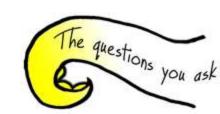
Surveys that work

An introduction to using survey methods

Caroline Jarrett @cjforms



Introductions (We're Caroline Jarrett and Jane Matthews)

- Your name and role
- A random thing about yourself



Let's find out about our experience

Fill in this questionnaire

1. How many surveys have you run?NONE 1 to 5 6 to 10 more than 10

2. What is your top tip for a better survey, based on experience of writing or answering?

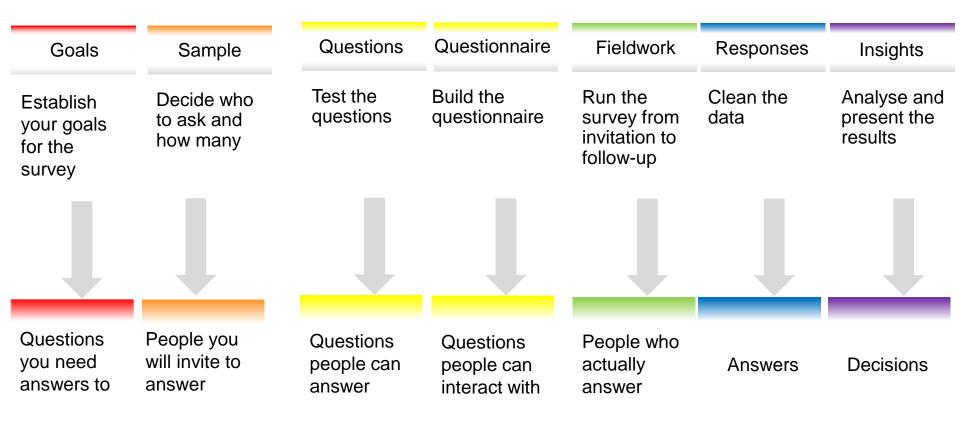
Now work in pairs

Try this as an interview

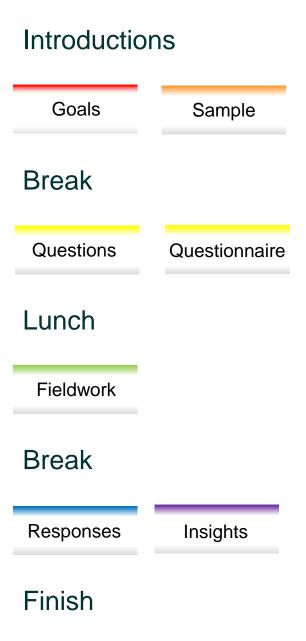
1. How many surveys have you run?NONE 1 to 5 6 to 10 more than 10

2. What is your top tip for a better survey, based on experience of writing or answering?

The survey process



Agenda



The survey is a systematic method for gathering information from (a sample of) entities for the purpose of constructing quantitative descriptors of the attributes of the larger population of which the entities are members.

Groves, Robert M.; Fowler, Floyd J.; Couper, Mick P.; Lepkowski, James M.; Singer, Eleanor & Tourangeau, Roger (2004). *Survey methodology*. Hoboken, NJ: John Wiley & Sons.

The survey is a process

for gathering information from
(a sample of) entities
for the purpose of
constructing quantitative descriptors
of the attributes of the larger population
of which the entities are members.

The survey is a process

for getting answers to questions from (a sample of) entities for the purpose of constructing quantitative descriptors of the attributes of the larger population of which the entities are members.

The survey is a process for getting answers to questions from (a sample of) people for the purpose of constructing quantitative descriptors of the attributes of the larger population of which the entities are members.

The survey is a process for getting answers to questions from (a sample of) people for the purpose of getting numbers of the attributes of the larger population of which the entities are members.

The survey is a process for getting answers to questions from (a sample of) people for the purpose of getting numbers that you can use to make decisions

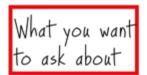
To make decisions

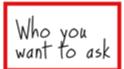
People

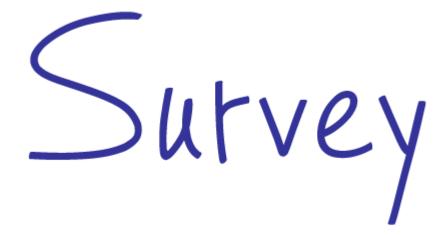
The survey is a process for getting answers to questions

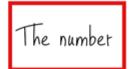
getting numbers

The aim of a survey is to get a number that helps you to make a decision







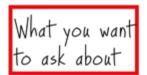


Is this a survey or something else?

- Review these questions
- Decide whether they are a survey or something else

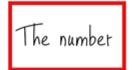


The aim of a survey is to get a number that helps you to make a decision

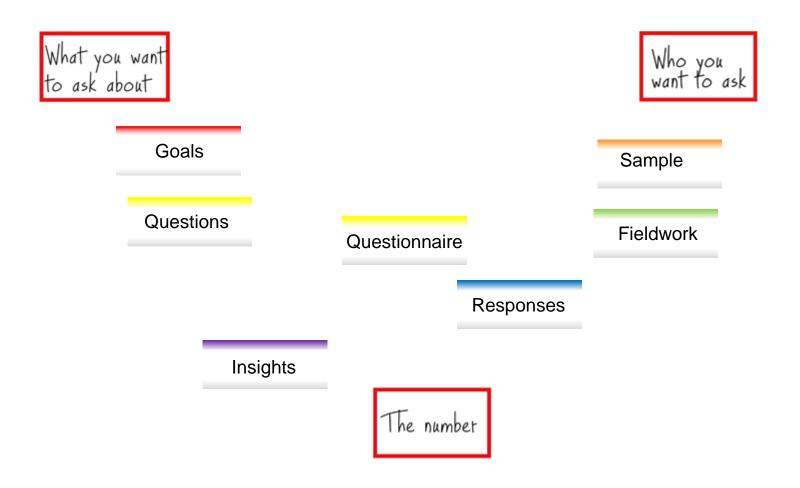


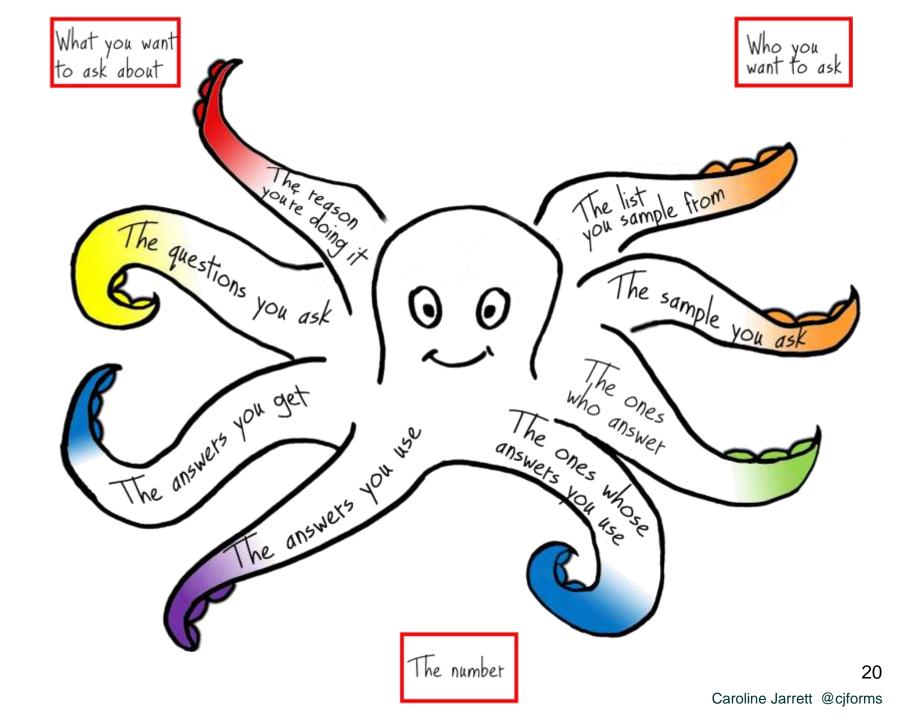


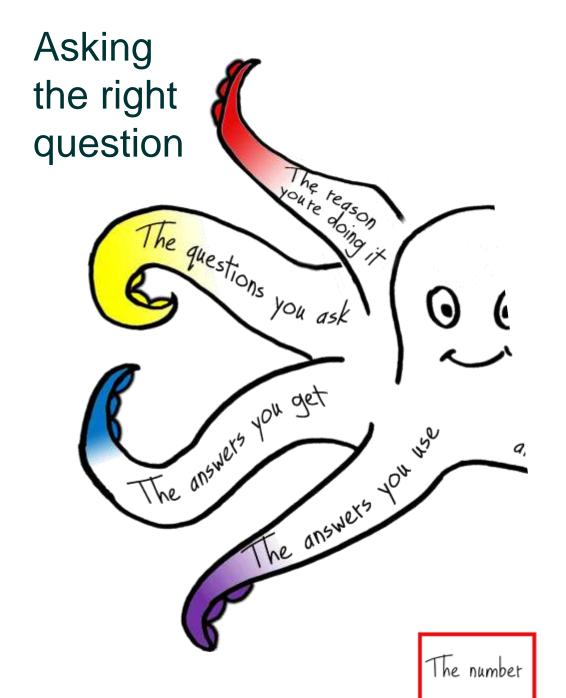


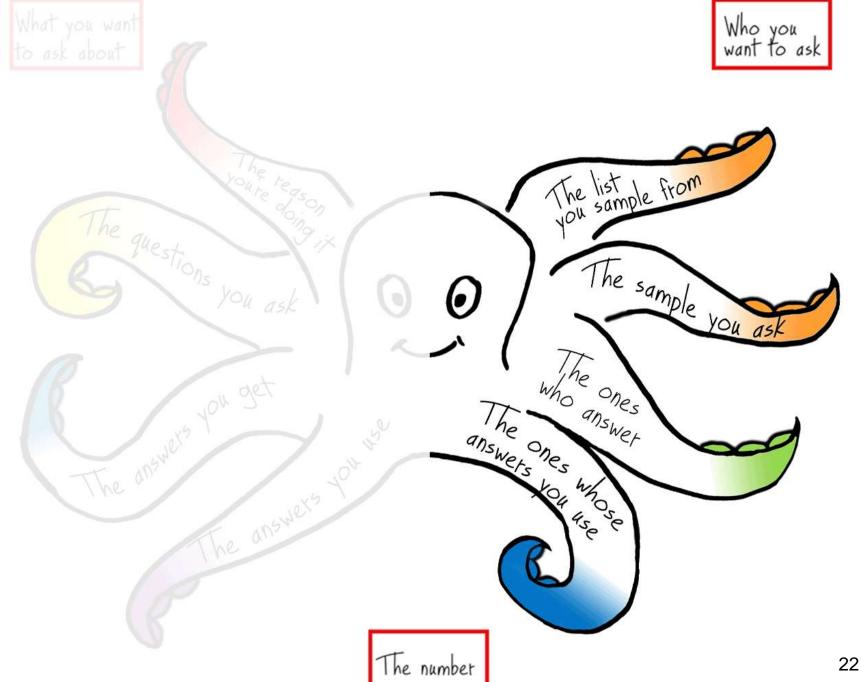


The aim of a survey is to get a number that helps you to make a decision

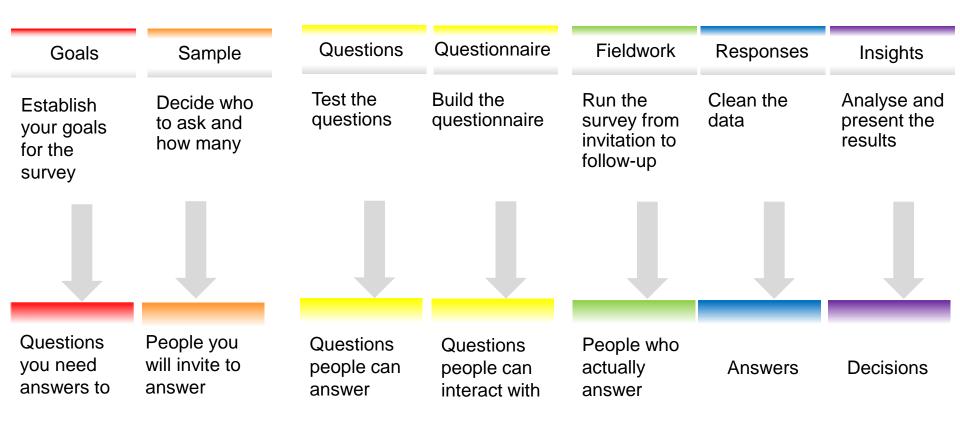




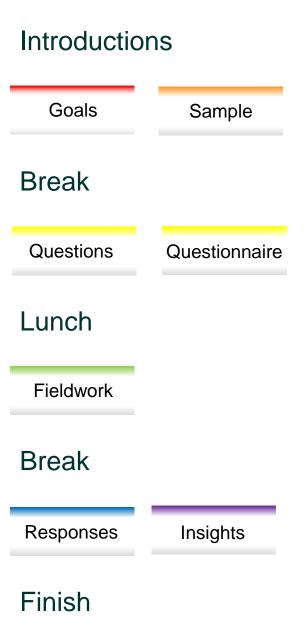




The survey process



Agenda



Goals

The survey process

Goals

Establish your goals for the survey



Questions you need answers to

Goals

Establish your goals for the survey

What do you want to know?

Why do you want to know?

What decisions will you make based on these answers?

An example

- Here's one of our examples
- What do you think the goals are?
- What do you think the decisions are likely to be?



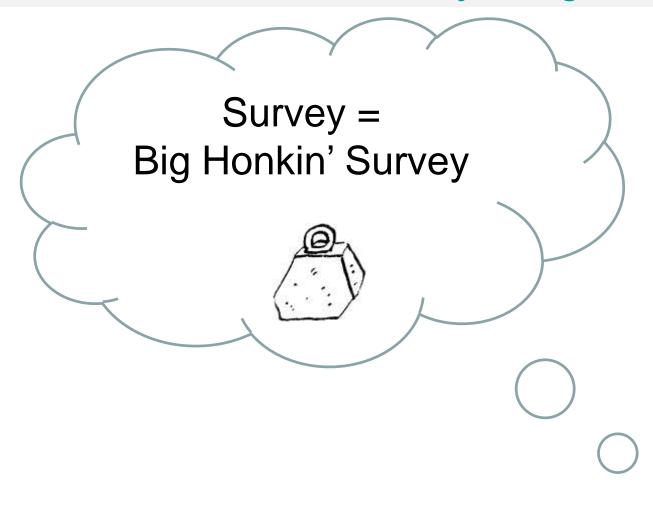
What are your goals for your survey?

- What do you want to know?
- Why do you want to know it?
- What decision(s) will you make as a result of the survey?





1950s mindset: "Ask Everything"



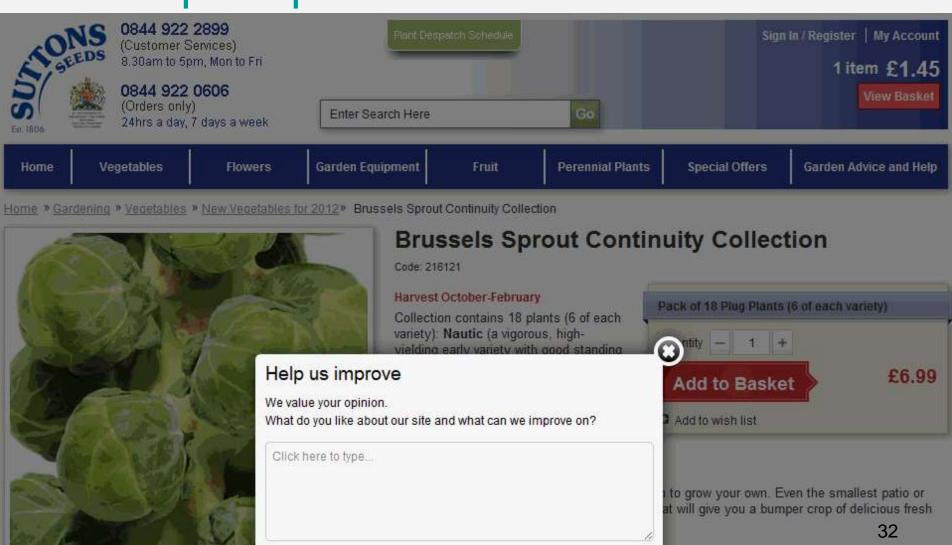
2016 mindset: the Light Touch survey

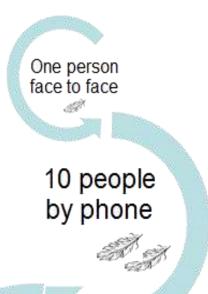
- Choose ONE question
- Find ONE person
- Ask the question, face-to-face
- See if you can make ONE decision
- Improve, iterate, increase



Goals

This one-box survey asks one open question





One way to iterate, improve, increase

100 people by email or pop-up



Time for new question

What's the Most Crucial Question?

- We want to ask the fewest questions that will help us to make the decision so we need to know which is are the most useful questions
- Even better: know the specific Most Crucial Question
- A Most Crucial Question has a numeric answer





What's the Most Crucial Question?

Look through the questions in this survey What is the Most Crucial Question?





Another way: narrow down

Useful questions

MCQ

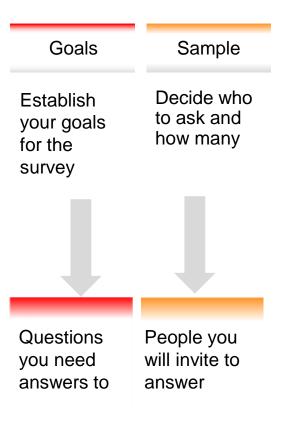
Goals

Talk to users about the topics in your survey

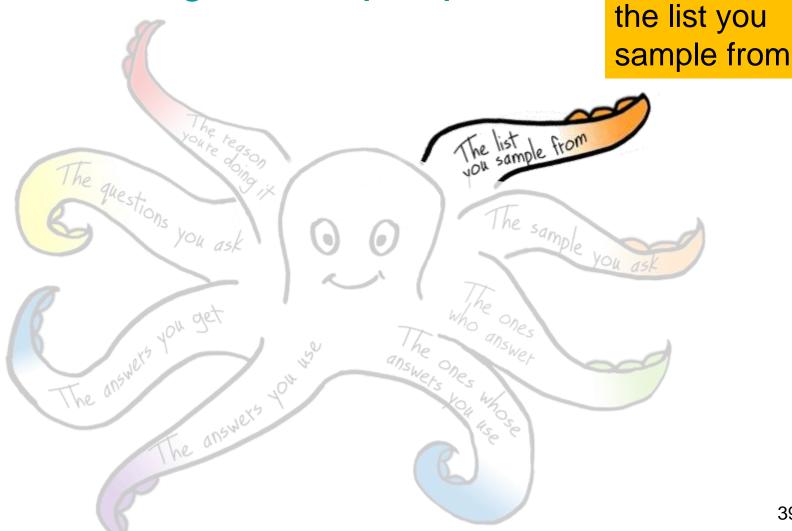
- Who are they?
- How will you find them?
- Do they want to answer your questions?
- Do they understand your questions?



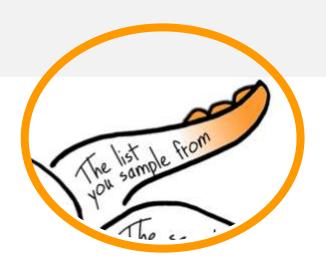
The survey process



Asking the right people is better than asking lots of people Sample:



Choose a good list



Coverage error:

Mismatch between the people you want to ask and the list you choose to sample from

Prank leaves Justin Bieber facing tour of North Korea

By Daniel Emery

Technology reporter, BBC News

Canadian singer Justin Bieber's has become the target of a viral campaign to send him to North Korea.

A website polled users as to which country he should tour next, with no restrictions on the nations that could be voted on.

There are now almost half a million votes to send the singer to the secretive communist nation.

The contest, which ends at 0600 on 7 July, saw North Korea move from 24th to 1st place in less than two days.

Many of the votes are thought to originate from imageboard website 4chan, which has built a reputation for triggering online viral campaigns.



It is highly unlikely Bieber would be given permission to enter North Korea

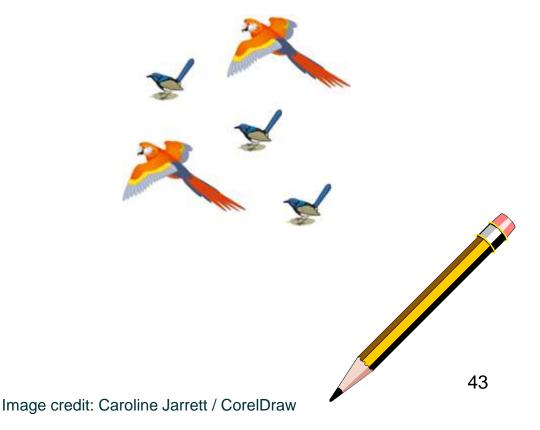
Related Stories

Difference between response, response rate and representativeness

Concept	Definition	Example
Response	Number of answers	5,000
Response rate	Response divided by the number of invitations	10%
Representativeness	Whether respondents you get are typical of the users you want	

Did we get answers from the right people?

Is this sample representative?



Check the representativeness of your sample

Population of assorted birds



Is this sample representative?

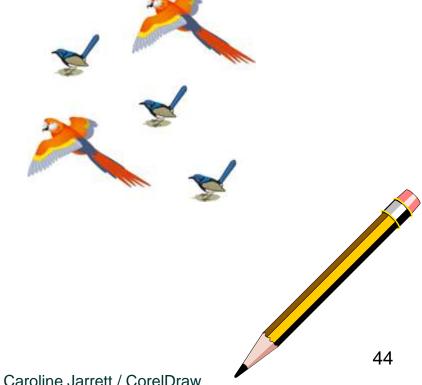
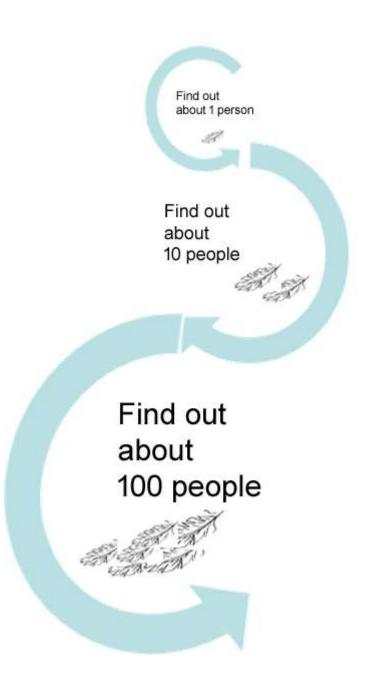


Image credit: Caroline Jarrett / CorelDraw



Iterate, improve, increase

to understand the people you want to ask

Decide how to target the correct people

- Go where they are
- Use a list
- Send and hope
- Try a 'snowball'
- Buy a sample



Non-response error is the one that hurts



The ones who answer differ from the ones who don't answer in a way that affects the survey statistic

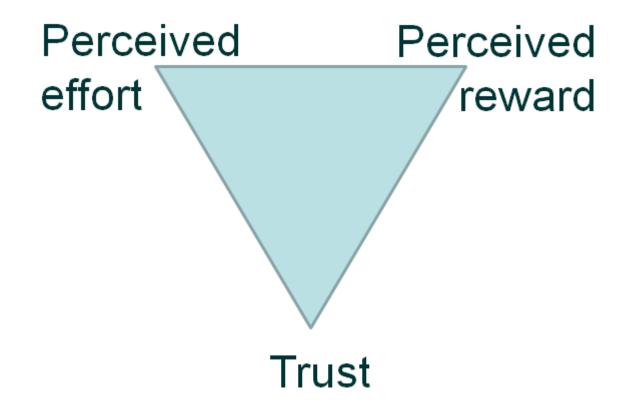


Let's try the toothpaste

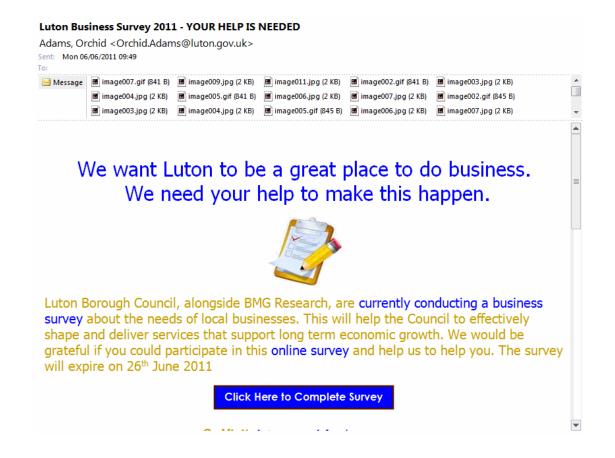




Response depends on effort, reward and trust



Response relies on effort, reward, and trust



An example invitation

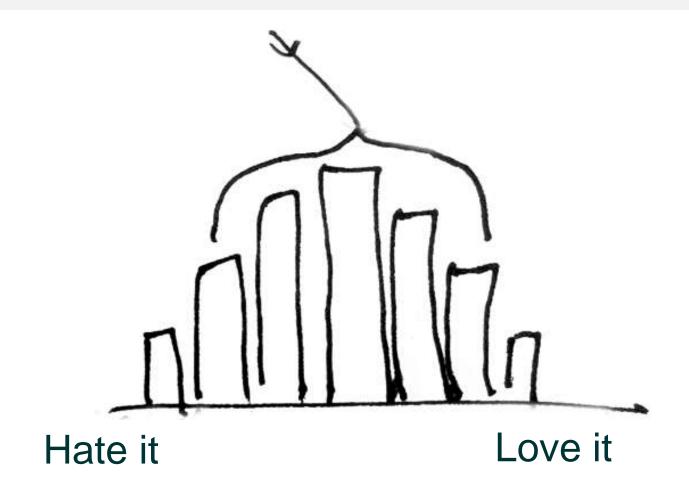
What is the perceived effort?

What is the perceived reward?

What about trust?



There's often a 'zone of indifference'



What do people want to tell you?

Burning Issues



What are the Burning Issues?

- Think about a training course (other than today!) that you've attended
- Make a note of any Burning Issue that you had



What are the Burning Issues?

 Now see if there's somewhere on this survey to share your Burning Issue



Overcome the 'Zone of Indifference' by asking about the Burning Issues

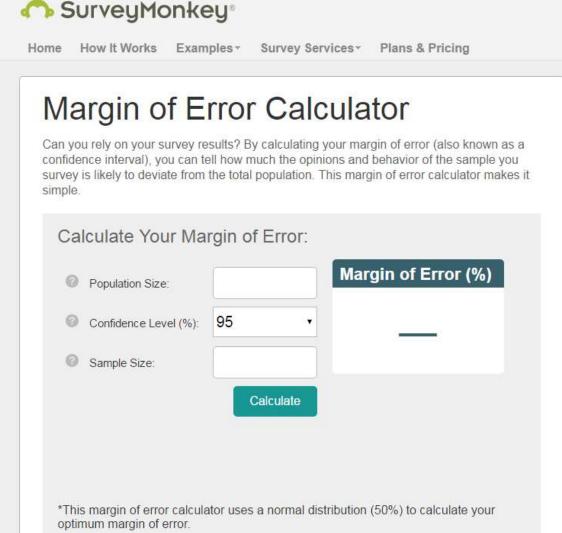


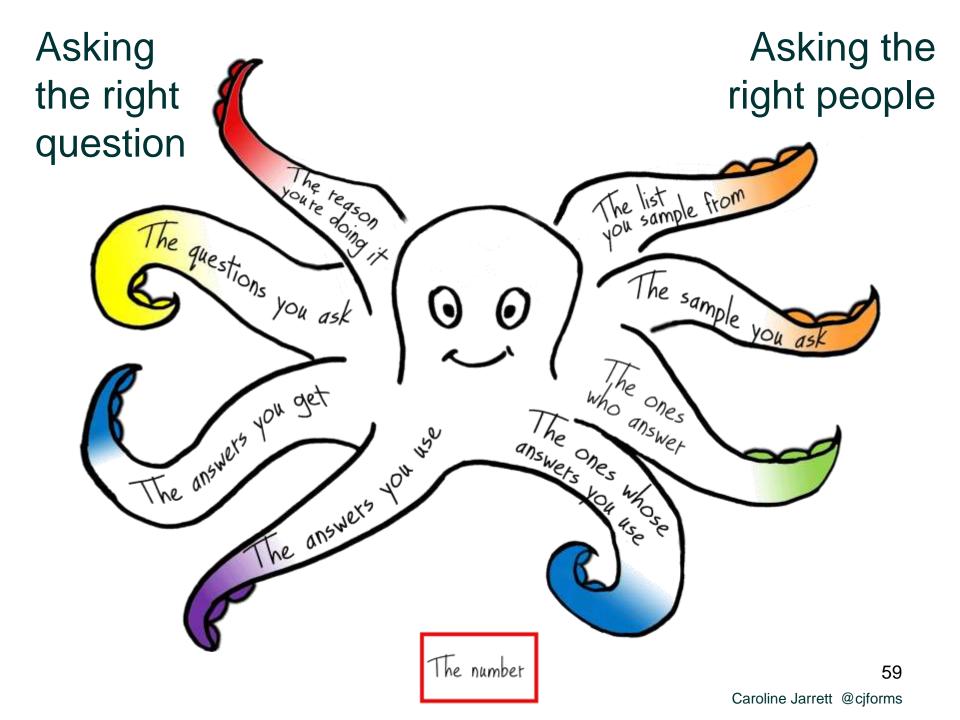
There is always sampling error

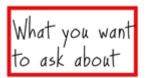
Sampling error: Ask a sample instead of asking everyone



If you get the other decisions right, then you can calculate a margin of error







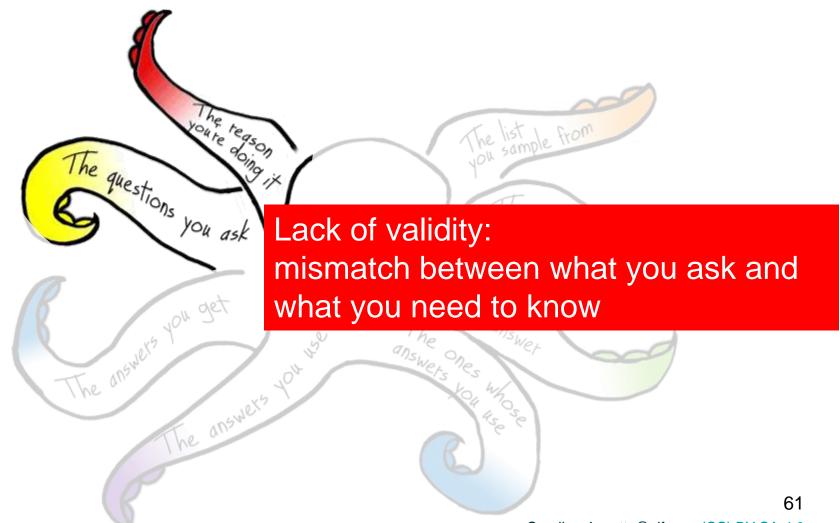


Asking one person the right question

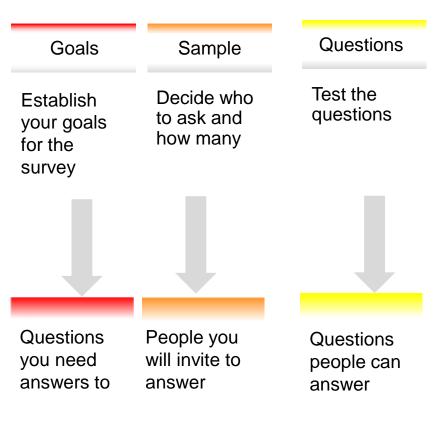
is better than

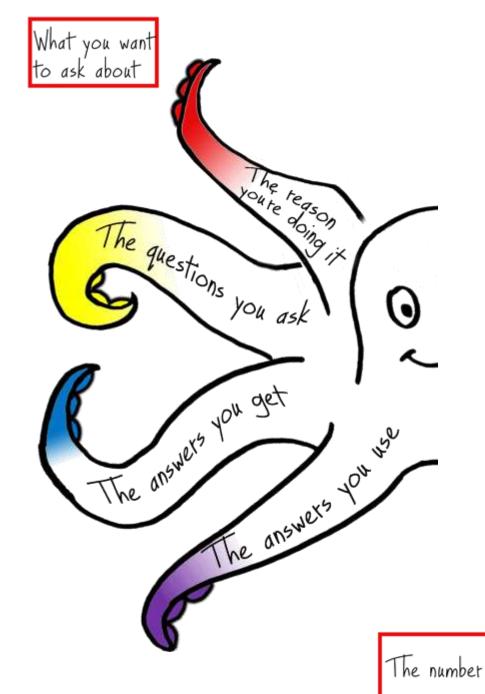
Asking 10,000 people the wrong question

A survey is only valid if the questions match the reason you're doing it

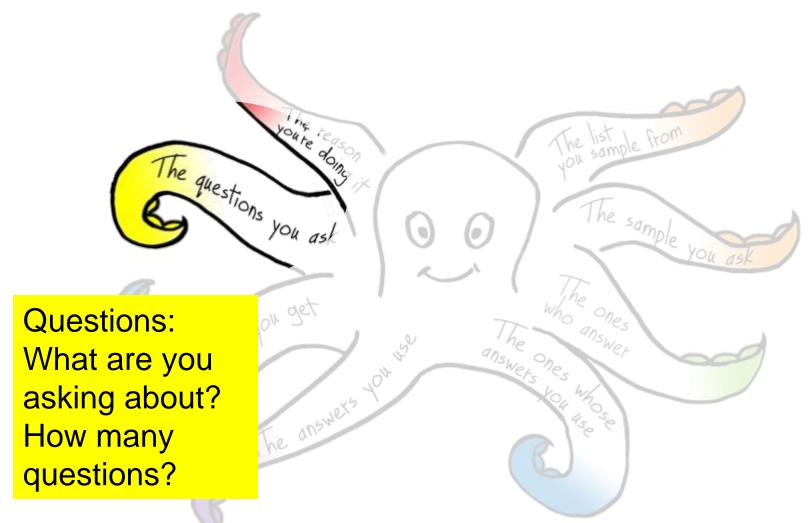


The survey process

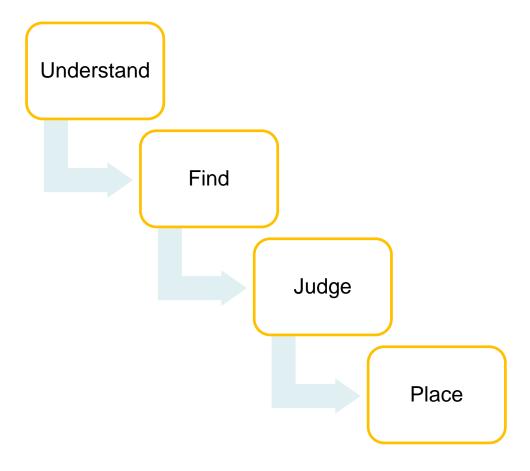




Helps a lot if you ask good questions



There are four steps to answer a question

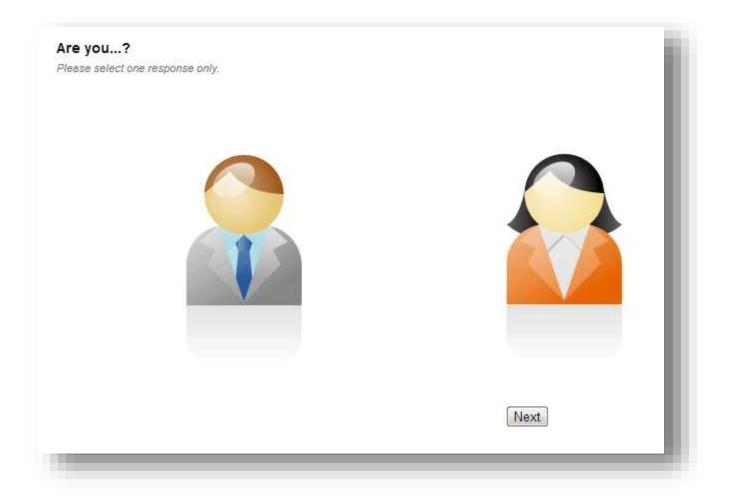


There are four steps to answer a question

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

Questions

Four step examples: 1: read and understand

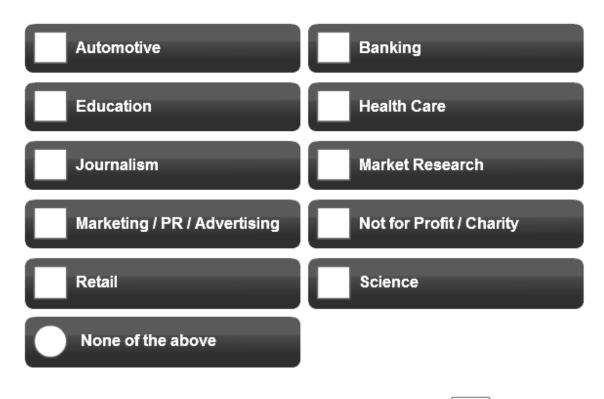


Questions

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.



Next

Four step examples: 2: find the answer

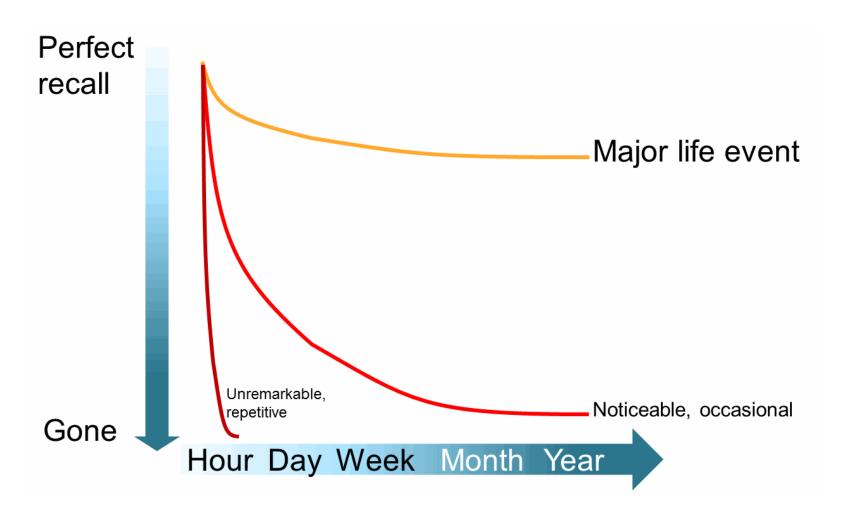
Question 25

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



Questions

Four step examples: 3: judge the answer

- *11. I think it is safe to challenge the way thing are done in
- Strongly agree
- Agree
- Neither
- Disagree
- Strongly disagree

Four step examples: 4: place the answer

Where do you currently live?

Please make a selection on the map.



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.

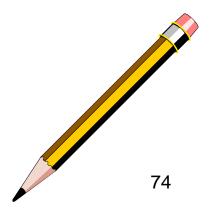
If the Chief Income Earner is retired and has an occupational pension please answer for their most recent occupation.

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.

Semi or unskilled manual work (e.g. Manual workers, all apprentices to be skilled trades, Caretaker, Park keeper, no	on-HGV driver, shop assistant)
Skilled manual worker (e.g. Skilled Bricklayer, Carpenter, Plumber, Painter, Bus/ Ambulance Driver, HGV d	lriver, AA patrolman, pub/bar worker, etc)
Supervisory or clerical/ junior managerial/ professional/ administrative (e.g. Office worker, Student Doctor, Foreman with 25+ employees, salesperson, etc)	
Intermediate managerial/ professional/ administrative (e.g. Newly qualified (under 3 years) doctor, Solicitor, Board director small organisati principal officer in civil service/local government)	ion, middle manager in large organisation,
Higher managerial/ professional/ administrative (e.g. Established doctor, Solicitor, Board Director in a large organisation (200+ employee))	oyees, top level civil servant/public service
Student	
Casual worker - not in permanent employment	——— Understand
Housewife/ Homemaker	Understand
Retired and living on state pension	Find
Unemployed or not working due to long-term sickness	ludao
Full-time carer of other household member	Judge Place
Other	Place

Any problems with the 4 steps?

- Think about the four steps of answering a question:
 - Read and understand the question
 - Find the answer
 - Judge whether the answer fits
 - Place the answer
- Any problems with any of the questions?
- If so, which step(s) are problematic?

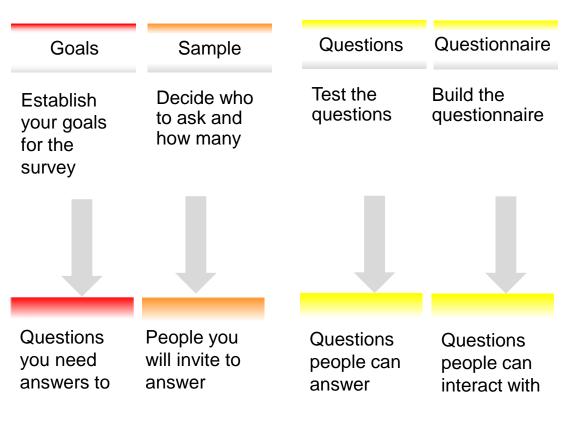


Improve a question

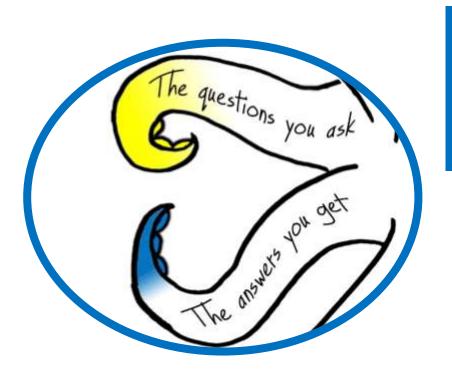
- We've chosen a question from a longer survey.
- Can you improve it?



The survey process

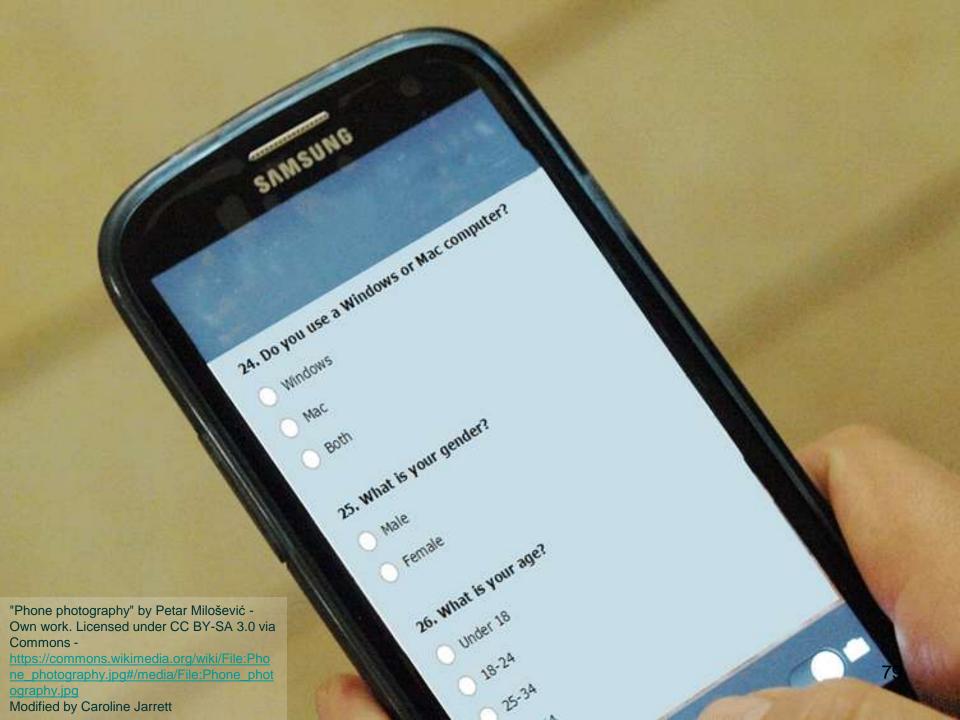


A good question gets good answers



Measurement error:
Mismatches between
the questions you ask and
the answers that people give you

24. Do you use a Windows or Mac computer?
Windows
○ Mac
O Both
25. What is your gender?
○ Male
○ Female



Tip

Always allow for 'other'



Design by @RickyBuchanan; t-shirt from nopitycity.com or zazzle.co.uk

Questionnaire

"Place the answer" is also about using the right widget to collect the answer

Use	For
Radio buttons	A single known answer
Check boxes	Multiple known answers
Text boxes	Unknown answers

Likert had several types of response format in his scales

13. How much military training should we have?

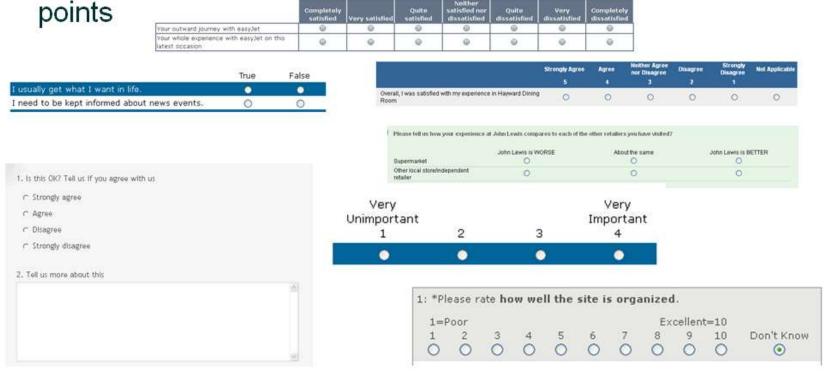
(a)	We need universal compulsory military training.	(1)
(b)	We need Citizens Military Training Camps and Reserve	
	Officers Training Corps, but not universal military train-	(0)
	ing,	(2)
(c)	We need some facilities for training reserve officers but	
	not as much as at present.	(3)
(d)	We need only such military training as is required to	
• •	maintain our regular army.	(4)
(e)	All military training should be abolished.	(5)

17. The United States, whether a member or not, should co-operate fully in the humanitarian and economic programs of the League of Nations.

Strongly Approve	Approve	Undecided	Disapprove	Strongly Disapprove
(5)	(4)	(3)	(2)	(1)

You can find an academic paper to support almost any number of response points

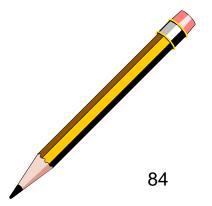
Krosnick and Presser refer to ~87 papers on response



An example

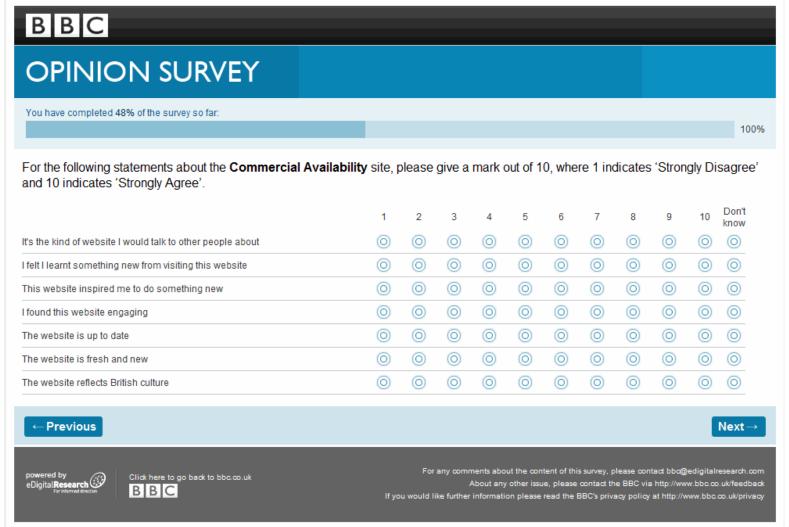
Here's an example of a Likert response format

- Any problems you can see?
- Any particularly good practice?





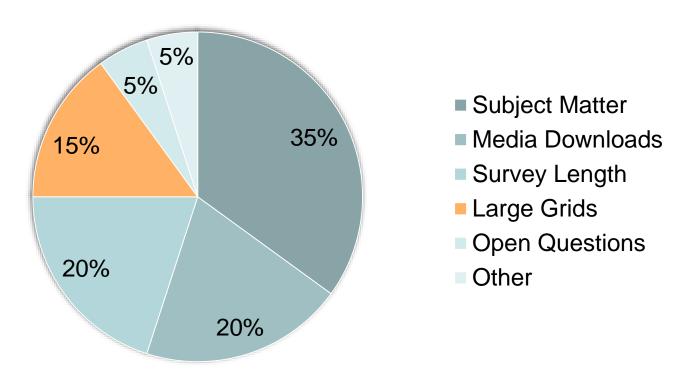
Grids are often full of problems at all four steps





Grids are a major cause of survey drop-out

Total incompletes across the 'main' section of the questionnaire (after the introduction stage)

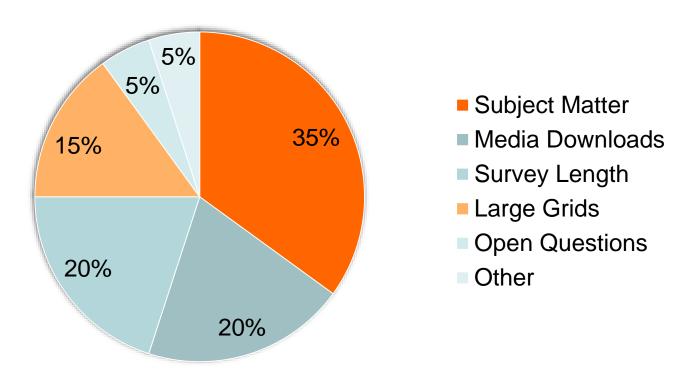


Source: Database of 3 million+ web surveys conducted by Lightspeed Research/Kantar 86 From Coombe, R., Jarrett, C. and Johnson, A. (2010) "Usability testing of market research surveys" ESRA Lausanne



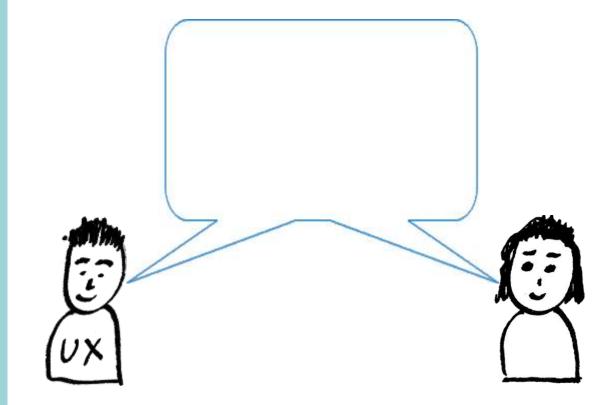
But it's the topic that matters most

Total incompletes across the 'main' section of the questionnaire (after the introduction stage)



Tip

Test your questions by interviewing in context

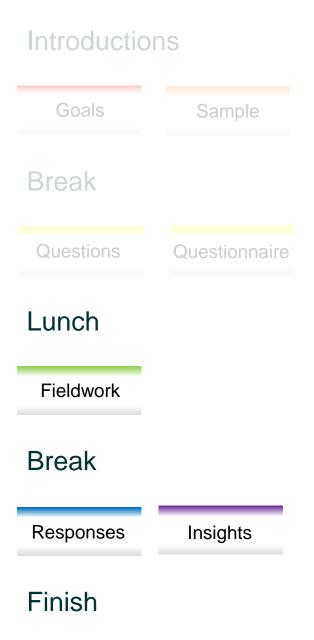


Your answers to this survey are important for our work



But what's in it for me? And I'm really ready for a break.

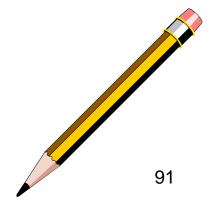
Agenda



Goals Sample

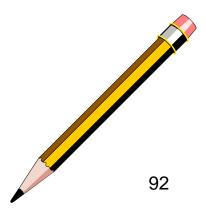
Goals and sample for the survey

- We've had a request for help with a survey
- We'll be having a meeting to discuss the survey
- Decide on the topics you'll want to discuss at the meeting
- Also, prepare a suggestion for the Most Crucial Question



Write questions

- We have discussed some possible questions
- Decide on the MCQ that you will ask
 - Check that users can:
 - Read and understand it
 - Find the answer
 - Judge the answer
- Decide if you need any extra questions to frame the MCQ
- Is there a Burning Issue?

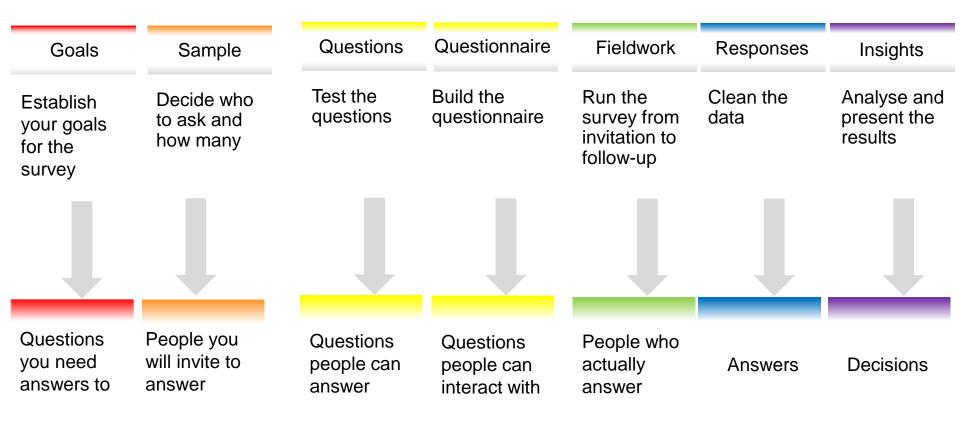


Make a questionnaire

Make a paper version of your questionnaire (We'll be testing the questionnaires a bit later)



The survey process



The survey process

Fieldwork

Run the survey from invitation to follow-up



People who actually answer

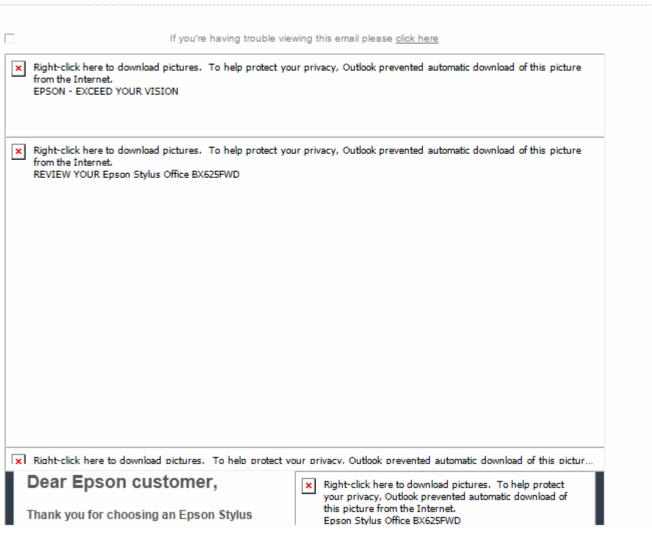
Dear Epson Customer, review your Epson Stylus Office BX625FWD

Epson UK <epsonnewsletter@info.epson-europe.com>

1 Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

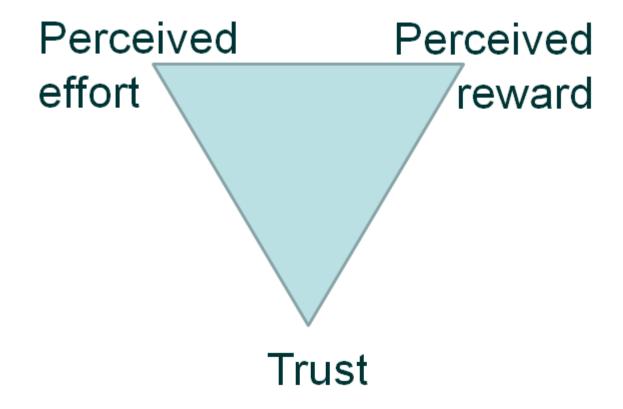
Sent: Fri 14/10/2011 09:29

To: caroline.jarrett@effortmark.co.uk





Recap: Response relies on effort, reward, and trust



The elements of a good invitation

Trust:

- Say who you are
- Say why you've contacted this person specifically

Perceived reward:

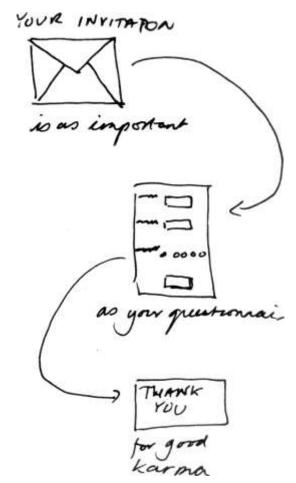
- Explain the purpose of the survey
- Explain why this person's responses will help that purpose
- If there is an incentive, offer it

Perceived effort:

- Outline the topic of the survey
- Say when the survey will close
- Do NOT say how long it will take

sure that you know the answer)

(unless you have tested the heck out of it and are extremely

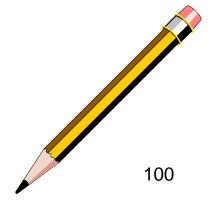


Caroline Jarrett @cjforms (CC) BY SA-4.0

Write the invitation and thank-you

Hints:

- the invitation can be part of the questionnaire
- thank-you is on a separate page

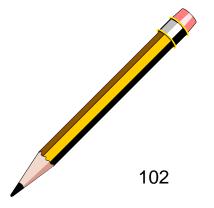


Test it: pilot study

- Run the survey from invitation to the follow-up
- Look for mechanical problems like wrong link in the invitation, no thank-you page
- Find out what your response rate is so that you can work out your sample size

"If you don't have time to do a pilot study, you don't have time to do the survey"

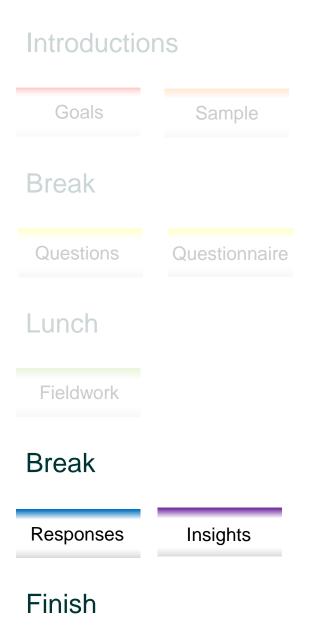
Test it and report back



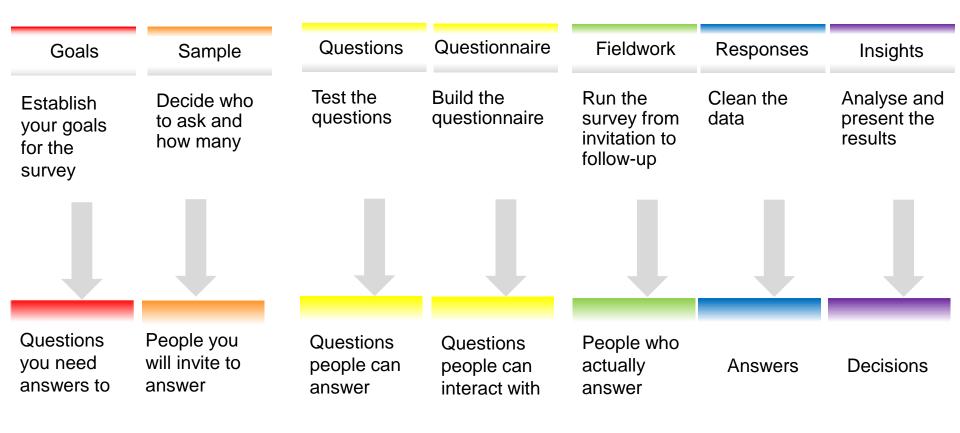
Think about the test and iterate

- Are the people you tested with representative?
- Did you test the whole survey
 - From invitation to follow up?
 - Including the analysis of responses?
 - Including finding out whether you can make the decision?
- What do you need to change for the next version?

Agenda



The survey process



The survey process

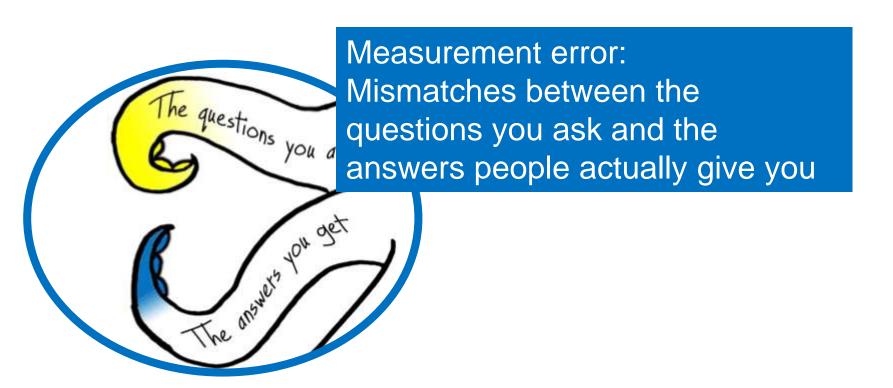
Responses

Clean the data

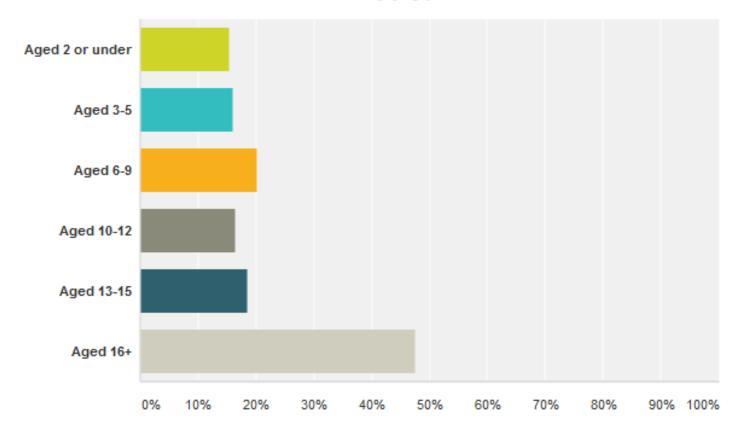


Answers

The answers that you get will tell you whether you had good questions



Are you a parent or guardian of a child in any of the following age bands (please tick all that apply)?



Clean your data

- Look for gaps and missing entries
- Remove any (unintended) duplicate responses
- Read the answers to make sure that they make sense compared to the questions



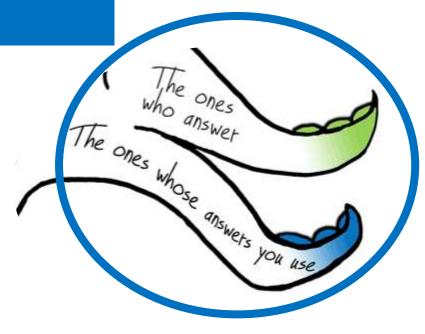
Caroline Jarrett @cjfofmæge@@diB\shottlerettock

Decide whose answers to include

Adjustment error:

Problems when deciding whether to include or exclude someone's

answers



Look after your data

- Data analysis can take a long time;
 you won't want to repeat it
 - Make copies of your data, especially before any drastic change
 - 'Undo' doesn't always work on large files
- Make notes of what you did
 - It helps if you have to defend your conclusions
 - It's hard to remember the details a year later



Decide what to do when people have skipped questions or dropped out

- 1. Remove the whole of that person's response
- 2. Use the partial responses, and accept that your number of responses is lower for some questions
- 3. Calculate an "imputed value"
 - Include a flag showing that the value is calculated
 - Estimate the most likely value using the other data

If you're not a statistician, you might need to find one to help with this

Responses

If you're losing people, have you still got representativeness?





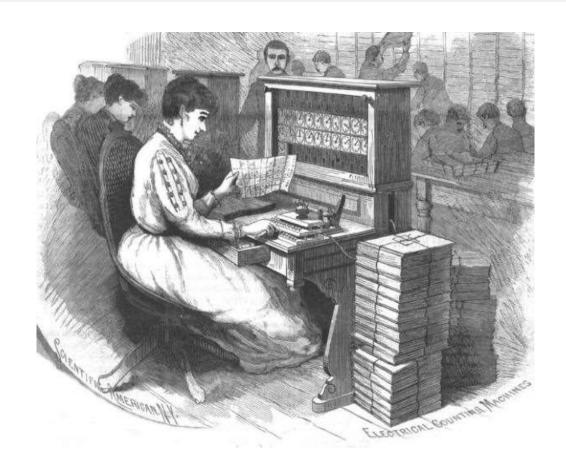
You can interpret data well – or poorly

Processing error:

Bad choices about how to interpret the answers



Typing in the answers = coding

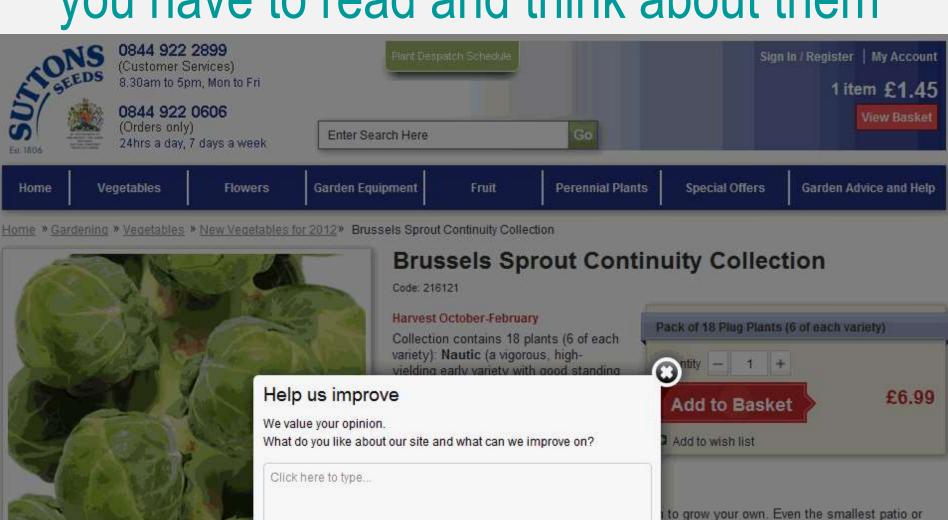


Responses

at will give you a bumper crop of delicious fresh

116

If you ask for answers, you have to read and think about them



Have a go at coding

Here are some answers from a survey

- Are there any themes?
- How would you code them?



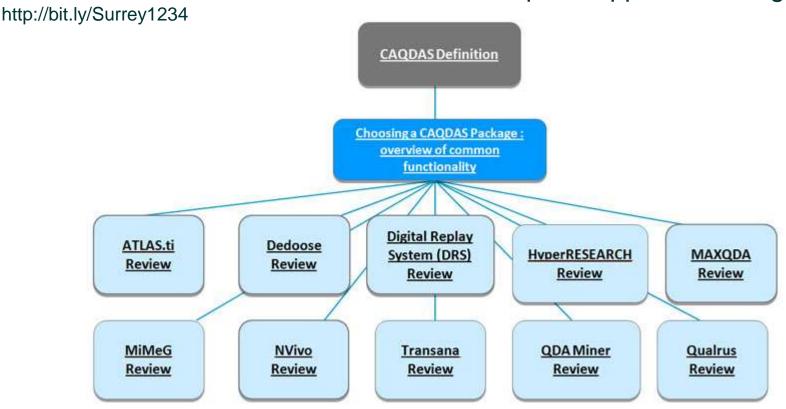
Responses

CAQDAS tools are available (but are a big challenge)

Before buying one, read this site:

http://www.surrey.ac.uk/sociology/research/

researchcentres/caqdas/support/choosing/index.htm



Wordle from a survey on usability certification

certification



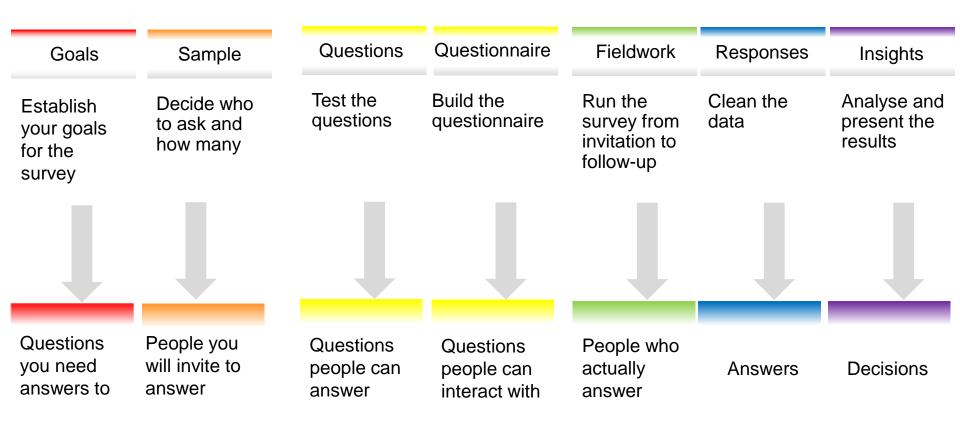
Wordle.net example: in favour of Facebook



Another: against Facebook



The survey process



The survey process

Insights

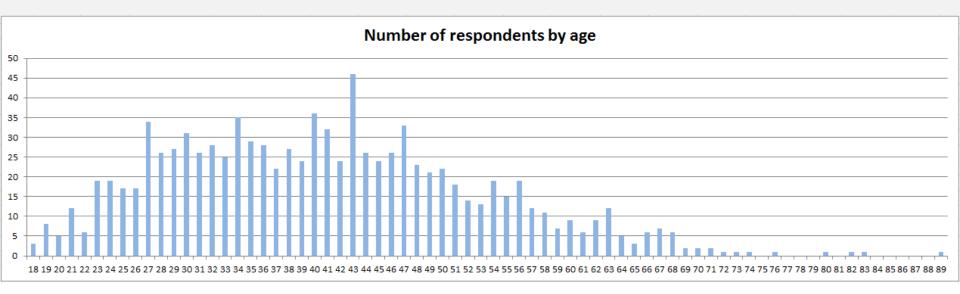
Analyse and present the results



Decisions

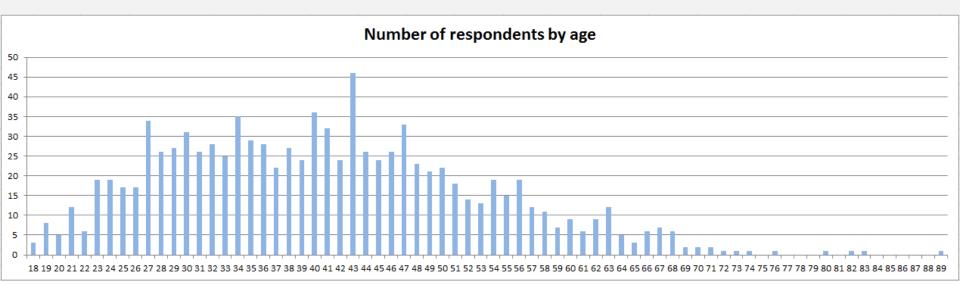


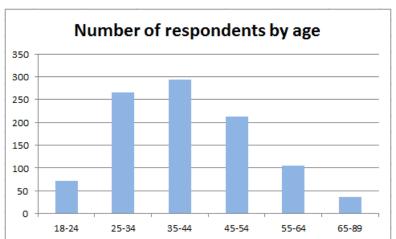
Explore your data and ask questions



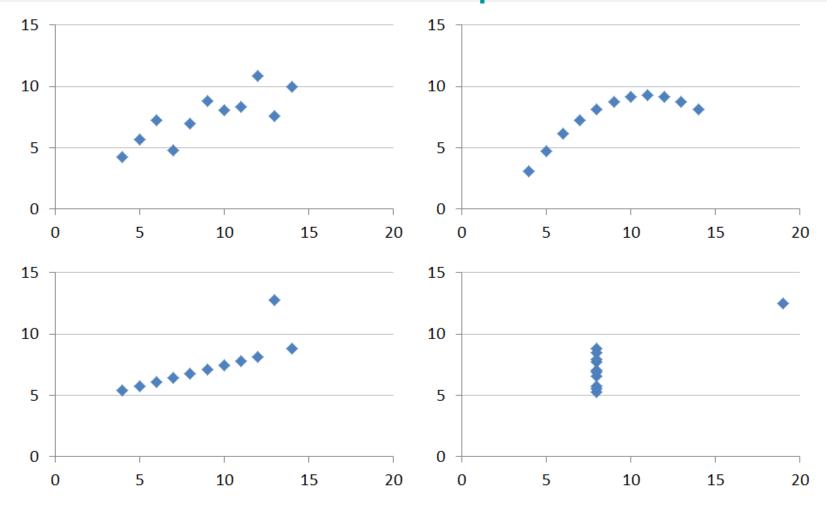


Explore your data and ask questions





Use graphs and charts to understand relationships in the data



Two datasets, same summaries

X Mean: 54.26

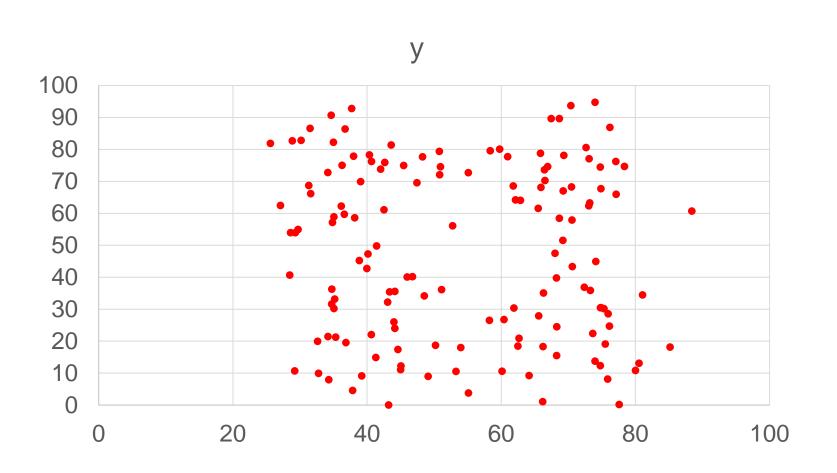
• Y Mean: 47.83

• X SD: 16.76

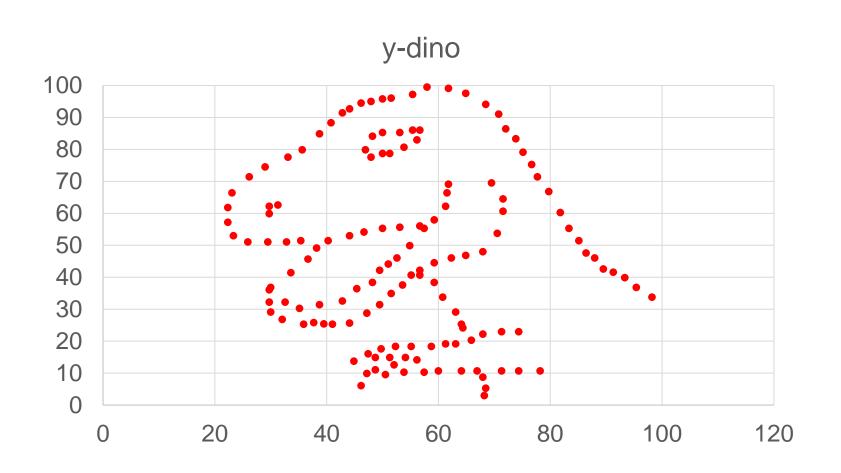
• Y SD: 26.93

• Corr.: -0.06

Justin Matejka's dataset



Alberto Cairo's dataset



Use descriptive statistics to explore numerical data

- Most seen for statistics
 - Mean (arithmetic average)
 - Standard deviation (spread of answers)
- Useful for thinking about the data
 - Range (lowest to highest)
 - Mode (most common answer)

Dealing with rating questions

A 'Like / Dislike' question got these responses

Strongly dislike	2
Dislike	6
Neither dislike nor like	14
Like	31
Strongly like	13

Total responses 66

Please work out:

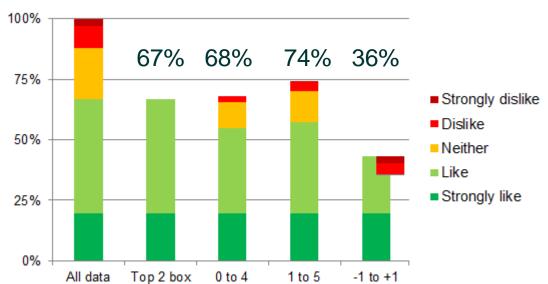
the percentage of respondents who 'like'



There are many ways to combine ratings into means and percentages

- 47%
- 67%
- 68%
- 74%
- 36%

- 31 ticked 'like' so 31/66 = 47%
- 'Top box' / 'top 2 box' uses the positive responses
- '0 to 4' weights responses: 0%, 25%, 50%, 75%, 100%
- '1 to 5' weights responses: 1, 2, 3, 4, 5 (then divide by 5)
- '-1 to 1' weights responses: -100%, -50%, 0, 50%, 100%



This example has a graph

This example uses the calculation:

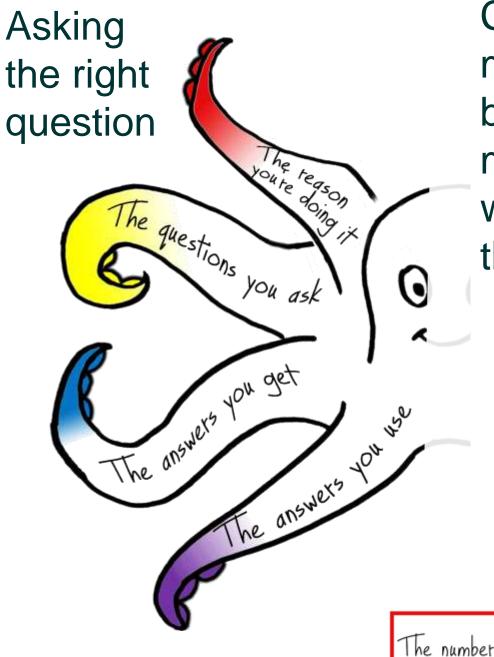
```
Poor = 1
Reasonable = 2
Good = 3
Excellent = 4
```

Is the graph an appropriate illustration of the data?



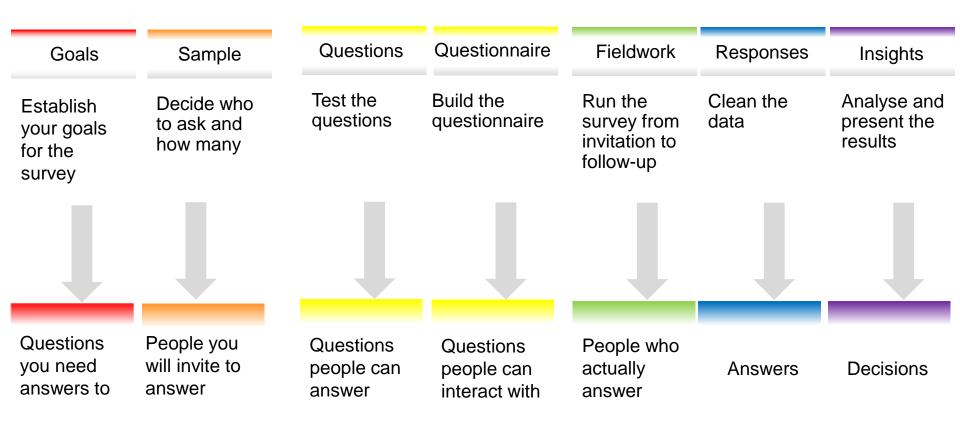
Net Promoter Score[™] has a special analysis method



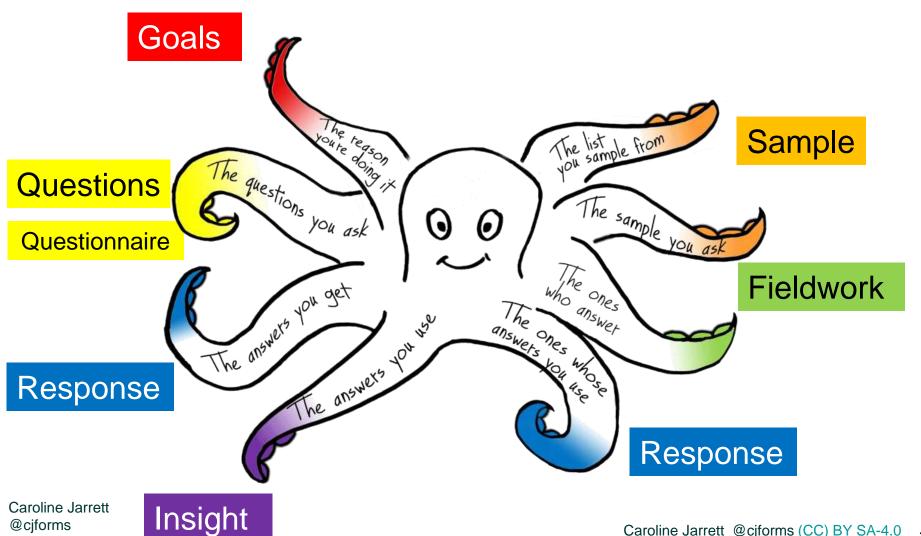


Choose whichever method you like, but you must make the choice when you decide on the goals of the survey

The survey process



All the topics are connected



The aim is to get the best number you can, within the resources you have

What you want to ask about

The reason you're doing it

The questions you ask

The answers you get

The answers you use

Who you want to ask

The list that you sample from

The sample you ask

The ones who answer

The ones whose answers you can use

The aim is to get the best number you can, within the resources you have

Who you want to ask What you want to ask about The list that you sample from The reason you're doing it The sample you ask The questions you ask The ones who answer The answers you get The ones whose answers you can use The answers you use

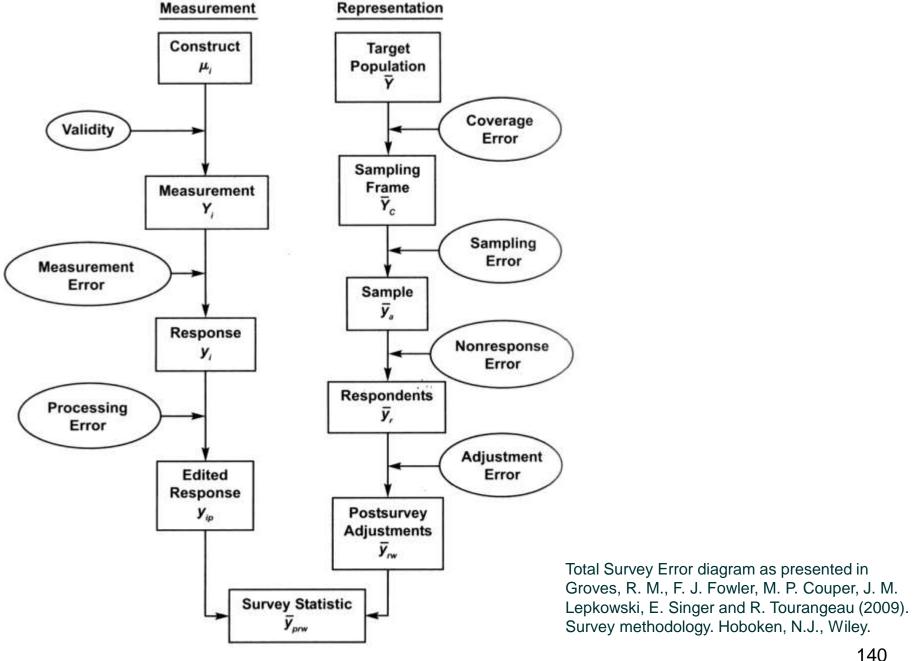
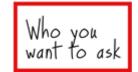


Figure 2.5 Survey life cycle from a quality perspective.

Measurement

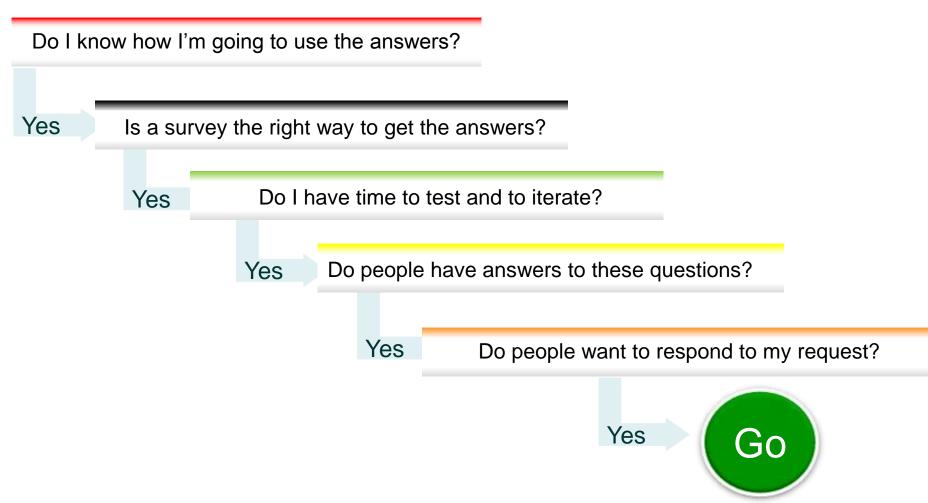


Asking one person the right question

is better than

Asking 10,000 people the wrong question

Should I do this survey?



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