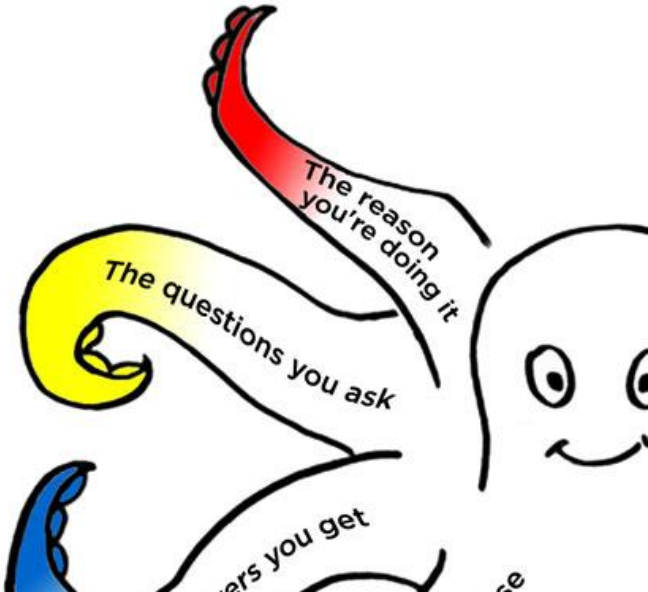
Surveys that work

A Practical Guide to Designing Better Surveys

Caroline Jarrett
@cjforms



What would you do for a dollar?

$1 in the envelope beats $10 guaranteed later

Why do people answer questions?

I’m the forms specialist

Image credit: Flickr, taxrebate.org.uk

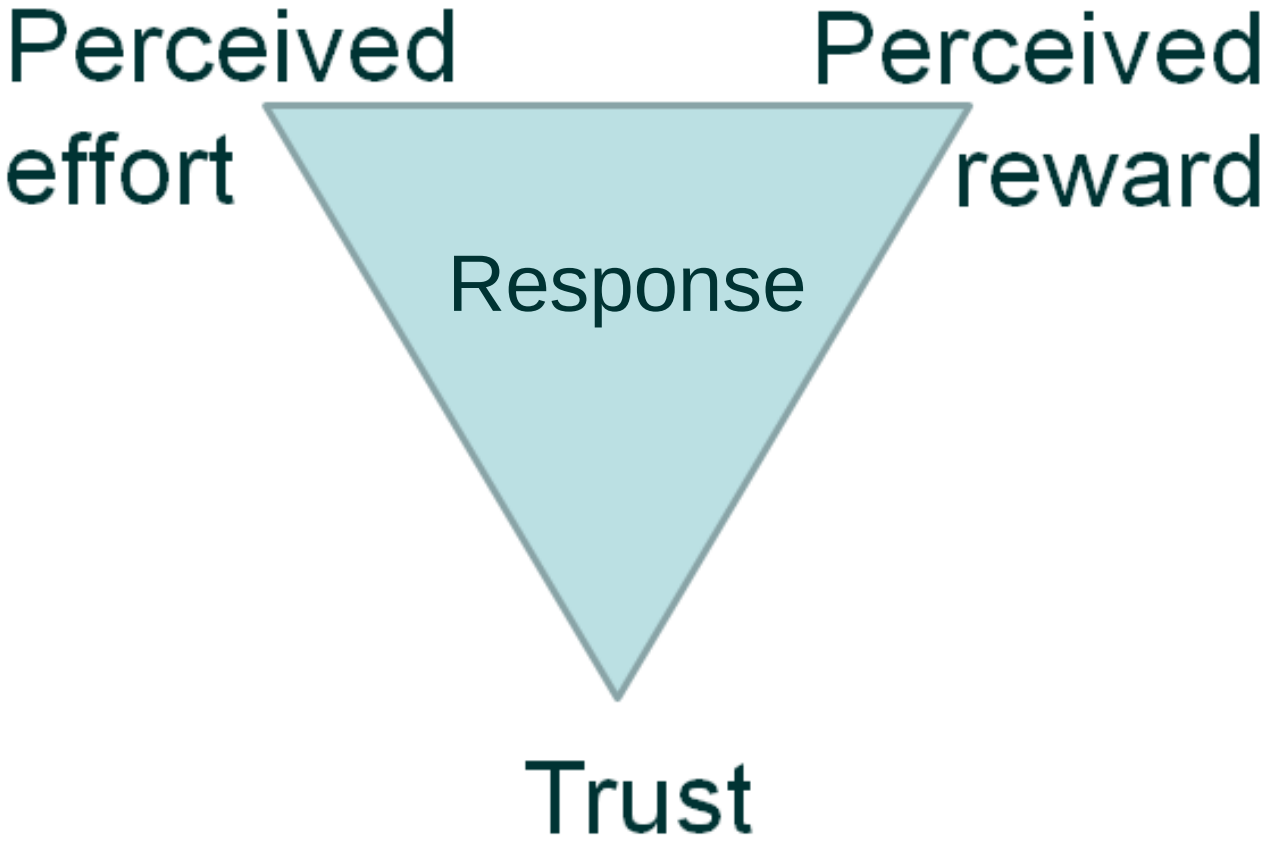


Diagram inspired by Dillman, D.A. (2000)
“Internet, Mail and Mixed Mode Surveys: The Tailored Design Method”

Would you answer this survey?

Luton Business Survey 2011 - YOUR HELP IS NEEDED

[redacted] <[redacted]@luton.gov.uk>

Sent: Mon 06/06/2011 09:49

To:

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We want Luton to be a great place to do business.
We need your help to make this happen.

Luton Borough Council, alongside BMG Research, are currently conducting a business survey about the needs of local businesses. This will help the Council to effectively shape and deliver services that support long term economic growth. We would be grateful if you could participate in this online survey and help us to help you. The survey will expire on 26th June 2011

Click Here to Complete Survey

People ask me about surveys

“Please have a look at this survey”

“Tell me whether this is a good question”

“How many people do I need in my sample?”

“Will that be statistically significant?”

I wrote a book

It seemed easier than continuing to answer lots of survey questions

https://rosenfeldmedia.com/books/surveys-that-work/

Let’s think about these topics today

“Please have a look at this survey”

“Tell me whether this is a good question”

“How many people do I need in my sample?”

“Will that be statistically significant?”

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.

I change the definition a bit

systematic method	becomes	process
gathering information	becomes	ask questions
entities	become	people
quantitative descriptors	become	numbers
attributes of the larger population	become	make decisions

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

Let’s rearrange that somewhat

To make decisions

From people

The survey is a process for getting answers to questions

getting numbers

Start with why and who; end with the number

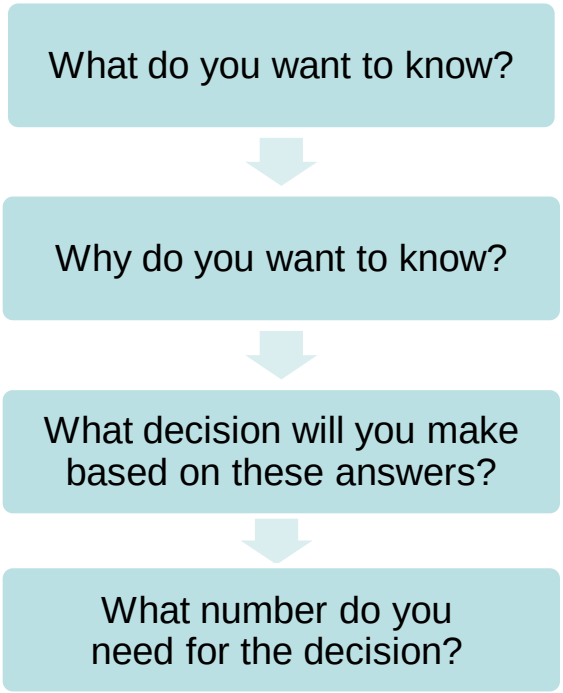
Why you want to ask

Who you want to ask

The survey is a process for getting answers to questions

The number

Establish your goals for the survey



Key Point 1

The aim of a survey is to get a number that will help with a decision

Let’s have a good look at that process

Why you want to ask

Who you want to ask

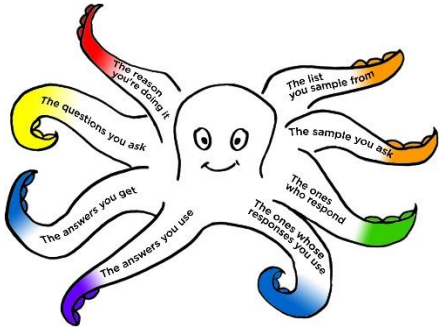
The survey is a process for getting answers to questions

The number

The Survey Octopus has things to think about

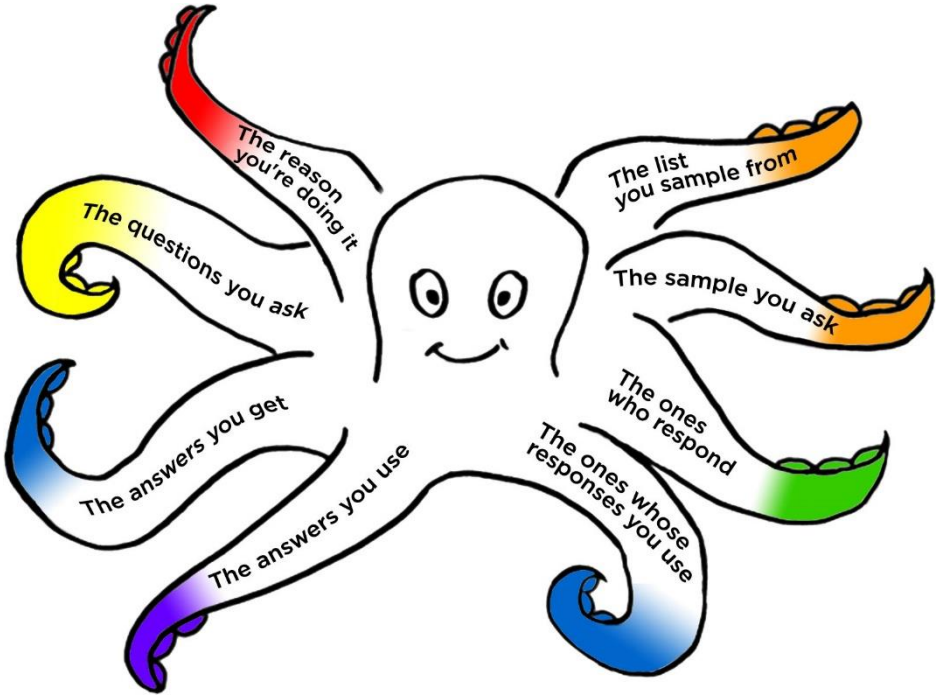
Why you want to ask

Who you want to ask



The number

The topics are all somewhat connected



I made a process from the things to think about

Goals

Sample

Questions

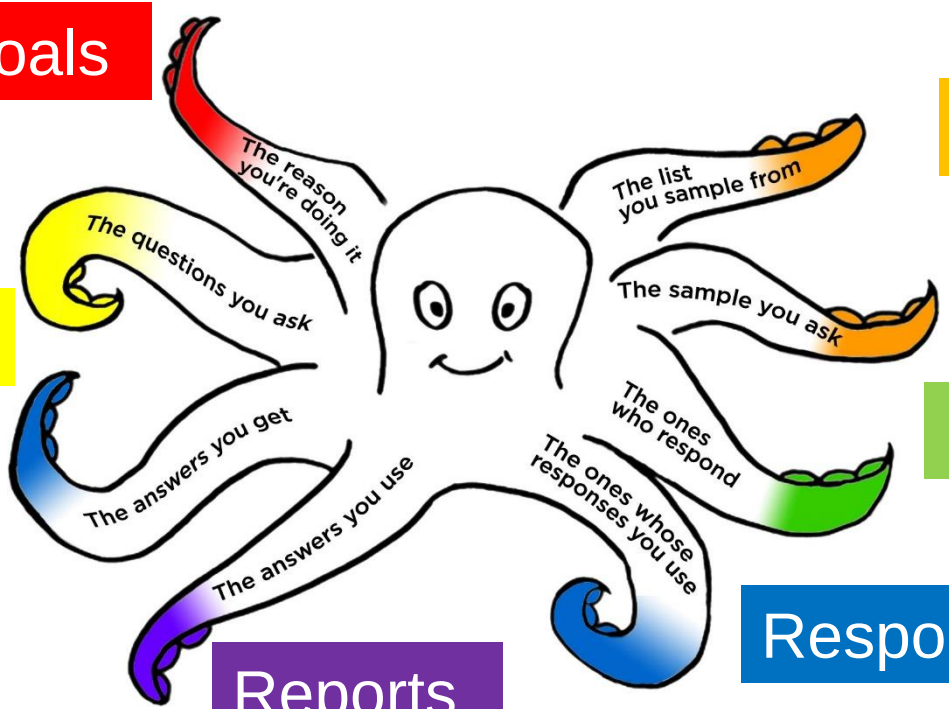
Questionnaire

Fieldwork

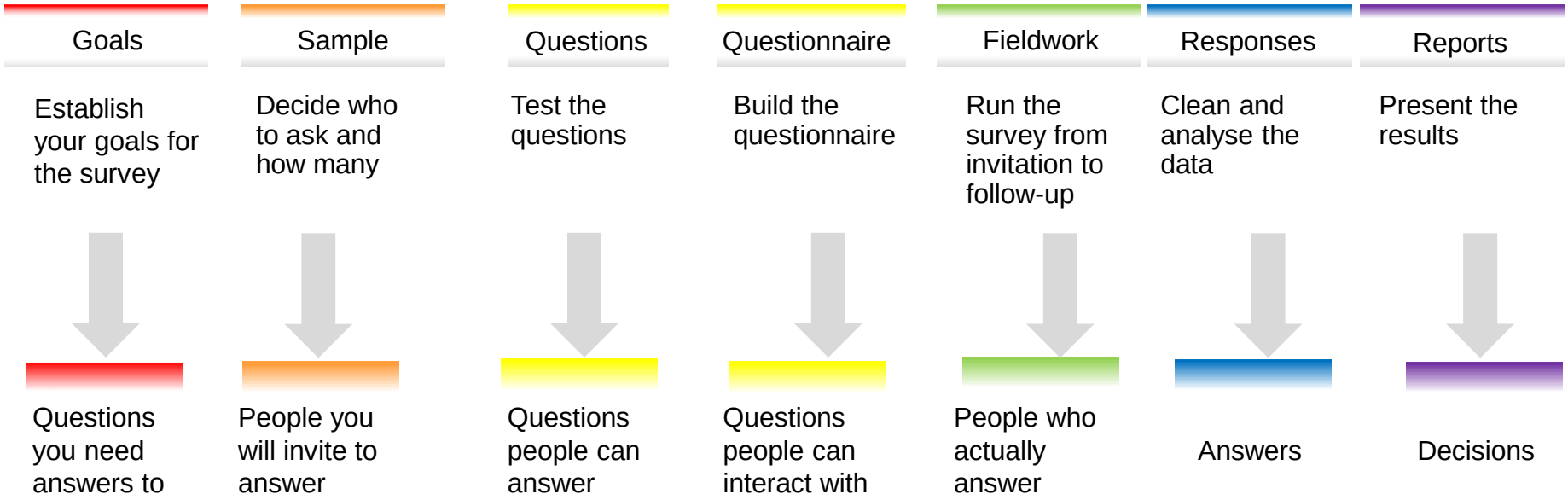
Response

Response

Reports



Here are the 7 steps as a linear process



People ask me about surveys

“Please have a look at this survey”

“Tell me whether this is a good question”

“How many people do I need in my sample?”

“Will that be statistically significant?”

Is this a good question?

Would you recommend us to a friend or family member?

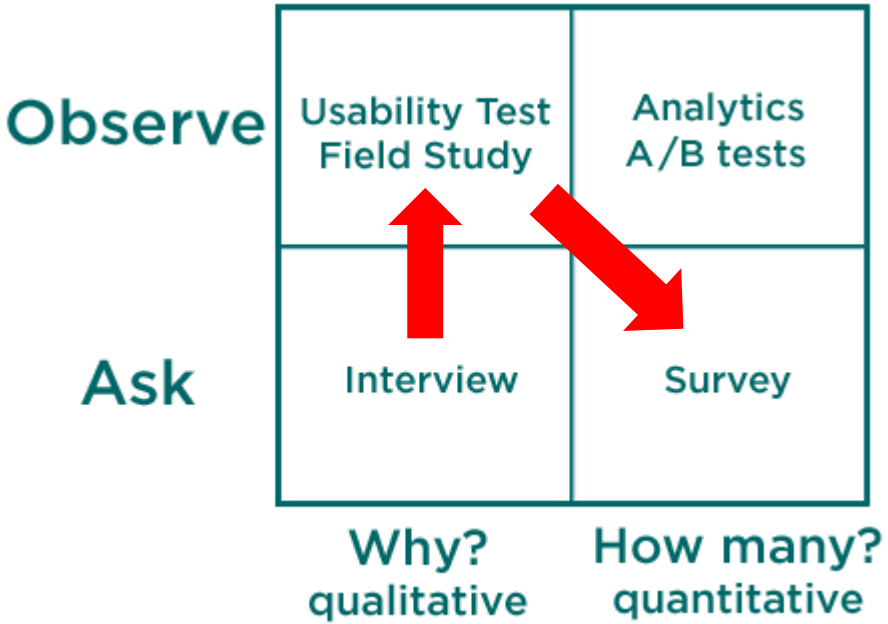
“Recommend to friend/family” can be OK

	A store selling clothes	
What do you want to know?	Whether they will recommend	
Why do you want to know?	To compare numbers over time	
What number do you need to make a decision?	Some good ones (investigate and fix problems) Some bad ones (punish staff)	

“Recommend to friend/family” can be very weird

	A store selling clothes	**A hospital ward**
What do you want to know?	Whether they will recommend	????
Why do you want to know?	To compare numbers over time	Because someone said they had to ask
What number do you need to make a decision?	Some good ones (investigate and fix problems) Some bad ones (punish staff)	???? What decision?

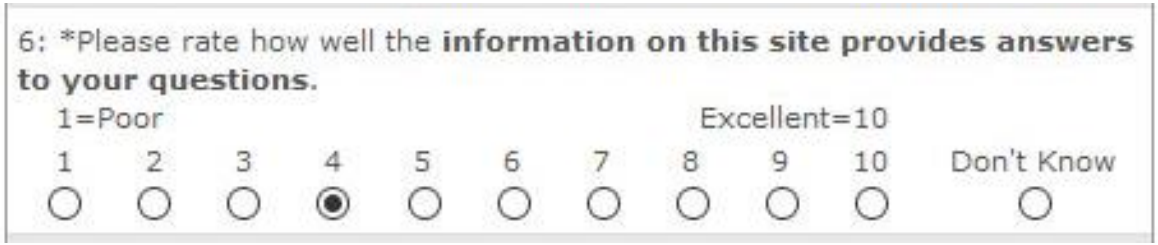
Make sure that you test your questionnaire



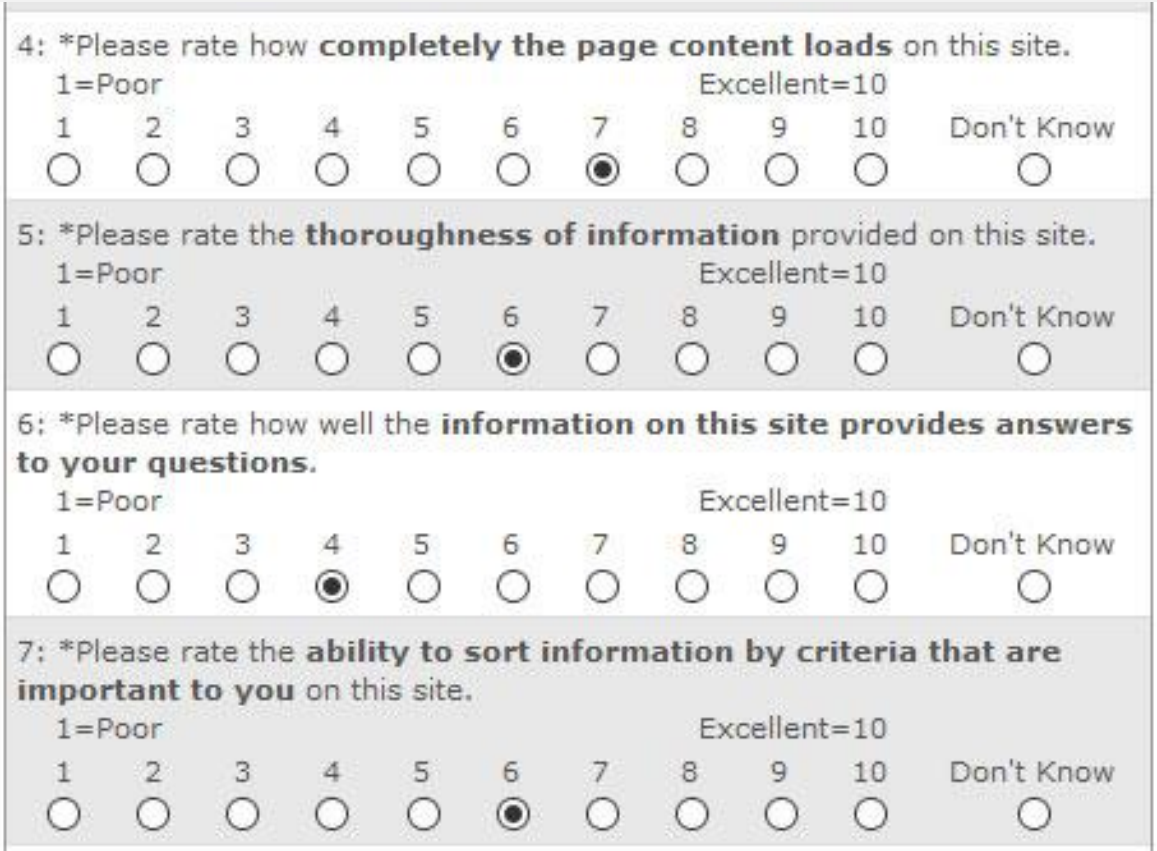
Key Point 2

To find out whether a question is a good one, test it with people who will answer it

Some questions are reasonable

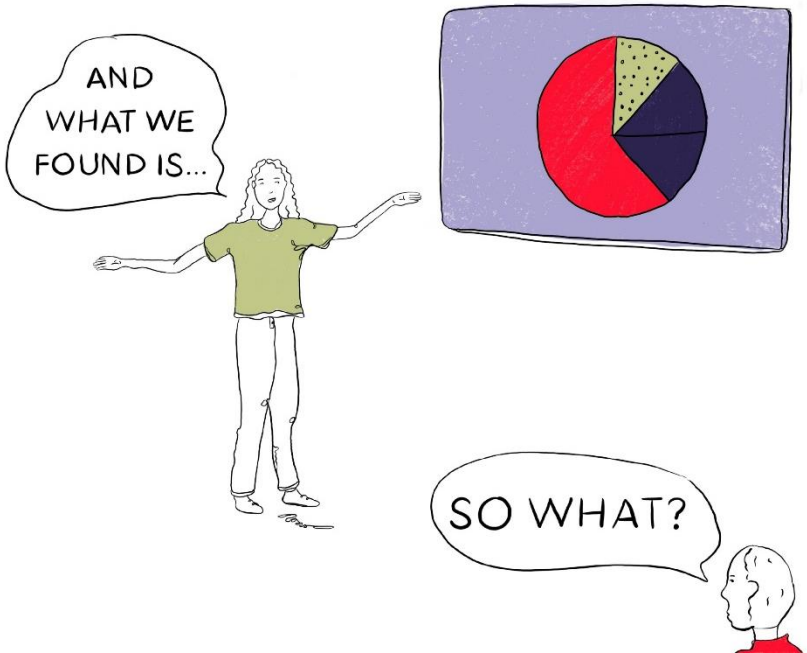


Some questions are inscrutable



Key Point 3

Look for the ‘so what’ in every question



People ask me about surveys

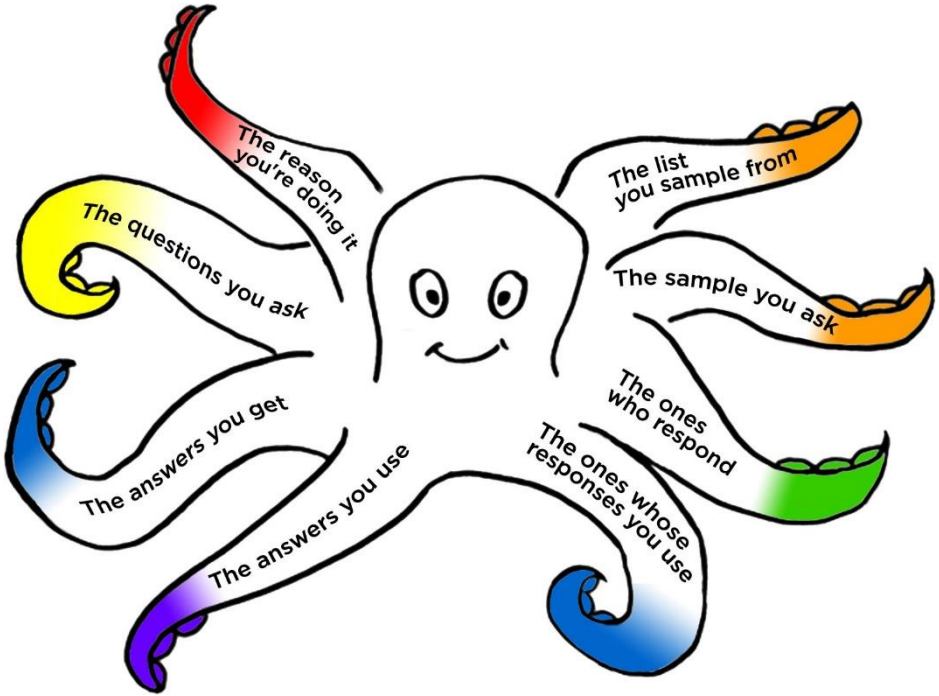
“Please have a look at this survey”

“Tell me whether this is a good question”

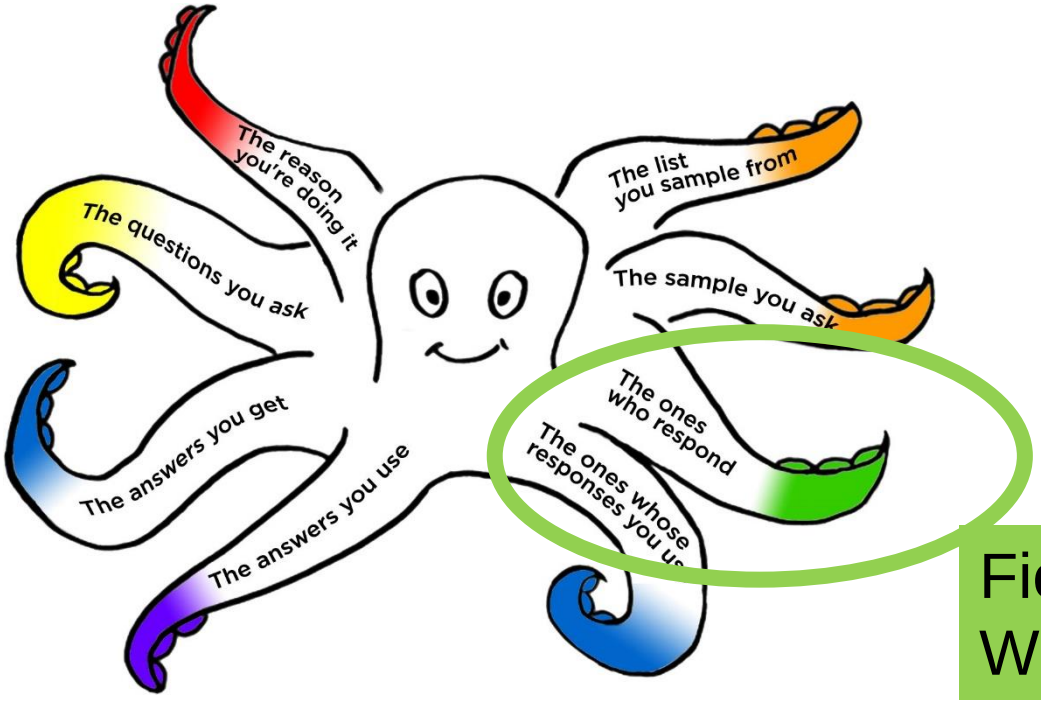
“How many people do I need in my sample?”

“Will that be statistically significant?”

To work that out, let's visit the Octopus



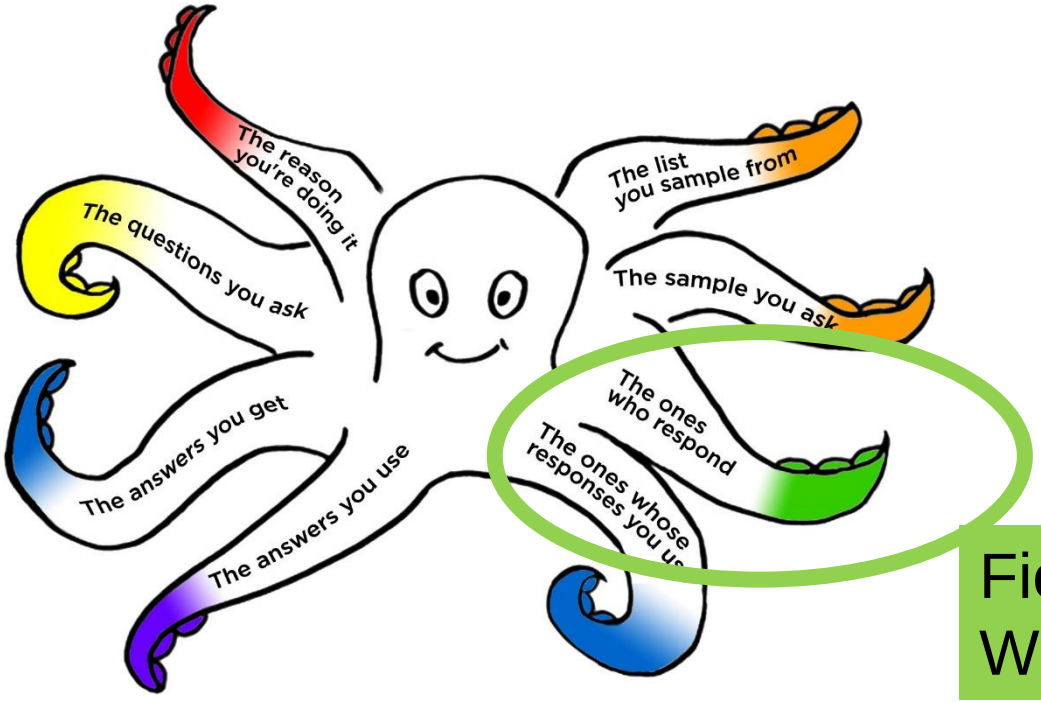
Start with the number of answers you need



Fieldwork:
Who answers?

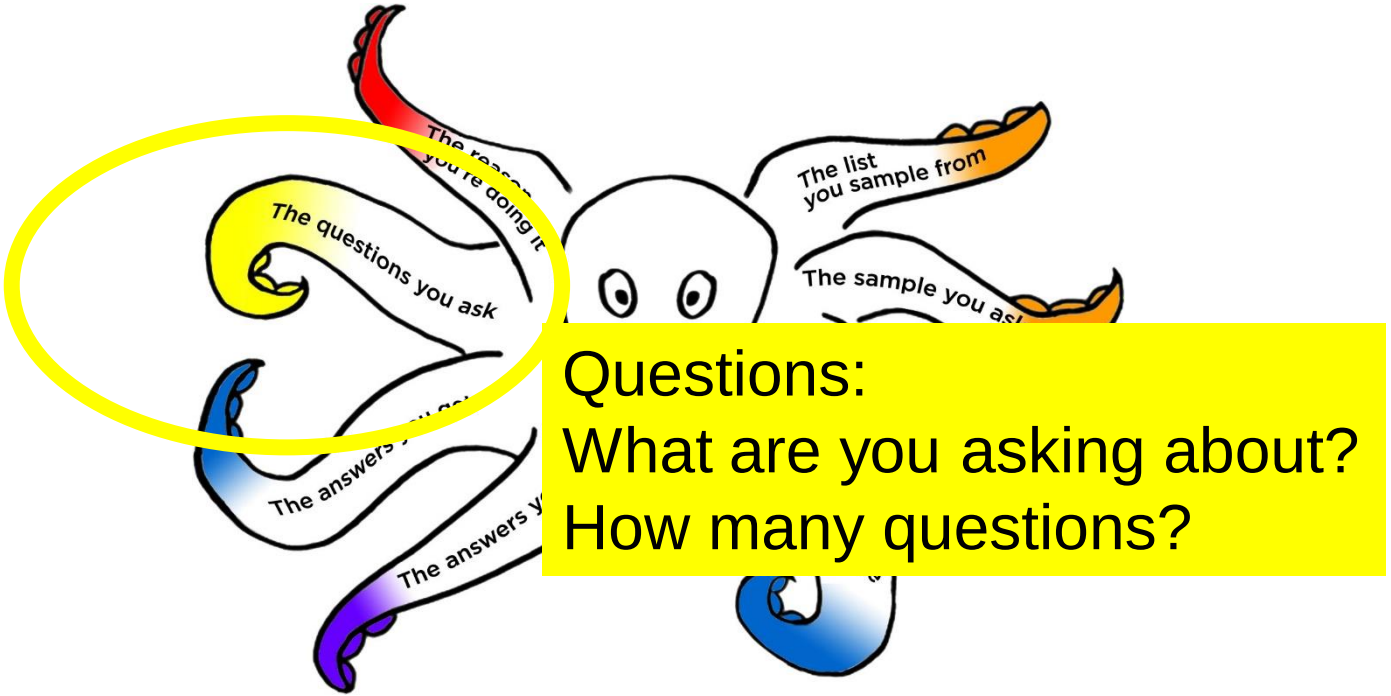
Start with the number of answers you need

10,000



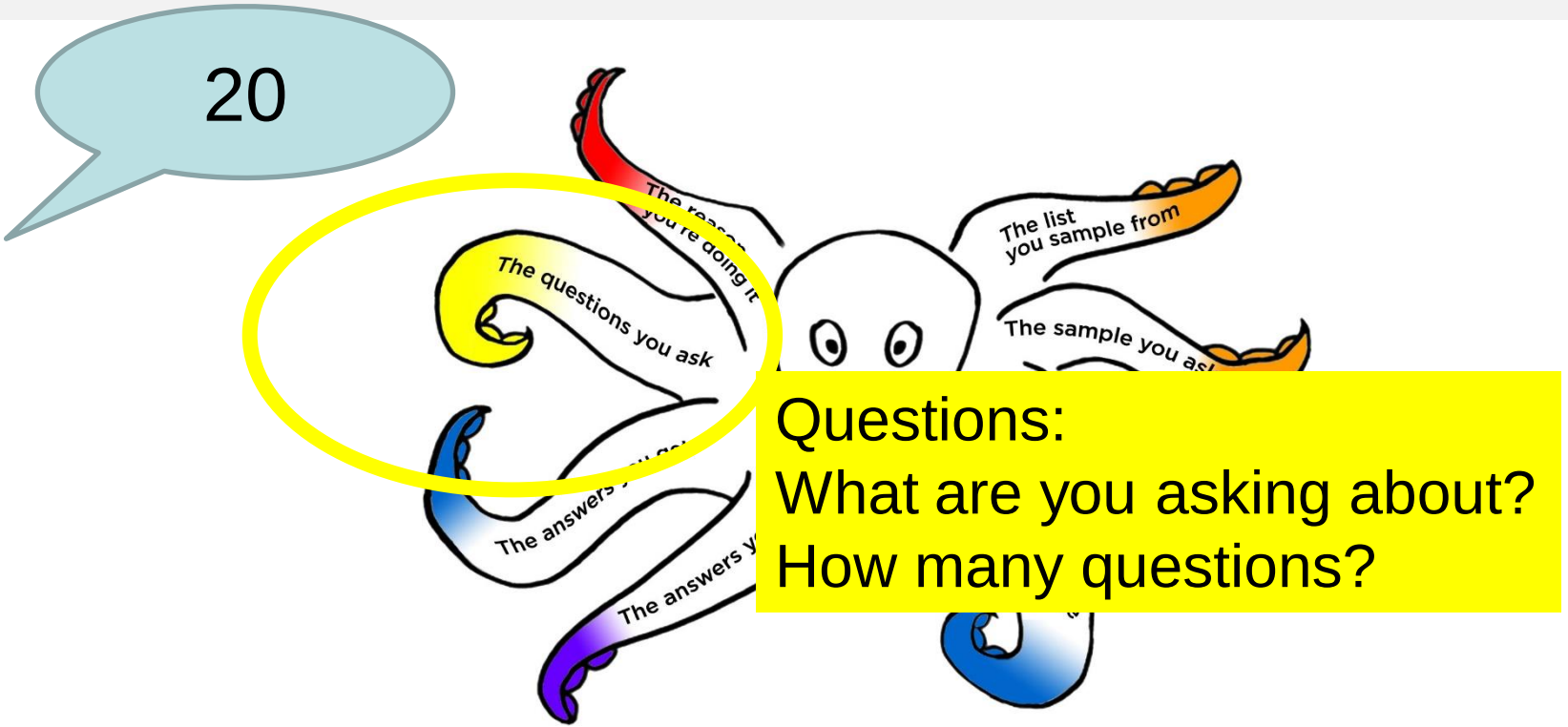
Fieldwork:
Who answers?

Whether they'll answer depends on effort



Questions:
What are you asking about?
How many questions?

Whether they'll answer depends on effort



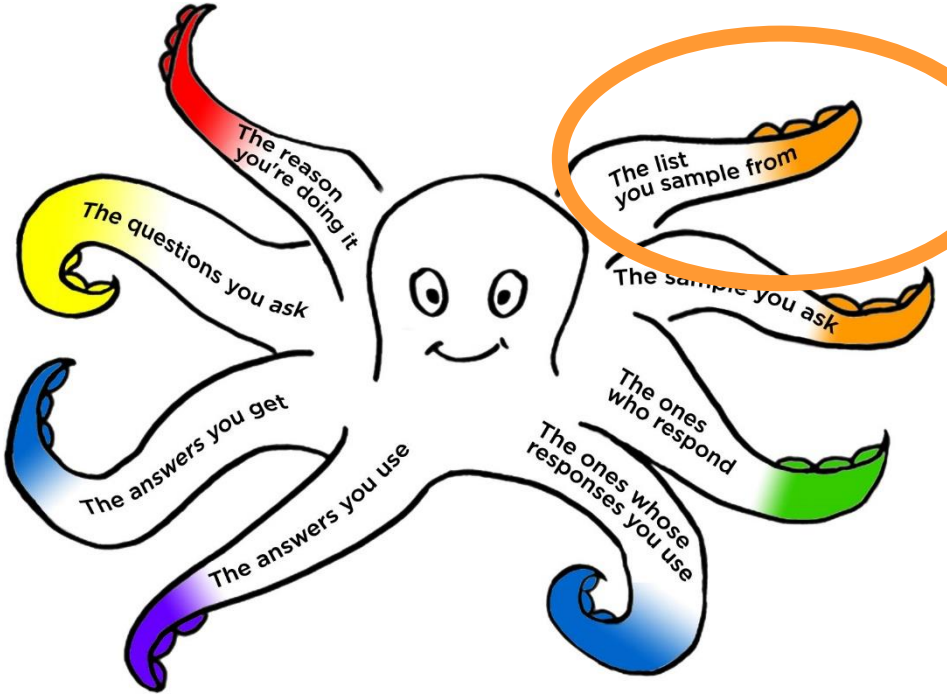
And on the reward you're offering

Goals:
Why are you asking?
Is helping you a reward in itself?
Are you offering any other incentive?

And on the reward you're offering

Goals:
Why are you asking?
Is helping you a reward in itself?
Are you offering any other incentive?

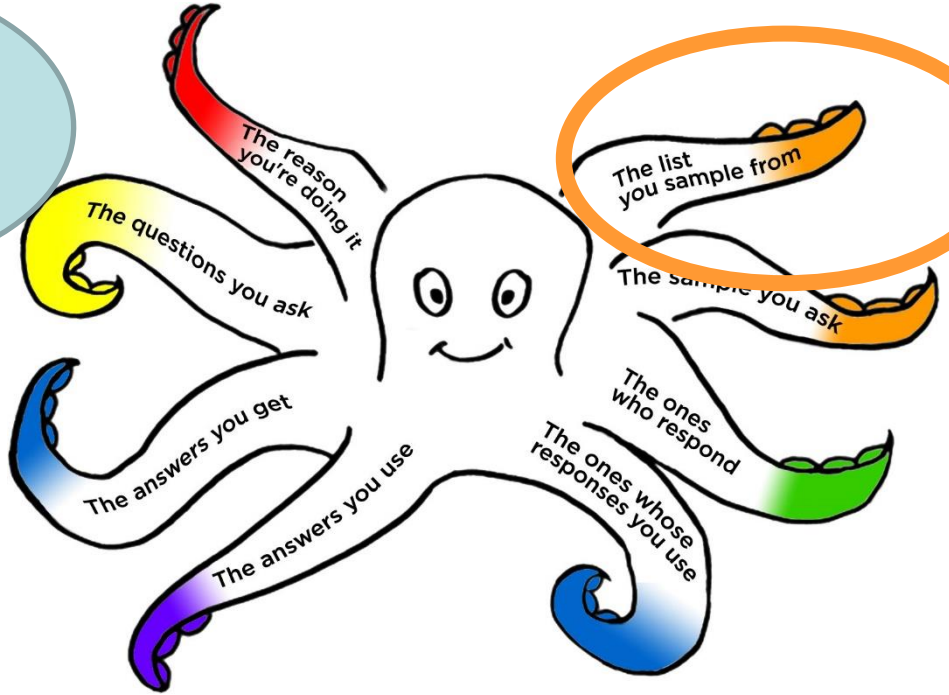
How do people feel about this?



Sample:
the list you sample from

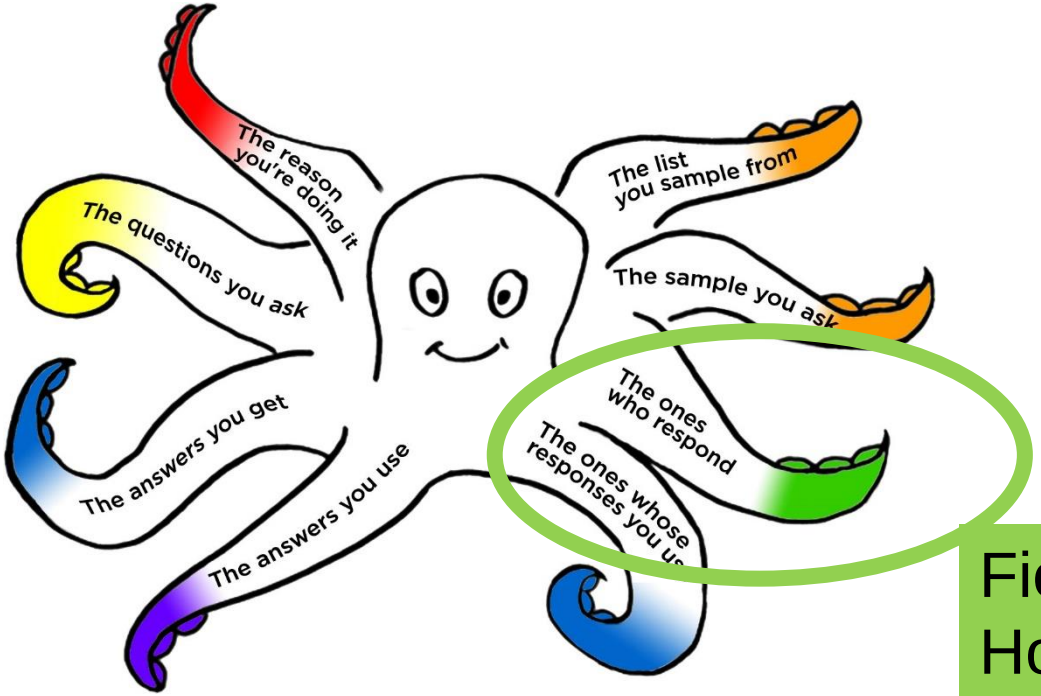
How do people feel about this?

Customers



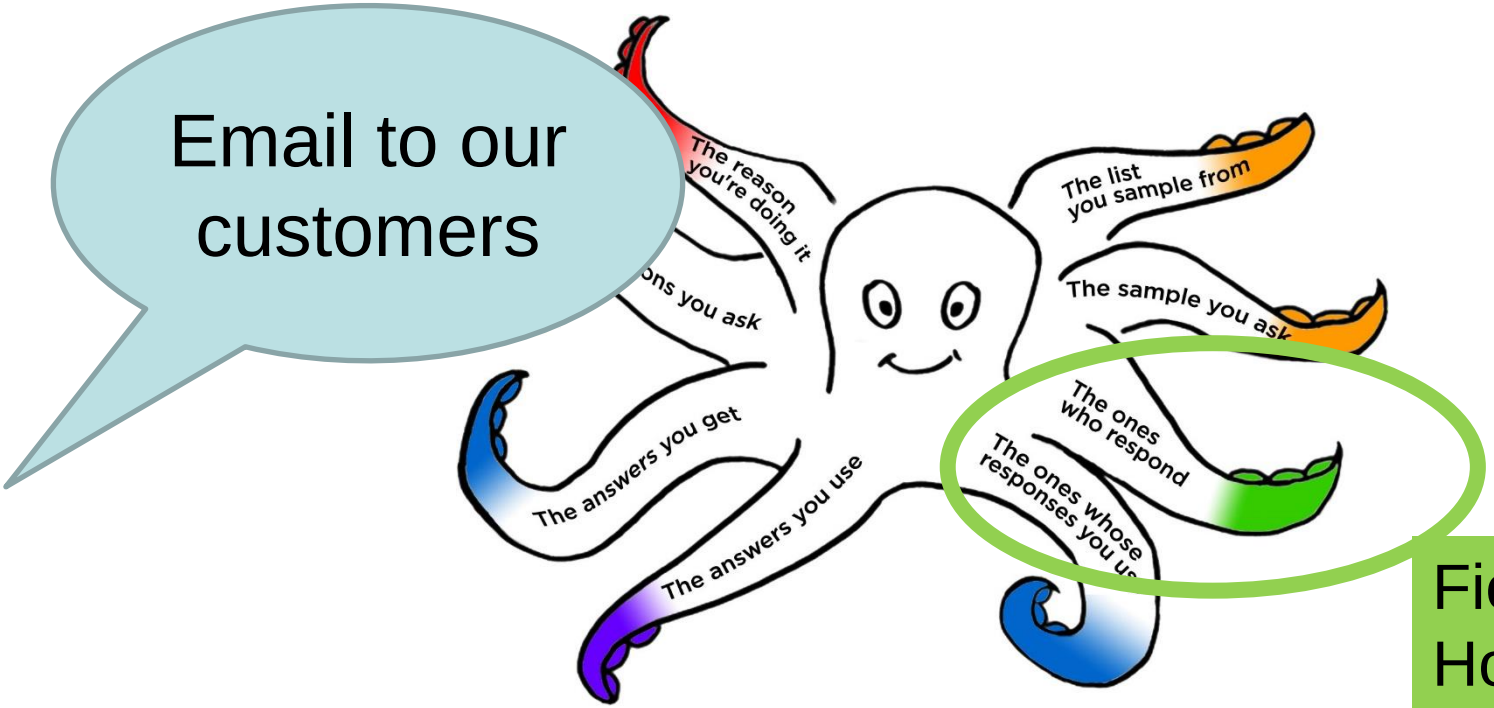
Sample:
the list you sample from

How are you delivering the questionnaire?



Fieldwork: How are you asking?

How are you delivering the questionnaire?



Fieldwork: How are you asking?

Response rates vary by method of asking

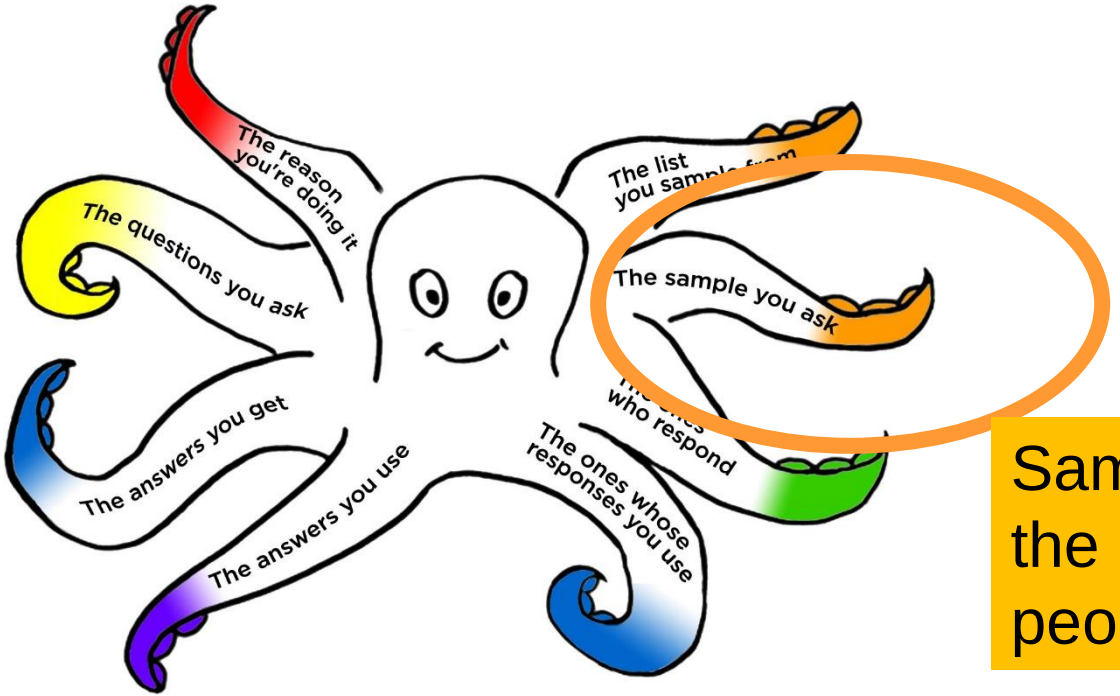
Method of asking	Possible response rate	Possible replies for 1000 invitations
Mailed paper survey	Up to 70%	700
Email invitation to selected group, specific one-off survey	Up to 20%	200
Routine email after every transaction	Maybe 5%	50
Banner invitation on a website	Less than 0.1%	1

There are many influences on response rate

It depends on

- How you're asking
- Why you're asking
- What you're asking and the type of questionnaire you make
- Who you're asking

And now it's easy to work out how many to ask

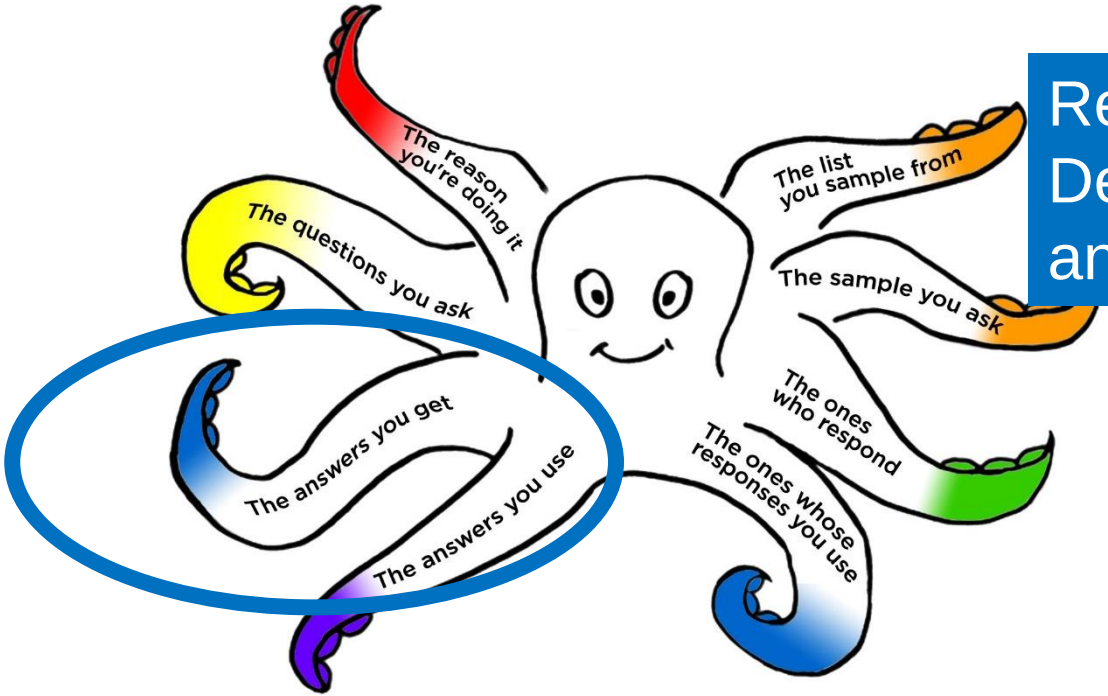


Sample:
the number of people to ask

Work through from response rate

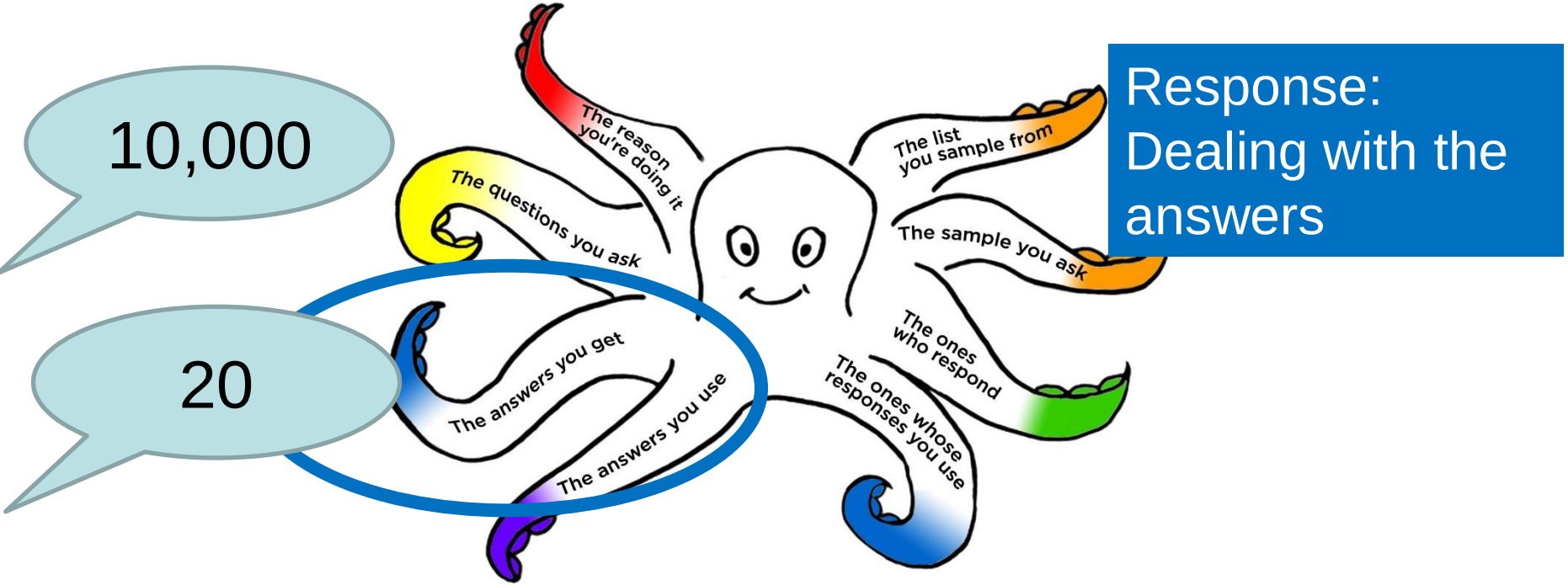
Topic	Answer	Effect on response rate
How you're asking	Email to selected customers	Maybe 20 in 100 (20%)
Why you're asking	Make improvements	OK, no change
What you're asking	20 questions	Quite long, reduces rate
The type of questionnaire	Nicely designed online questionnaire	OK, no change
Who you're asking	Selected loyal customers	Personal, directed, no change
Possible eventual rate		Maybe 10 in 100 (10%)

But wait, there's more!



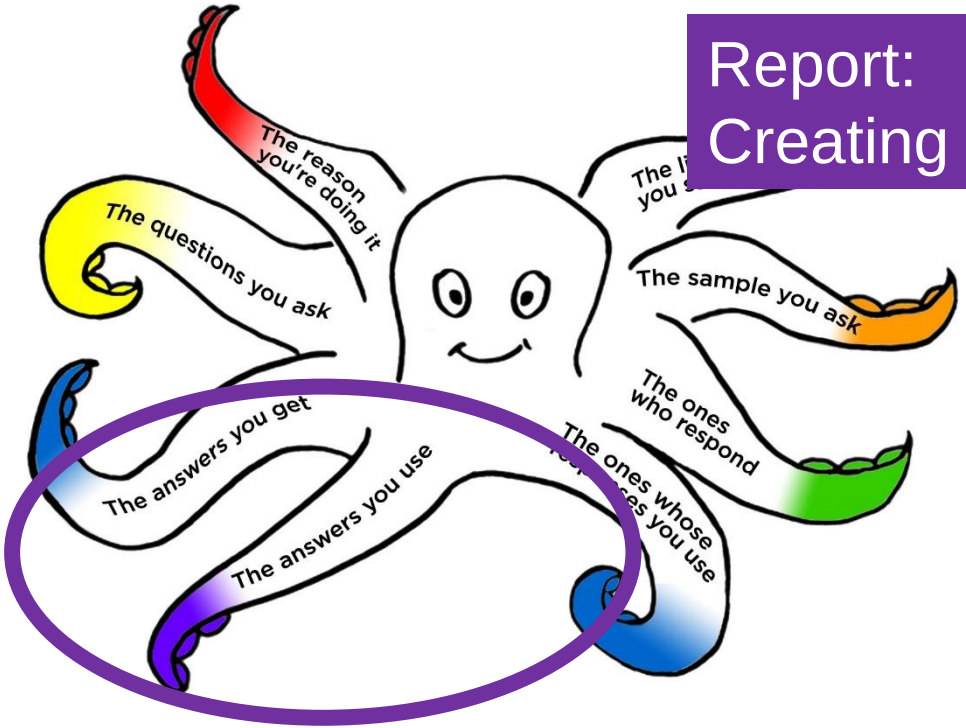
Response: Dealing with the answers

Who will process those 200,000 data items?



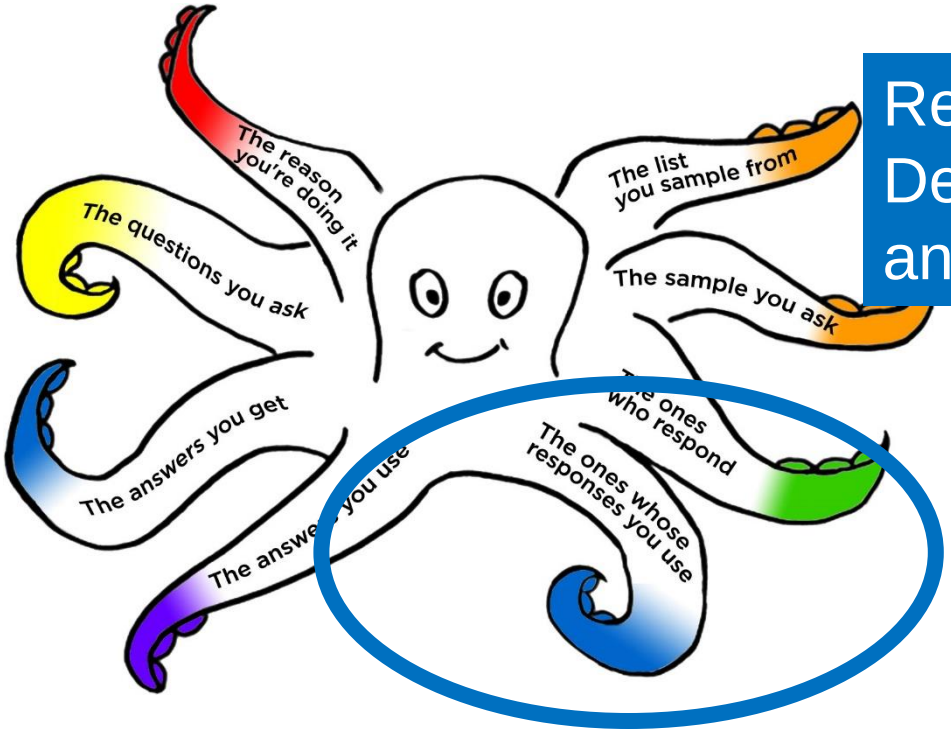
Response: Dealing with the answers

And do you really need all of them?



Report:
Creating the decision

And who actually answered?



Response: Dealing with the answers

I think about the Lone Norwegian

Photo by Giorgio Grani in Oslo on Unsplash

Key Point 4

A sample size calculation needs
the entire Survey Octopus

People ask me about surveys

“Please have a look at this survey”

“Tell me whether this is a good question”

“How many people do I need in my sample?”

“Will that be statistically significant?”

What type of significance do you need?

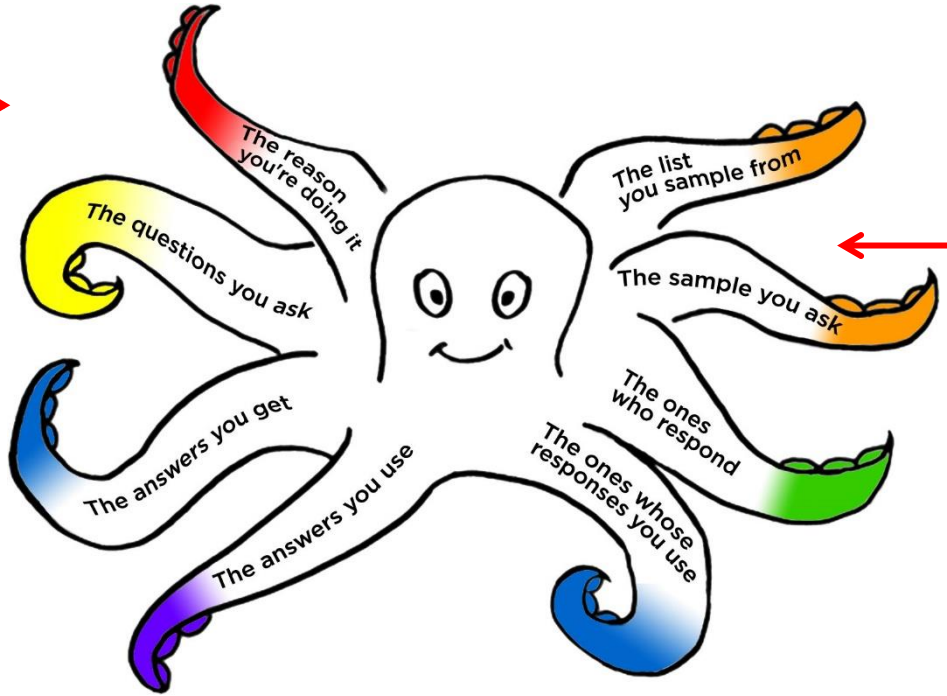
- A result that is *statistically significant* is one that is mathematically unlikely to be the result of chance

- A result that is *significant in practice* is one that is meaningful in the real world

Adapted from Ellis, P. D. (2010). The Essential Guide to Effect Sizes: Statistical Power, Meta-Analysis, and the Interpretation of Research Results. Cambridge, Cambridge University Press

If you ask the wrong questions, you'll fail at validity

(Lack of) validity



Sampling error

Key Point 5

Asking one person
the right question

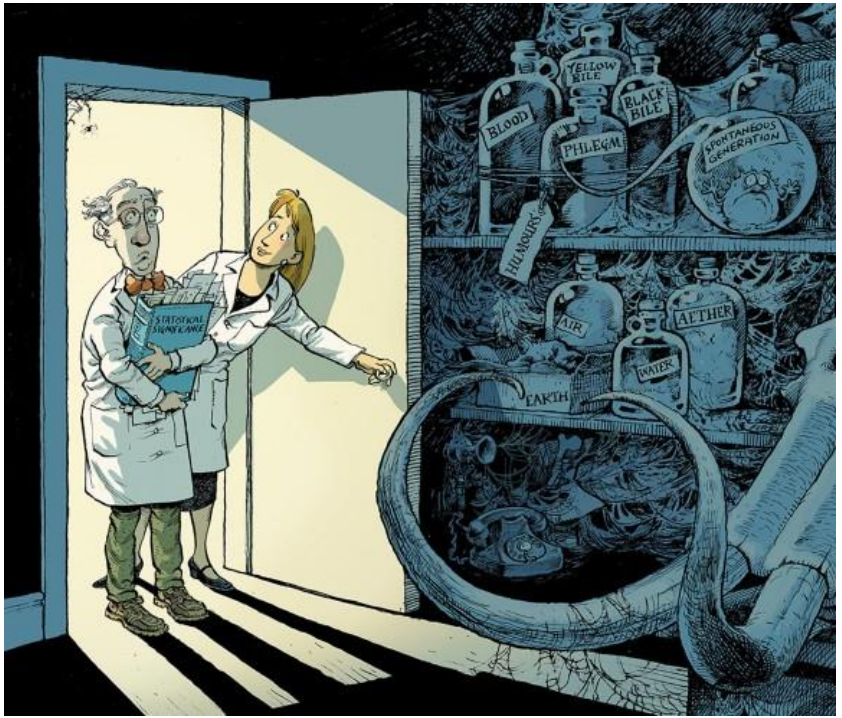
gets better results

than asking 10,000 people
the wrong question

Many statisticians aren't keen, either

Scientists rise up against statistical significance

https://www.nature.com/articles/d41586-019-00857-9

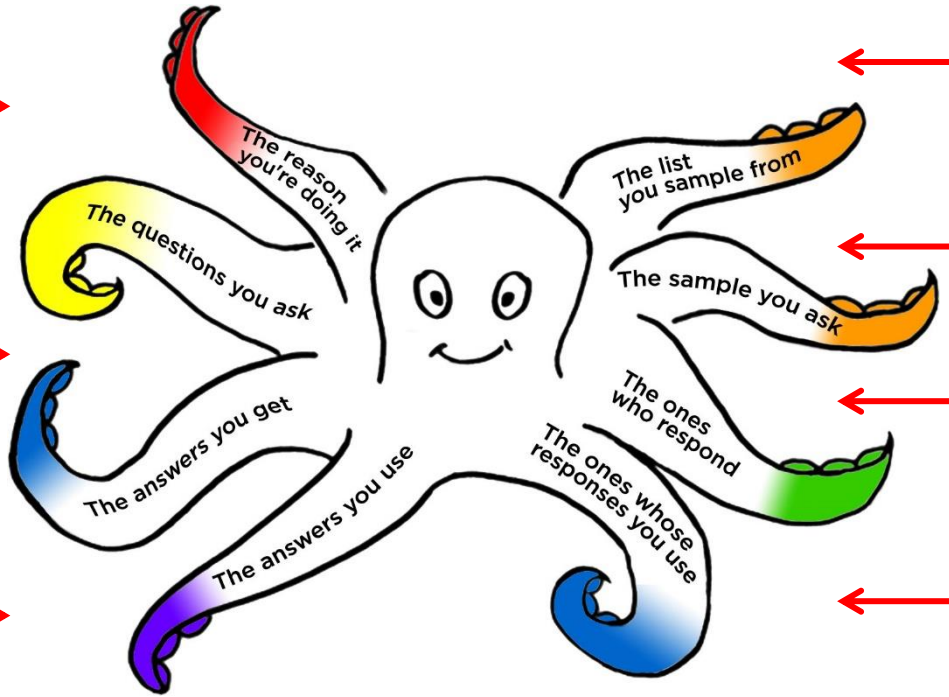


There are errors all around the Survey Octopus

(Lack of) validity

Measurement error

Processing error



Coverage error

Sampling error

Non-response error

Adjustment error

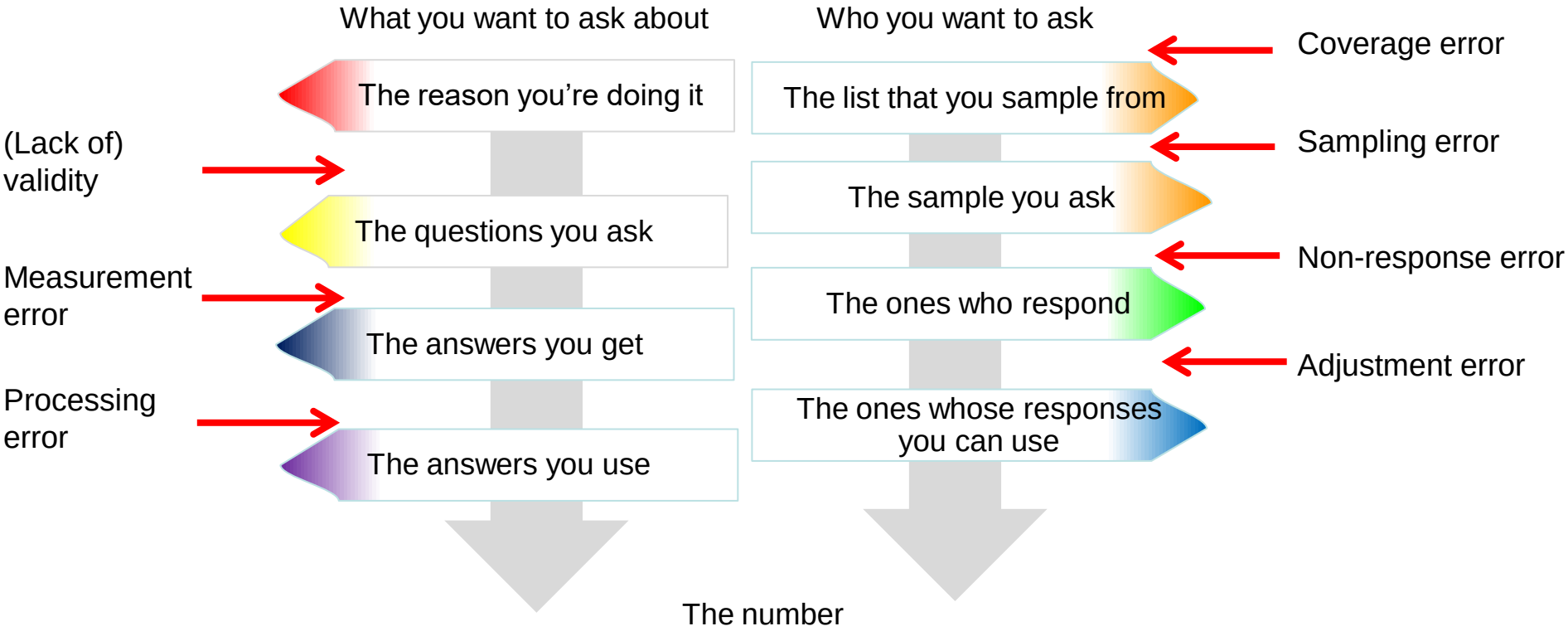
Key Point 6

Significance in practice comes from

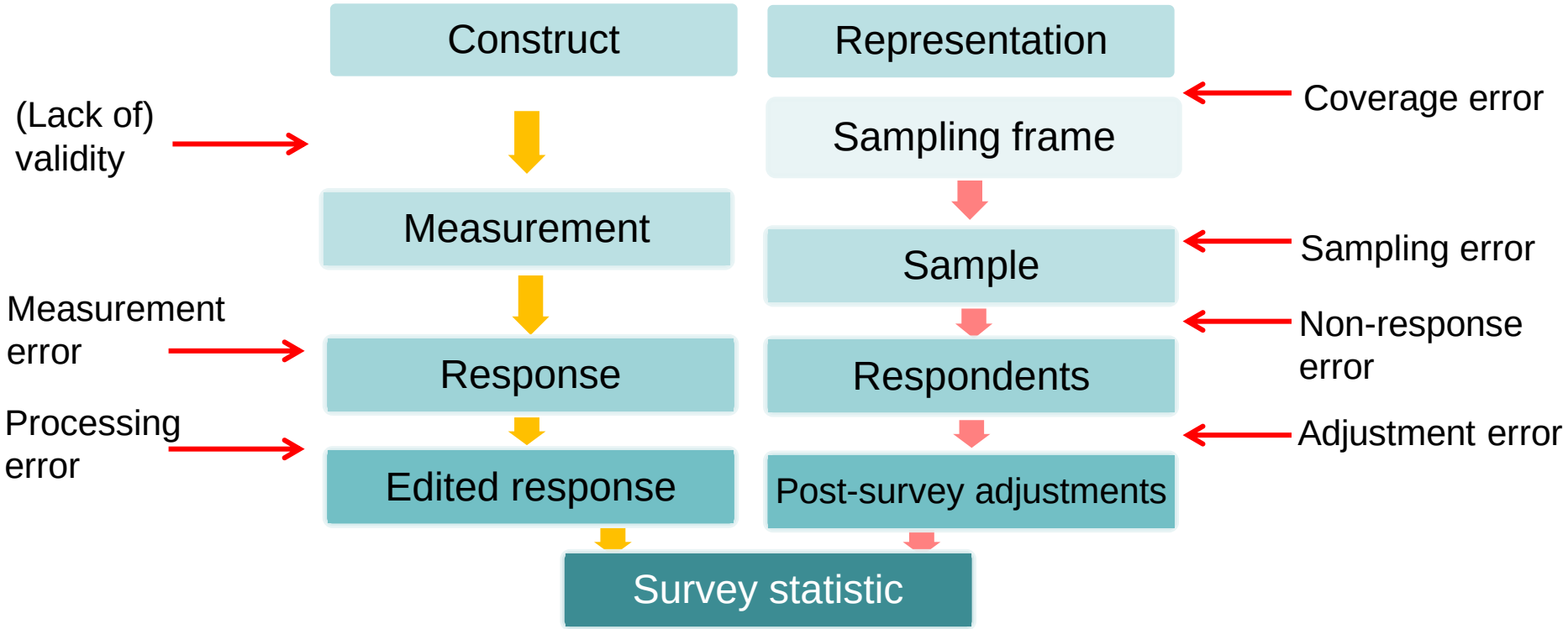
making good decisions

throughout the survey

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



This version uses terms from survey methodology



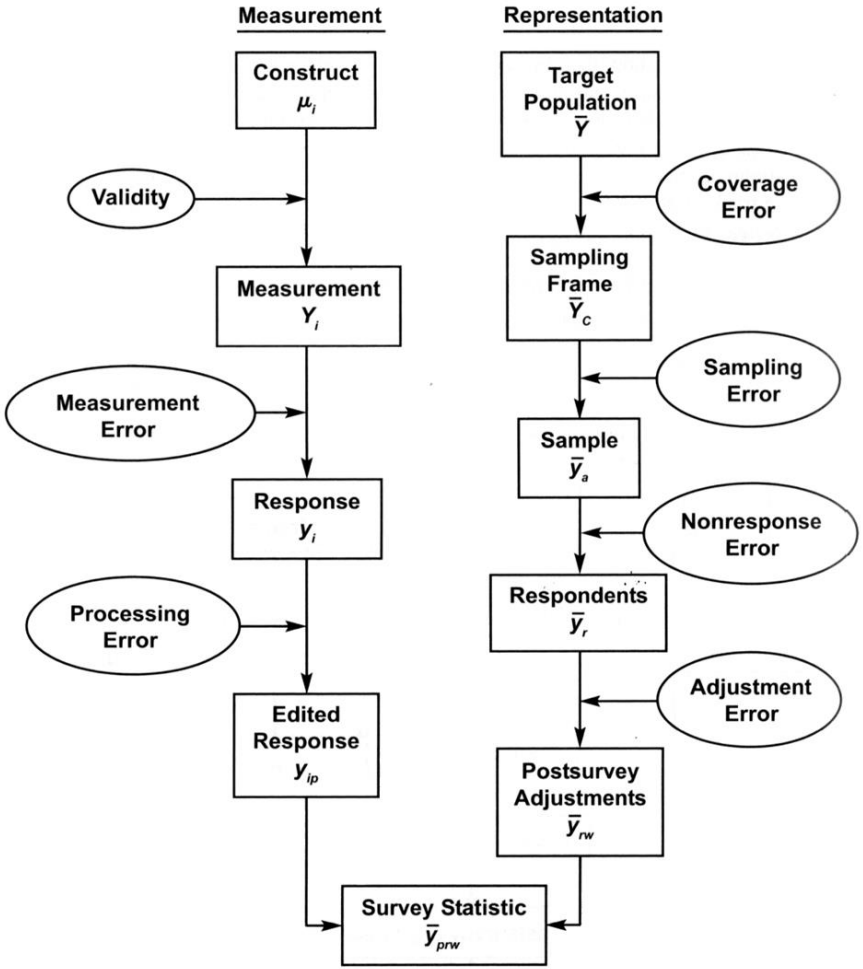


Figure 2.5 Survey life cycle from a quality perspective.

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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