Surveys that work
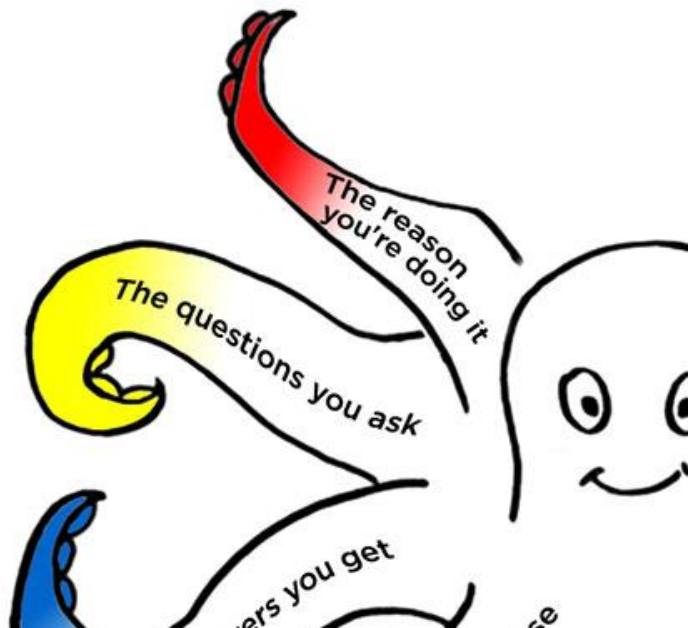
An introduction to
the Survey Octopus
and Total Survey Error
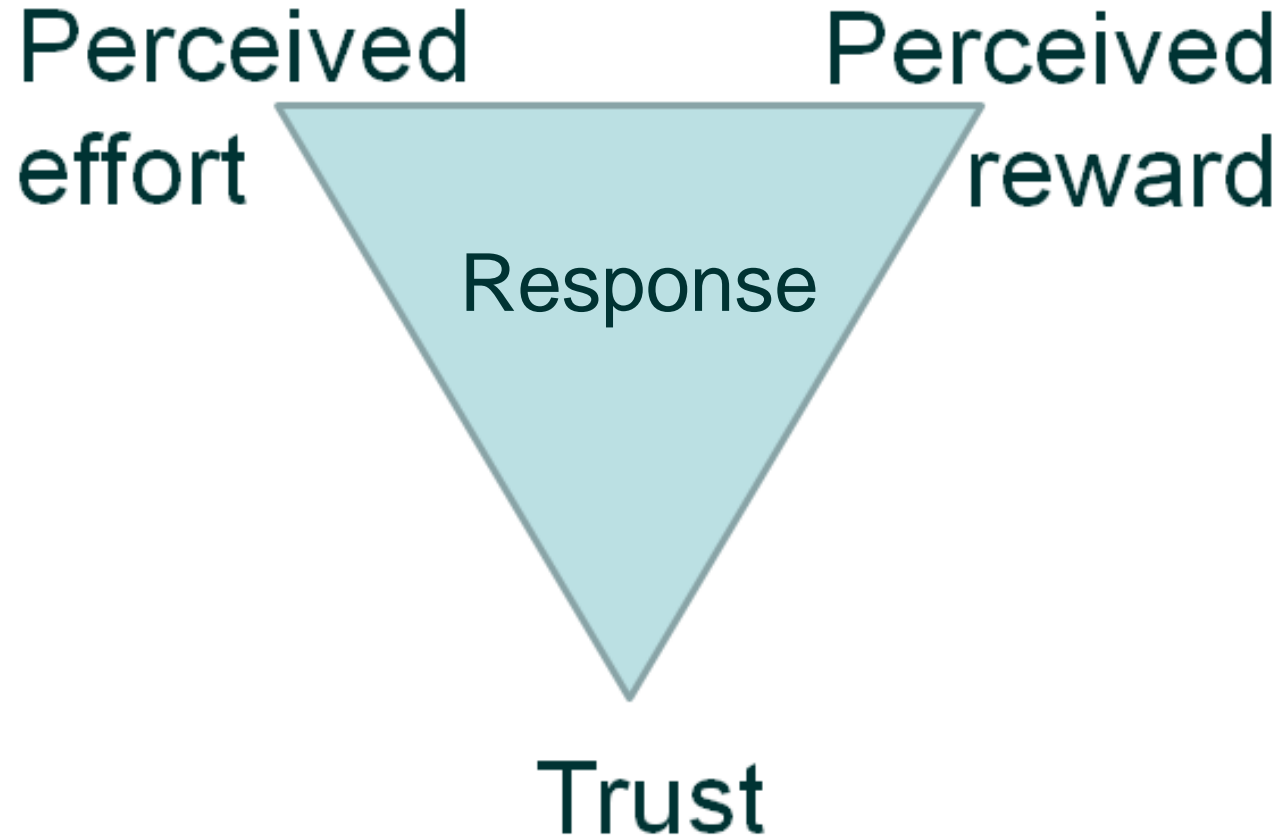
Caroline Jarrett
@cjforms
#surveysthatwork2022

The reason you're doing it

The questions you ask

...ers you get

What would you do for a dollar?

$1 in the envelope beats $10 guaranteed later

3

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

‎ < ‎ @luton.gov.uk>

Sent: Mon 06/06/2011 09:49
To:

✉ Message	🖼 image007.gif (841 B)	🖼 image009.jpg (2 KB)	🖼 image011.jpg (2 KB)	🖼 image002.gif (841 B)	🖼 image003.jpg (2 KB)
	🖼 image004.jpg (2 KB)	🖼 image005.gif (841 B)	🖼 image006.jpg (2 KB)	🖼 image007.jpg (2 KB)	🖼 image002.gif (845 B)
	🖼 image003.jpg (2 KB)	🖼 image004.jpg (2 KB)	🖼 image005.gif (845 B)	🖼 image006.jpg (2 KB)	🖼 image007.jpg (2 KB)

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

I'm the forms specialist

Image credit: Flickr, taxrebate.org.uk

Why do people answer questions?

I wrote a book

It seemed easier than
continuing to answer
lots of survey questions

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

SURVEYS THAT WORK
A Practical Guide for Designing Better Surveys
by CAROLINE JARRETT
Foreword by Steve Krug

Rosenfeld

Let's think about these topics today

"Please have a look at this survey"

"Tell me whether this is a good question"

"Is this 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

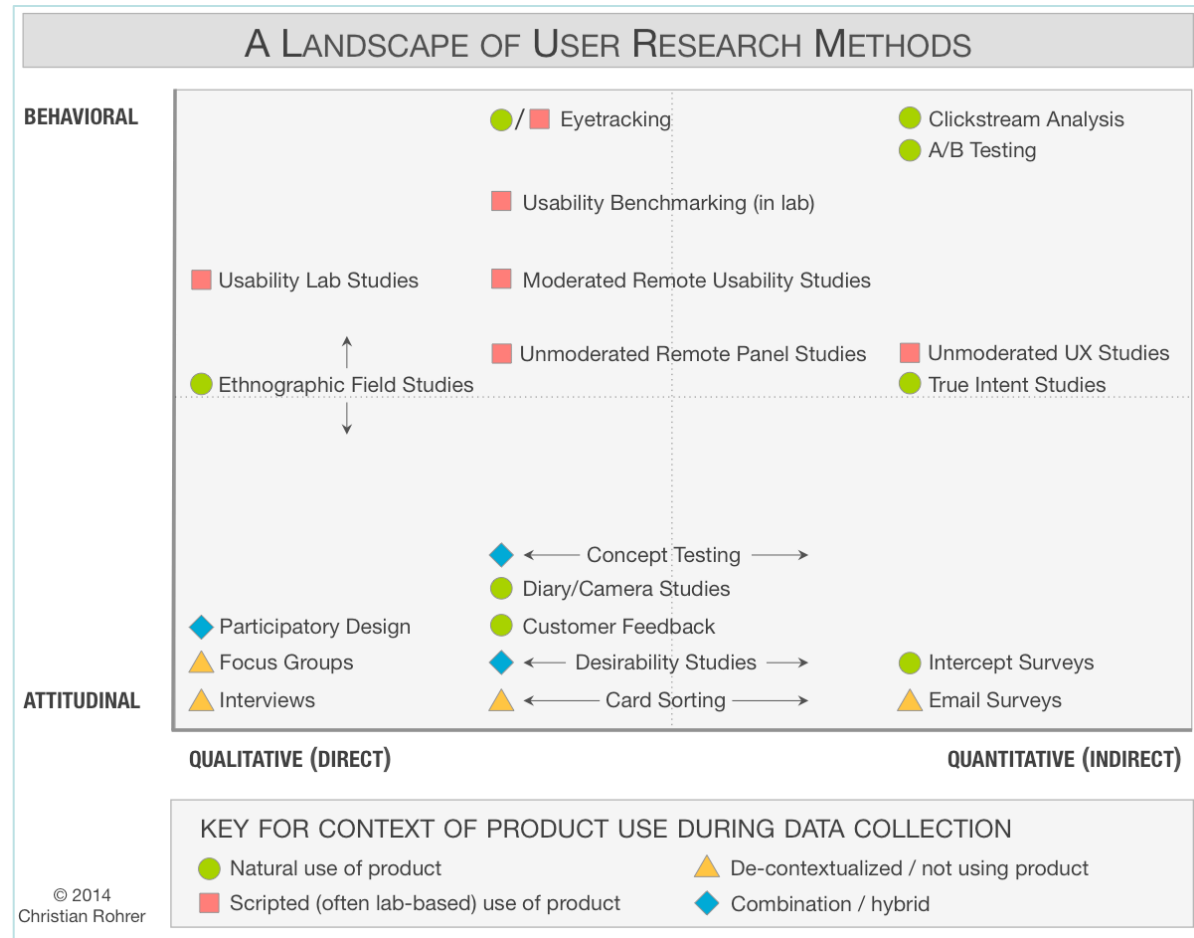The number

A survey is a quantitative method

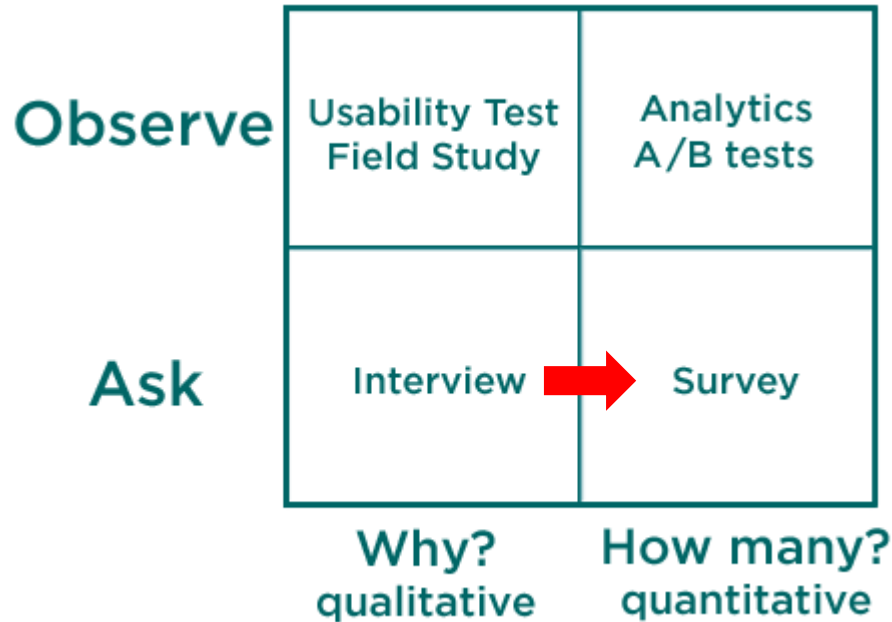|	Why? qualitative	How many? quantitative
Observe	Usability Test Field Study	Analytics A/B tests
Ask	Interview	Survey

Key Point

A survey is
a quantitative method

The result of a survey
is a number

Christian Rohrer mapped many more methods

A LANDSCAPE OF USER RESEARCH METHODS

BEHAVIORAL

● / ■ Eyetracking   ● Clickstream Analysis
                          ● A/B Testing

■ Usability Benchmarking (in lab)

■ Usability Lab Studies   ■ Moderated Remote Usability Studies

■ Unmoderated Remote Panel Studies   ■ Unmoderated UX Studies

● Ethnographic Field Studies   ● True Intent Studies

◆ ←— Concept Testing —→
● Diary/Camera Studies

◆ Participatory Design   ● Customer Feedback
▲ Focus Groups   ◆ ←— Desirability Studies —→   ● Intercept Surveys
▲ Interviews   ▲ ←— Card Sorting —→   ▲ Email Surveys

ATTITUDINAL

QUALITATIVE (DIRECT)   QUANTITATIVE (INDIRECT)

KEY FOR CONTEXT OF PRODUCT USE DURING DATA COLLECTION
● Natural use of product   ▲ De-contextualized / not using product
■ Scripted (often lab-based) use of product   ◆ Combination / hybrid

© 2014
Christian Rohrer

https://www.nngroup.com/articles/which-ux-research-methods/

Survey methodologists interview first

	Why? qualitative	How many? quantitative
Observe	Usability Test Field Study	Analytics A/B tests
Ask	Interview ➡️	Survey

Establish your goals for the survey

What do you want to know?

↓

Why do you want to know?

↓

What decision will you make based on these answers?

↓

What number do you need for the decision?
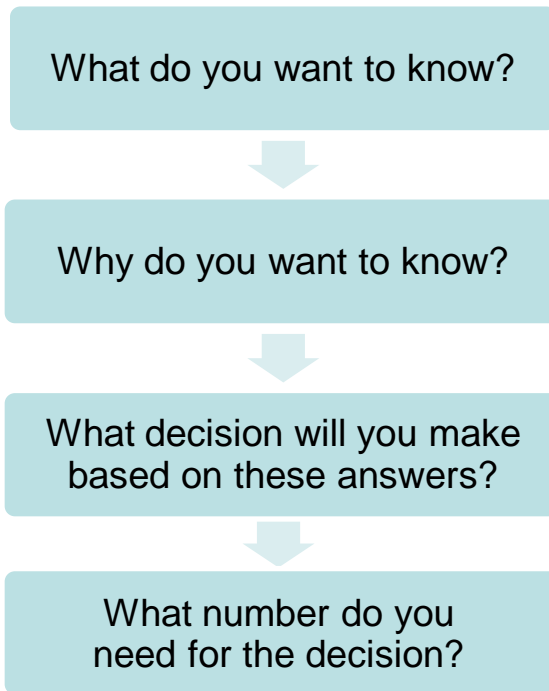
Key Point

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
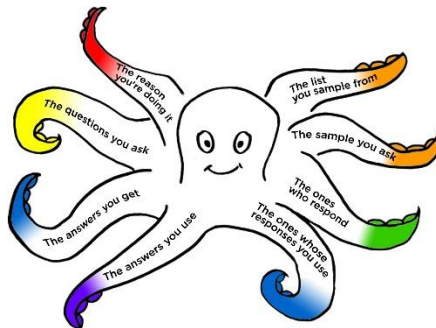
Why you want to ask

Who you want to ask

The survey is a process for getting answers to questions

The number

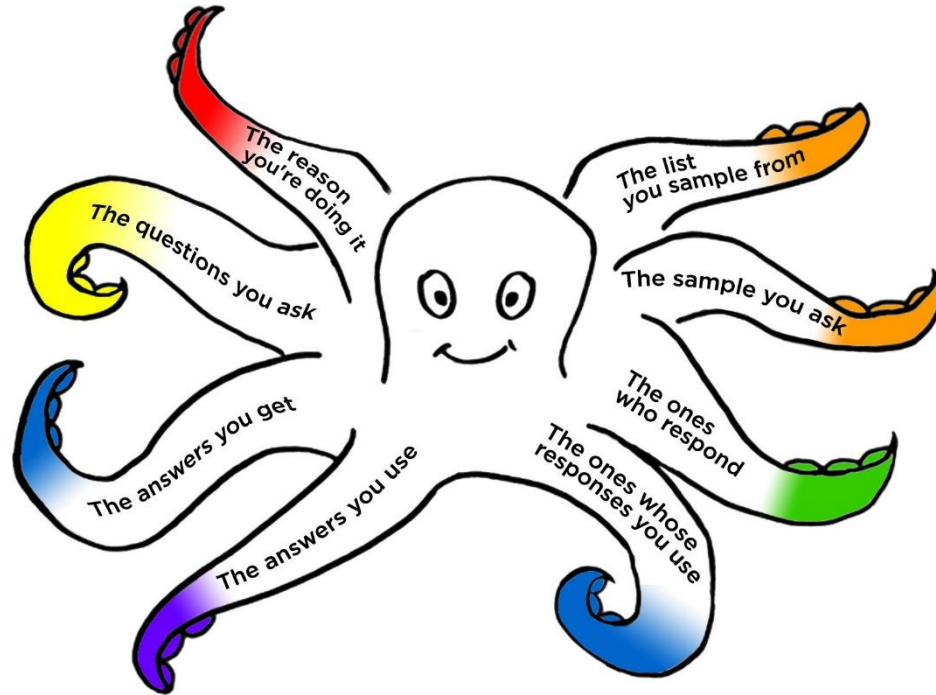# The Survey Octopus has things to think about
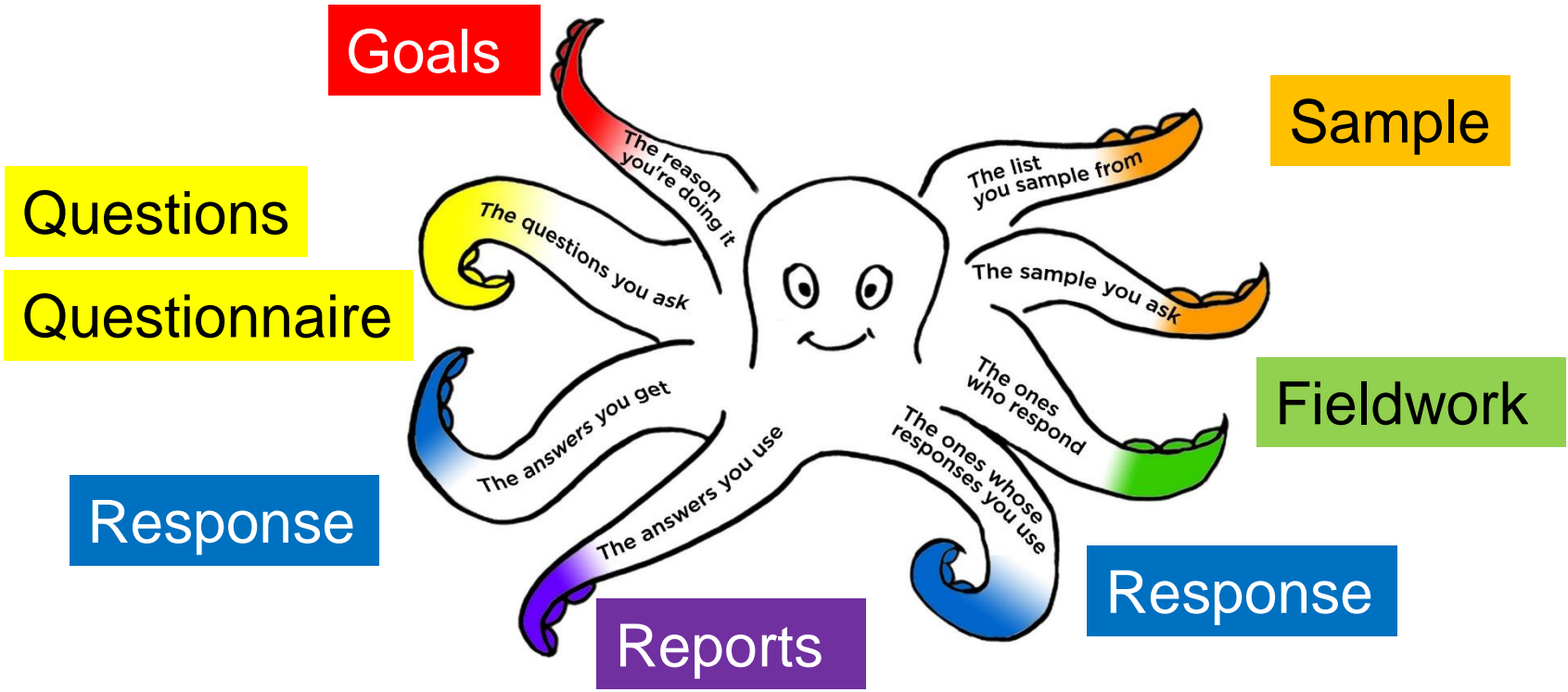
Why you want to ask
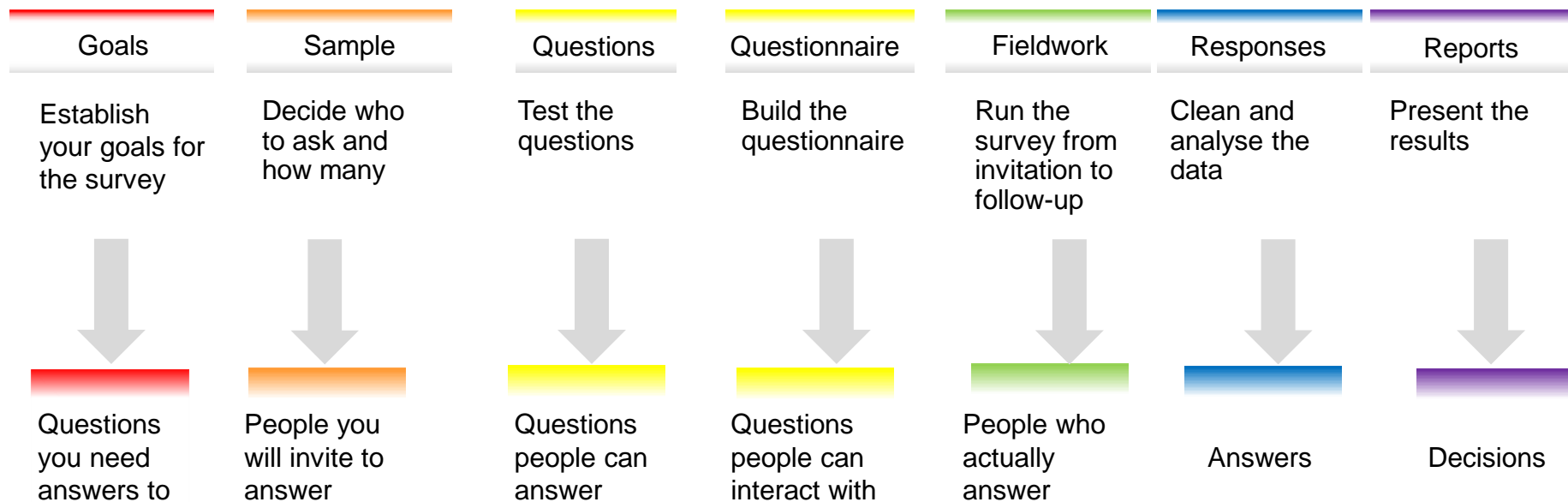
Who you want to ask

The number

The topics are all somewhat connected

The reason you're doing it

The list you sample from

The questions you ask

The sample you ask

The answers you get

The ones who respond

The answers you use

The ones whose responses you use

I made a process from the things to think about

Goals — The reason you're doing it

Sample — The list you sample from

Questions — The questions you ask

Questionnaire — The sample you ask

Response — The answers you get

Fieldwork — The ones who respond

Reports — The answers you use

Response — The ones whose responses you use

Here are the 7 steps as a linear process

Goals	Sample	Questions	Questionnaire	Fieldwork	Responses	Reports
Establish your goals for the survey	Decide who to ask and how many	Test the questions	Build the questionnaire	Run the survey from invitation to follow-up	Clean and analyse the data	Present the results
Questions you need answers to	People you will invite to answer	Questions people can answer	Questions people can interact with	People who actually answer	Answers	Decisions

People ask me about surveys

"Please have a look at this survey"

"Tell me whether this is a good question"

"Is this 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 shop 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 reasons (investigate and fix problems) Some bad ones (punish staff)	

"Recommend to friend/family" can be very weird

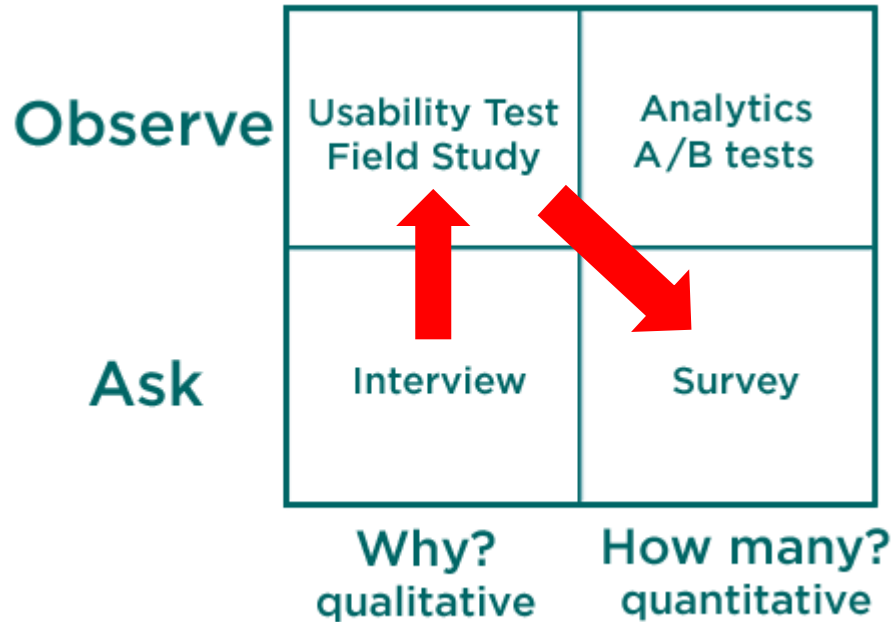|	A shop selling clothes	A hospital ward
What do you want to know?	Whether they will recommend	????
Why do you want to know?	To compare numbers over time	Because someone said they had to ask
What number do you need to make a decision?	Some good reasons (investigate and fix problems) Some bad ones (punish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

Questions can go wrong in other ways

Make sure that you test your questionnaire

Key Point

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

People ask me about surveys

"Please have a look at this survey"

"Tell me whether this is a good question"

"Is it 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

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

(Lack of) validity
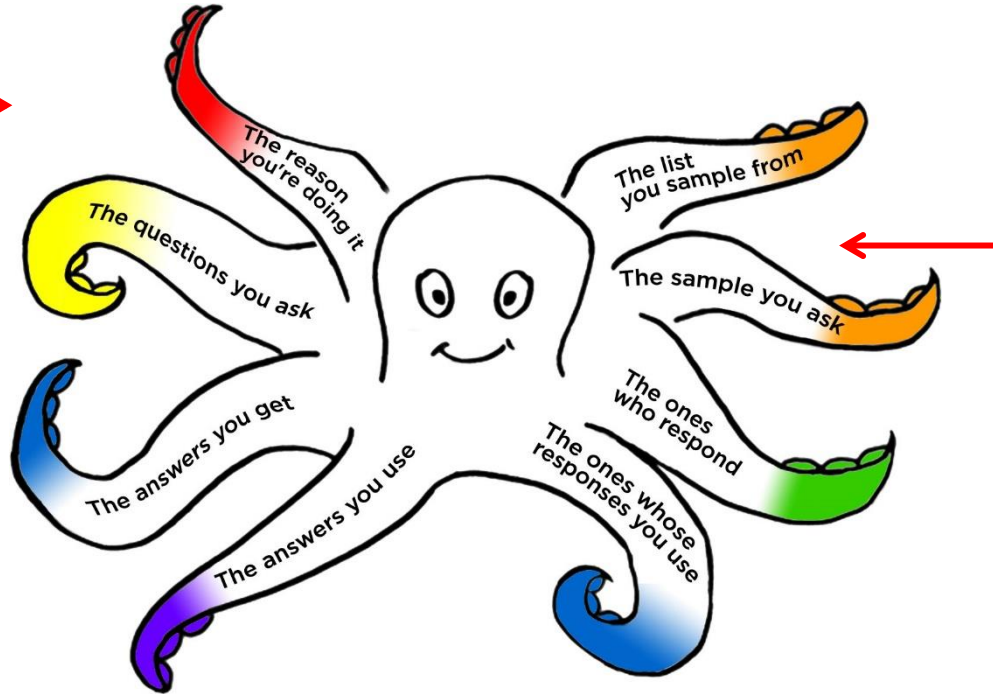
Sampling error

Key Point

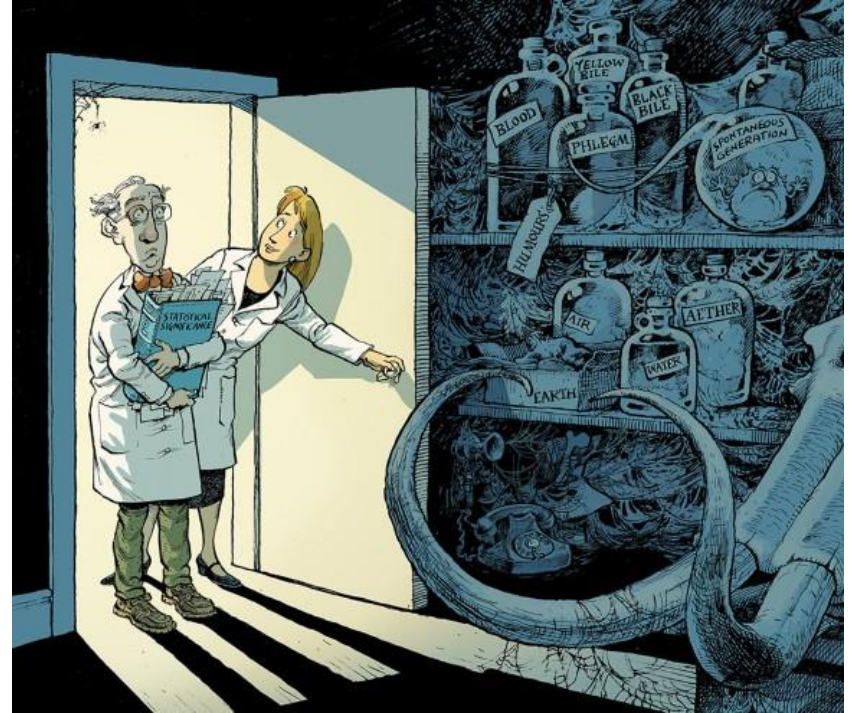Asking one person

the right question

gets better results

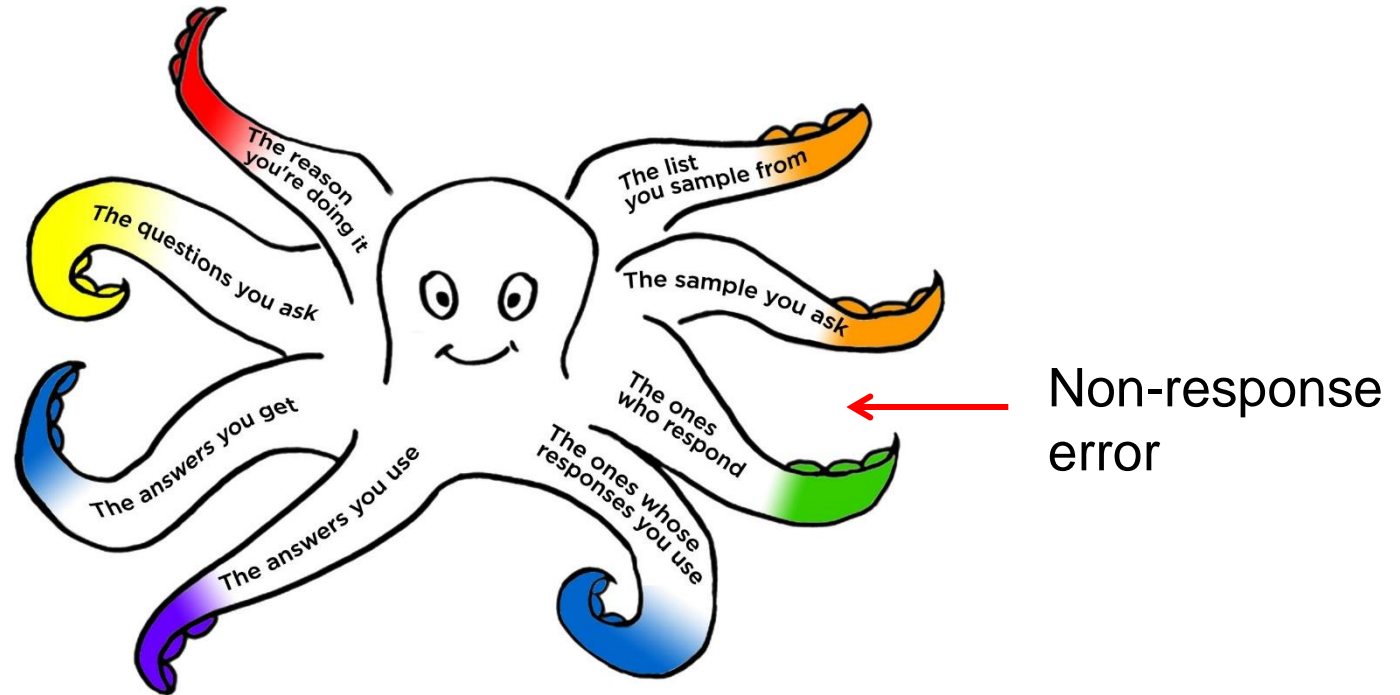than asking 10,000 people

the wrong question

Many statisticians aren't keen, either

Scientists rise up against statistical significance

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

Let's look at another crucial error

Non-response error

Non-response error happens when
the people who do not respond are different
to the people who do respond
in a way that affects your decision

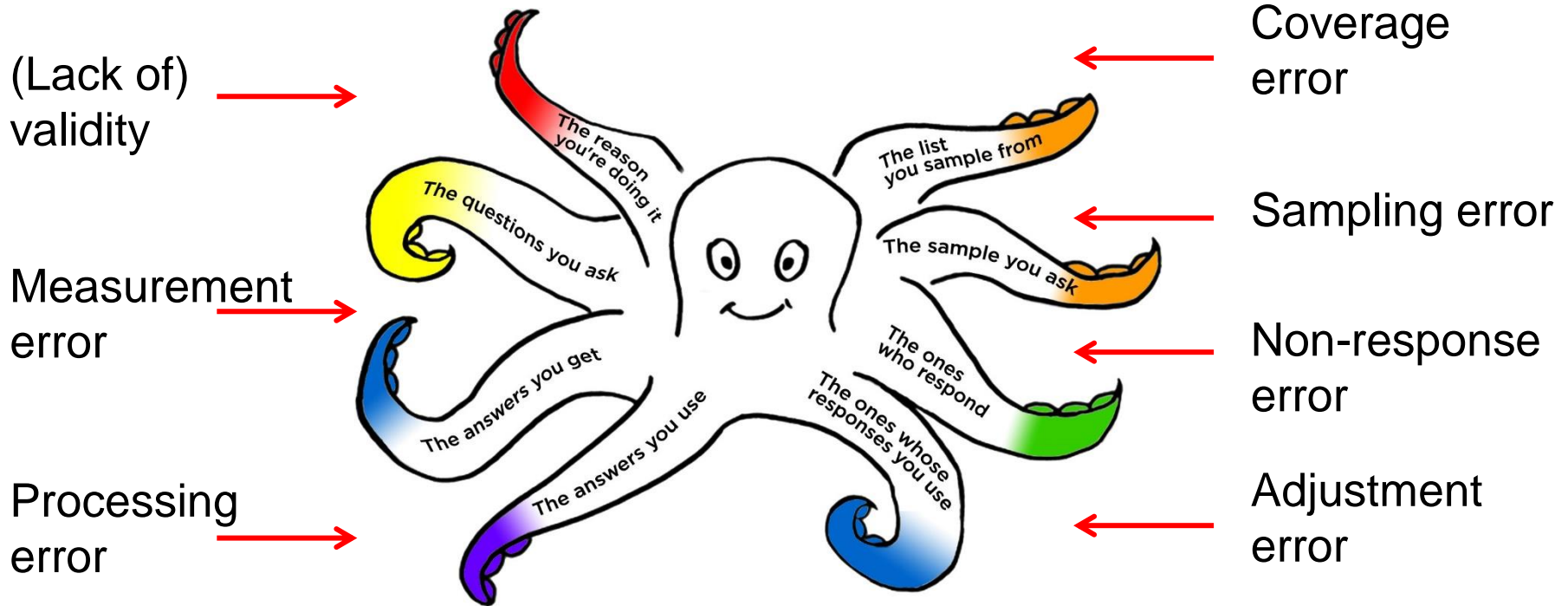# Jane Matthews told me a story

- 20 people attend a workshop; they all seem to enjoy it

- Only get 3 or 4 back from a web survey

"If we rely on those responses,

we might be at risk of making bad decisions"

- Now changing to phoning half the people

There are errors all around the Survey Octopus

(Lack of) validity

Measurement error

Processing error

Coverage error

Sampling error

Non-response error

Adjustment error

The reason you're doing it

The list you sample from

The questions you ask

The sample you ask

The answers you get

The ones who respond

The answers you use

The ones whose responses you use

Key Point

Significance in practice comes from

making good decisions throughout the survey

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

What you want to ask about

Who you want to ask

Coverage error

The reason you're doing it

The list that you sample from

(Lack of) validity

Sampling error

The questions you ask

The sample you ask

Measurement error

Non-response error

The answers you get

The ones who respond

Processing error

Adjustment error

The answers you use

The ones whose responses you can use

The number

This version uses terms from survey methodology

Construct

Representation

(Lack of) validity

Coverage error

Sampling frame

Measurement

Sample

Sampling error

Measurement error

Response

Respondents

Non-response error

Processing error

Edited response

Post-survey adjustments
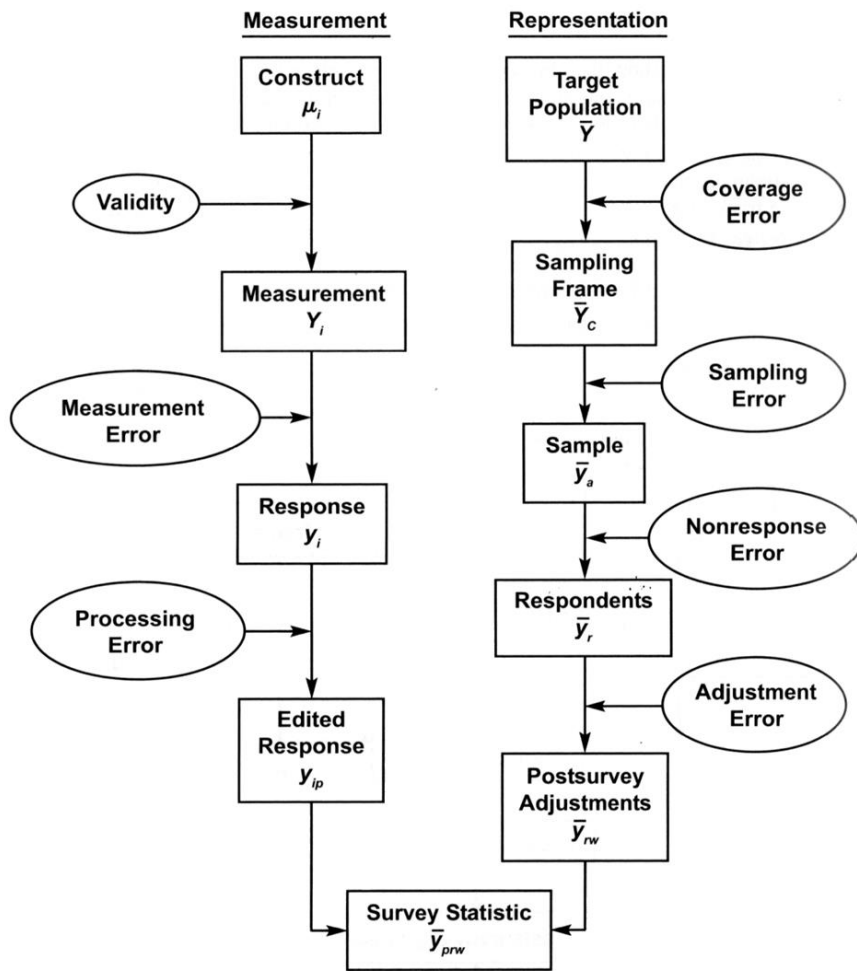
Adjustment error

Survey statistic
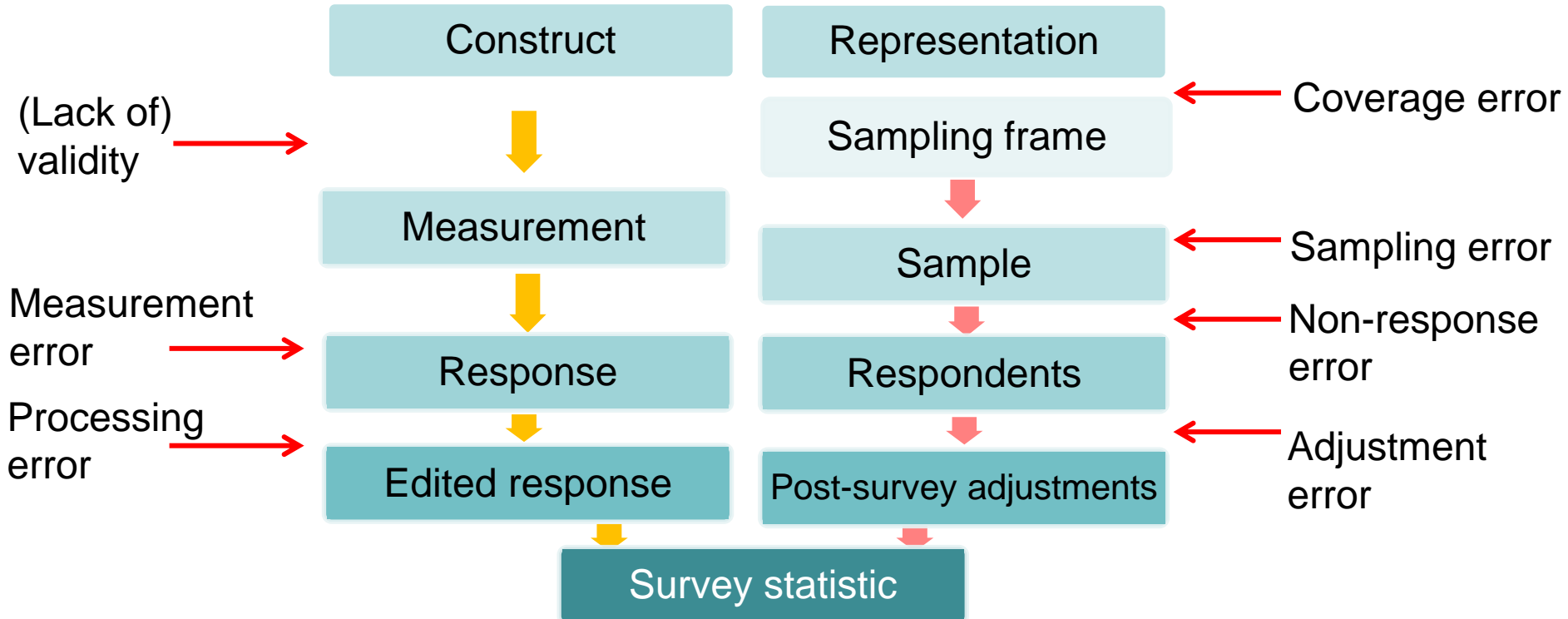
Figure 2.5 Survey life cycle from a quality perspective.

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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User Interface Design and Evaluation

Debbie Stone
Caroline Jarrett
Mark Woodroffe
Shailey Minocha

Forms that Work
Designing Web Forms for Usability

Caroline Jarrett • Gerry Gaffney

Foreword by Steve Krug author of *Don't Make Me Think*

SURVEYS THAT WORK
A Practical Guide for Designing Better Surveys
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Rosenfeld