Six crucial survey concepts

that UX professionals need to know

Workshop at UXPA 2014 led by Caroline Jarrett

Today's concepts

Better survey questions

Warm up: the SUS

- 1: Ask questions that people can answer
- 2: Satisfaction is a slippery topic

Better survey processes

- 3: Assess the total survey error
- 4: Understand who responds
- 5. Your survey goals drive your analysis
- 6. Test everything

Today's challenge

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4: Stoop (2005)

5. Saldaña (2013)

6: Couper (2008)

Introductions (I'm Caroline Jarrett - @cjforms)

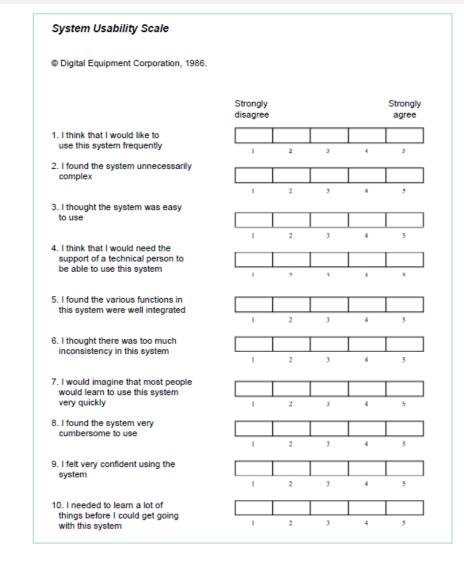
Work with your neighbour

- Your name and role
- A random thing about yourself



The SUS is the most-used questionnaire for post-task satisfaction

- John Brooke created the System Usability Scale (SUS) in 1986
- Used after a usability test
- It has been shown to be valid and reliable
- You get a score between
 0 and 100
- You can compare your SUS score with other systems

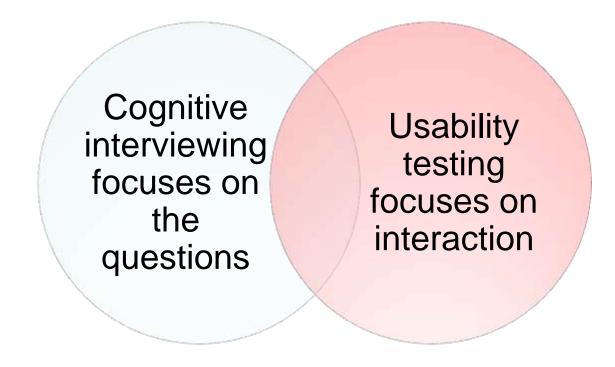


Brooke, J. (1996). SUS: A "quick and dirty" usability scale. In *Usability Evaluation in Industry*.

P. W. Jordan, B. Thomas, B. A. Weerdmeester and A. L. McClelland. London:, Taylor and Francis.

We'll try cognitive interviewing

 In a cognitive interview, you ask your respondent to explain the mental processes in answering the question



Collect an experience

- Silent two minute task:
 - Find an explanation of the difference between the European Commission and the European Union
 - Use this site: http://ec.europa.eu
- Decide whether you had a good or bad experience



Try some cognitive interviewing

- I'll assign the roles of 'interviewer' and 'respondent'
- Interviewer:
 - Ask your respondent to fill out the first three questions of the SUS with the EU task in mind
 - Take notes about any challenges in the questions on the SUS
- Respondent:
 - Please fill out the first three questions of the SUS, explaining your thought processes for each question



Relating our findings from the cognitive interview to today's concepts

Concepts	What we learned from SUS
Ask questions that people can answer	
Satisfaction is a slippery topic	
Assess the total survey error	
Understand who responds	
Your survey goals drive your analysis	
Test everything	

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There are four steps to answer a question

Step	
1. Read and understand	
2. Find an answer	
3. Judge the answer	
4. Place the answer	

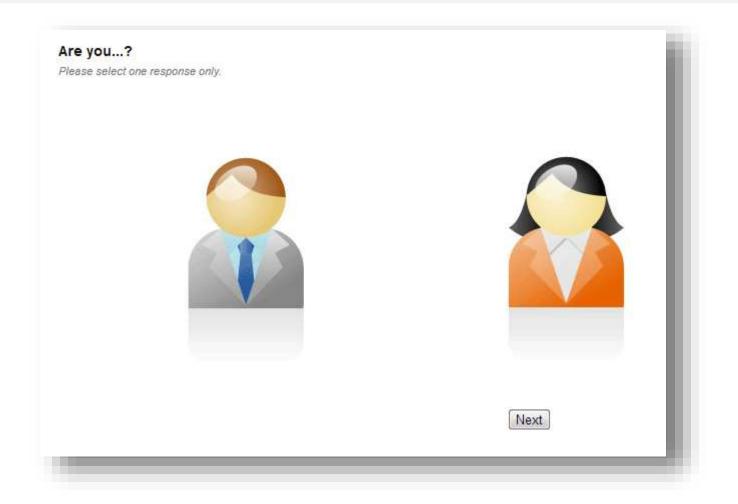
There are four steps to answer a question

Step	A good question
1. Read and understand	is legible and makes sense
2. Find an answer	asks for answers that we know
3. Judge the answer	asks for answers we're happy to reveal
4. Place the answer	offers appropriate spaces for the answers

Use the four steps

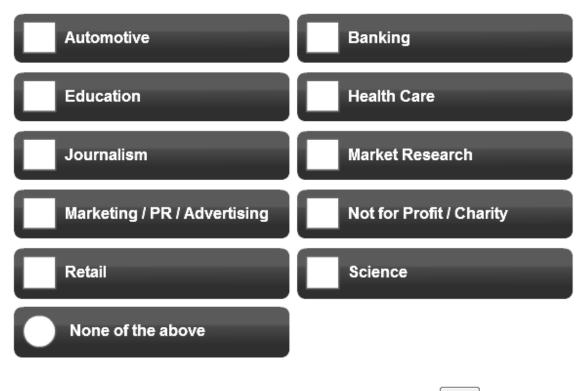
- Swap roles and try the remaining SUS questions
- Think about the four steps of answering a question
 - 1. Read and understand
 - 2. Find the answer
 - 3. Judge the answer
 - 4. Place the answer
- Identify any problems in the questions according to the four steps

Four step examples: 1: read and understand



Four step examples: 1: read and understand

Sometimes we look for people who work in particular industries. Do you work in any of the following? Please select all that apply.



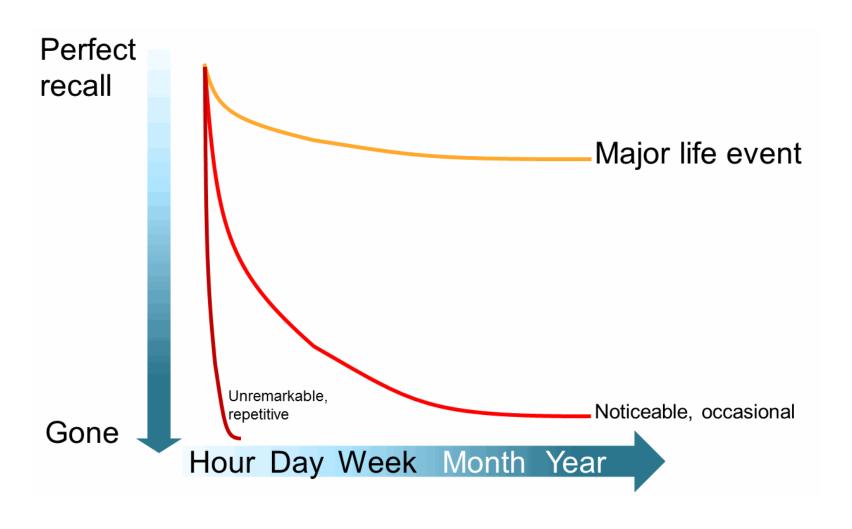
Four step examples: 2: find the answer

Question 25

In your **last five days at work**, what percentage of your work time do you estimate that you spent using publicly-available online services (not including email, instant messaging, and search) to do your work using a work computer or other device?

In your last five days at work, what percentage of your work time do you estimate that you spend using publicly-available online services (not including email, instant messaging and search) to do your work using a work computer or other device?

The approximate curve of forgetting



Four step examples: 3: judge the answer

* 1	 I think it is safe to challenge the way thing are done in
0	Strongly agree
\bigcirc	Agree
\bigcirc	Neither
\bigcirc	Disagree
	Strongly disagree

Four step examples: 4: place the answer

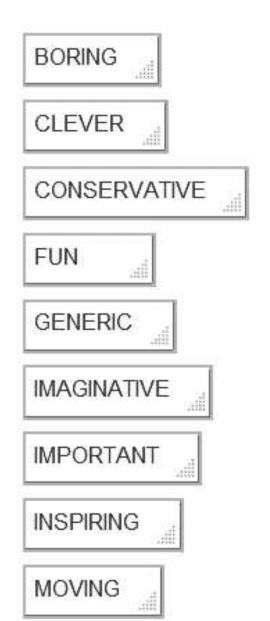
Where do you currently live?

Please make a selection on the map.



Now for something a bit different...we want to know what you think of the different charity fundral words would you most closely associate with each of the following events?

Please drag each statement or picture to each category that applies.







Please indicate to which occupational group the Chief Income Earner in your household belongs, or which group fits best.

This could be you: the Chief Income Earner is the person in your household with the largest income.

If the Chief Income Earner is retired and has an occupational pension please answer for their most recent occupation.

If the Chief Income Earner is not in paid employment but has been out of work for less than 6 months, please answer for their most recent occupation.

0	Semi or unskilled manual work (e.g. Manual workers, all apprentices to be skilled trades, Caretaker, Park keeper, non-HGV driver, shop assistant)
0	Skilled manual worker (e.g. Skilled Bricklayer, Carpenter, Plumber, Painter, Bus/ Ambulance Driver, HGV driver, AA patrolman, pub/bar worker, etc)
0	Supervisory or clerical/ junior managerial/ professional/ administrative (e.g. Office worker, Student Doctor, Foreman with 25+ employees, salesperson, etc)
0	Intermediate managerial/ professional/ administrative (e.g. Newly qualified (under 3 years) doctor, Solicitor, Board director small organisation, middle manager in large organisation, principal officer in civil service/local government)
	Higher managerial/ professional/ administrative (e.g. Established doctor, Solicitor, Board Director in a large organisation (200+ employees, top level civil servant/public service employee))
0	Student
0	Casual worker - not in permanent employment
0	Housewife/ Homemaker
0	Retired and living on state pension
0	Unemployed or not working due to long-term sickness
0	Full-time carer of other household member
0	Other

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My journey into user experience started a long time ago, with usability

The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use (ISO 9241:11 1998)



In government, we were interested in effectiveness and efficiency

The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use (ISO 9241:11 1998)



But what about user experience? What about satisfaction?

The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction

in a specified context of use (ISO 9241:11 1998)





How are we doing?

Our mission is simple – we're here to provide first-class service while helping people start, run and grow their own ventures. Please fill out the survey below based on your most recent customer support interaction.

* required

Recent Experience

Please rate your satisfaction with your customer service representative.*

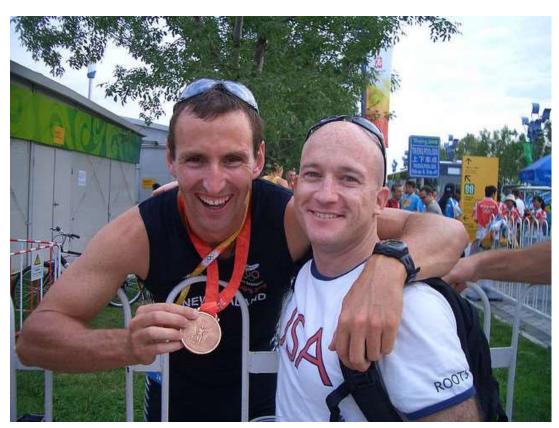
Very Dissatisfied			Neutral			Very Satisfied					
Please Select	0	1	2	3	4	5	6	7	8	9	10

How likely are you to recommend us to a friend?*

Satisfaction is a complex matter

Compared experience to what?	Resulting thoughts
(nothing)	Indifference
Expectations	Better / worse / different
Needs	Met / not met / mixture
Excellence (the ideal product)	Good / poor quality (or 'good enough')
Fairness	Treated equitably / inequitably
Events that might have been	Vindication / regret

Example: bronze medal winners tend to be happier than silver medal winners



Nathan Twaddle, Olympic Bronze Medal Winner in Beijing

Matsumoto D, & Willingham B (2006). The thrill of victory and the agony of defeat: spontaneous expressions of medal winners of the 2004 Athens Olympic Games.

I showed you a survey from GoDaddy

- The first question was about rating satisfaction
- What were they asking us to rate?
 - Just a guess from what you recall





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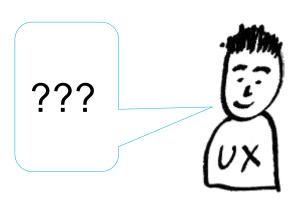
Very Dissatisfied			Neutral			Very Satisfied					
Please Select	0	1	2	3	4	5	6	7	8	9	10

How likely are you to recommend us to a friend?*

Not At All	Neutral	Extremely Likely

The challenge of UX and surveys: which bit to measure?

The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use (ISO 9241:11 1998)



Some ideas about what we could measure (as well as satisfaction)

In the definition	GoDaddy customer support	GoDaddy as a provider of domain names
Product	This contact with help desk	Overall experience of moving a domain to GoDaddy
Users	What proportion of customers contact support	Demographics (example: type of job)
Goals	Reason for contacting help	Reason for looking at GoDaddy
Effectiveness	Whether support fixed the problem	Whether GoDaddy offers the right products
Efficiency	Whether it took a reasonable time	Whether the product is priced correctly
Satisfaction	Helpfulness of support person	Likely to purchase again / recommend
Context of use	Home/office; alone/helped	Business / personal

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Tip

Find out about users' goals



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total survey error

Images

Web



Search tools







Safe Search *

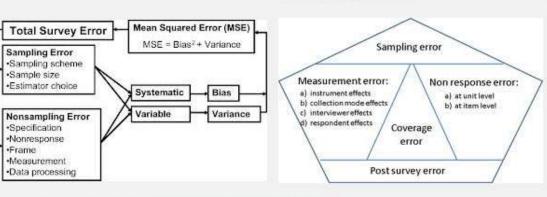




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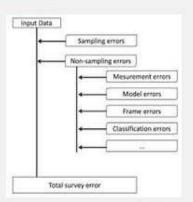
More *



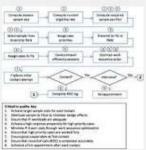
Videos

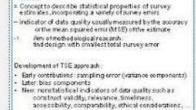
News

Maps









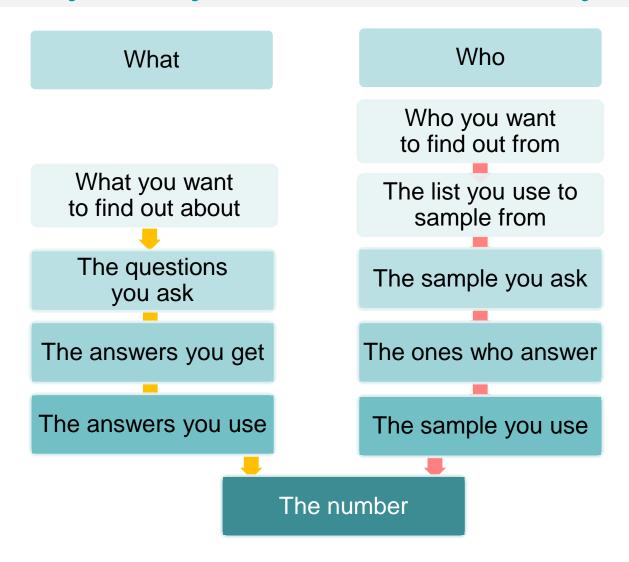
Total Survey Error (TSE)

FORS





Survey lifecycle for total survey error



Service dashboards Developers About Prototypes Blog

Performance > Department for Transport > Driver and Vehicle Licensing Agency

Dashboard

Tax disc renewals

This dashboard shows information about how the **Tax disc renewals** service is currently performing.

Visit this service

Renew a tax disc

Transactions per year

43.4m

Jan to Dec 2013

+1.30% A Oct 2012 to Sep 2013

Total cost

£44.7m

Jan to Dec 2013

+17.23% A Oct 2012 to Sep 2013

Cost per transaction

£1.03

Jan to Dec 2013

+15.73% A Oct 2012 to Sep 2013

Live service usage

Users currently on the GOV.UK start page for the service

275

users online at 9pm 17 July 2014

User satisfaction

Overall satisfaction score includes all ratings weighted from 100% for 'very satisfied' to 0% for 'very dissatisfied'

94% +0.41%

Mar 2014

Feb 2014

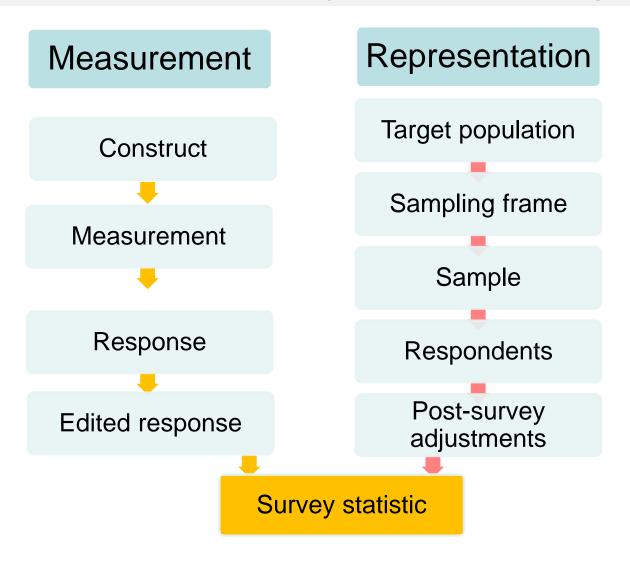
Choices compared to the lifecycle

Services so good that What Who **UK** population people prefer to use them Who you want People who renew car tax online to find out from What you want Satisfaction The list you use to Everyone who finishes the to find out about renewal sample from The questions Overall, how satisfied Everyone who finishes the The sample you ask were you with renewing you ask renewal your car tax today? Scale of 5 points from People who answer the The answers you get The ones who answer very satisfied to very question dissatisfied Ratings weighted from (Any exclusions for repeated The answers you use The sample you use 100% for 'very satisfied' to answers or test answers?) 0% for 'very dissatisfied'

The number

94%

And now in "survey methodologist"



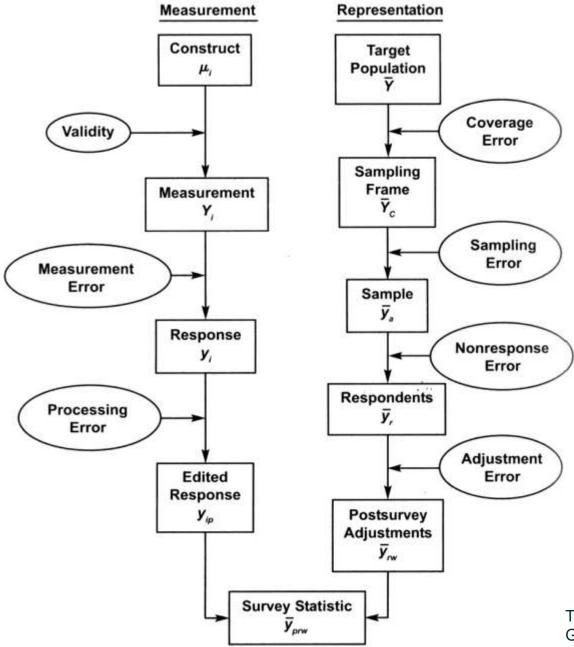


Figure 2.5 Survey life cycle from a quality perspective.

Total Survey Error diagram as presented in Groves, R. M., F. J. Fowler, M. P. Couper, J. M. Lepkowski, E. Singer and R. Tourangeau (2009). Survey methodology. Hoboken, N.J., Wiley.

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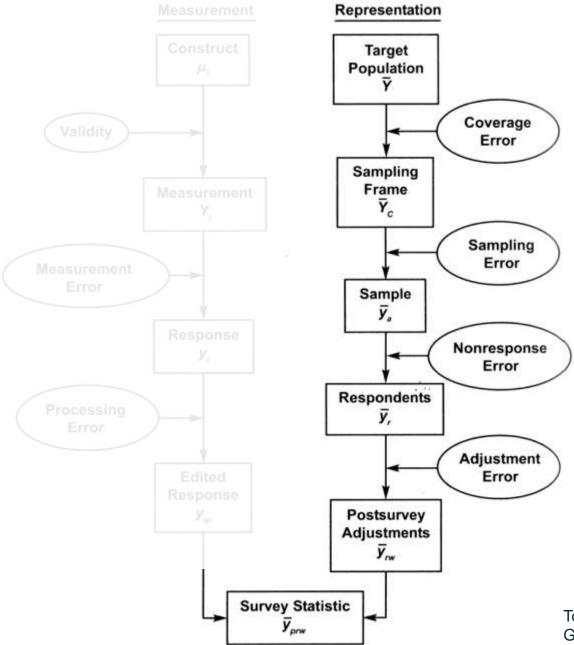
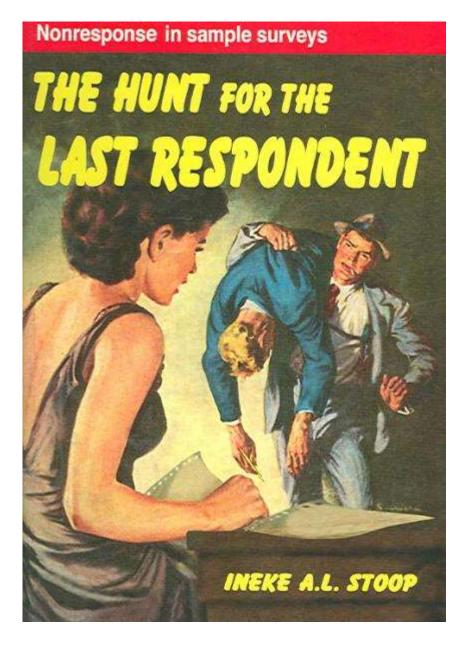


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Ineke Stoop did a deep dive into nonresponse error

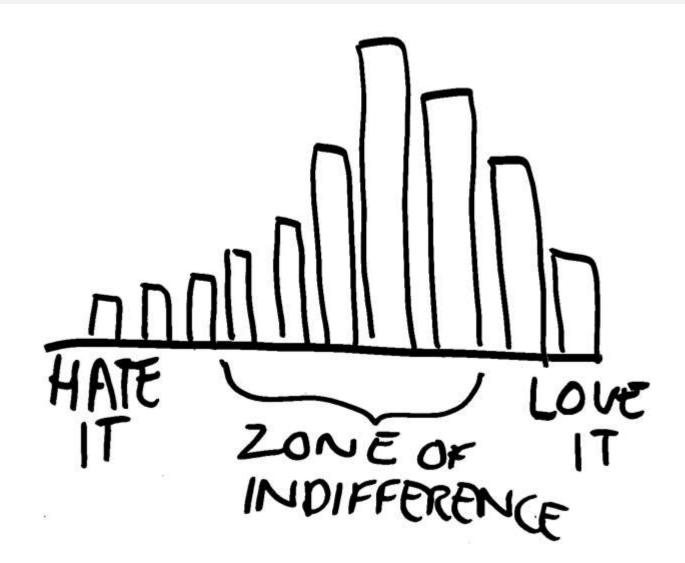


http://www.scp.nl/english/Publications/Publications_by_year/Publications_2005/The_Hunt_for_the_Last_Respondent

Nonresponse can happen for unexpected reasons

"There is anecdotal evidence of interviewers not pushing the doorbell of sample addresses with aspidistras on the windowsill because this indicated elderly people and possibly very long interviews."

The 'zone of indifference' is a common cause of nonresponse error



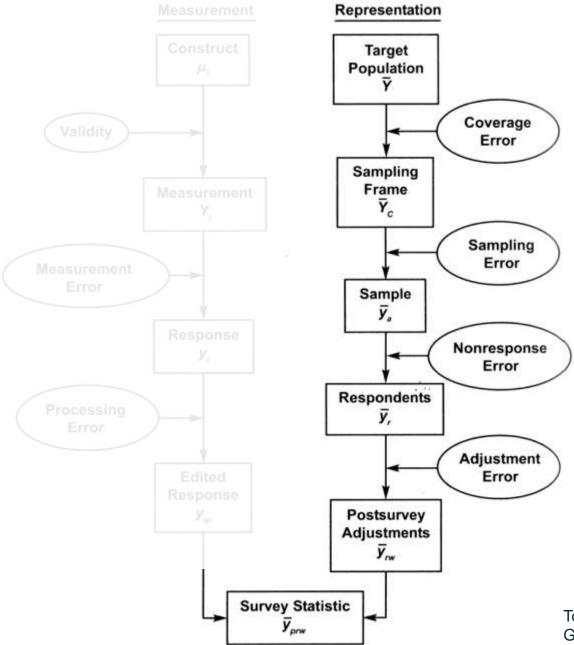


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Survey methodologists don't tell us much about how to deal with raw data

	Α	В	C	D	E	F	G	Н	I	J	K	L	M	N	0	Р	
1	Responde	CollectorID	StartDate	EndDate	IP Address	Email Add	First Name	LastName	Custom Da	Has this ev	er happer	Please tel	Were any	of these ar	nong the re	asons why	-
2										Response	Any comm	Open-End	Not enoug	Too much	Not enoug	Required	
3	1.84E+09	25799379	########	########	178.255.68	.130				Yes, this ha	as happen	Tested a v	Not enoug	Too much	else to do		
4	1.84E+09	25799379	#######	########	87.54.33.15	52				Yes, this ha	as happen	We were o	Not enoug	Too much	else to do		
5			########	########	93.96.7.142	2				Yes, this ha	as happen	Hundreds	of times. E	Too much	Not enoug	h resource	
6	1.84E+09	25799379	########		108.18.52.9					Never. (Ple	ase skip to	question					
7	1.84E+09	25799379	#######	########	86.144.202	.97				Yes, this ha					Not enoug		
8	1.84E+09	25799379	########	########	75.110.190	.53				Yes, this ha	as happen	For a class	s project, w	e tested a	beta Web s	ite. Two ar	
9	1.84E+09	25799379	########	########	94.192.47.1	61				Yes, this ha	as happen	www.ons.g	jov.uk, rede	esign was h	nandled po	orly.	
10	1.84E+09	25799379	#######		190.16.222					Never. (Ple	ase skip to	question	6)				
11	1.84E+09	25799379	########	########	50.98.177.1	99				Yes, this ha	as happen	An enterpr	ise softwar	e company	/ (accountir	Required	
12	1.84E+09	25799379	########	########	207.14.191	.54				Yes, this ha		Sometime	s I've repo	rted the sar	me issue ar	Required	
13	1.84E+09	25799379	########	########	84.144.228	.142				Yes, but on	ly rarely.		Not enoug	Too much	Not enoug	h resource	
14			#######		80.166.221	.122				Yes, this ha	as happen	This happ	ens pretty r	Too much	Not enoug	Required	
15	1.84E+09	25799379	########	########	166.248.66	.27				Yes, this ha	as happen	Performed	Not enoug	Too much	Not enoug	h resource	
16	1.84E+09	25799379	########	########	174.29.180	.121				Yes, this h	What clien	As I stated	Not enoug	Too much	Not enoug	h resource	
17					81.96.100.2	234				Yes, this ha							
18	1.84E+09	25799379	########	########	76.116.195	.74				Yes, this ha	as happen	A few year	s ago, I red	Too much	Not enoug	h resource	
19			########		99.226.18.1	25				Yes, this h	This happ	Happens i	most freque	ently with de	ecisions on	Required	
20	1.84E+09	25799379	########	########	76.205.174	.109				Yes, this ha	as happen	ed to me o	Not enoug	Too much	else to do		
21				########	87.238.84.6	55				Yes, this ha							
22			########		81.106.12.1					Yes, this ha					_		
23			########		87.212.234					Yes, this ha					Not enoug	h resource	
24			########		86.158.95.1					Yes, this ha							
25			########		109.158.23					Yes, this ha							
26			########		86.29.186.1					Yes, this ha							
27			########		81.193.141					Yes, this ha							
28			########		74.61.229.1					Yes, this ha				Too much	Not enoug	h resource	
29			########	########	121.44.43.1	00				Never. (Ple							
30				########						Yes, this h						Required	
31	1.84E+09	25799379	########	########	71.231.163	.253				Never. (Pl							
32			########		24.136.1.20					Yes, this ha		_		ice w/3 use	rs, findings	were deba	
33			########		67.177.245					Never. (Ple							
34			########		174.109.55					Yes, this ha							
35										Yes, this ha				label char	nges, well re	eceived ur	
36	1.84E+09	25799379	#######	########	24.148.36.1	44				Never. (Ple	ase skip to	question	6)				_

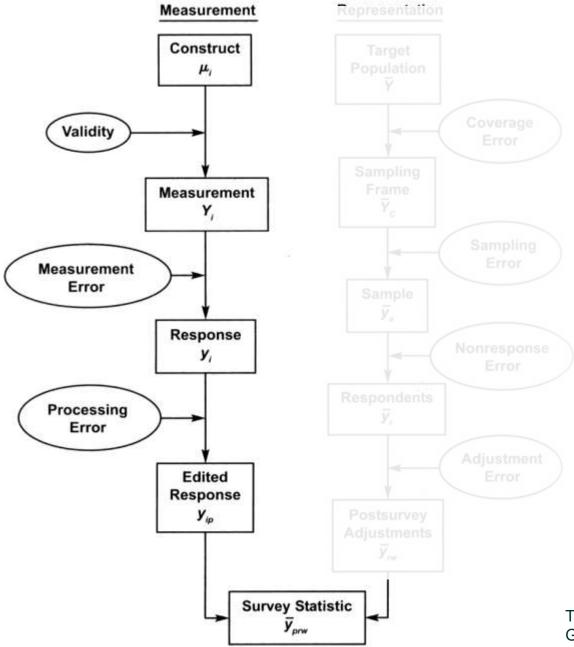


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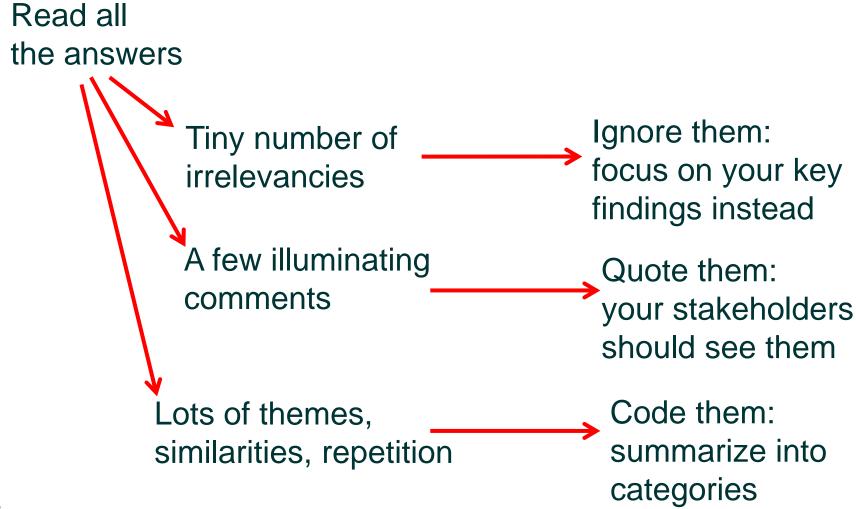
Steve Krug and I did an exploratory survey

"But the light bulb has to want to change"

Why do the most serious usability problems we uncover often go unfixed?

Steve Krug and Caroline Jarrett #upa2012 Las Vegas

To deal with open questions: read and think



A code is a symbolic phrase

"A code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data"

Saldaña (2013)



Saldaña, J. (2013). The coding manual for qualitative researchers. Los Angeles, [Calif.]; London, SAGE.

Image credit: txmx 2 on Flickr

Some coding methods to consider

Method	What you do				
"In vivo" coding	Choose small chunks of the respondent's own words that are representative of the response				
Adjectival coding	Use an adjective that sums up the response				
Descriptive coding	Summarise in a word or short phrase (most often as a noun) the basic topic				
Provisional coding	Establishes a predetermined start list of codes prior to the survey				
(at least 20 others)					

Try two coding methods

- Two teams
- One will try: descriptive coding
 - Summarise in a word or short phrase (most often as a noun) the basic topic in each answer
 - Try to group the codes you find into topics
- One will try: provisional coding
 - I have given you a set of four codes
 - Try to assign each response to a code



Choose your coding method according to the goals of your survey

If you want to	Consider		
Help your team to understand the way users think about a topic and the words they choose to express those thoughts	"In vivo" coding		
Find out whether users are in favour of or against a proposed idea	Adjectival coding		
Explore new ideas; be open to fresh suggestions	Descriptive coding		
Support or disprove an existing idea or suggestion	Provisional coding		
Something else	(plenty more to choose from)		

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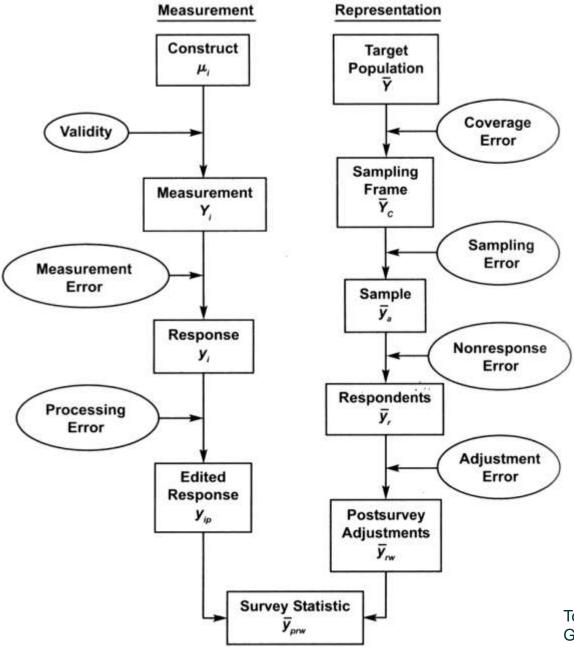


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Test everything



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Secretary and	
Complete agreement Commercial	
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Which one works?

- How often to show a progress indicator?
 - Always
 - Intermittently (after about eight pages)
 - On demand (if the user asks for it)
- What does the progress indicator tell you?
 - Fast to slow (progression is quicker at the start of the survey)
 - Slow to fast (progression is slower at the start of the survey)
 - Constant speed (exactly the correct amount of progress)



Removing a progress indicator: no difference in completion rates

⊞ GOV.UK

Blog

GDS design notes

Organisations: Government Digital Service

Do less - Problems as shared spaces

Ben Holliday, 7 July 2014 — Experimental

Most traffic engineers will approach a problem with a road by adding something to solve it. This means new signs, traffic lights, or road markings. All attempts to influence driver behaviour.



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GDS design notes

We believe in designing in the open. Most of the ideas on this blog will be iterated on over time, some of them will test badly and never make it onto GOV.UK, a few might end up being patterns that we use everywhere.

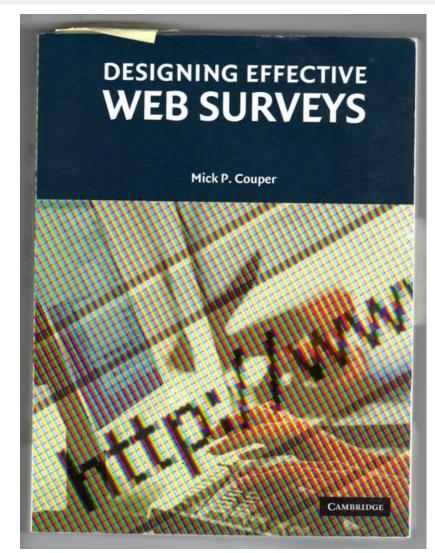
Categories

Select Category ▼

Sign up for updates

Mick Couper has devoted years to testing everything for you

- Buy the book
- If you have access to an academic library, look for vast numbers of Couper papers



Couper, M. (2008). Designing effective Web surveys. Cambridge, Cambridge University Press.

Today's challenge

Better survey questions

Warm up: the SUS

1: Tourangeau, Rips, Rasinski (2000)

2: Oliver (2010)

Better survey processes

3: Groves (many references)

4: Stoop (2005)

5. Saldaña (2013)

6: Couper (2008)

Today's concepts

Better survey questions

Warm up: the SUS

- 1: Ask questions that people can answer
- 2: Satisfaction is a slippery topic

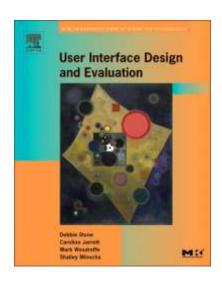
Better survey processes

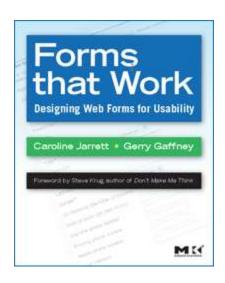
- 3: Assess the total survey error
- 4: Understand who responds
- 5. Your survey goals drive your analysis
- 6. Test everything

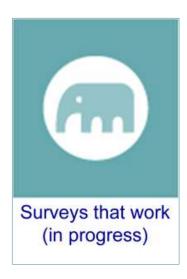
Caroline Jarrett

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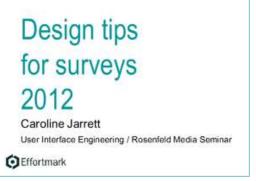




More resources on http://www.slideshare.net/cjforms







Surveys in practice and theory 2011

Caroline Jarrett
J.Boye Conference Denmark

