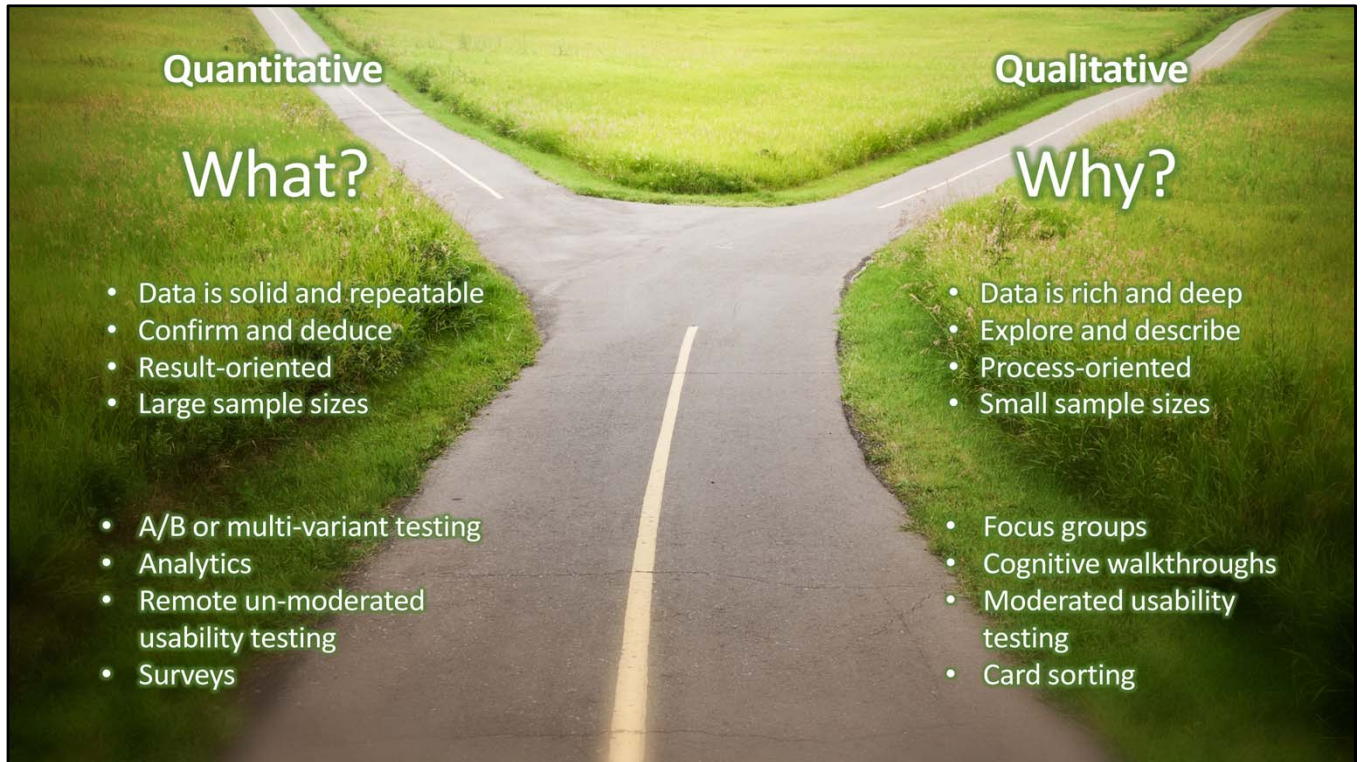
- Pain points
- Mental model
- Right direction
- Usability

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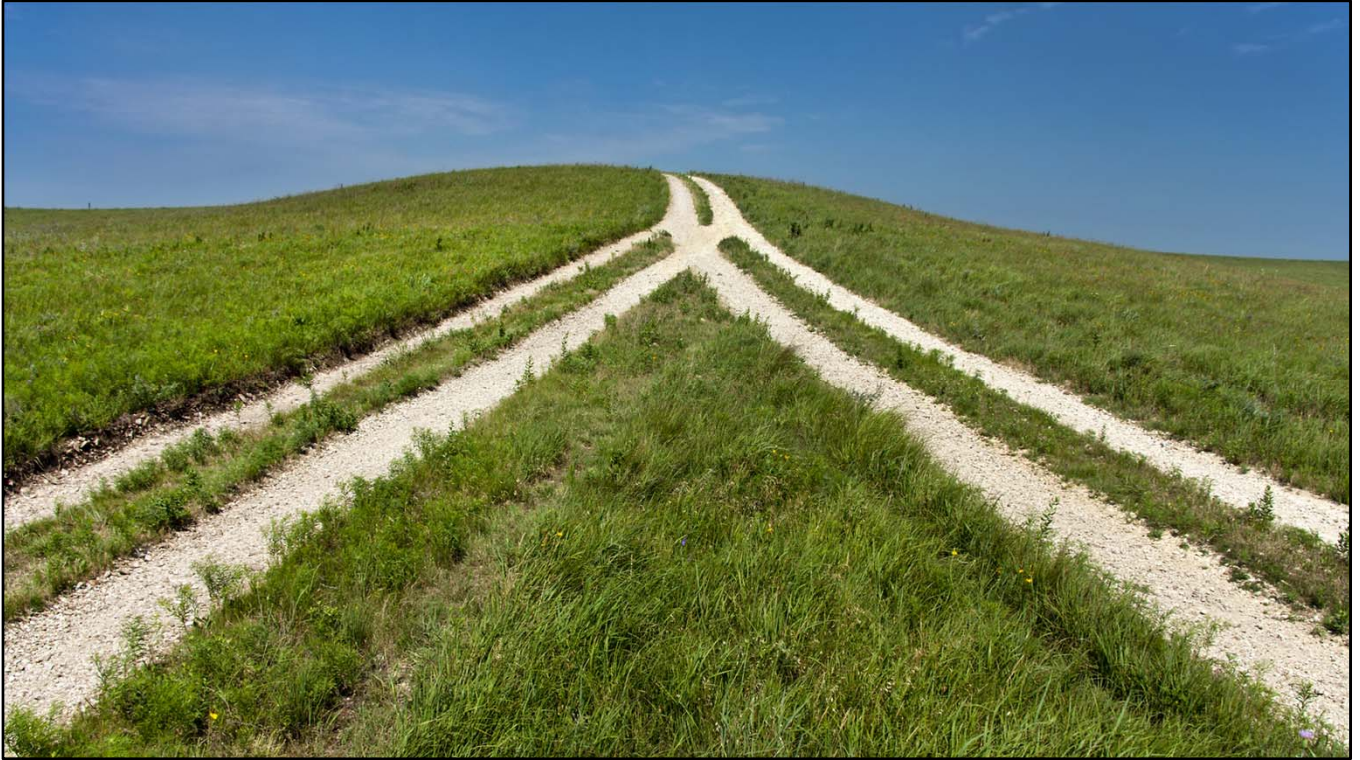
Sometimes confusion between qualitative and quantitative.





Two approaches to measuring UX.







As different as the two approaches are, we both need each other – so let's all be friends and hug.

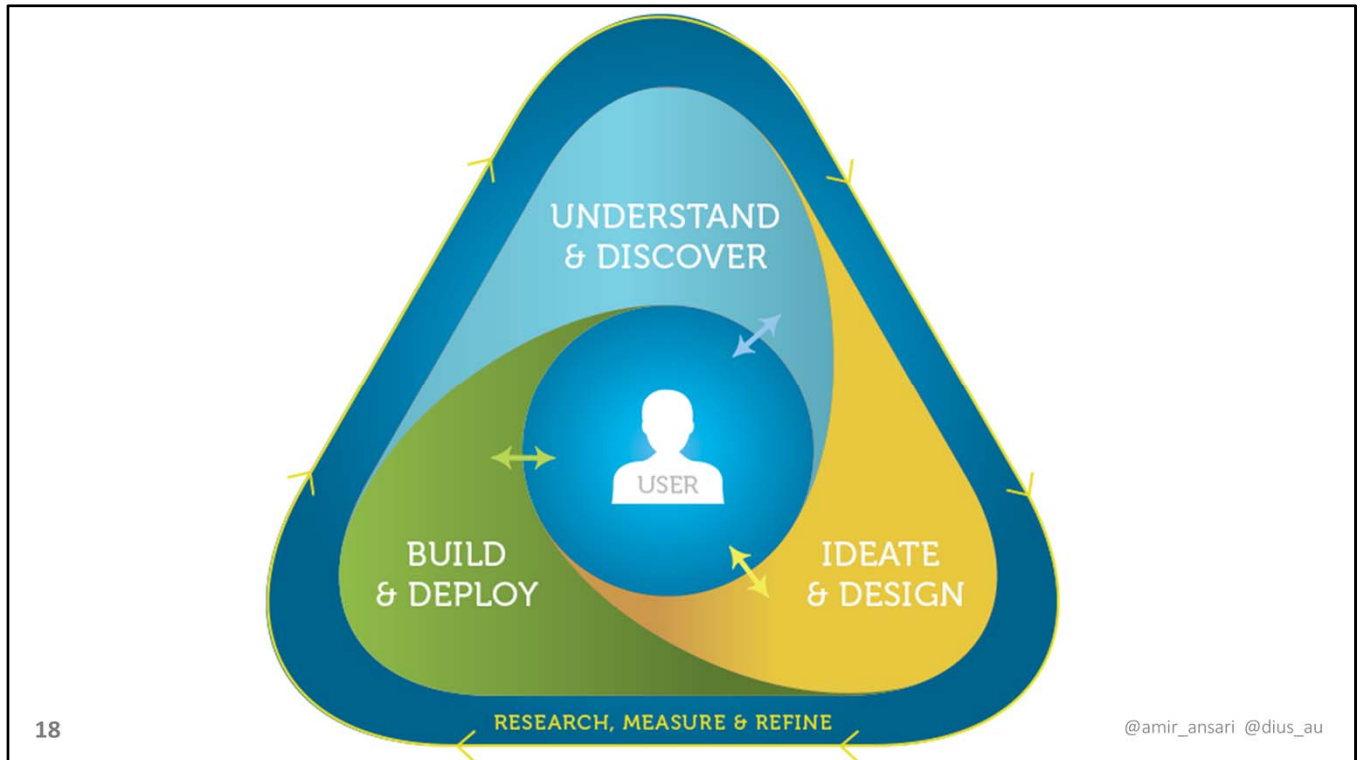


My talk - So why the title?





I'm obsessed with **measuring**, **learning** and **iterating** when it comes to UX.



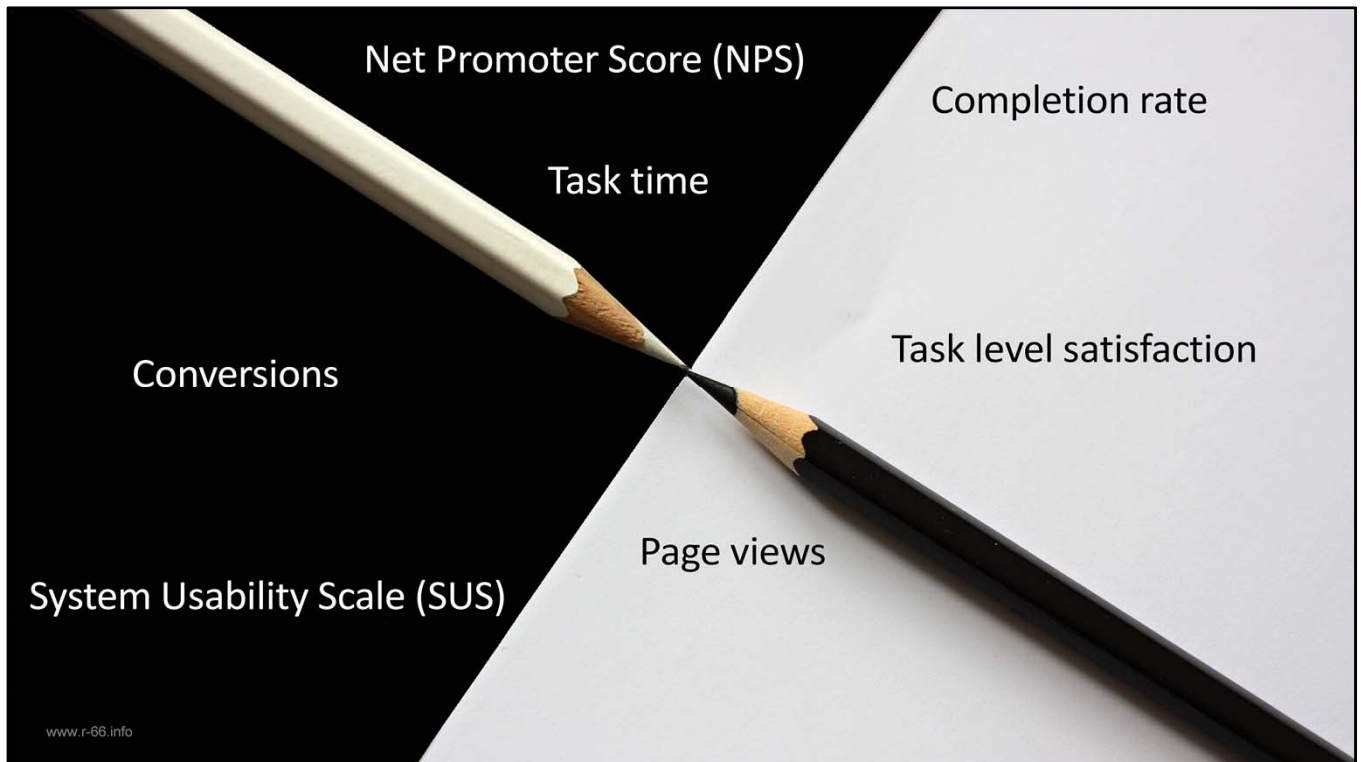
UX has traditionally been waterfall. With Agile and Lean, Lean UX has taken traction. Build, measure, learn is very appropriate to the UX discipline.



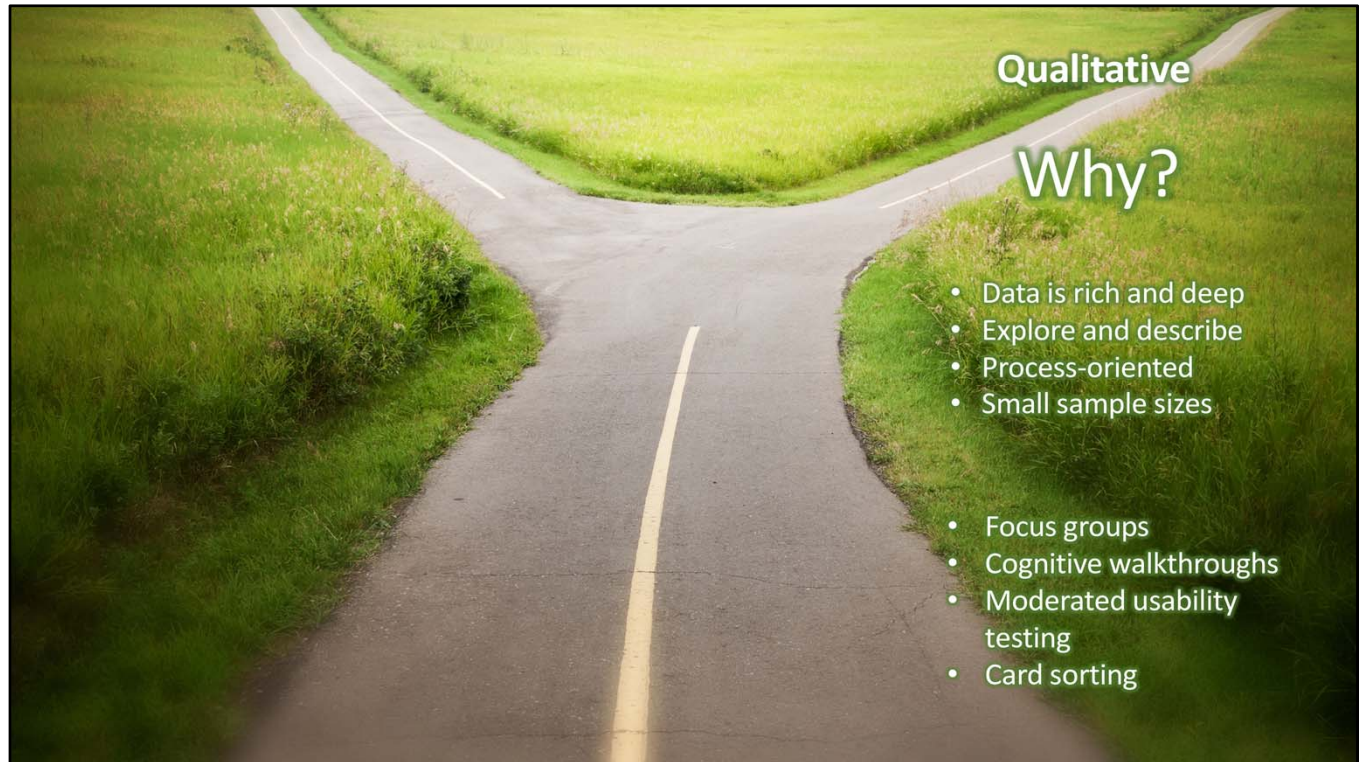
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I'm going to talk about some the harder measurements – some of the qualitative techniques and prove how the can provide value through some example case studies. I'm a bit tired of having to sell the importance of UX... Not so much that's it's important, but more that it's not fluffy, design only or that it's not meant for measuring and driving/impacting decisions. It's not ALL about SAMPLE SIZE. IT's qualitative – about the Why, not the what! Most recently I've been trying to bring the Research and Insights team of one of my clients on board. Still get the good old argument of 'why Such a small sample size? And that it's not significant. It's not about sample size and you can still measure UX and give great value back to the project.



UX metrics are relatively easy and black and white, so I won't be covering them today. You can google and find out all about them.



Qualitative

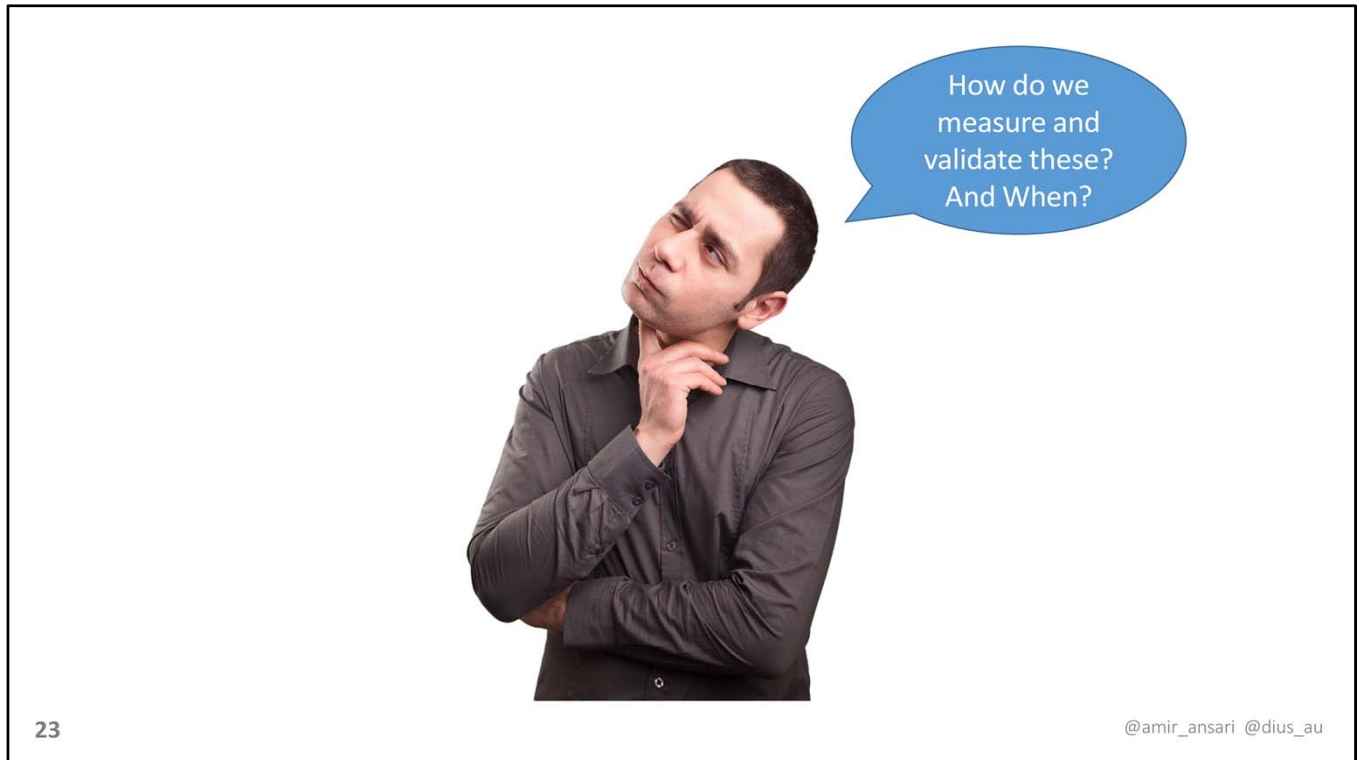
Why?

- Data is rich and deep
- Explore and describe
- Process-oriented
- Small sample sizes
- Focus groups
- Cognitive walkthroughs
- Moderated usability testing
- Card sorting

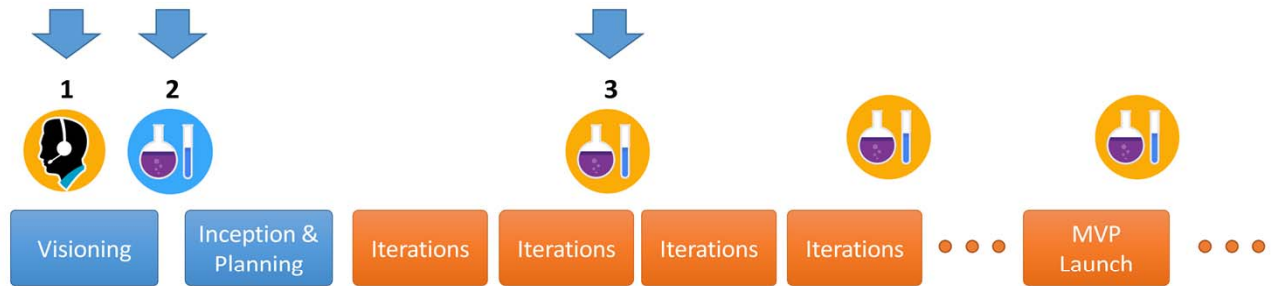
In this presentation, I'm going to cover the qualitative aspects.







So you're probably thinking to yourself: what does Qualitative measurement look like in your agile project?





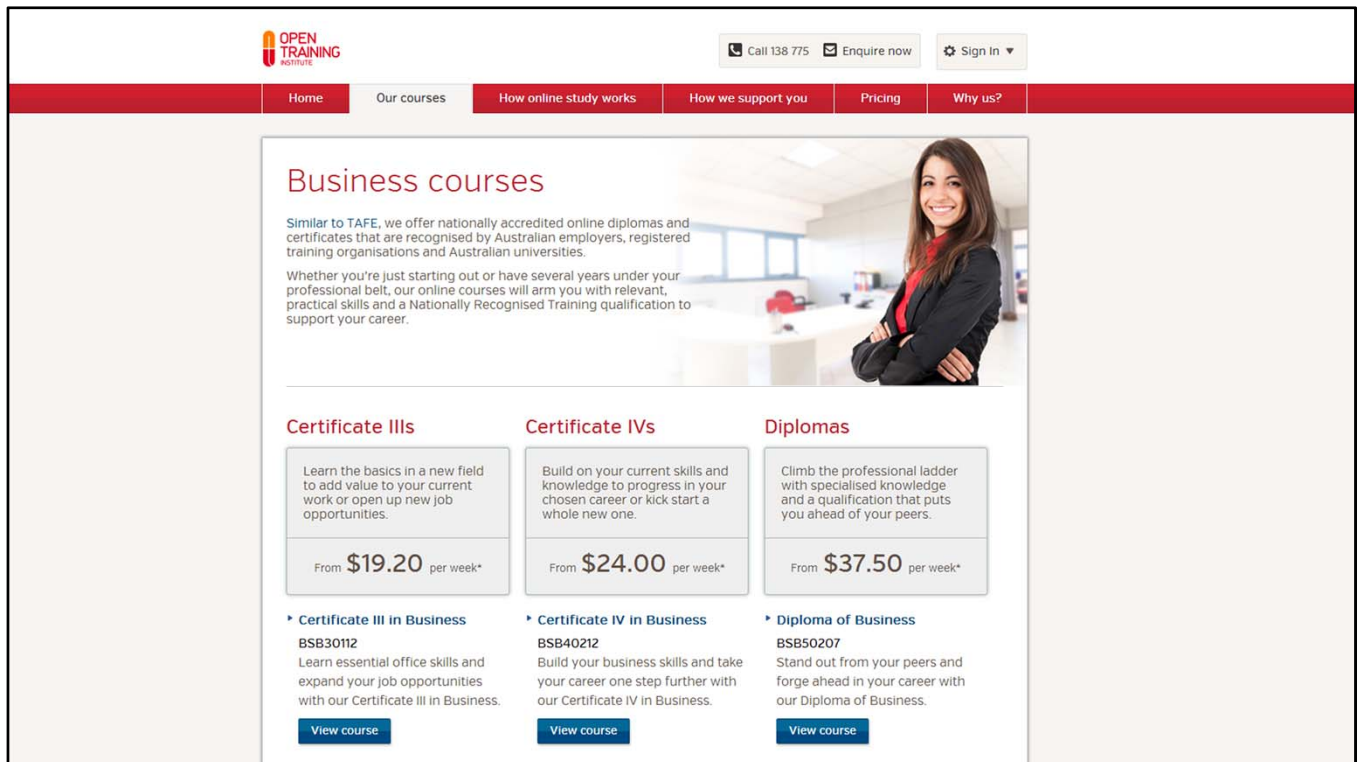


When you don't have access to users. I used this when working for an enterprise startup – OTI.



*The sooner we can find which features are worth investing in, the sooner we can focus our limited resources on the best solution to our business problems.*

Jeff Gothelf – LEAN UX



Enterprise startup using Lean Startup approach.





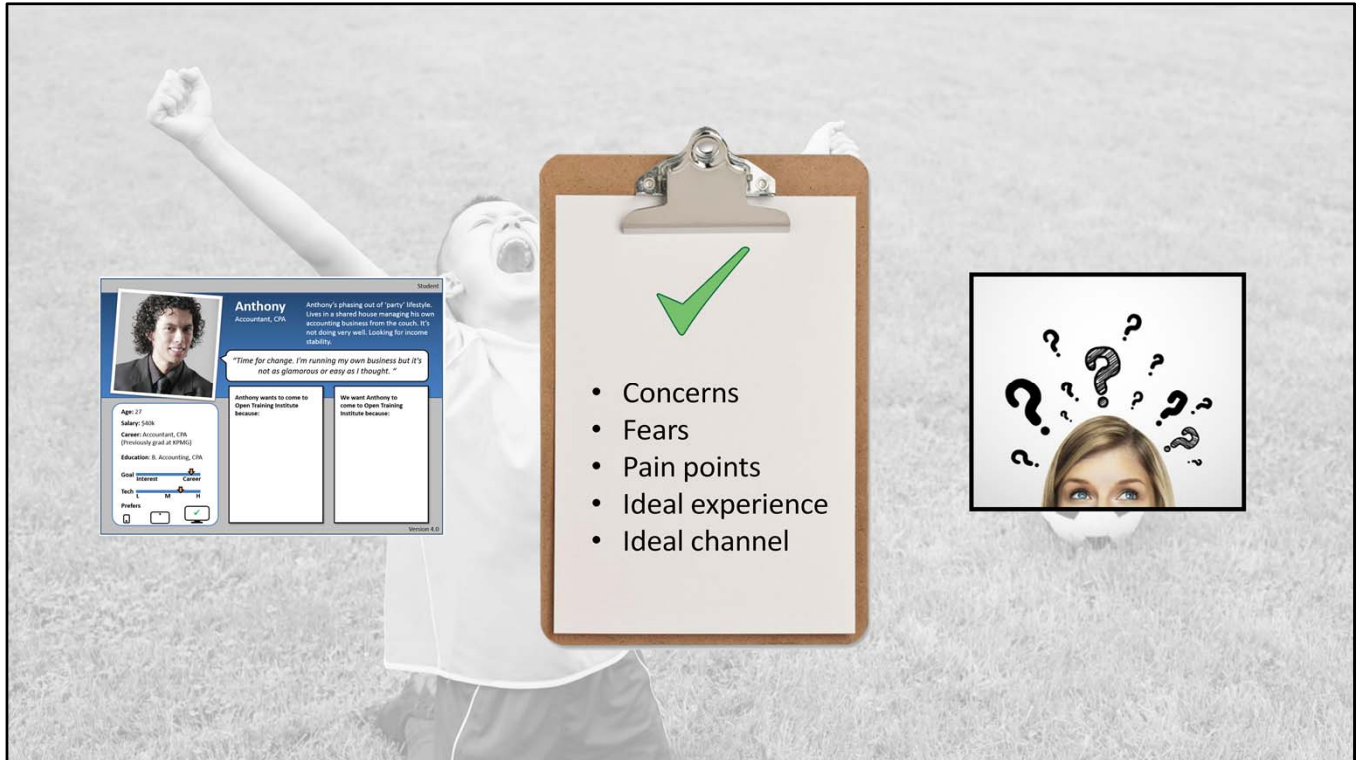
**30 – 60 mins**



**3**



**One on one interviews**



Next best thing to users. Managed to capture and count the number of times the following themes occurred: Motivations and expectations to study; Concerns/fears/barriers/pain points; Ideal experience and channel. Outcome: Personas; Feature sets; Hypotheses.

- Stakeholders observing
- Call centre Staff felt engaged and included
- More insights than we had anticipated

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What worked well.

- Some had not come prepared
- Stakeholders wanted to ask 'speculative questions'



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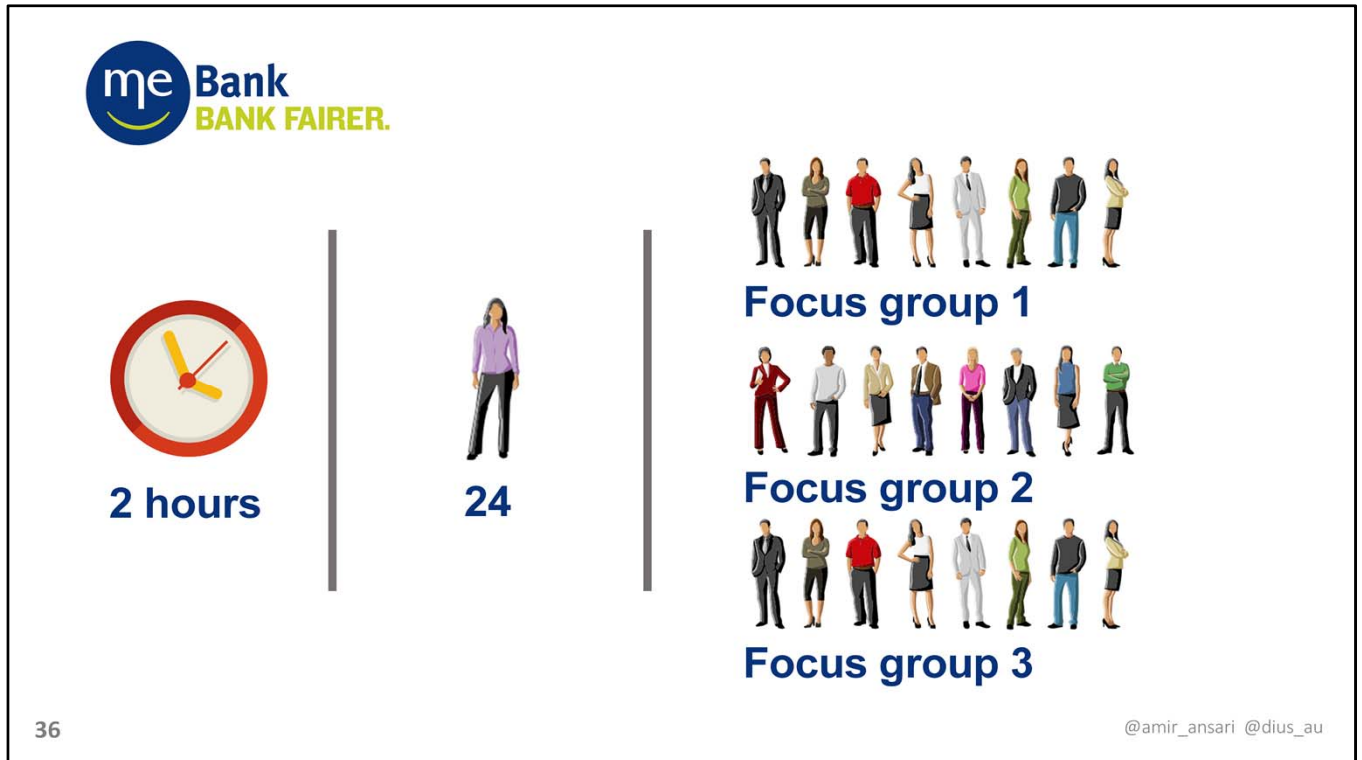
Watch out for anecdotes. Plural of anecdote is anecdotes, not data!











Qualitative, small size but to go deep and understand sentiments, reasons for behaviours and perceptions etc. As we had planned to run experiments throughout the project, keeping it lean and light was important.



Things to look out for when running group-based sessions: poor facilitation, group think. In quant, each data is seen as being independent. In a focus group, the entire session = 1 data point, due to Group Think effect. We split users up and do activities to increase our data points.



Outcomes.

- Stakeholders buy-in through observation
- Validate assumptions
- Client was anonymous



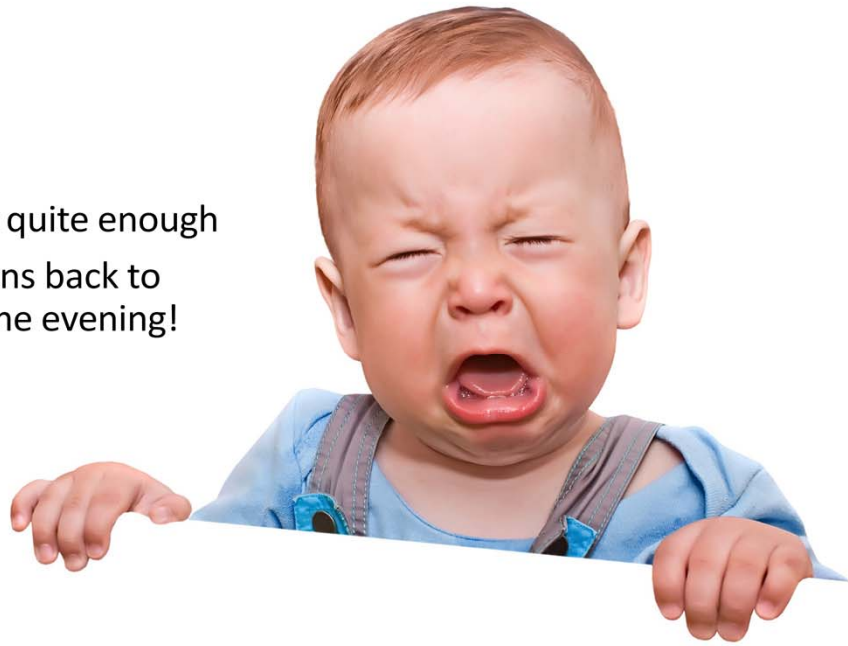
39

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Stakeholders got total buy-in – no barriers to convince re findings.



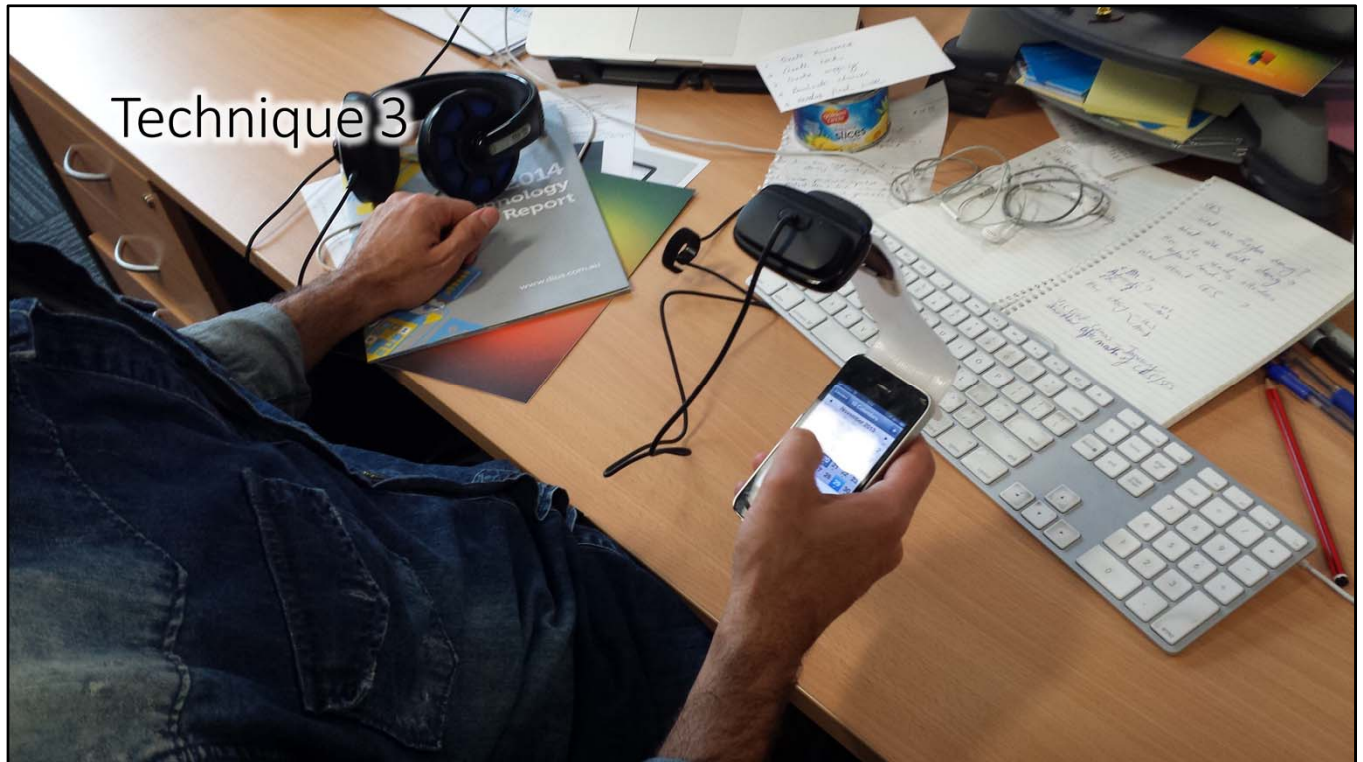
- 2 hours wasn't quite enough
- Running sessions back to back in the same evening!



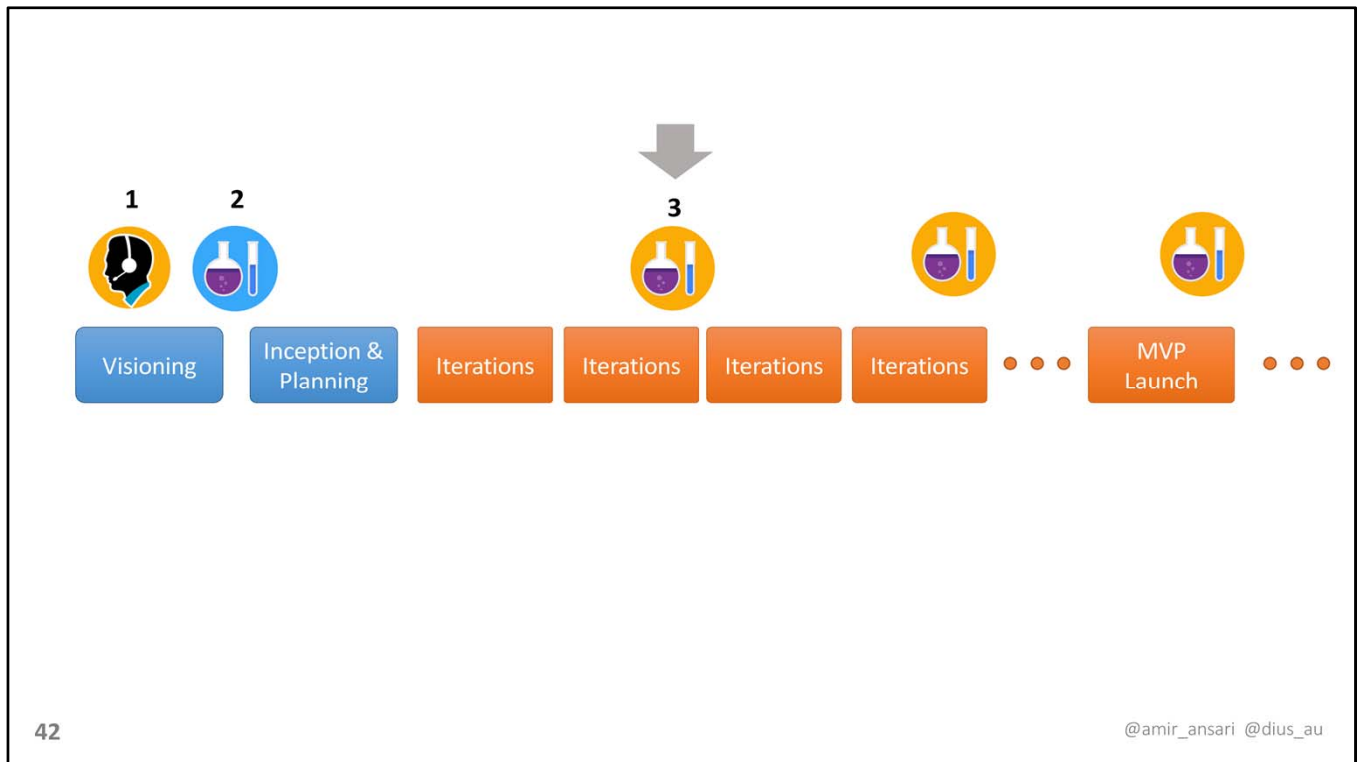
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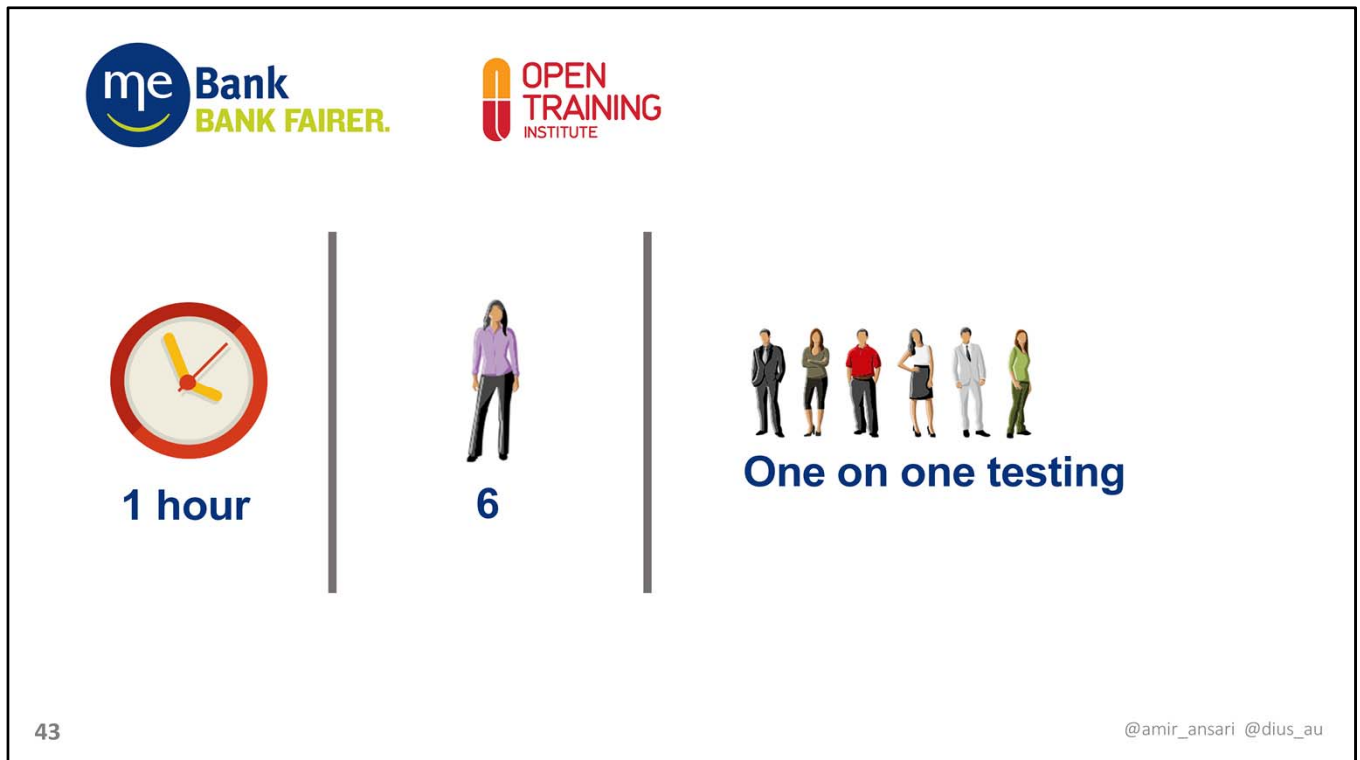
What didn't work so well.





Moderated usability testing.





As we had planned to run experiments throughout the project, keeping it lean and light was important.

http://www.nngroup.com/articles/how-many-test-users/

**NN/g Nielsen Norman Group**  
Evidence-Based User Experience Research, Training, and Consulting

HOME REPORTS TRAINING CONSULTING **ARTICLES** ABOUT NN/G

**Topics**  
E-commerce  
Intranets

**How Many Test Users in a Usability Study?**  
by JAKOB NIELSEN on June 4, 2012  
Topics: User Testing

This answer has been the same since I started promoting "[discount usability engineering](#)" in 1989. Doesn't matter whether you test websites, intranets, PC applications, or mobile apps. With **5 users**, you almost always get close to user testing's maximum benefit-cost ratio.

**See all topics...**

**Author**  
Jakob Nielsen  
Don Norman  
Bruce "Tog" Tognazzini  
**See all authors...**

**Recent Articles**

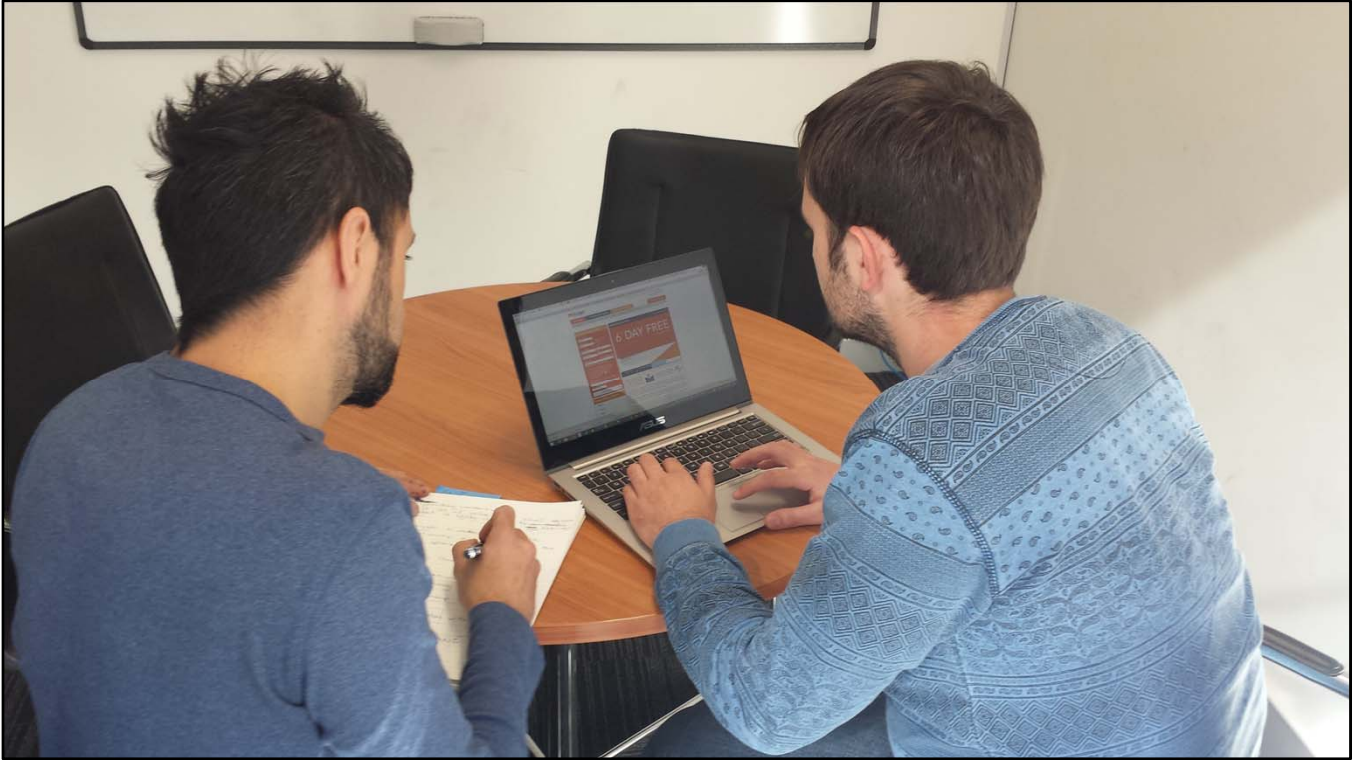
If you want a single number, the answer is simple: [test 5 users in a usability study](#). This lets you find almost as many usability problems as you'd find using many more test participants.

This answer has been the same since I started promoting "[discount usability engineering](#)" in 1989. Doesn't matter whether you test websites, intranets, PC applications, or mobile apps. With **5 users**, you almost always get close to user testing's maximum benefit-cost ratio.

As with any human factors issue, however, there are **exceptions**:

- [Quantitative studies](#) (aiming at statistics, not insights): Test at least **20** users to get statistically significant numbers; tight confidence intervals require even more users.
- [Card sorting](#): Test at least **15** users.
- [Eye-tracking](#): Test **20** users if you want stable heatmaps.

How many know about the Nielsen Norman Group? Godfathers of usability and UX, especially when it comes to research and field studies.





**Lean Stack framework by Spark 59**  
**([www.spark59.com/leanstack](http://www.spark59.com/leanstack))**

Title: Experiment 2: XXX		Author:	Created:																
<b>1. Background</b> <ul style="list-style-type: none"><li>• Previous experiment taught us ...</li><li>• We want to find out...</li><li>• We want to test our solutions...</li></ul>	<b>4. Results</b> <table border="1"><thead><tr><th></th><th>User 1</th><th>User 2</th><th>User 3 etc.</th></tr></thead><tbody><tr><td>Hypothesis 1</td><td>✗</td><td>✓</td><td>✓</td></tr><tr><td>Hypothesis 2</td><td>✗</td><td>✓</td><td></td></tr><tr><td>Etc.</td><td>✓</td><td>✗</td><td>✓</td></tr></tbody></table>				User 1	User 2	User 3 etc.	Hypothesis 1	✗	✓	✓	Hypothesis 2	✗	✓		Etc.	✓	✗	✓
	User 1	User 2	User 3 etc.																
Hypothesis 1	✗	✓	✓																
Hypothesis 2	✗	✓																	
Etc.	✓	✗	✓																
<b>2. Falsifiable Hypotheses</b> <ol style="list-style-type: none"><li>1. That majority of users think X</li><li>2. That majority of users perform Y</li><li>3. That majority of users need Z</li><li>4. Etc.</li></ol>	<b>5. Validated Learning</b> <ol style="list-style-type: none"><li>1. We can proceed with X</li><li>2. We need to tweak Y</li><li>3. We need to pivot and get rid of Z</li></ol>																		
<b>3. Details</b> <ul style="list-style-type: none"><li>• What feature or assumption to test</li><li>• What questions to ask</li><li>• How well does X perform</li><li>• Etc.</li></ul>	<b>6. Next Actions</b> <ul style="list-style-type: none"><li>• What to test next</li><li>• What hypothesis do we want to validate</li></ul>																		

Lean experiment report.



Title: Experiment 2: XXX

Author:

Created:

1. Background

- From focus groups, it was clear that one barrier with other online providers has been the lack of **trainer support**

2. Falsifiable Hypotheses

- That providing access to trainers in the classroom and telling students upfront about trainer availability will eliminate barriers and increase conversion

3. Details

- Show users the marketing pages that talk about trainer availability
- Show users the classroom with the trainer being online

4. Results

	User 1	User 2	User 3 etc.
Hypothesis 1	✗	✓	✓
Hypothesis 2	✗	✓	
Etc.	✓	✗	✓

5. Validated Learning

- Users indeed look for trainer availability and are comforted by knowing OTI provides access to them

6. Next Actions

- Test something else! ; )

Lean experiment report.

## The Rapid Debrief

[bit.ly/rapid-debrief](http://bit.ly/rapid-debrief)



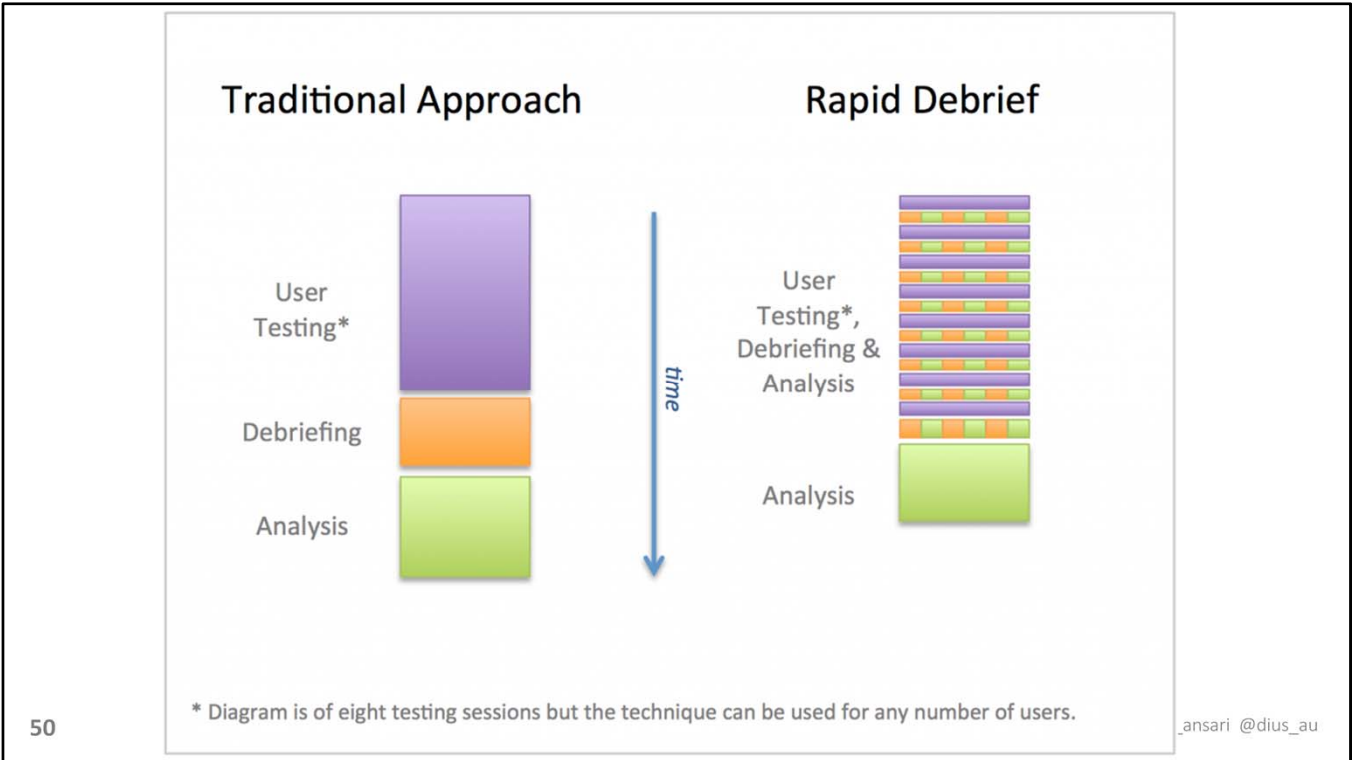
By Leanne Tilmanis

March 17, 2014

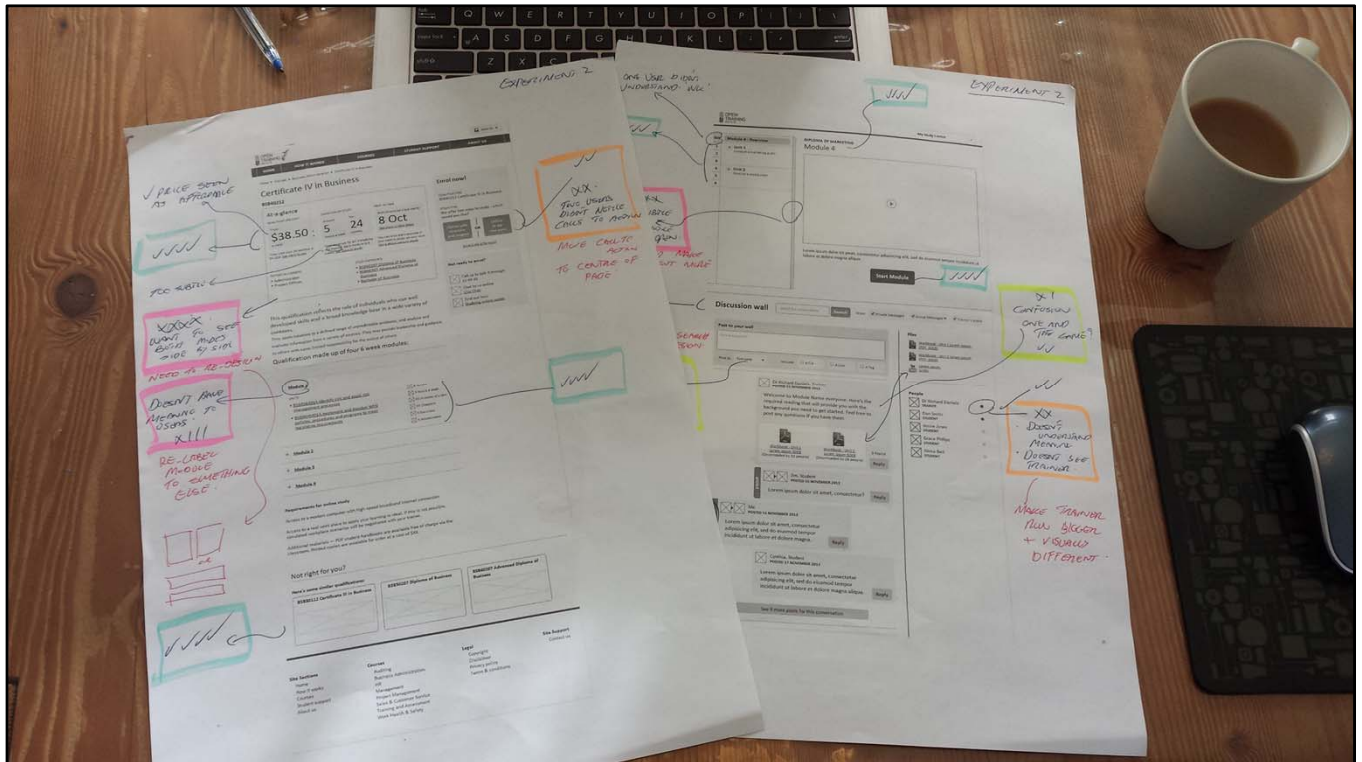
There is nothing more powerful than sitting a user down in front of an interface and asking them to try and achieve a task. This is why usability testing (usually conducted on five to ten users) is an essential technique for user-centred design.

If you've ever conducted usability tests you'll know that the easy part is watching the users. They practically tell you what needs to change with your interface as they 'think aloud' while completing tasks. The hard part is remembering all the little gems you observe during the test sessions! Once all the test sessions are over, you need to work out which issues are the most important (or affect the most users), and then prioritise the issues worth focusing attention on. This can be a challenge when you've just sat through a full day of testing.

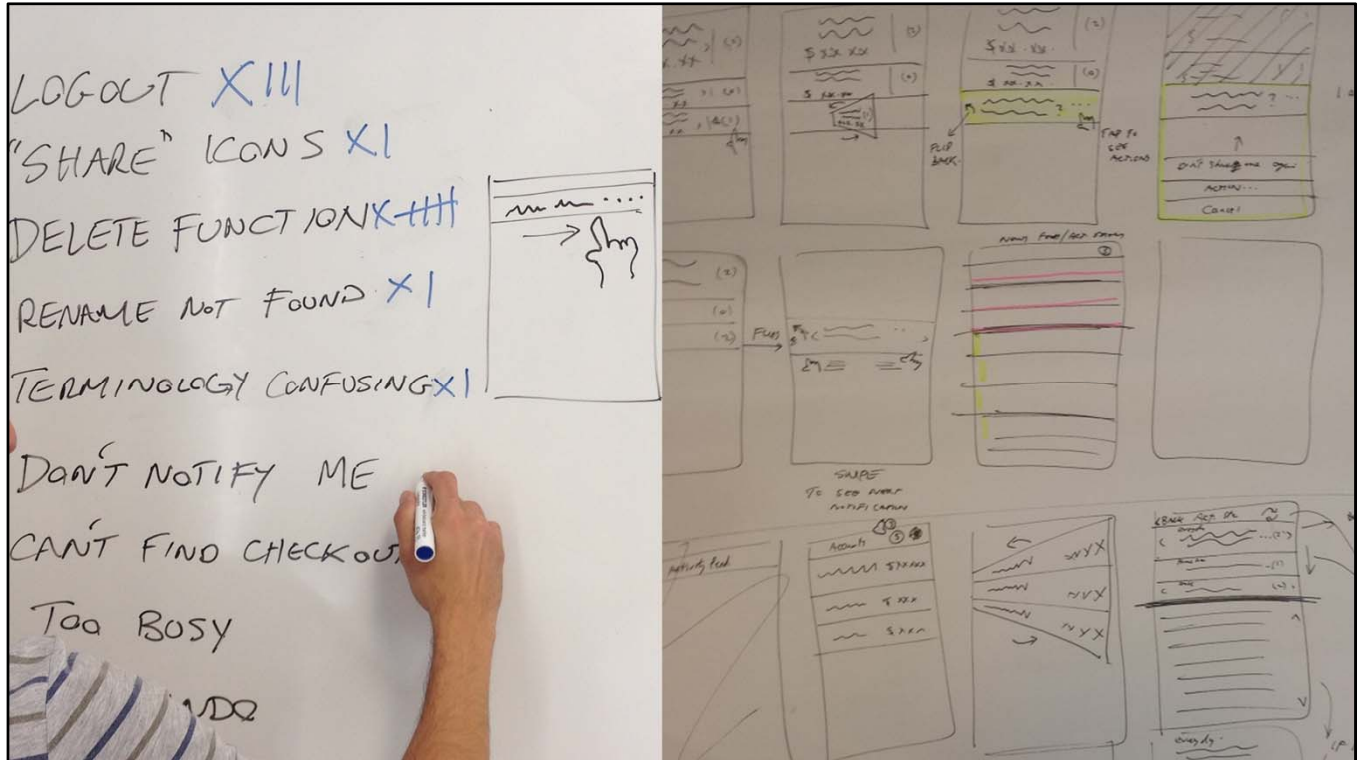
To make the most out of our usability test sessions we use a method we like to call 'the rapid debrief'.




\_ansari @dius\_au



Results annotated, tallied up, prioritised, recommendations made and fed back at the end of that very day.





Supported online study

Study whenever you want in our innovative [online study centre](#) supported by a dedicated trainer.

Take a peek at how it works

More about our trainers

2. Payment details

How would you like to pay?

Up-front

Just \$1,691.50 after the 15% discount

Payment by credit card only

Fortnightly payments over 24 months

\$38.30 fortnightly - total amount paid \$1,990




Payment by credit card or bank account

Weekly payments over 24 months

\$19.20 weekly - total amount paid \$1,990

Payment by credit card or bank account

Two ways to study this course

	<div>1 At your own pace</div> <div>Online learning at a pace that suits you</div>	<div>2 Structured</div> <div>Guided learning supported by a trainer</div>
 Course duration	Up to 2 years part-time	6 months full-time
 Weekly hours	4 - 5 hours based on 2 years	15 - 20 hours based on 6 months
 Start date	Start today or anytime	28 July 2014 <a href="#">See future start dates</a>
	<div>Start</div> <div>At your own pace ▶</div>	<div>Start</div> <div>Structured ▶</div>

Online classroom was changed to Online study centre. Seeing two modes side by side preferred over tab. Seeing full course price was still important.



- Speed of testing
- The feedback loop
- Stakeholder buy-in (live stream)
- Rapid de-brief
- One designs and one tests

54



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What worked well.

- Refinements sometimes not subtle enough
- Design ping pong



55

What didn't work so well.



56

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Hand's up if you're a product owner, project manager, responsible for the project's budget?



So how much do these activities cost? UX REDUCES COST, INCREASES PRODUCTIVITY, SALES, BRAND LOYALTY AND ADVOCACY. Just to name a few. Research was done by Forrester Research that suggested the cost of fixing code was 10 times the cost of the design activities if done upfront , and up to 100 x when the product was launched.

If doing this internally...

### Focus groups



16 X \$200 = \$3,200

3 FTEs X \$375\* = \$1,125

**\$4,325**

### One on one testing



5 X \$160 = \$800

2 FTEs X \$375\* = \$750

**\$1,550**

58 \* Daily gross equivalent based on a gross annual salary of \$90k

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We have trusted partners / market research recruiters that find our users from a large database.



PM happy.





If too expensive, to Guerrilla Usability Testing. Shorter, often 15 – 30 mins. Few features tested. Often, on the road or at the participant's location, and with some training developers can do it (Steve Krug's book – This is not Rocket Surgery). Book by Steve Krug – Rocket Surgery Made Easy provides tips on how anybody can conduct usability testing.

# You can quantify qualitative data!

[bit.ly/quantifying-qualitative](http://bit.ly/quantifying-qualitative)

## 5 Examples Of Quantifying Qualitative Data

Jeff Sauro • January 24, 2012



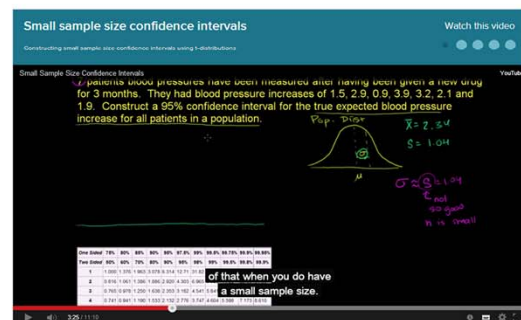
There is an erroneous perception in the UX community that if your method is qualitative, then numbers somehow cannot or should not be used.

158  
Tweet

These perceptions come from an informal practice that stems back to the beginning of the usability profession and continues through training programs and some UX experts.

Unfortunately, this perception is misguided and can prevent perfectly good data from being used to

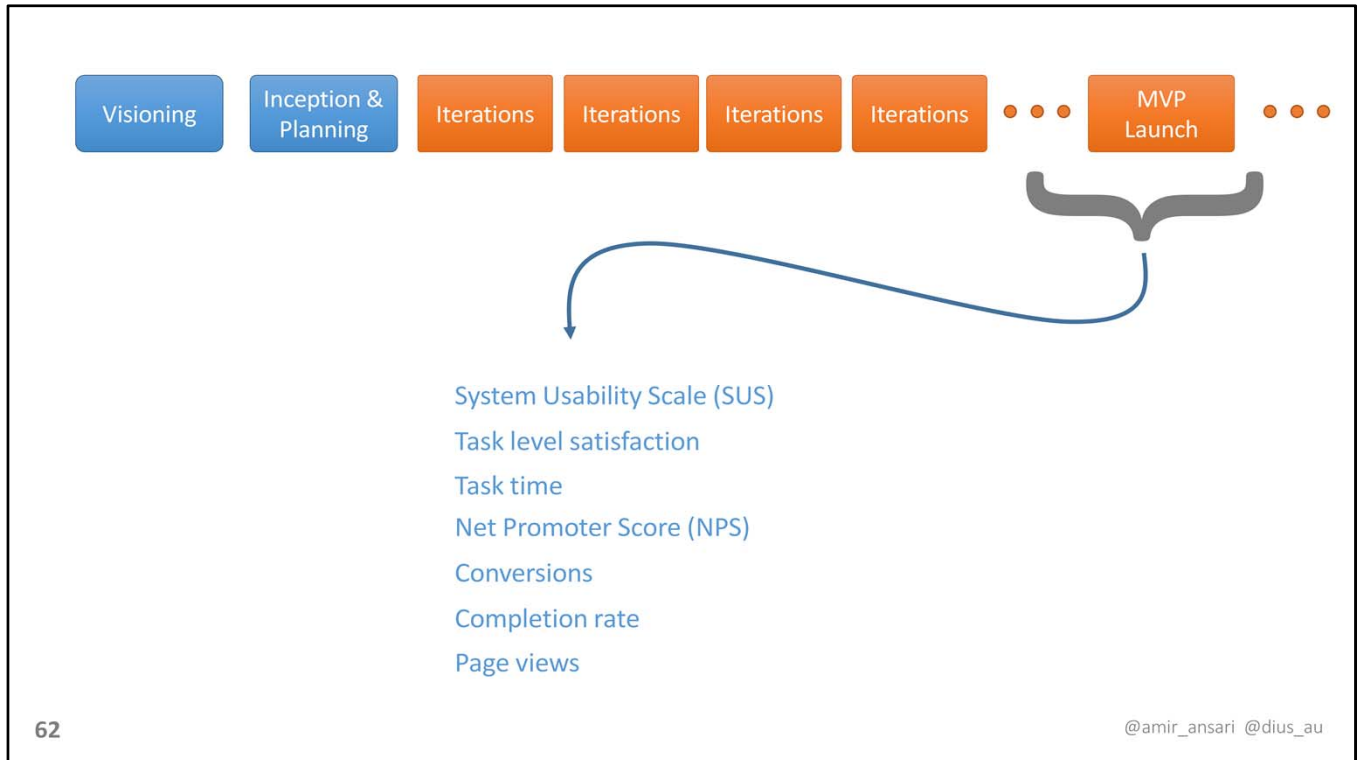
[bit.ly/t-distribution](http://bit.ly/t-distribution)



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You can convert a usability problem into a frequency, using confidence intervals. Categorizing and counting issues.  $N = + 30$  = good estimate for standard deviations, otherwise stick with t-distribution.



As the product matures, you can introduce more UX metrics and quantitative measurements.



# 1

Define    why, what, when  
              who, where  
              how, how often

64

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Picking the right technique is very important. And these questions can help you choose and narrow down on the technique you need.

## 2

# Become friends with the PM

(or the person with the budget)

65

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For the OTI project, I spent 1 hour very early on defined the research/experiment approach, costed it and put it to the PM. It was included in the budget and signed off. Now some of you may not have access to the person with the wallet, or the budget may have already been allocated prior. In this case, you may have to take a more guerrilla approach to your experiments, OR find an advocate who can play in your team to try and convince a minimum number of user sessions.



### 3

Keep it **lean** and measure **often**

66

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Keep it lean, quick and fast. 5 – 6 users per experiment. Prioritise issues. Feedback quickly. You don't want to be seen as been the bottleneck – pragmatism is important.

## 4

# Get stakeholder buy-in

(Get them to observe)

67

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Get them to observe. If not, make sure you run through your issues. Agree on pivots and recommendations.

## 5

# Be consistent

in how you measure and capture measurements

68

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Use consistent approaches to test and report. Consider using templates. Benchmark as design matures for future measurability.


## 6

Define when to **Quant** and when to **Qual**

69

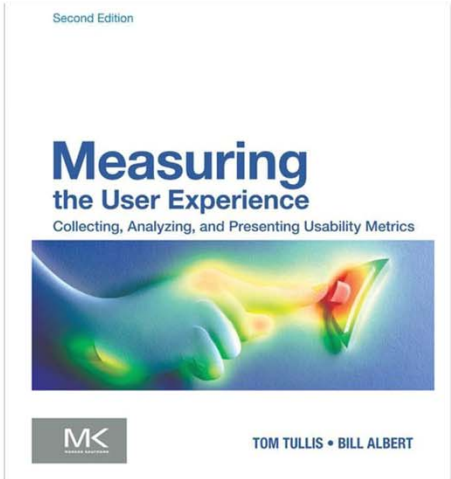
@amir\_ansari @dius\_au

Use consistent approaches to test and report. Consider using templates. Benchmark as design matures for future measurability.



**Measuring Usability**  
Quantitative Usability, Statistics & Six Sigma by Jeff Sauro

<https://www.measuringusability.com/topics/UX>

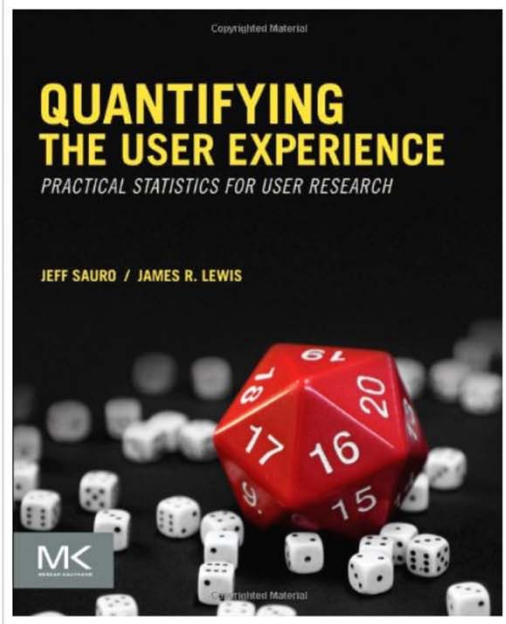


Second Edition

**Measuring the User Experience**  
Collecting, Analyzing, and Presenting Usability Metrics

MK Morgan Kaufmann

TOM TULLIS • BILL ALBERT



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**QUANTIFYING THE USER EXPERIENCE**  
*PRACTICAL STATISTICS FOR USER RESEARCH*

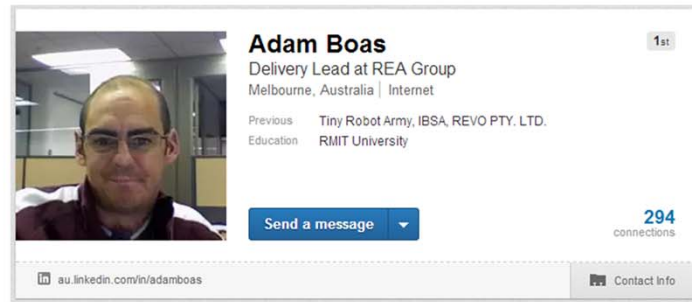
JEFF SAURO / JAMES R. LEWIS

MK Morgan Kaufmann

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Measuring the User Experience is more statistical, and assumes you have an existing product or service.

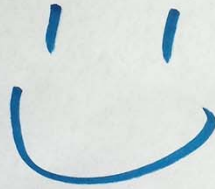
Thanks to







THANK You.  
@amil\_ansari  
@dius-au



*Qualitative data can in fact be converted into quantitative measures even if it doesn't come from an experiment or from a large sample size.*

Jeff Sauro – Measuring Usability