# Four ways to make a better survey

Caroline Jarrett
@cjforms
#WebExpo #SurveysThatWork

# Today's agenda

Introduction and definitions

Goals: Focus your survey on a specific decision

Sample: Write an invitation that makes people want to answer

Questions: Ditch the rating scales

Responses: Lose your fear of open answers

Recap and retro

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# We are starting with introductions – 2 minutes

- I'll bring you sheet "Get to know each other in 2 minutes"
- Follow the instructions

Caroline Jarrett  @cjforms  (CC) BY SA-4.0     Thank you to Ladies that UX Brighton for this idea

# Let's find out about our experiences

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# Silently write your answers (30 sec)
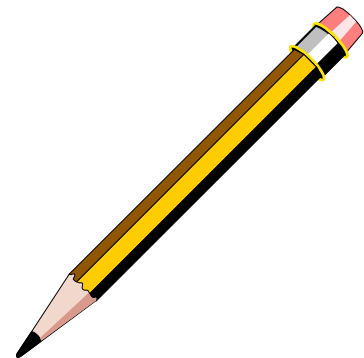
1. How many surveys have you run?

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?

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Jarrett, C. and Bachmann, K (2002) Creating Effective User Surveys,
49th Society for Technical Communication Conference, Nashville TN USA

# Now work in pairs.
# Try these questions as an interview. (1 min each)
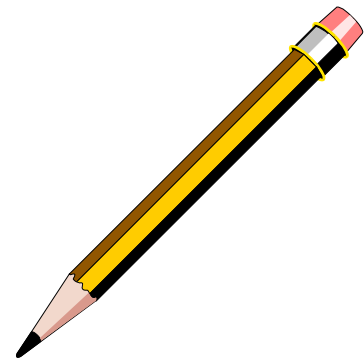
1. How many surveys have you run?

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?

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# So, what is a survey anyway?

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# This definition is in a survey methodology textbook

The survey is a
<span style="color:red">systematic method</span>
for <span style="color:red">gathering information</span> from
(a sample of) <span style="color:red">entities</span>
for the purpose of
constructing <span style="color:red">quantitative descriptors</span>
of the <span style="color:red">attributes of the larger population</span>
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 | asking questions |
| entities | become | people |
| quantitative descriptors | become | numbers |
| attributes of the larger population | become | make decisions |

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# My definition focuses on a survey as a process

The survey is a
<span style="color:red">process</span>
of <span style="color:red">asking questions</span> that are answered
by (a sample of) a defined group of
<span style="color:red">people</span>
to get a <span style="color:red">number</span>
that you can use to <span style="color:red">make decisions</span>

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# Let's rearrange the definition, survey in the middle

To make decisions

People

The survey is a
process for getting
answers to questions

Numbers

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# And make it a bit clearer as a diagram

Why you want to ask

Who you want to ask

The survey is a process for getting answers to questions

Numbers

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

Why you want to ask

Who you want to ask

# The Survey

The number

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# There's a lot to think about in the survey itself

Why you want to ask

Who you want to ask

## The Survey

The number

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# I made a Survey Octopus of the topics

Why you want ask

Who you want to ask



The reason you're doing it

The list you sample from

The questions you ask

The sample you ask

The ones who respond

The answers you get

The answers you use

The ones whose responses you use

The number

# There are errors all around the Survey Octopus



Why you want ask

Who you want to ask

Lack of validity

Coverage error

Measurement error

Sampling error

Non-response error

Processing 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

The number

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# My process works through from goals to reports



Goals — The reason you're doing it

Sample — The list you sample from

Questions — The questions you ask

Questionnaire

Fieldwork — The sample you ask

Response — The answers you get

Response — The ones who respond

Reports — The answers you use

The ones whose responses you use

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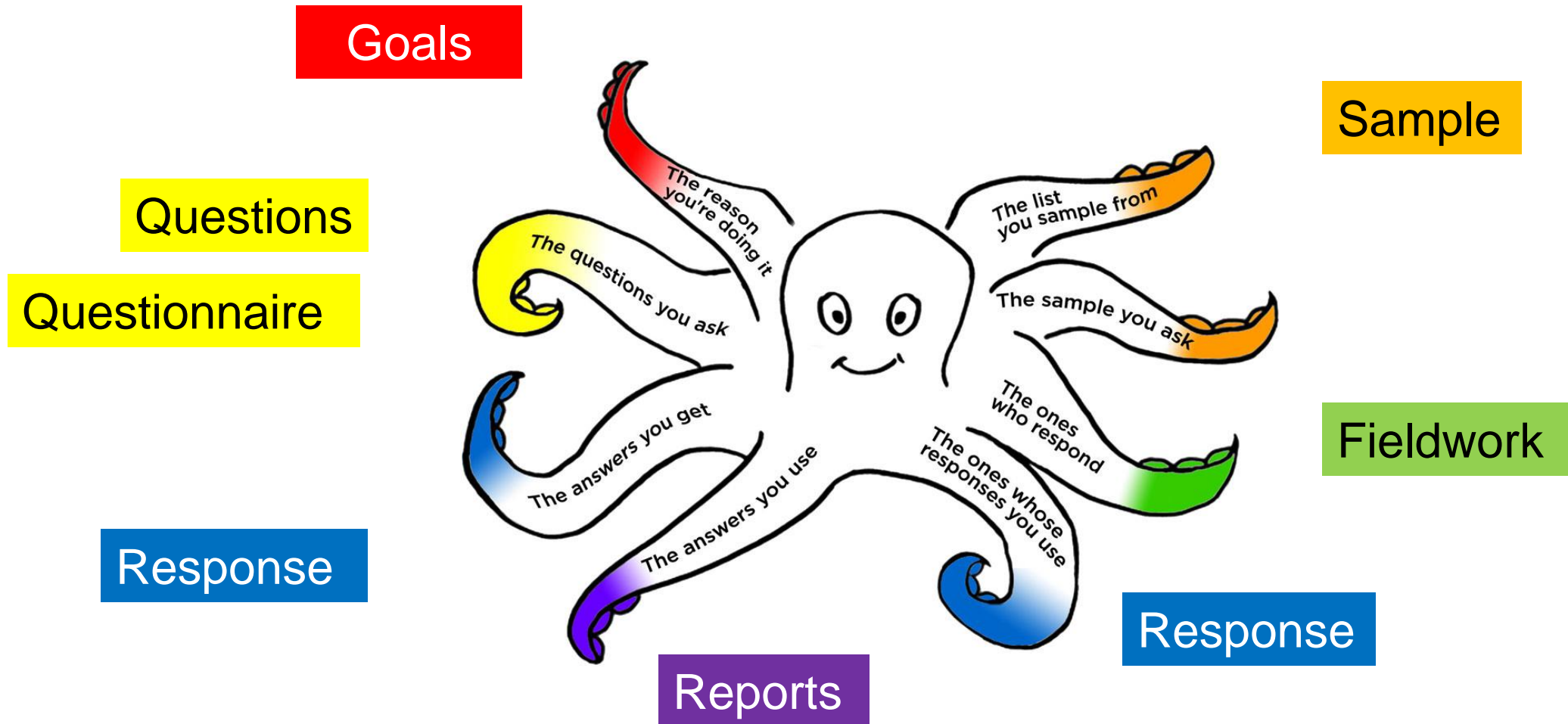
# Here is my process in stages

| 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 |

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# You get a better survey by doing many things well

| 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 | The right people in the sample | Questions people can answer | Questions people can interact with | Answers from the right people | Accurate Answers | Useful Decisions |

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# Today's topics are from some of the hardest bits

| 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 |

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Recap and retro

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# Goals

Focus your survey on a specific decision

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# The goals set the scene for the survey

Goals

Establish your goals for the survey

Questions you need answers to

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# The error to avoid: Lack of validity, when the questions you ask don't match the goals

Lack of validity →



The reason you're doing it

The questions you ask

The answers you get

The answers you use

The list you sample from

The sample you ask

The ones who respond

The ones whose responses you use

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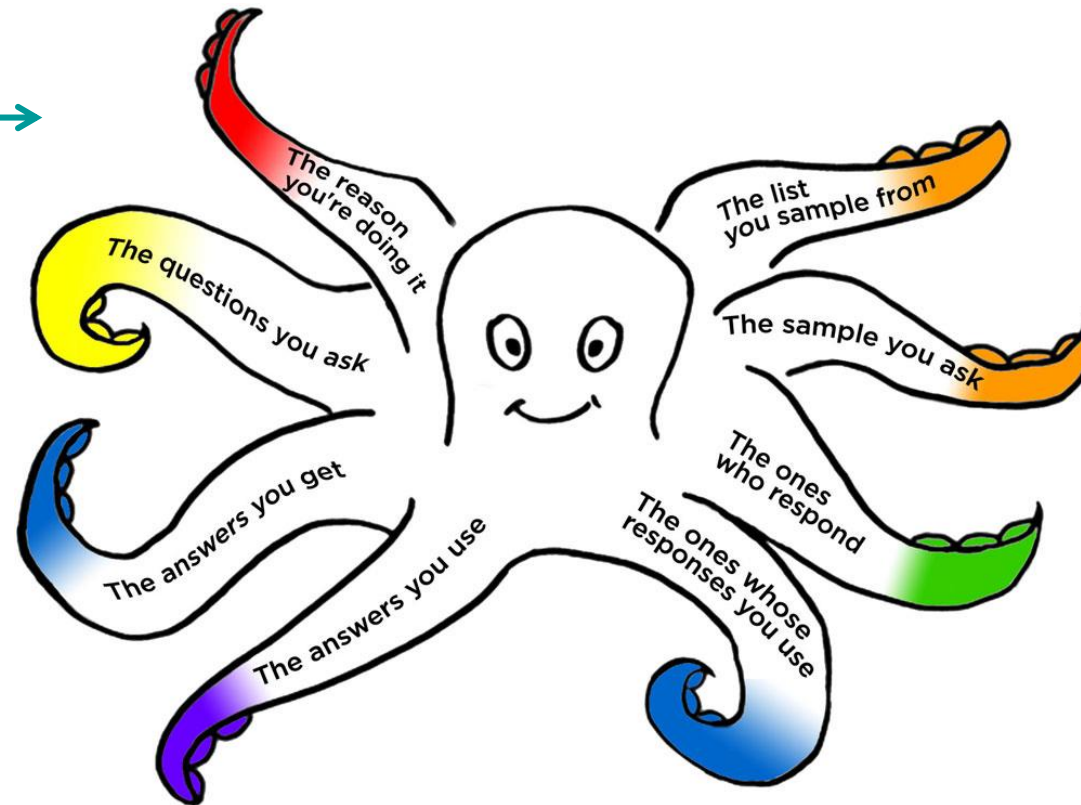
# Establish the goals for your survey

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 to make the decision?
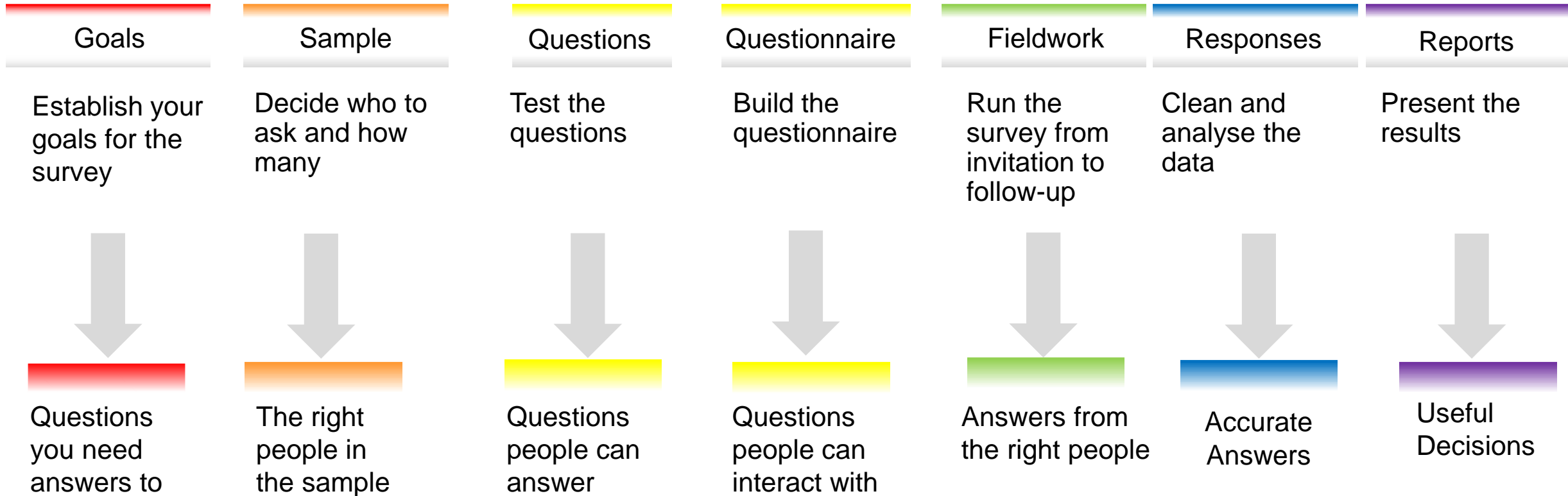
Caroline Jarrett  @cjforms
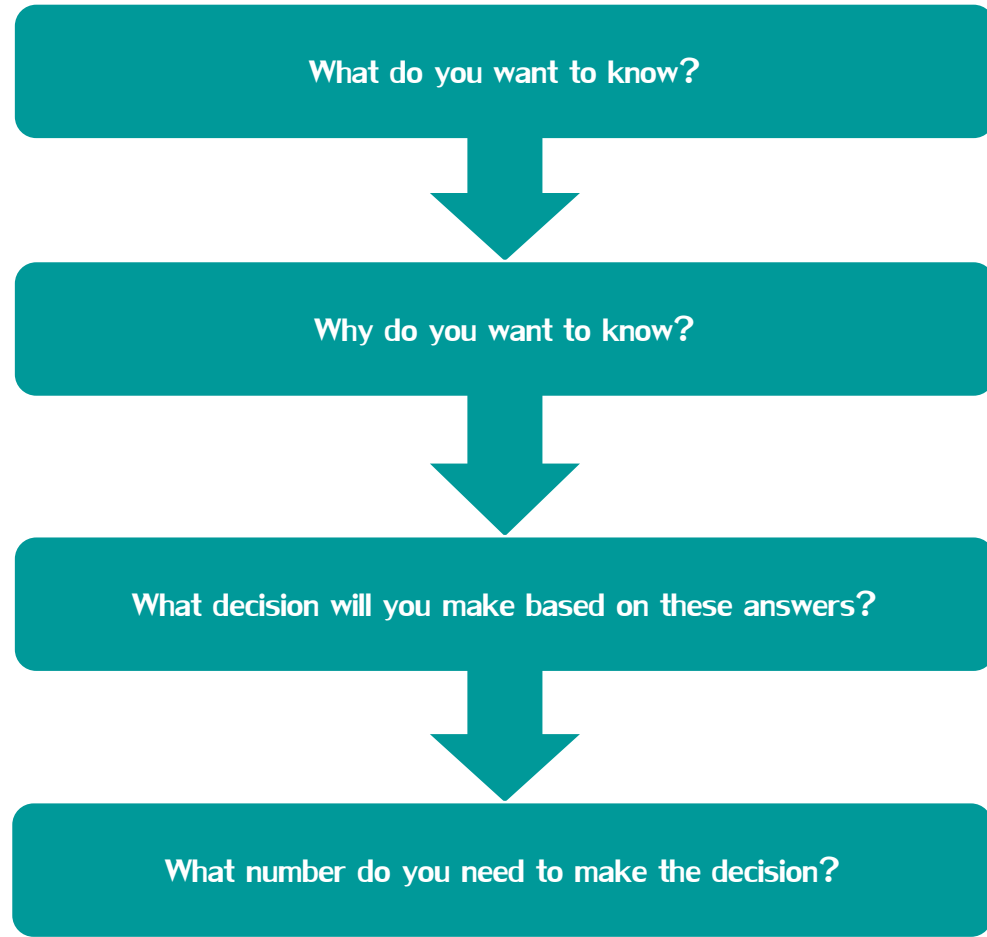
# For example, I was writing a blogpost

**What do you want to know?**
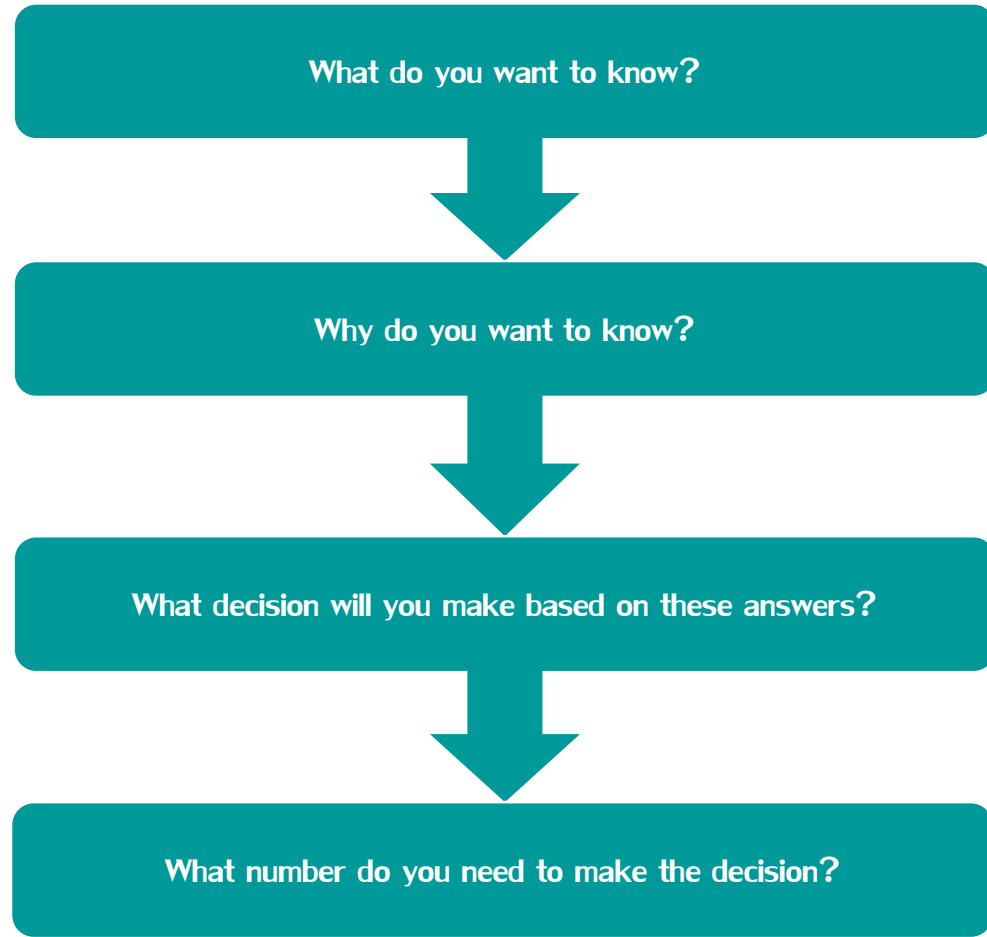
*"Which topic is most interesting?"*

↓

**Why do you want to know?**

*"To write the most useful blog post"*

↓

**What decision will you make based on these answers?**

*"Pick one of the available topics"*

↓

**What number do you need to make the decision?**

*"I'll pick the topic with most votes"*

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# This question inspired our example



Overall, how are you feeling at the moment?

You can select up to 5 emotions

Please make sure you scroll down to see all the emotions you can choose from.

| Acceptance | Admiration | Amusement | Confidence | Neutral | Anger | Boredom | Disappointment | Disgust |

| Desire | Excitement | Happiness | Inspiration | Dissatisfaction | Fear | Irritation | Offence |

| Love | Pleasant surprise | Sadness | Unpleasant surprise |

CONTINUE

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# Here's an example of thinking about goals

**What do you want to know?**
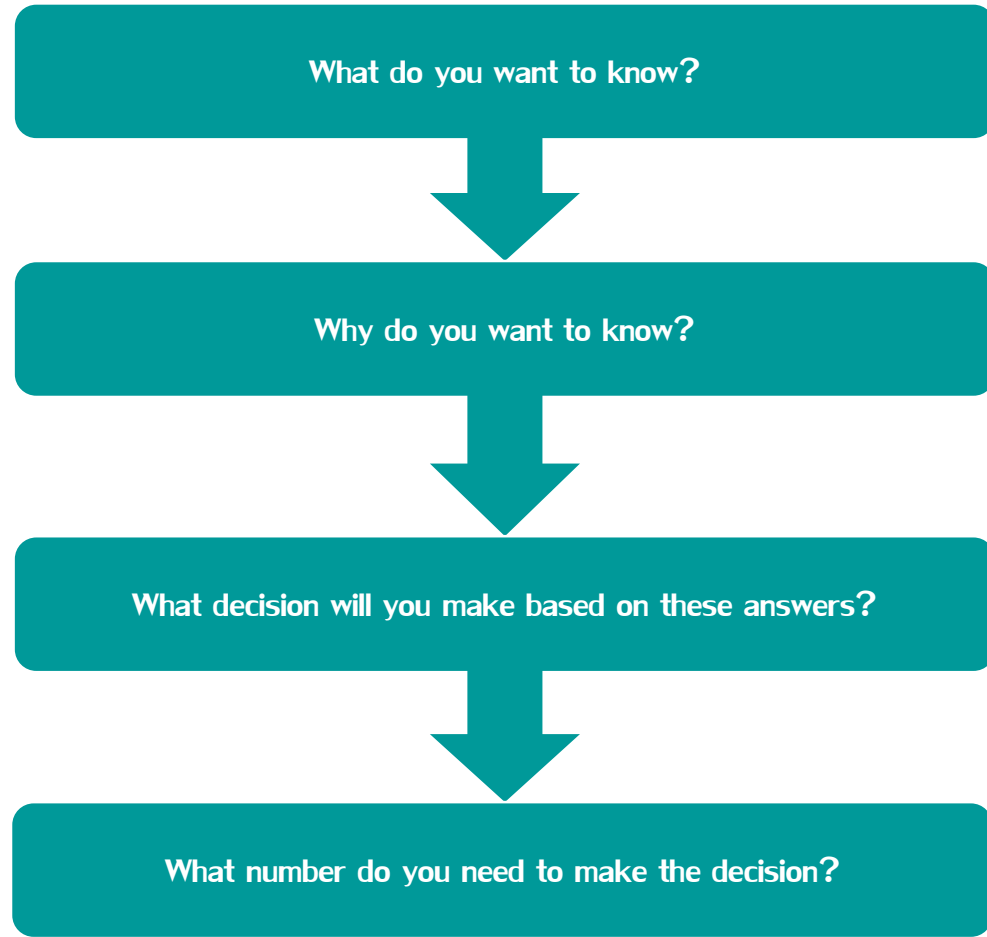
*"We want to know how our customers are feeling"*

**Why do you want to know?**

*"We want to provide great telephone support"*

**What decision will you make based on these answers?**

*"We will decide whether to replace the call centre staff with AI"*

**What number do you need to make the decision?**

*"If more than half are unhappy, we will change to AI"*

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# Let's try to make some suggestions (10 minutes)

- Look for:

> Focus your survey on a specific decision

- Get some ideas for starting a discussion about goals

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# How was that for you?

- Why do you want to know?

- What decision will you make based on the answers?

- What number do you need make the decision?

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# A survey is a quantitative method

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

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# If you don't need a number yet, switch methods

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

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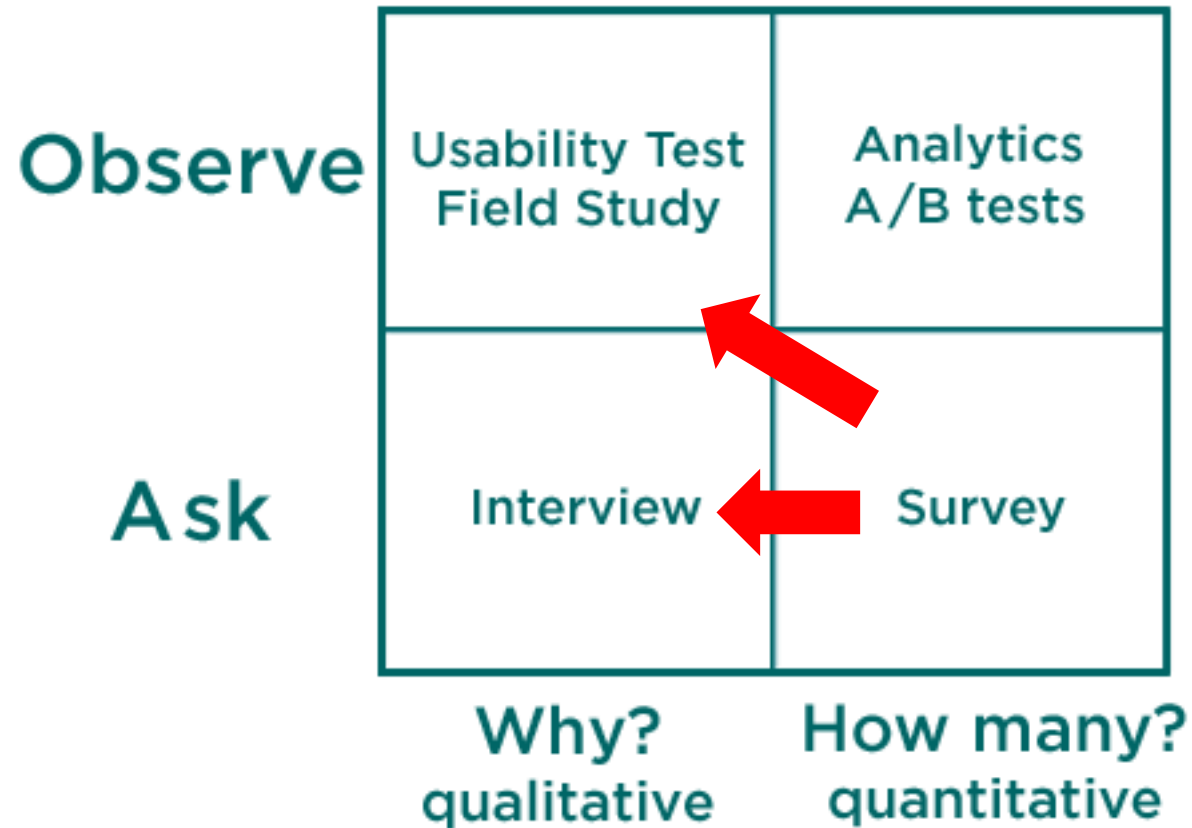
# Overall, we're aiming for useful decisions

| 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 |
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# Sample

Write an invitation that makes people want to answer

# You get a better survey by doing many things well

**Goals**

Establish your goals for the survey

⬇

Questions you need answers to

**Sample**

Decide who to ask and how many

⬇

The right people in the sample
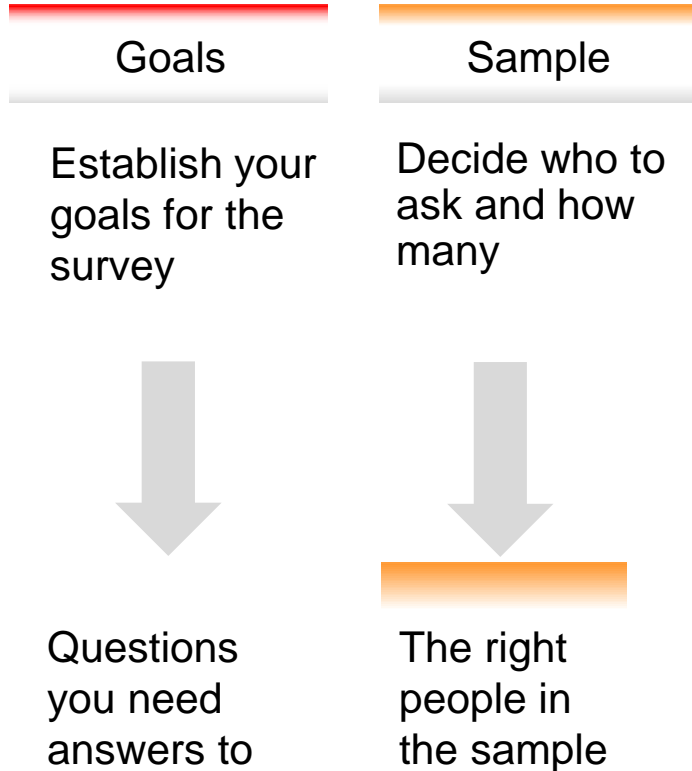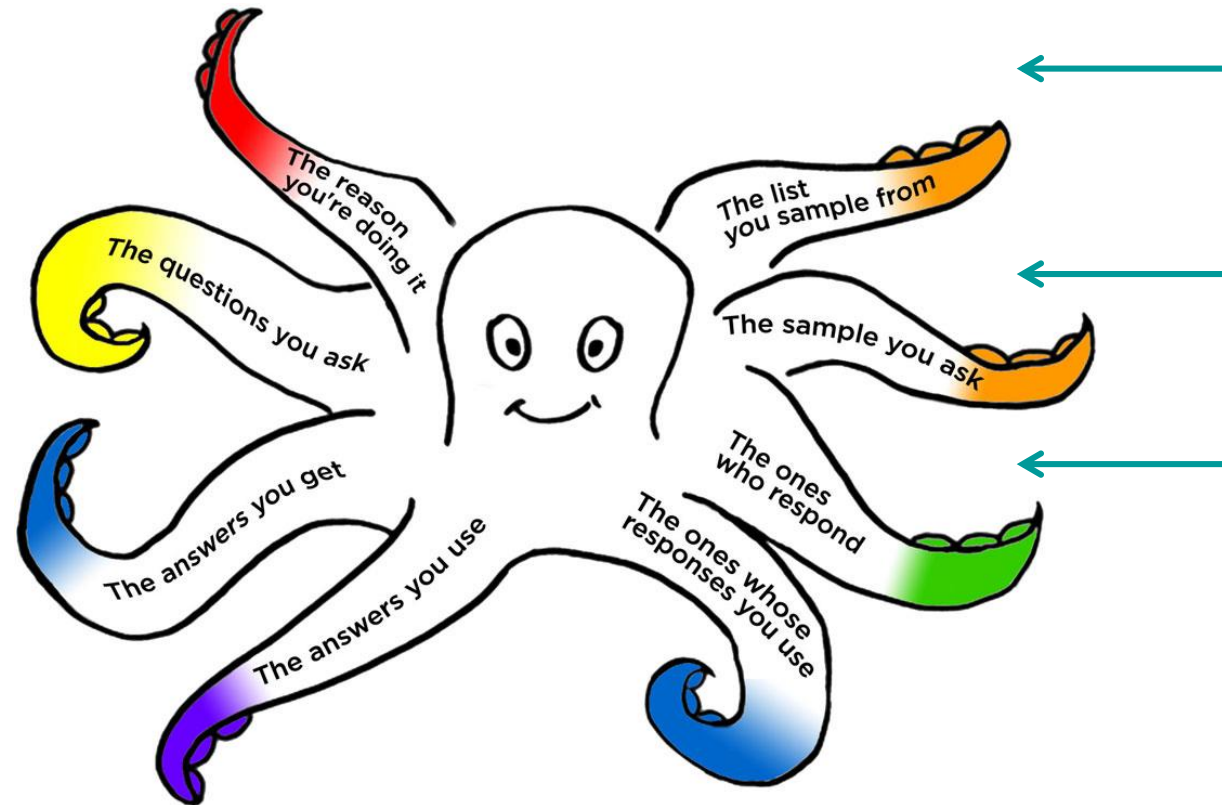
# There are three errors to look out for

Why you want ask

Who you want to ask

Coverage error

The reason you're doing it

The list you sample from

The questions you ask

Sampling error

The sample you ask

The ones who respond

Non-response error

The answers you get

The ones whose responses you use

The answers you use

The number

# We want the final group to be representative

Who you want to ask

Mostly people you want to ask

The ones whose responses you use

Representativeness

Maybe some you didn't want to ask

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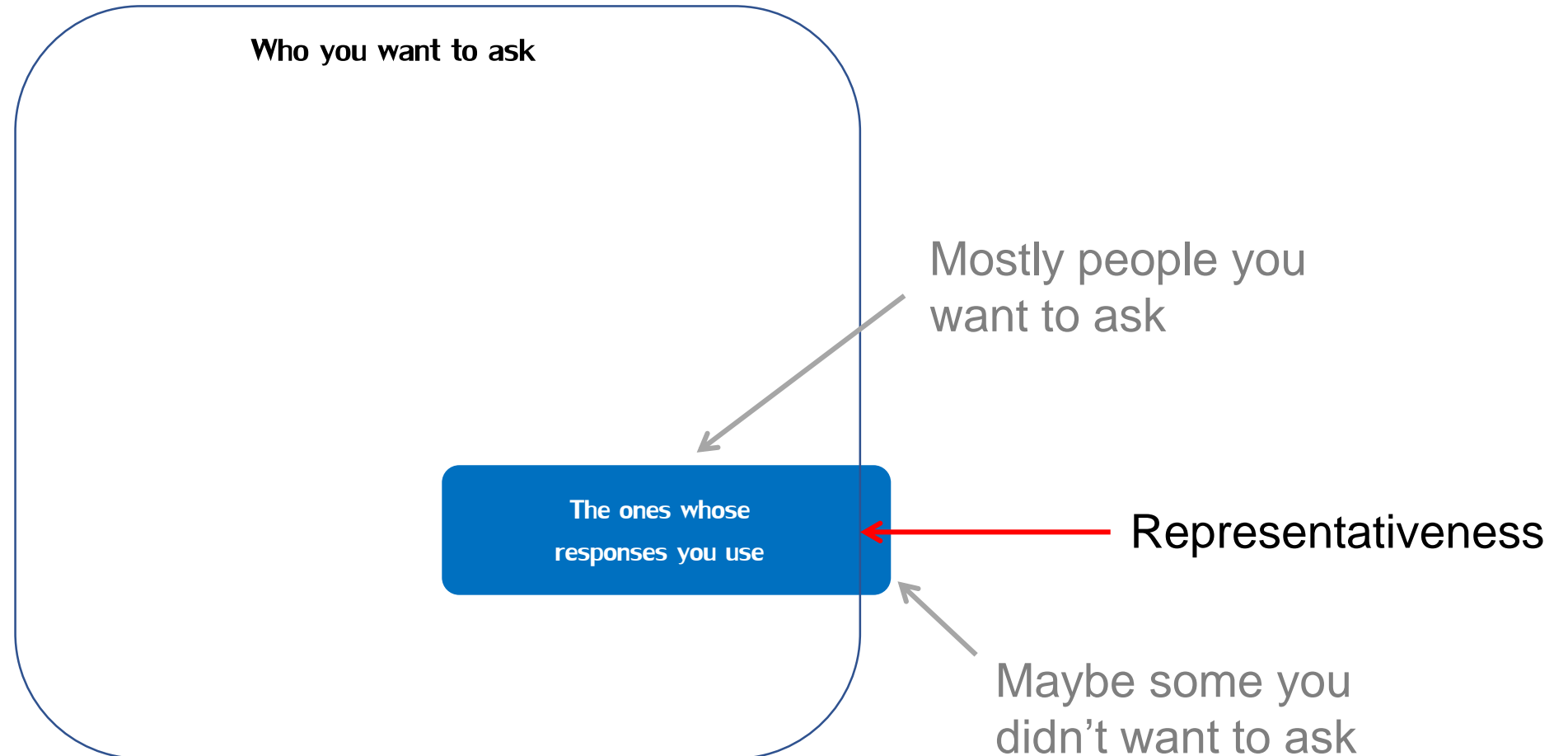
# Coverage error happens when the list you sample from doesn't exactly match "who you want to ask"

Who you want to ask

The list you sample from

Coverage error

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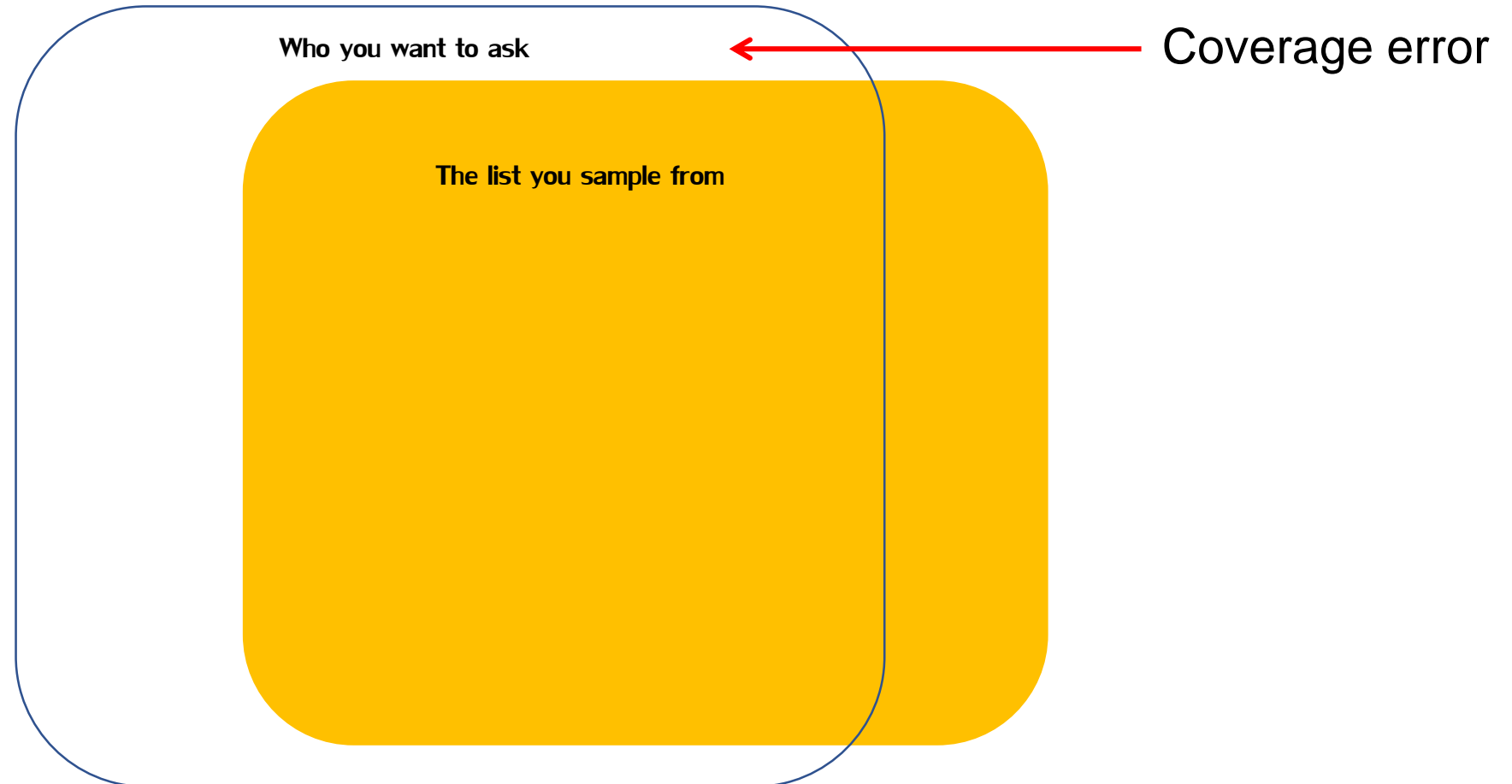
# Sampling error happens when you ask a sample

The list you sample from

← Sampling error

The ones you ask

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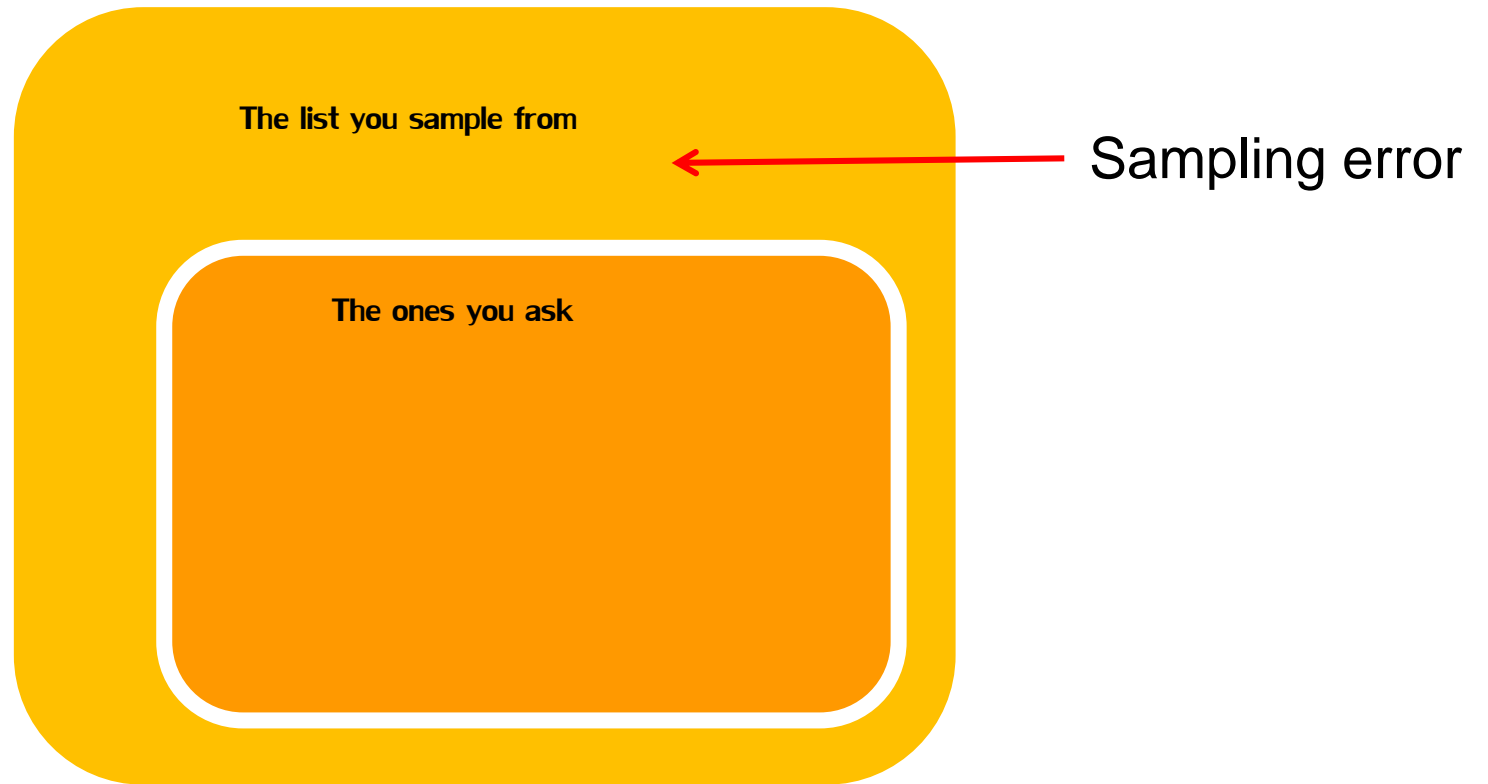
# Non-response error happens when the ones who respond are different from the ones you ask in a way that affects the final number
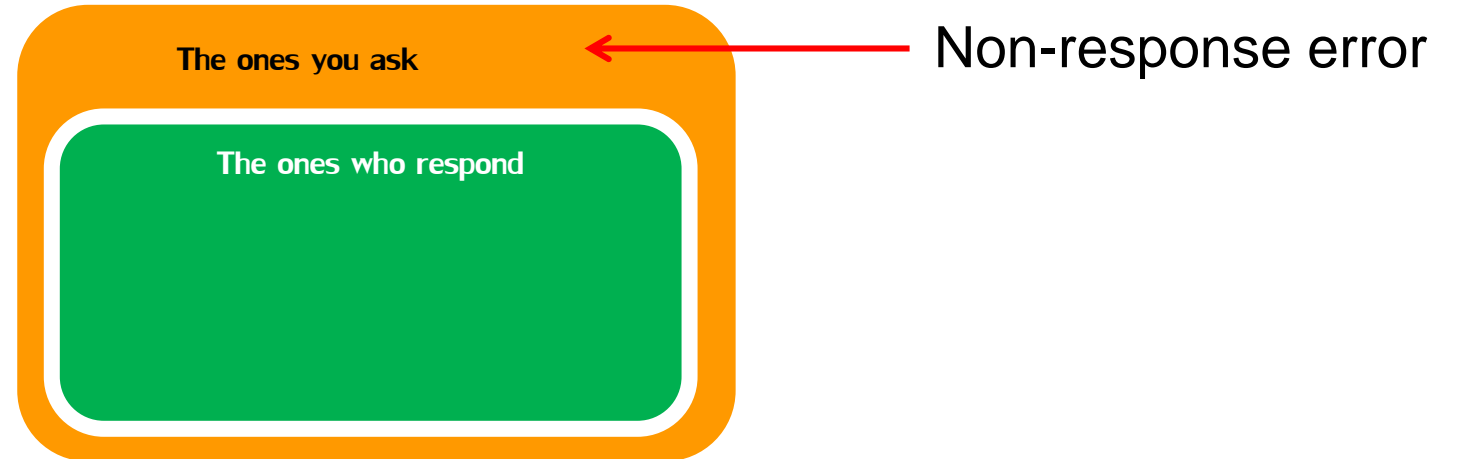
**The ones you ask**

**The ones who respond**

Non-response error

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# Adjustment error happens when the decisions you make about whose responses you use are not completely ideal*

*usually you'll be OK on this, it's not an error I worry about too much in practice



The ones who respond

The ones whose responses you use

Adjustment error

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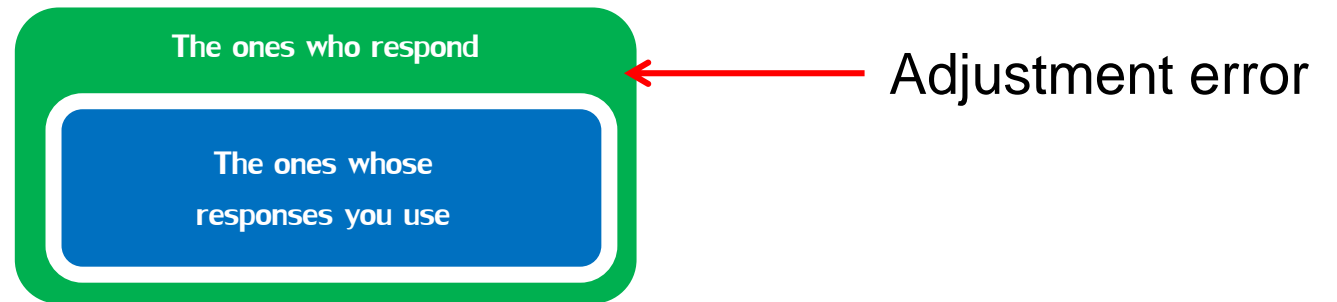
# We don't get exactly the respondents we want



Who you want to ask — Coverage error

The list you sample from — Sampling error

The ones you ask — Non-response error

The ones who respond — Adjustment error

The ones whose responses you use — Representativeness

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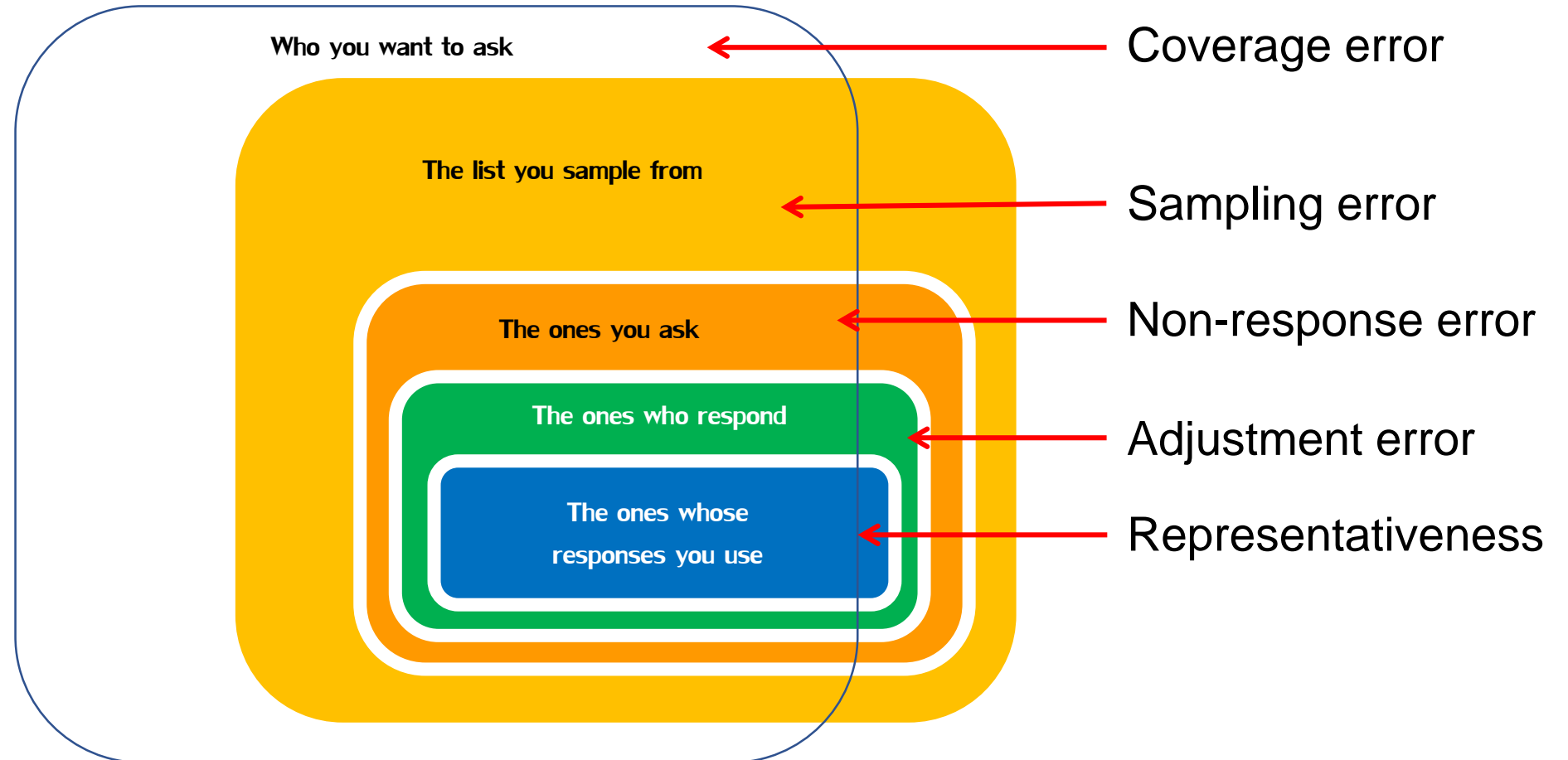
# Sampling is when we worry about three errors

Who you want to ask — Coverage error

The list you sample from — Sampling error

The ones you ask — Non-response error

The ones who respond

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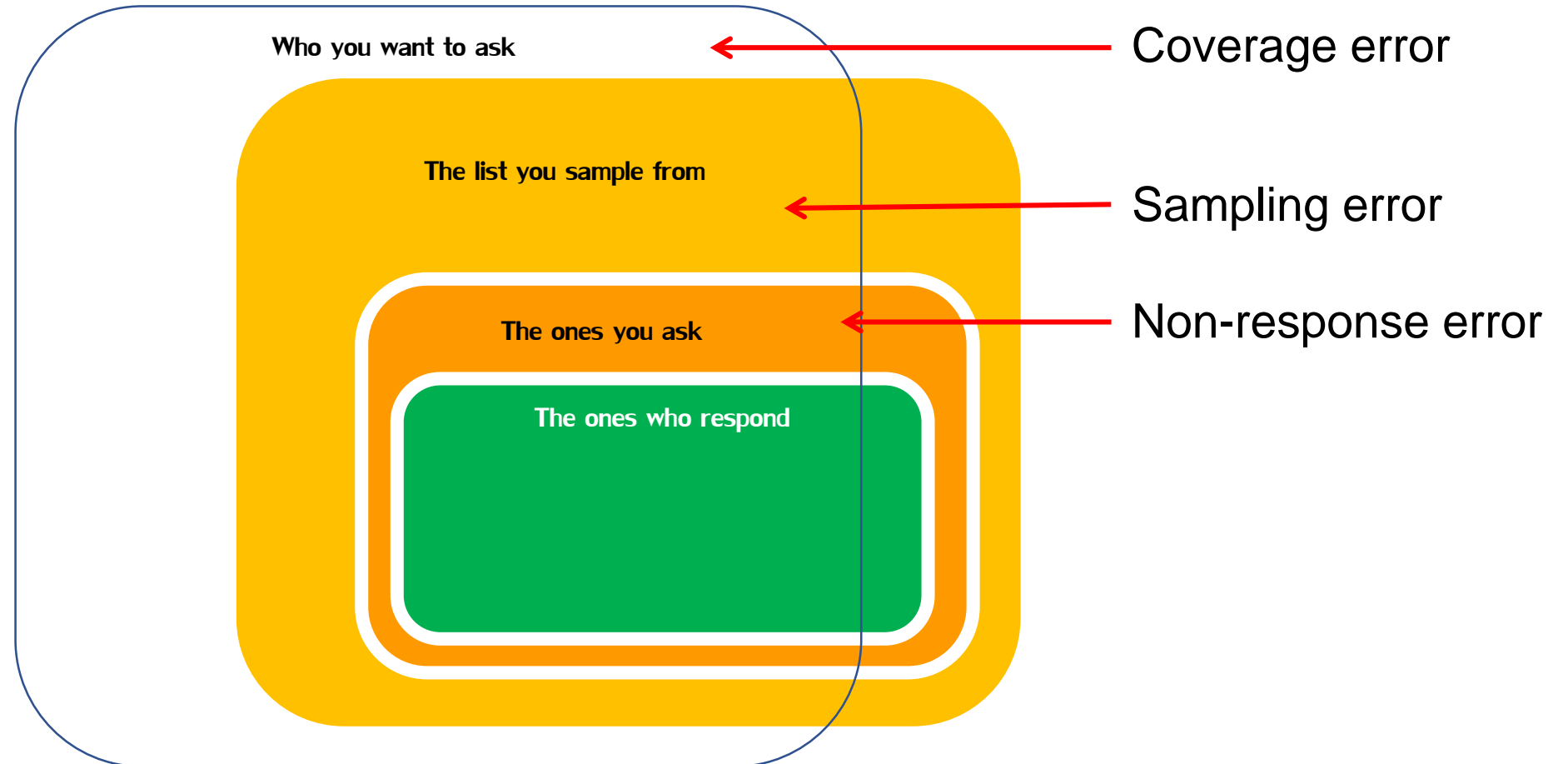
# Or, here they are with the Survey Octopus

Why you want ask

Who you want to ask

Coverage error

The reason you're doing it

The list you sample from

The questions you ask

The sample you ask

Sampling error

The answers you get

The ones who respond

Non-response error

The answers you use

The ones whose responses you use

The number

# Today we're focusing on non-response error



Why you want ask

Who you want to ask

Non-response error

The number

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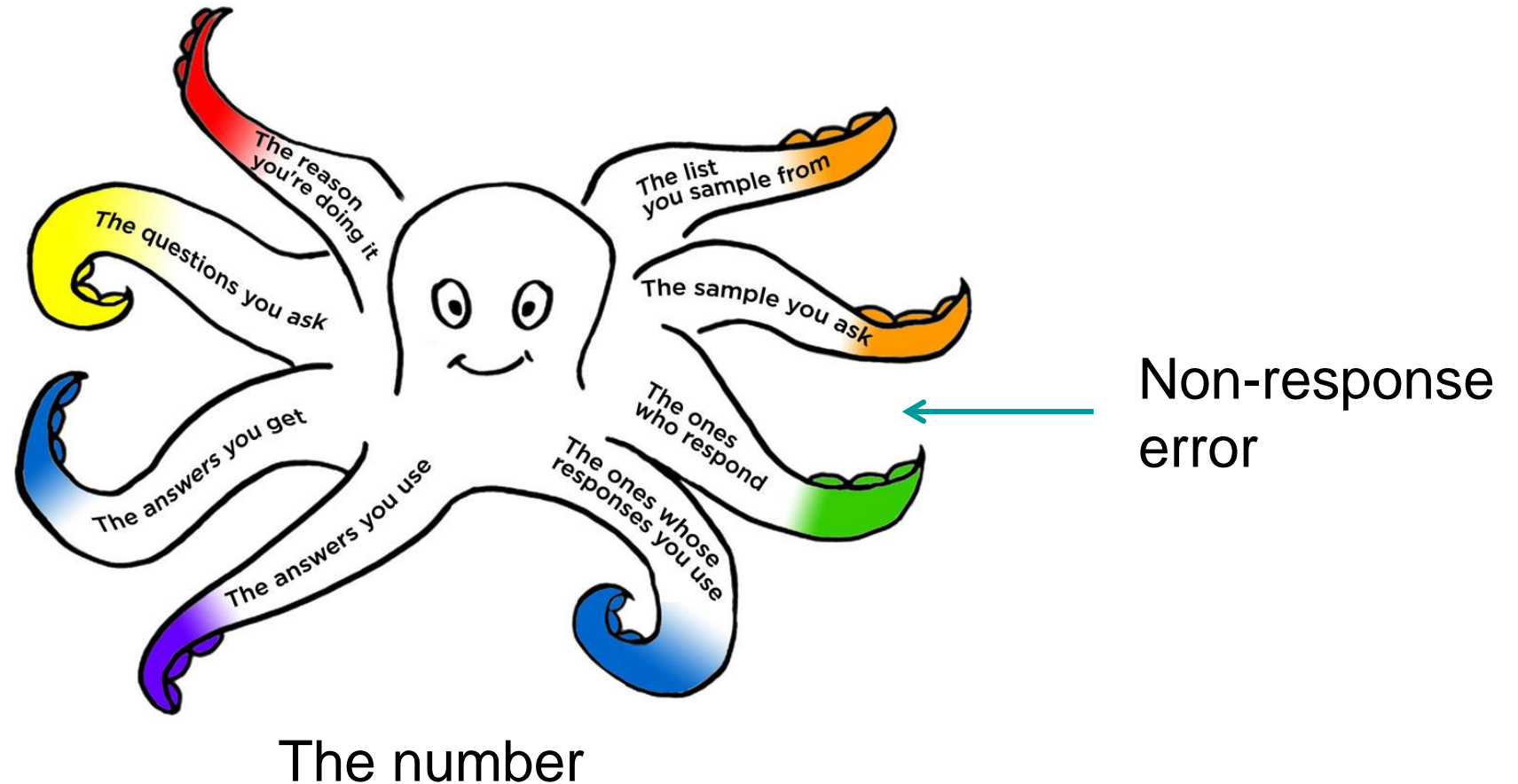
# Response depends on effort, reward and trust



Perceived effort

Perceived reward

Trust

Diagram from Jarrett, C, and Gaffney, G (2008)
"Forms that work: Designing web forms for usability" inspired by Dillman, D.A. (2000)
"Internet, Mail and Mixed Mode Surveys: The Tailored Design Method"

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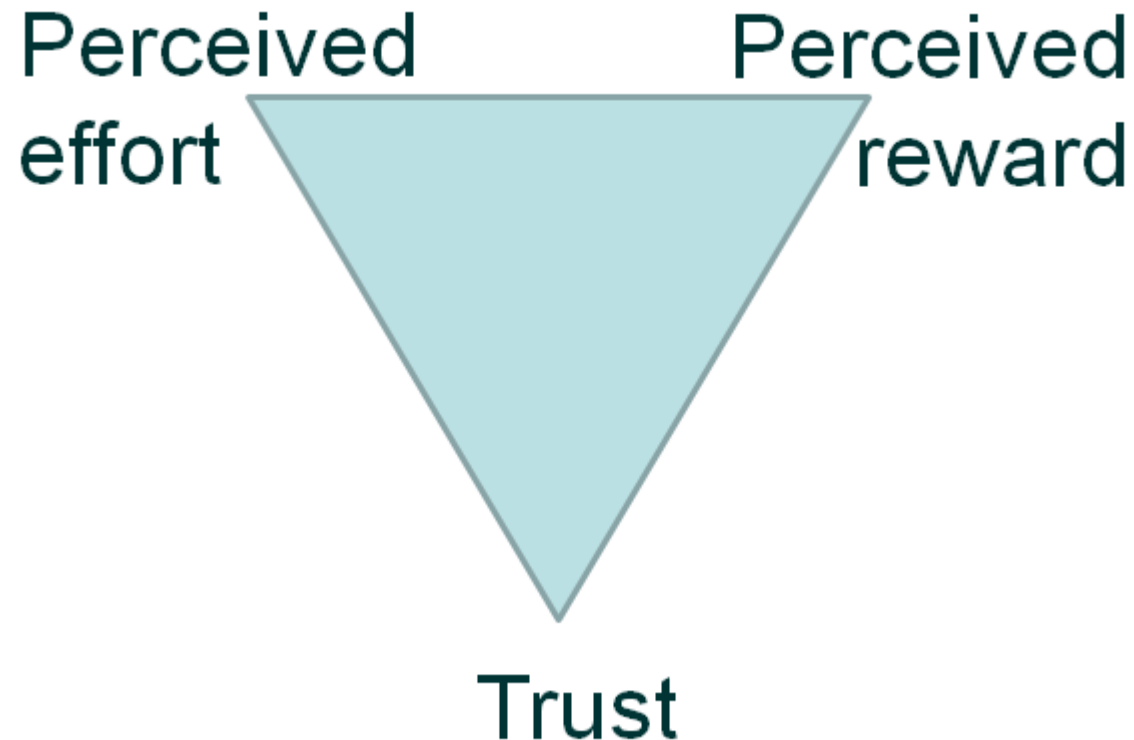
# Would you respond to this invitation?



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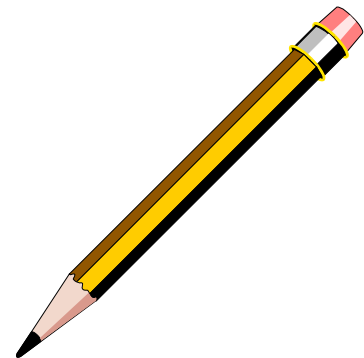
# I got this invitation.

# It changed when I downloaded pictures.



**Dear Epson Customer, review your Epson Stylus Office BX625FWD**

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

ℹ️ 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

If you're having trouble viewing this email please click here

[x] Right-click here to download pictures. To help protect your privacy, Outlook prevented automatic download of this picture from the Internet.
EPSON - EXCEED YOUR VISION

[x] Right-click here to download pictures. To help protect your privacy, Outlook prevented automatic download of this picture from the Internet.
REVIEW YOUR Epson Stylus Office BX625FWD

[x] Right-click here to download pictures. To help protect your privacy, Outlook prevented automatic download of this pictur...

**Dear Epson customer,**

Thank you for choosing an Epson Stylus

[x] Right-click here to download pictures. To help protect your privacy, Outlook prevented automatic download of this picture from the Internet.
Epson Stylus Office BX625FWD

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I think the pictures have a few hints about the response they want



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# Typically, I think of invitations in 'Fieldwork'

| Goals | Sample | Questions | Questionnaire | Fieldwork | Responses | Reports |
|---|---|---|---|---|---|---|
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# Create the right context for your questionnaire



YOUR INVITATION
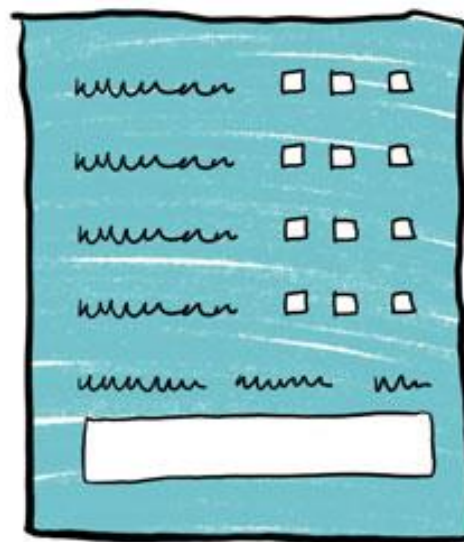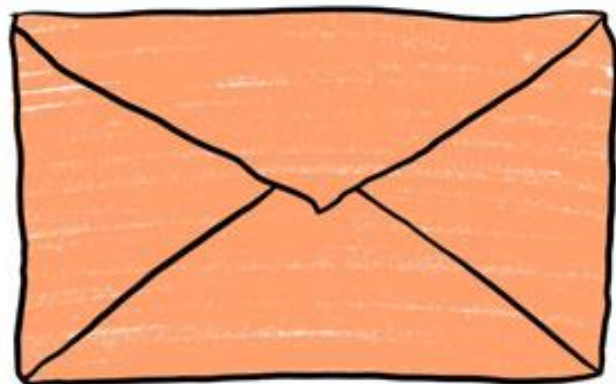
IS AS IMPORTANT

AS YOUR QUESTIONNAIRE

THANK YOU

FOR GOOD KARMA

Caroline Jarrett  @cjforms  (CC) BY SA-4.0       Illustration by Tasia Graham for  "Surveys that work: A practical guide for designing better surveys" by Caroline Jarrett

# A good invitation creates trust

- Consider whether your branding could sway the response
  - Are you a brand that has a high profile?
  - Are you likely to be known to the person who answers?
  - Can you get sponsorship from a trusted person or organisation?
- Say who you are
- Say why you've contacted this person specifically
- Explain:
  - Your privacy policy
  - Your approach to anonymity and confidentiality

# A good invitation explains the effort

- Outline the topic of the survey

- Say when the survey will close

- Consider saying how many questions there are

- Do NOT say how long it will take
  - unless you have tested the heck out of it and are extremely sure that you know the answer

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# A good invitation offers a perceived reward

- Explain the purpose of the survey

- Explain why this person's responses will help

- If there is an incentive, offer it
  - Incentives do not have to be financial
  - If the incentive is financial, make sure it is easy to get (otherwise you increase perceived effort)

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# Write the invitation and thank-you

- Hints:
  - Consider your privacy policy
  - Decide on your approach to anonymity and confidentiality
  - Explain the effort
  - Offer the reward

- Optional: add the thank-you

- 10 minutes

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# How was that?

- Any thoughts?

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# Break

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# Today's agenda

✓Introduction and definitions

✓Goals: Focus your survey on a specific decision

✓Sample: Write an invitation that makes people want to answer

Questions: Ditch the rating scales

Responses: Lose your fear of open answers

Recap and retro

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# Questions

Ditch the rating scales

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# You get a better survey by doing many things well

| Goals | Sample | Questions | Questionnaire | Fieldwork | Responses | Reports |
|---|---|---|---|---|---|---|
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| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| Questions you need answers to | The right people in the sample | Questions people can answer | Questions people can interact with | Answers from the right people | Accurate Answers | Useful Decisions |

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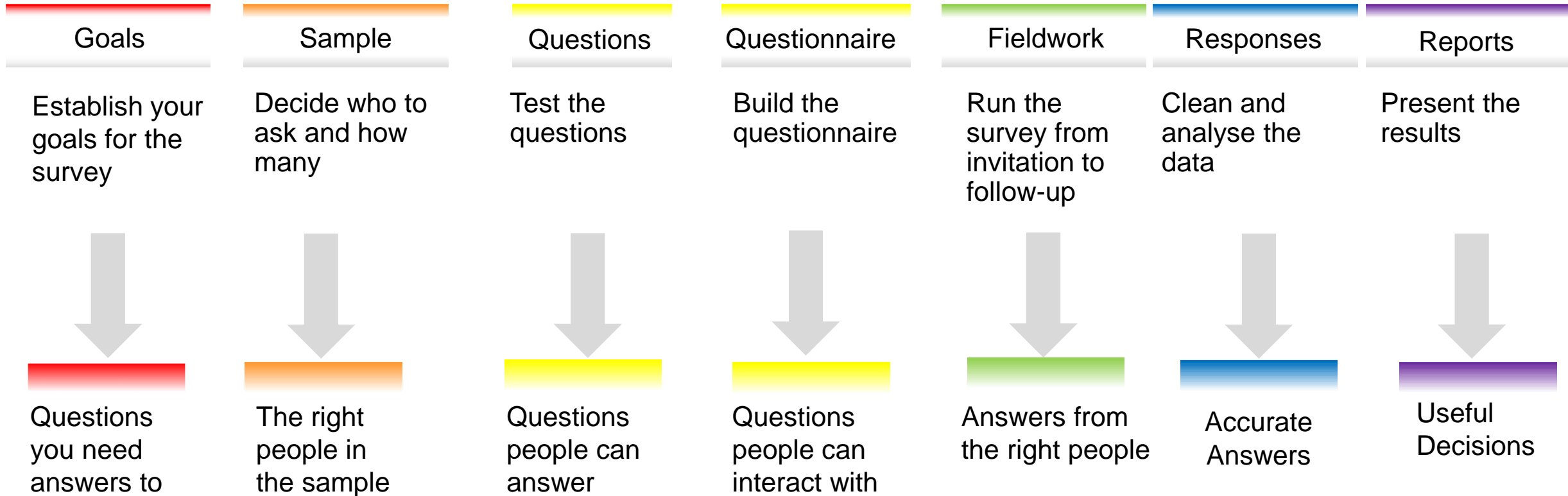
# Bad questions create measurement error

Why you want ask

Who you want to ask

Measurement
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
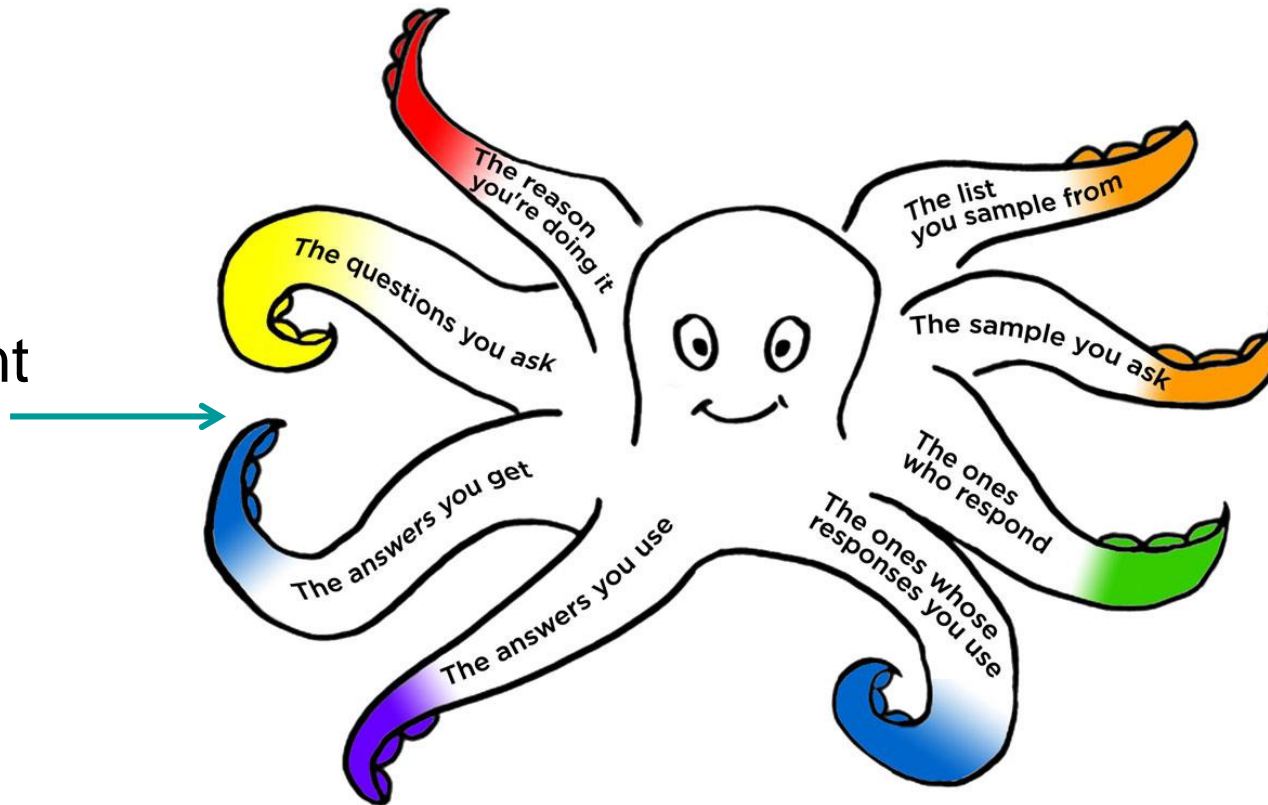
The number

# There are four steps to answer a question
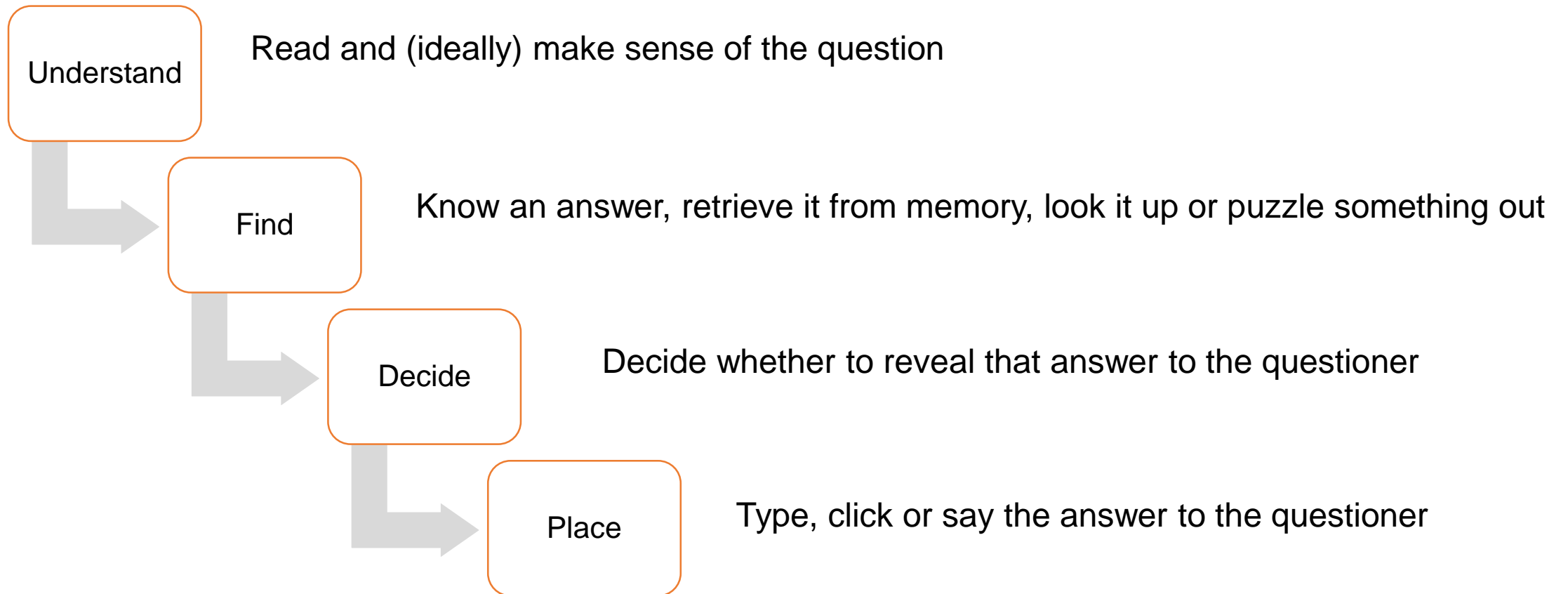
**Understand** — Read and (ideally) make sense of the question

**Find** — Know an answer, retrieve it from memory, look it up or puzzle something out

**Decide** — Decide whether to reveal that answer to the questioner

**Place** — Type, click or say the answer to the questioner

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Adapted from Tourangeau, R., Rips, L. J. and Rasinski, K. A. (2000)
"The psychology of survey response"

# A good question is good in four ways

| Step | A good question … |
|------|-------------------|
| 1. Read and **understand** | is legible and makes sense |
| 2. **Find** an answer | asks for an answer that we know or can find easily |
| 3. **Decide** on the answer | asks for an answer that we're happy to reveal |
| 4. **Place** the answer | offers an appropriate space for the answer |

Adapted from Tourangeau, R., Rips, L. J. and Rasinski, K. A. (2000) "The psychology of survey response"

# 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.*

| | | | |
|---|---|---|---|
| ☐ Automotive | | ☐ Banking | |
| ☐ Education | | ☐ Health Care | |
| ☐ Journalism | | ☐ Market Research | |
| ☐ Marketing / PR / Advertising | | ☐ Not for Profit / Charity | |
| ☐ Retail | | ☐ Science | |
| ○ None of the above | | | |

Next

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Hermann grid illusion

# Four step examples: 1: read and understand



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# 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?

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# Do you say your name differently?

"What is your name?"

- In a formal context – applying for a job
- In a social context – meeting the friend of a friend
- On the phone – getting a delivery sorted out

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# The 'Decide" step is about being appropriate

Understand

Find

Decide

Decide whether to reveal that answer to the questioner

Place

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Adapted from Tourangeau, R., Rips, L. J. and Rasinski, K. A. (2000)
"The psychology of survey response"
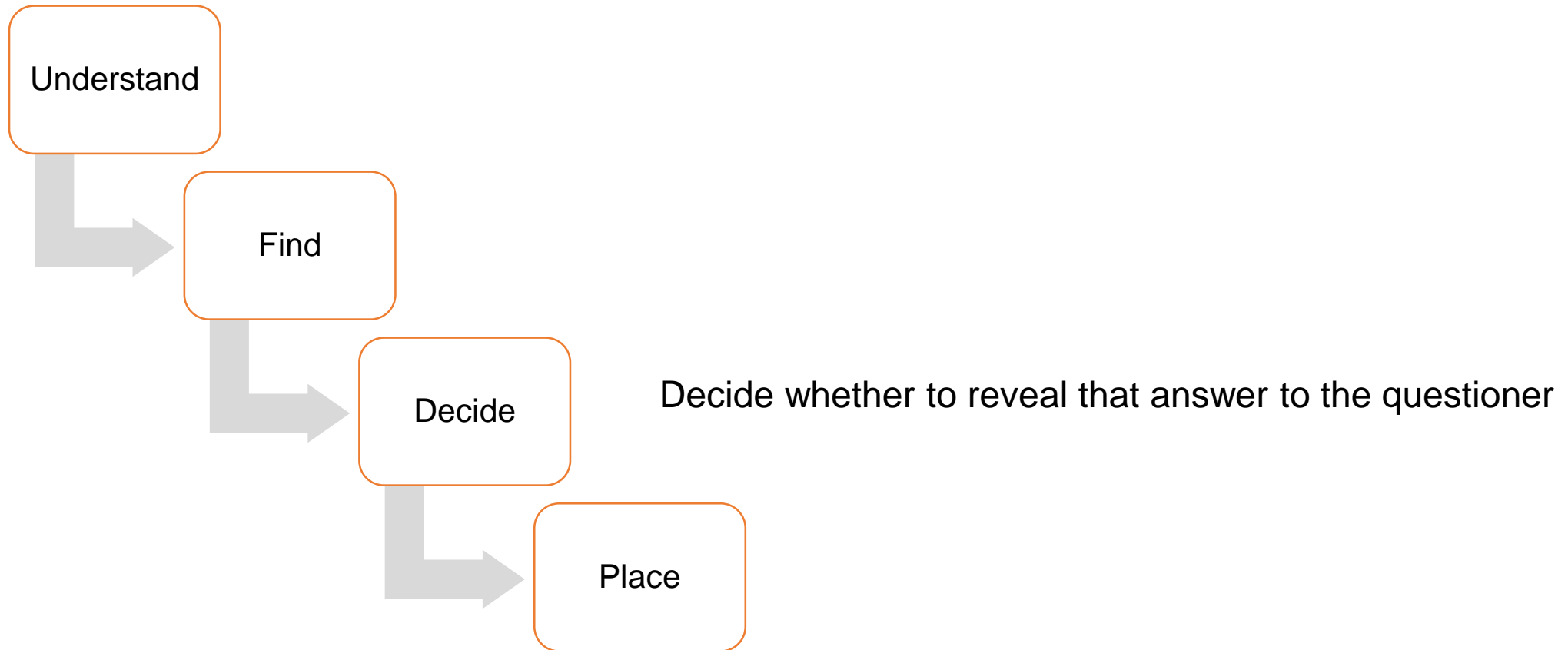
# Four step examples: 3: decide on the answer

**\* 11. I think it is safe to challenge the way thing are done in** ▮▮▮

○ Strongly agree

○ Agree

○ Neither

○ Disagree

○ Strongly disagree

Caroline Jarrett  @cjforms  (CC) BY SA-4.0

# We've looked at four separate steps
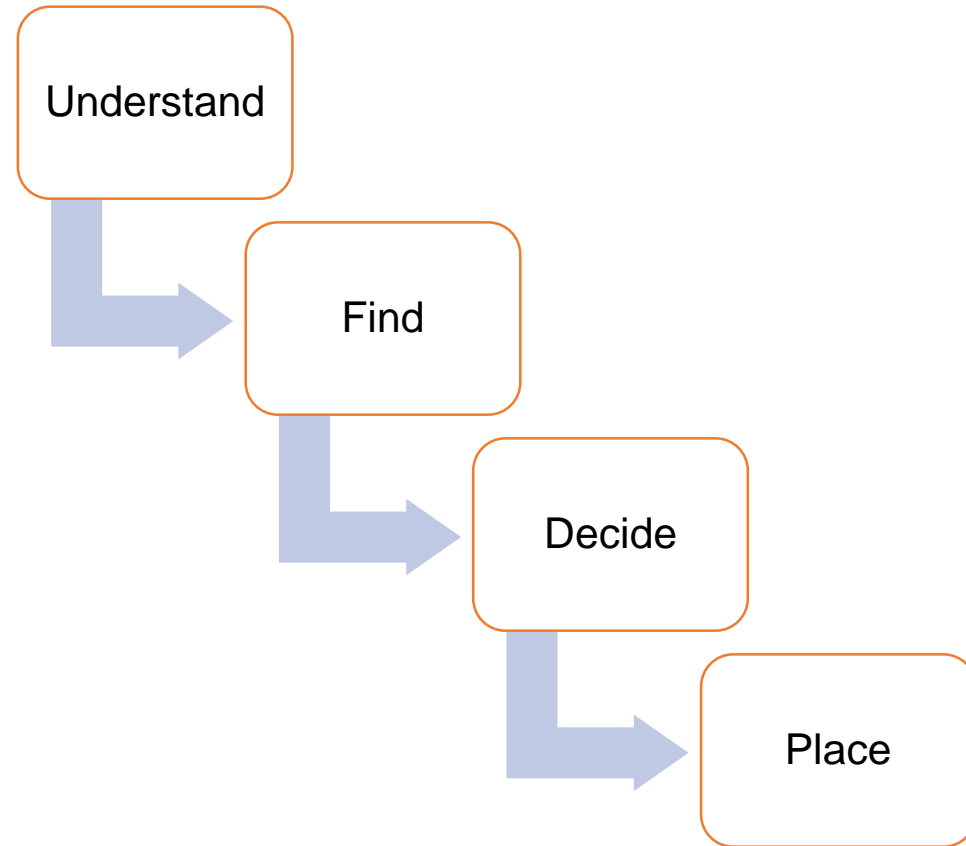
Understand

Find

Decide

Place

Caroline Jarrett  @cjforms  (CC) BY SA-4.0

Adapted from Tourangeau, R., Rips, L. J. and Rasinski, K. A. (2000)
"The psychology of survey response"

# A good question is good in four ways

| Step | A good question … |
|---|---|
| 1. Read and **understand** | is legible and makes sense |
| 2. **Find** an answer | asks for an answer that we know or can find easily |
| 3. **Decide** on the answer | asks for an answer that we're happy to reveal |
| 4. **Place** the answer | offers an appropriate space for the answer |

Adapted from Tourangeau, R., Rips, L. J. and Rasinski, K. A. (2000) "The psychology of survey response"

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# A good question is good in ~~four~~ five ways

| Step | A good question … |
|---|---|
| 1. Read and **understand** | is legible and makes sense |
| 2. **Find** an answer | asks for an answer that we know or can find easily |
| 3. **Decide** on the answer | asks for an answer that we're happy to reveal |
| 4. **Place** the answer | offers an appropriate space for the answers |
| 5. Relates to the **goals** | asks for an answer that is relevant for the decision |

Adapted from Tourangeau, R., Rips, L. J. and Rasinski, K. A. (2000) "The psychology of survey response"

Caroline Jarrett  @cjforms

# Let's try an example.

- Think of a time you stayed at a hotel
- What ONE thing would have created a better experience?

**Thank you for being our guest**

Thanks to feedback from guests like you, we can give you an even better experience next time!

Caroline Jarrett   @cjforms

# Can you place that answer on this questionnaire?

**Thank you for being our guest**

Thanks to feedback from guests like you, we can give you an even better experience next time!

**On a scale of 0 to 10, what is the likelihood that you would recommend us to friends and family?**

Not likely at all — 0 1 2 3 4 5 6 7 8 9 10 — Very Likely

**How would you rate the following Areas:**

1 = poor, 5 = excellent. Please select N/A if you didn't use this facility

| | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| Reservation Experience | ● | ● | ● | ● | ● | ● |
| Arrival Experience | ○ | ○ | ○ | ○ | ○ | ○ |
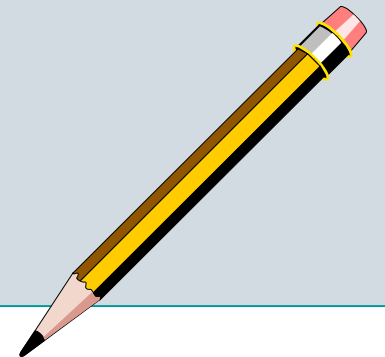
# Grids are a major cause of survey drop-out

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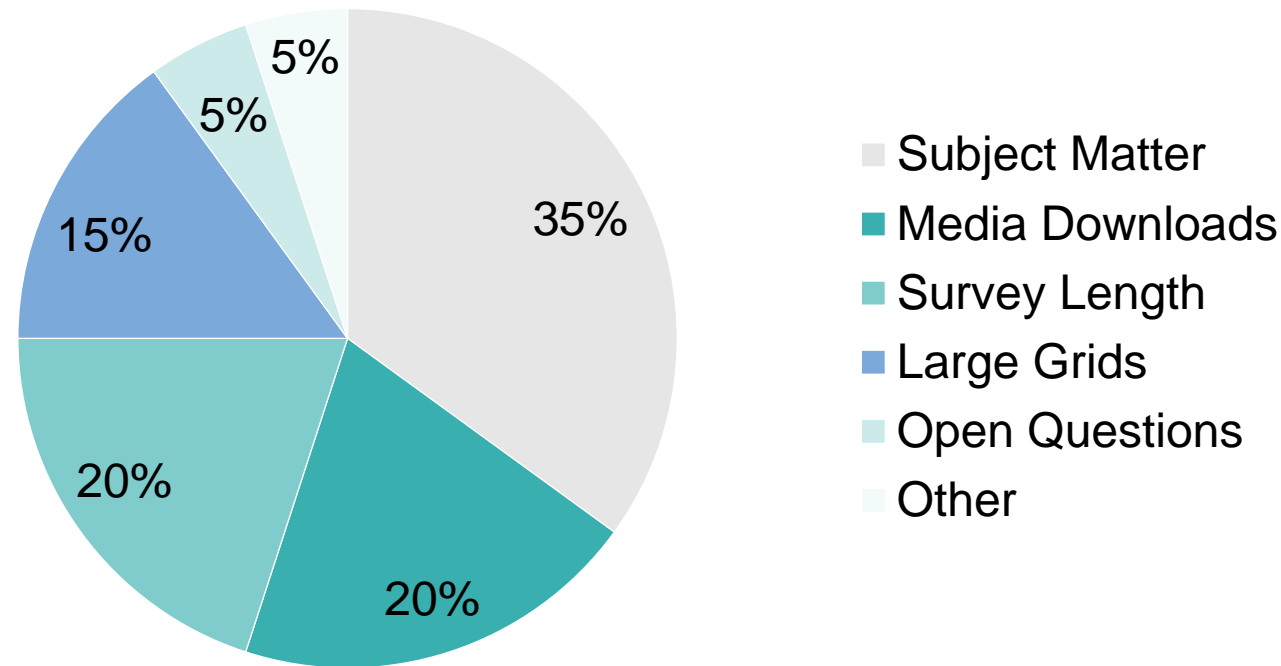


Legend:
- Subject Matter
- Media Downloads
- Survey Length
- Large Grids
- Open Questions
- Other

Pie chart values: 35%, 20%, 20%, 15%, 5%, 5%

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# A Likert scale has several Likert items

**Likert scale**

**Statement**

## System Usability Scale

© Digital Equipment Corporation, 1986.

| | Strongly disagree | | | | Strongly agree |
|---|---|---|---|---|---|
| 1. I think that I would like to use this system frequently | 1 | 2 | 3 | 4 | 5 |
| 2. I found the system unnecessarily complex | 1 | 2 | 3 | 4 | 5 |
| 3. I thought the system was easy to use | 1 | 2 | 3 | 4 | 5 |
| 4. I think that I would need the support of a technical person to be able to use this system | 1 | 2 | 3 | 4 | 5 |
| 5. I found the various functions in this system were well integrated | 1 | 2 | 3 | 4 | 5 |
| 6. I thought there was too much inconsistency in this system | 1 | 2 | 3 | 4 | 5 |
| 7. I would imagine that most people would learn to use this system very quickly | 1 | 2 | 3 | 4 | 5 |
| 8. I found the system very cumbersome to use | 1 | 2 | 3 | 4 | 5 |
| 9. I felt very confident using the system | 1 | 2 | 3 | 4 | 5 |
| 10. I needed to learn a lot of things before I could get going with this system | 1 | 2 | 3 | 4 | 5 |

**Likert item**

**Response points**

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# Likert had three formats in his scales

1. Do you favor the early entrance of the United States into the League of Nations?

|              | YES | ? | NO |
|              |-----|---|----|
|              | (4) | (3) | (2) |

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 training. (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) |

Likert, R. (1932). "A Technique for the Measurement of Attitudes." Archives of Psychology **140**: 55.

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

Krosnick and Presser refer to about 87 papers on response points

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Krosnick, J. A. and S. Presser (2009). Question and Questionnaire Design. Handbook of Survey Research (2nd Edition) J. D. Wright and P. V. Marsden, Elsevier. Emerald_HSR-V017_9 263..313 (stanford.edu)

# I have a flowchart to help you to decide

Does a key stakeholder* have a strong opinion?

**Yes** → Go with the stakeholder's opinion

**No** ↓

Offer five points with a neutral centre point
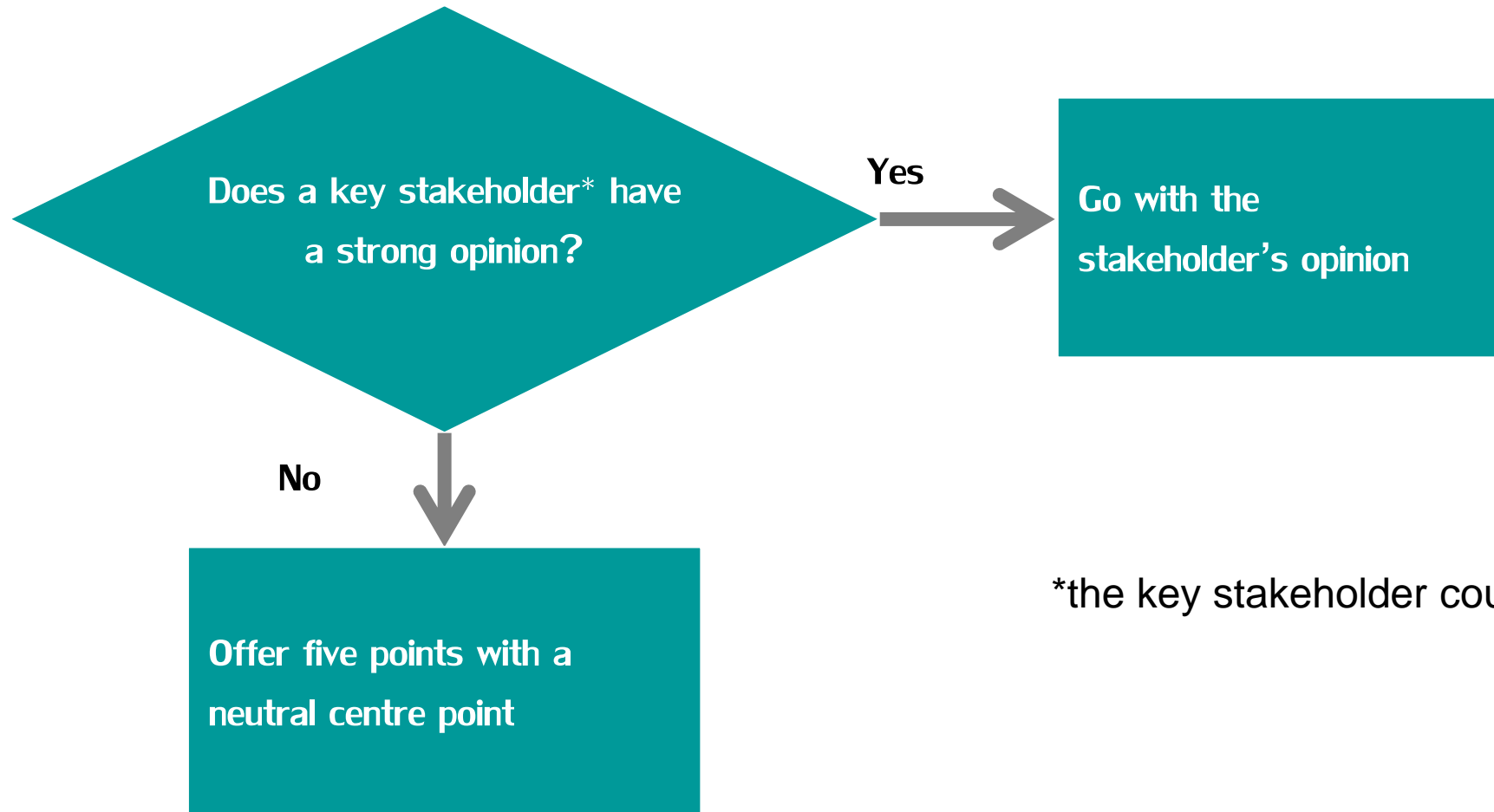
*the key stakeholder could be you

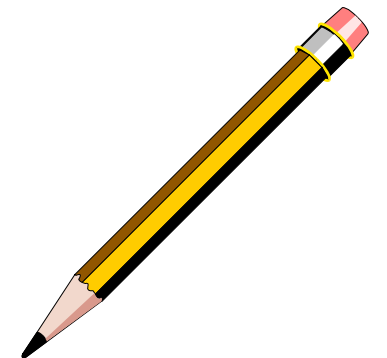     Adapted from Caroline Jarrett (2021), "Surveys that work: A practical guide for designing and running surveys"

# Let's have another look at a Likert question

1. Do you favor the early entrance of the United States into the League of Nations?

YES (4)          ? (3)          NO (2)

Do you favour the early entrance of the United States into the League of Nations?

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# Takeaway

In a Likert item,
the statement matters
a lot more than
the number of points

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# This question is a sort of Likert item



Overall, how are you feeling at the moment?

You can select up to 5 emotions

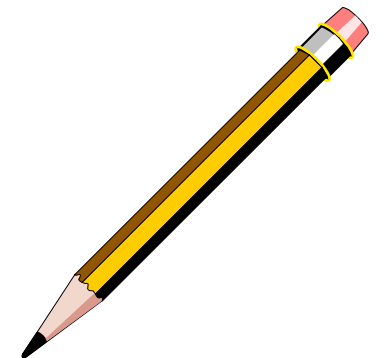Please make sure you scroll down to see all the emotions you can choose from.
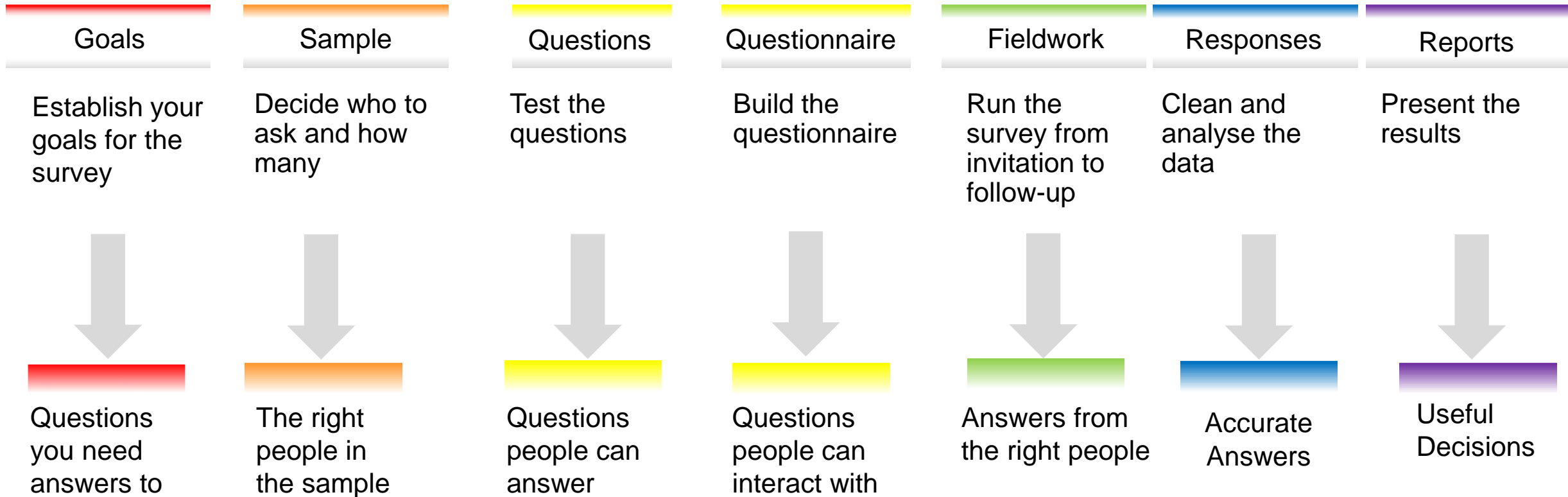
Caroline Jarrett   @cjforms   (CC) BY SA-4.0

# Let's have another look at a Likert item

- The hotel wants to focus on "Reservation Experience"
- Write the questions to find out:
  - The guest's feelings overall
  - Their experience with reservations
- Optional:
  - Think about whether we need any questions that will help the hotel to decide whether this person is representative of "who we want to ask"

Caroline Jarrett   @cjforms

# You get a better survey by doing many things well

| 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 | The right people in the sample | Questions people can answer | Questions people can interact with | Answers from the right people | Accurate Answers | Useful Decisions |

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# Today's agenda

✓Introduction and definitions

✓Goals: Focus your survey on a specific decision

✓Sample: Write an invitation that makes people want to answer

✓Questions: Ditch the rating scales
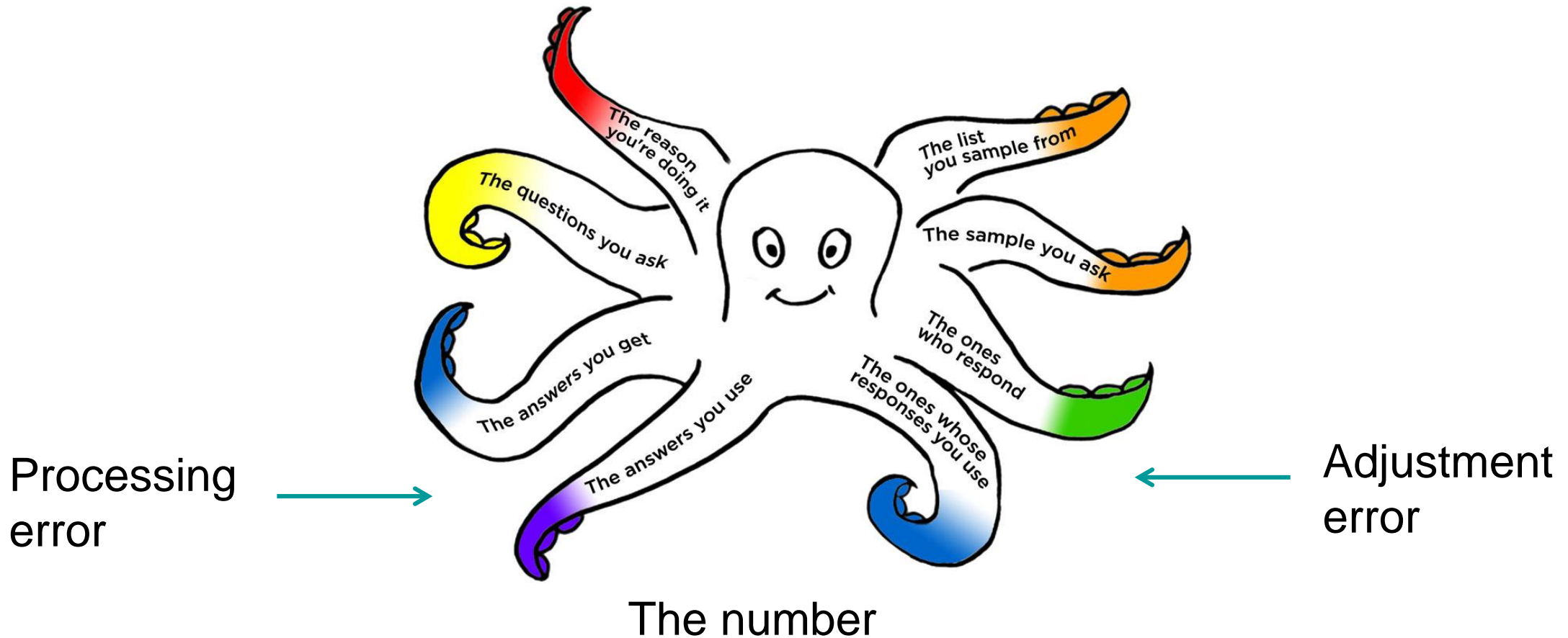
Responses: Lose your fear of open answers

Recap and retro

Caroline Jarrett  @cjforms

# Responses

Lose your fear of open answers

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# There are two errors around responses

Why you want ask

Who you want to ask



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

Processing error

Adjustment error

The number

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# We met adjustment error before

Adjustment error happens when the decisions you make about whose responses you use are not completely ideal*

*usually you'll be OK on this, it's not an error I worry about too much in practice
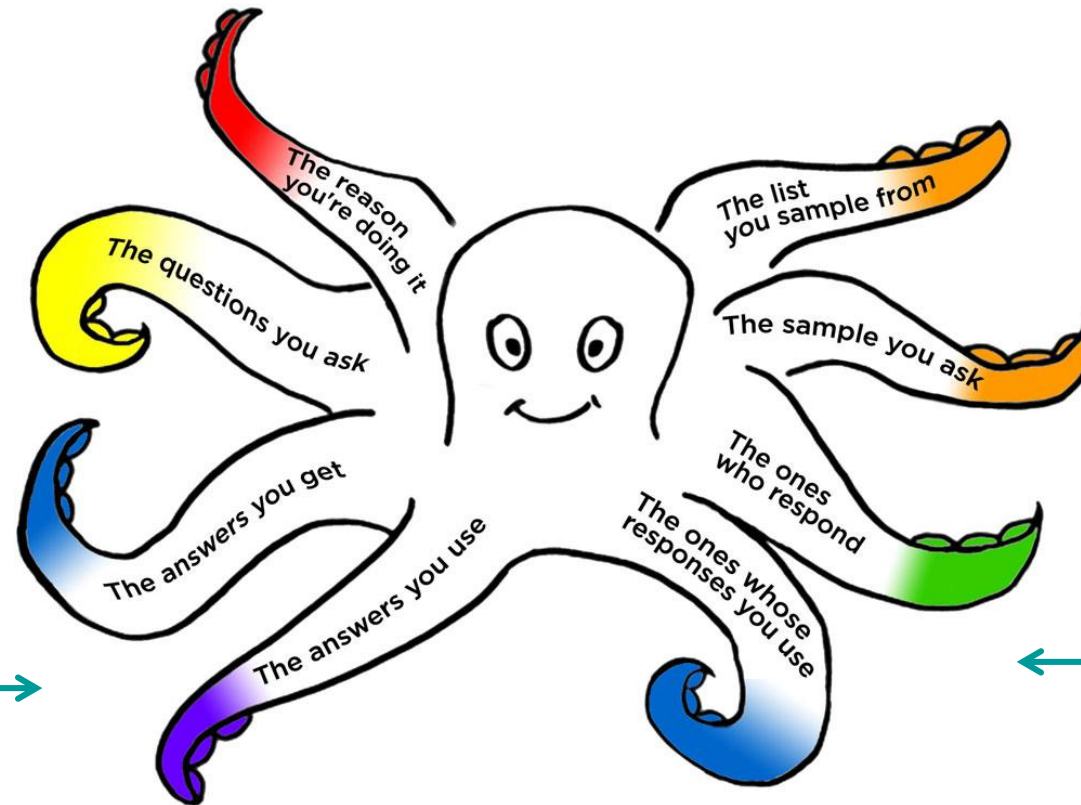
The ones who respond

The ones whose responses you use

← Adjustment error

Caroline Jarrett  @cjforms  (CC) BY SA-4.0
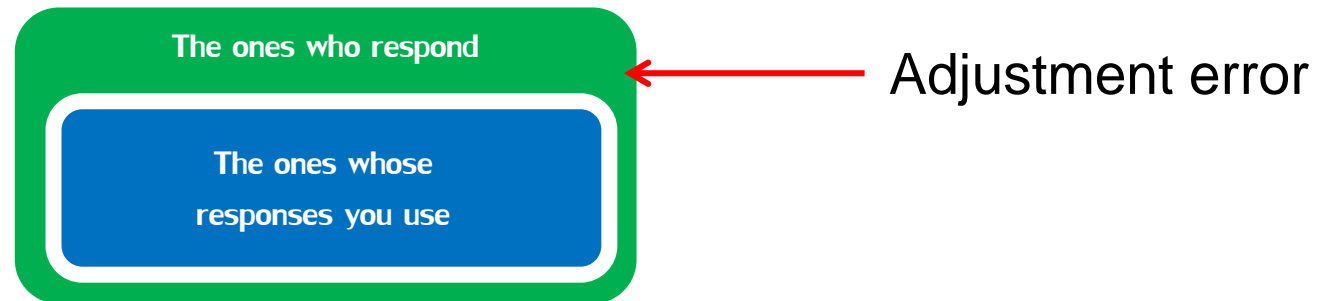
# Processing error is very similar

Why you want ask

Who you want to ask

Processing error happens when the decisions you make about how you use the individual **answers** are not completely ideal
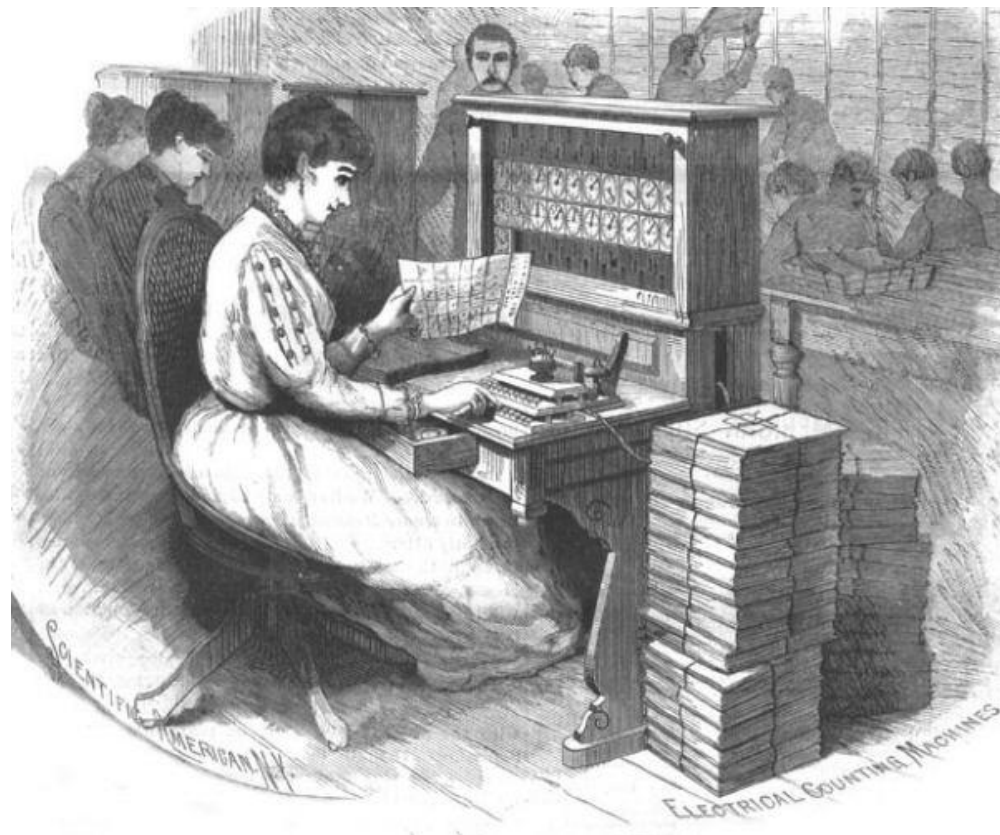
The reason you're doing it

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

Processing error →

← Adjustment error

The number

# Typing in the answers is "coding"



Caroline Jarrett  @cjforms  (CC) BY SA-4.0       Image credit: https://www.census.gov/history/www/census_then_now/notable_alumni/herman_hollerith.html

# These days, survey tools do a lot of coding for us

**Type of question**

- Radio buttons
  (Yes, No, Not sure)

- Check boxes

- Numeric entry only

- Open box (text entry)

**Results are likely to have**

- Text of the option
  (Yes, No, Not sure)

- A column for each of the checkboxes

- A number

- Text as typed

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# I've got an extract from some responses

**Question**

1. Do you have an account?

2. Did you use:
     Our website
     Customer contact centre
     Discussing with a colleague

3. How satisfied are you?

4. Feedback

**Response options**

1. Yes, no, don't know

2. I used it,
   I was aware of this but didn't use it,
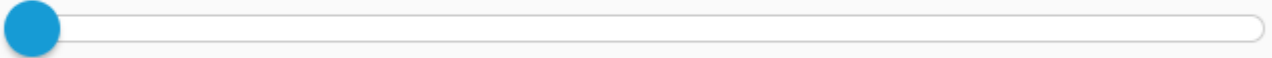   I didn't know about it

3. Score, 0 to 10

4. Open box

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# We're often too frightened of open answers

For example, here are some examples of asking for age

Date of birth

01 ⇕  01 ⇕  1900 ⇕  📅

How old are you?
Move the slider until it shows the correct number in the box on the left

Thanks for that! Now we'd like to get to know you a little bit better. So please select your date of birth from the drop downs below:

mm/yyyy 📅

← Apr ▾ 1999 ▾ →

OK

CONTINUE

# We asked farmers for 'size of farm' with an open box

It took me 10 minutes to convert 781 text answers to numbers

| Type of reply | Example | % of replies |
|---|---|---|
| Just a number | 7 | 81% |
| with ha | 87ha | 4% |
| with hectares | 125 hectares | 1% |
| Other | (next slide) | 1% |
| Did not answer/ answer is 'N/A' | | 12% |

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# Let's try the 1% of tricky 'other' formats

How would you convert these replies to a number of hectares?

A. 7+

B. ~ 2800Ha

C. Approx 32.37

D. 843.65 + 67.

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# Takeaway

If the person who answers is likely to 'just know' their response as a number, give them an open box for it

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# But what about free-text responses?

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# If you ask for free-text responses,
# plan to read them and think about them

# But what if we need to do more?

Caroline Jarrett   @cjforms

# We are aiming for "inter-coder reliability"

- We're usually working with a team of coders

- We want to be sure that everyone is coding in the same way

- That means deciding on a "coding frame"

- A coding frame tells you how to code each answer

- For example, for 'Feelings', we might code:
  - Positive
  - Neutral
  - Negative

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# Name four things that appear in this picture



René Magritte "L'Histoire centrale" ("The heart of the matter"), Dexia Collection

Caroline Jarrett   @cjforms          http://www.cs.man.ac.uk/~jeremy/HealthInf/RCSEd/terminology-rater.htm
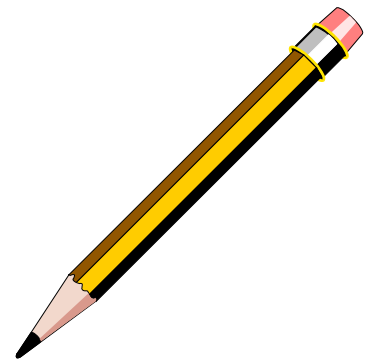
# This is from a case study on inter-coder reliability

**Case Study:** Six untrained coders were invited to describe the picture below ('The Heart of the Matter', by Rene Magritte). Each coder was allowed 15 minutes in which to select appropriate codes from the Art and Architecture Thesaurus (AAT) from the Getty Museum. The resulting codings are shown below.

Rene Magritte: 'The Heart of the Matter'

| CODER 1 | CODER 2 | CODER 3 | CODER 4 | CODER 5 | CODER 6 |
|---|---|---|---|---|---|
| Suitcases 46224 | Suitcases 46224 | Suitcases 46224 Leather 11845 | Case 45659 | Luggage 225937 | Suitcases 46224 |
| Brass instrument 42276 | Trombones 42335 | Musical instruments 41620 | Trombones 42335 | Trombones 42335 | Trumpets 42339 |
| Tables (support furniture) 39548 | | Tables (support furniture) 39548 | Tables (support furniture) 39548 | | Tables (support furniture) 39548 |
| Women 25943 | Models (people) 25848 Arms 40237 | | Women 25943 Dress 46159 | Women 25943 | Adult 154397 |
| | Standing 239500 | Standing 239500 | Standing 239500 | Still lifes 15638 | Standing 239500 |
| Cloth 62391 | Cloth 62391 | Scarves (costume accessories) 46123 | Face masks 262834 Cloth 62391 | Covers (overlying objects) 246275 Head-cloths (headgear) 213003 | Cloth 62391 |
| | Brown 127490 | | | | Blue 129361 |

Caroline Jarrett  @cjforms  (CC) BY SA-4.0      http://www.cs.man.ac.uk/~jeremy/HealthInf/RCSEd/terminology-rater.htm

# You can choose from many different coding frames

- Topic (as in the Magritte example)
- Who is responsible for doing something (department)
- Positive or negative about something (sentiment)
- Nuggets for the report (cherry-picking)

Johnny Saldaña lists many more in his book

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Image credit: The Coding Manual for Qualitative Researchers | Online Resources (sagepub.com)
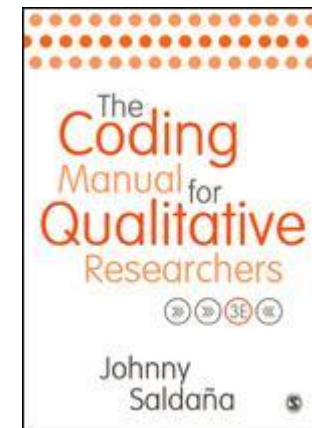
# I do coding for each question in five steps

Step 1:      Read a sample of the open answers

Step 2:      Decide on a coding frame

Step 3:      Apply the coding frame (phase 1 coding)

Step 4:      Think about it

Step 5:      Revise the coding frame and repeat (phase 2 coding)

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# What I ought to do is different

Goals: Decide on a coding frame.

Fieldwork: Apply the coding frame to the first few responses. Think about it. Revise.

Responses: Apply the better coding frame (phase 1 coding). Think about it.

Reports: Revise the coding frame and tweak it all again (phase 2 coding).

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# You're going to try my real-life method of coding

Step 1:      Read a sample of the comments

Step 2:      Decide on a coding frame
             Hint – I mentioned four types of coding frame
             • Topic (as in the Magritte example)
             • Who is responsible for doing something (department)
             • Positive or negative about something (sentiment)
             • Nuggets for the report (cherry-picking)

5 minutes

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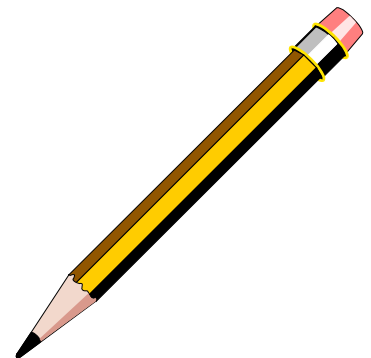
# CAQDAS tools can have hefty learning curves

computer-assisted qualitative data analysis software

Before buying one, look at this: Choosing a CAQDAS package | University of Surrey



Caroline Jarrett  @cjforms   (CC) BY SA-4.0          Image credit: Choosing an appropriate CAQDAS package - University of Surrey - Guildford (archive.org)

# Word clouds can be rather uninteresting



from a survey on usability certification

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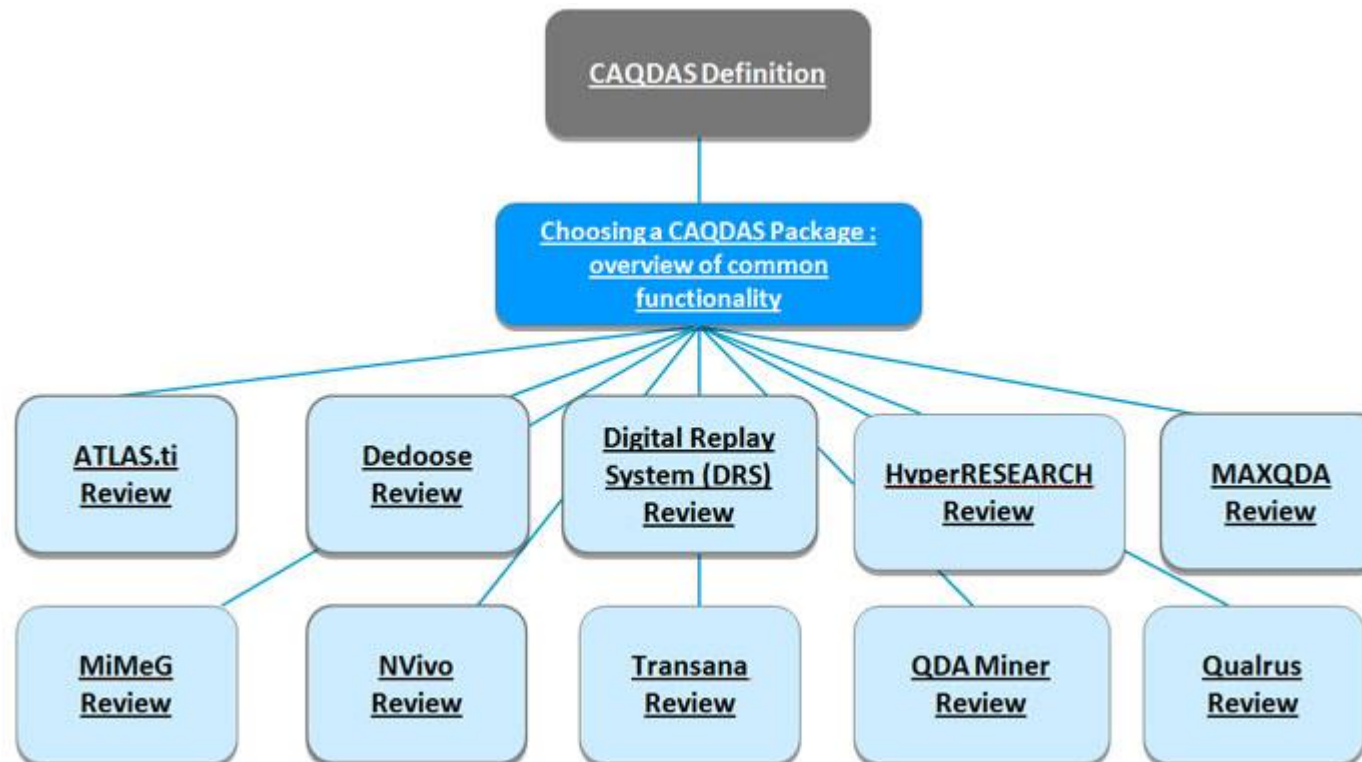
# Or they can be handy to get a flavour of answers



From a survey about using Facebook in connection with university study
Responses coded 'positive'

Caroline Jarrett  @cjforms  (CC) BY SA-4.0

# And contrasting with a different flavour of answers



From a survey about using Facebook in connection with university study
Responses coded 'negative'

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# I made a word cloud from our example dataset



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https://www.freewordcloudgenerator.com/generatewordcloud

# I got a summary from ChatGPT

- Used Playground - OpenAI API

- Chose model: text-davinci-003

- Pasted in all the comments with tl;dr at the end

*"Overall, I experienced long wait times and confusion on the website and helpline, however, the staff were friendly and helpful, and I'm glad I eventually got the product I needed."*

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https://platform.openai.com/playground/

# Takeaway

Don't wait until the report is due to think about coding

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# Today's agenda

✓Introduction and definitions

✓Goals: Focus your survey on a specific decision

✓Sample: Write an invitation that makes people want to answer

✓Questions: Ditch the rating scales

✓Responses: Lose your fear of open answers

**Recap and retro**

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# Recap

The Survey Octopus and the errors

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# You get a better survey by doing many things well

| 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 | The right people in the sample | Questions people can answer | Questions people can interact with | Answers from the right people | Accurate Answers | Useful Decisions |

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# All these errors add up to Total Survey Error

Why you want ask

Who you want to ask

(Lack of) validity

Coverage error

Measurement error

Sampling error

Non-response error

Processing error

Adjustment error

The number

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# Takeaway

Your aim with a survey is to make choices that keep Total Survey Error as low as practical, overall

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# The aim is to make good choices at each step

**Why you want to ask**

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 you sample from

The sample you ask

The ones who respond

The ones whose responses you use

The number

Caroline Jarrett  @cjforms  (CC) BY SA-4.0
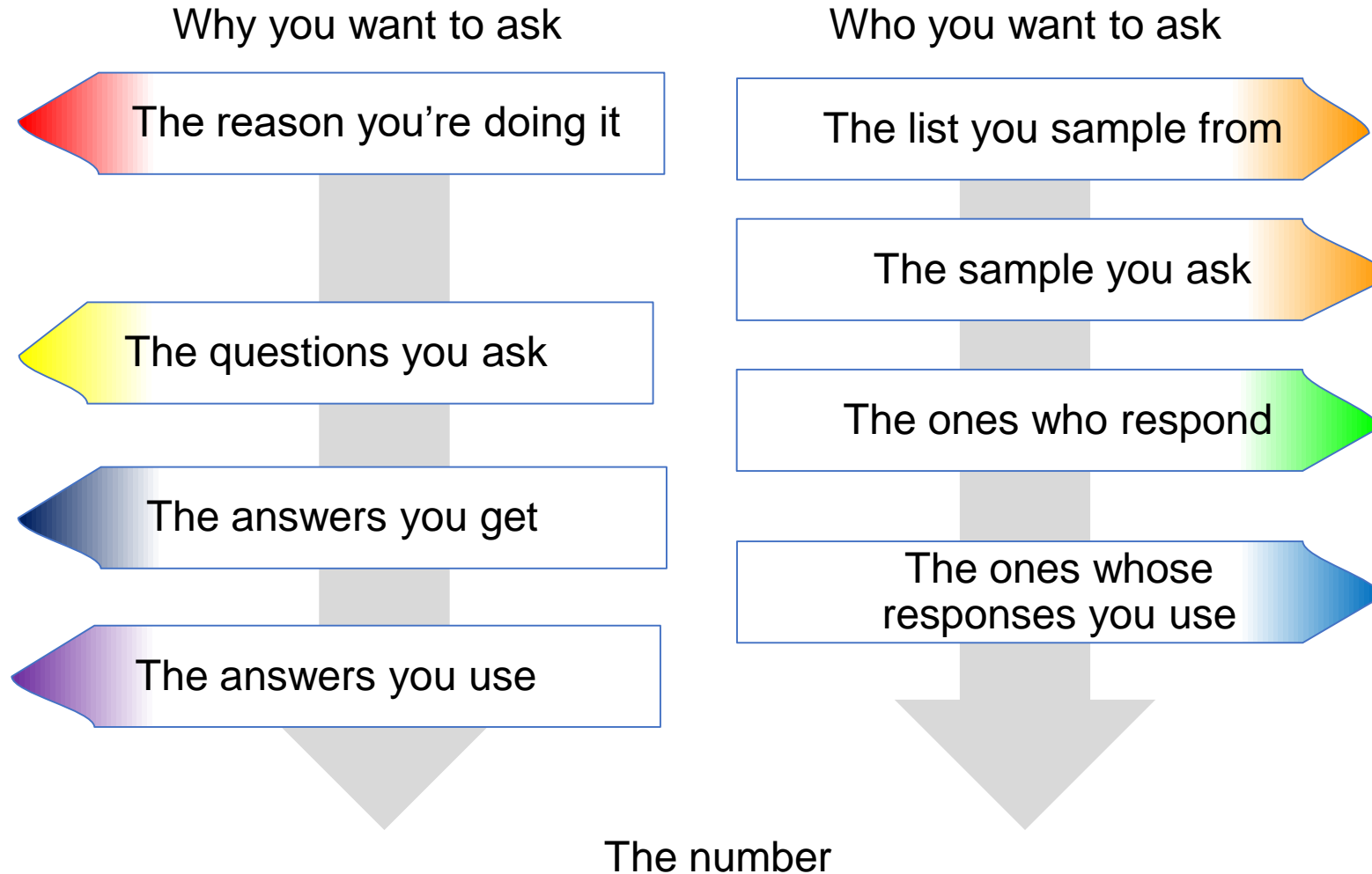
# The aim is to minimise Total Survey Error

Why you want to ask

The reason you're doing it

(Lack of) validity →

The questions you ask

Measurement error →

The answers you get

Processing error →

The answers you use

Who you want to ask

← Coverage error

The list you sample from

← Sampling error

The sample you ask

← Non-response error

The ones who respond

← Adjustment error

The ones whose responses you use

The number

Caroline Jarrett  @cjforms

# Survey methodologists use more searchable terms

Measurement

Representation
Target population

Construct

Sampling frame → Coverage error

(Lack of) validity →

Sampling error →

Sample

Measurement

Non-response error →

Measurement error →

Respondents

Response

Adjustment error →

Processing error →

Postsurvey adjustments

Edited response

Survey statistic

**Measurement**

Construct
$\mu_i$

Validity

Measurement
$Y_i$

Measurement
Error

Response
$y_i$

Processing
Error

Edited
Response
$y_{ip}$

**Representation**

Target
Population
$\bar{Y}$

Coverage
Error

Sampling
Frame
$\bar{Y}_c$

Sampling
Error

Sample
$\bar{y}_a$

Nonresponse
Error

Respondents
$\bar{y}_r$

Adjustment
Error

Postsurvey
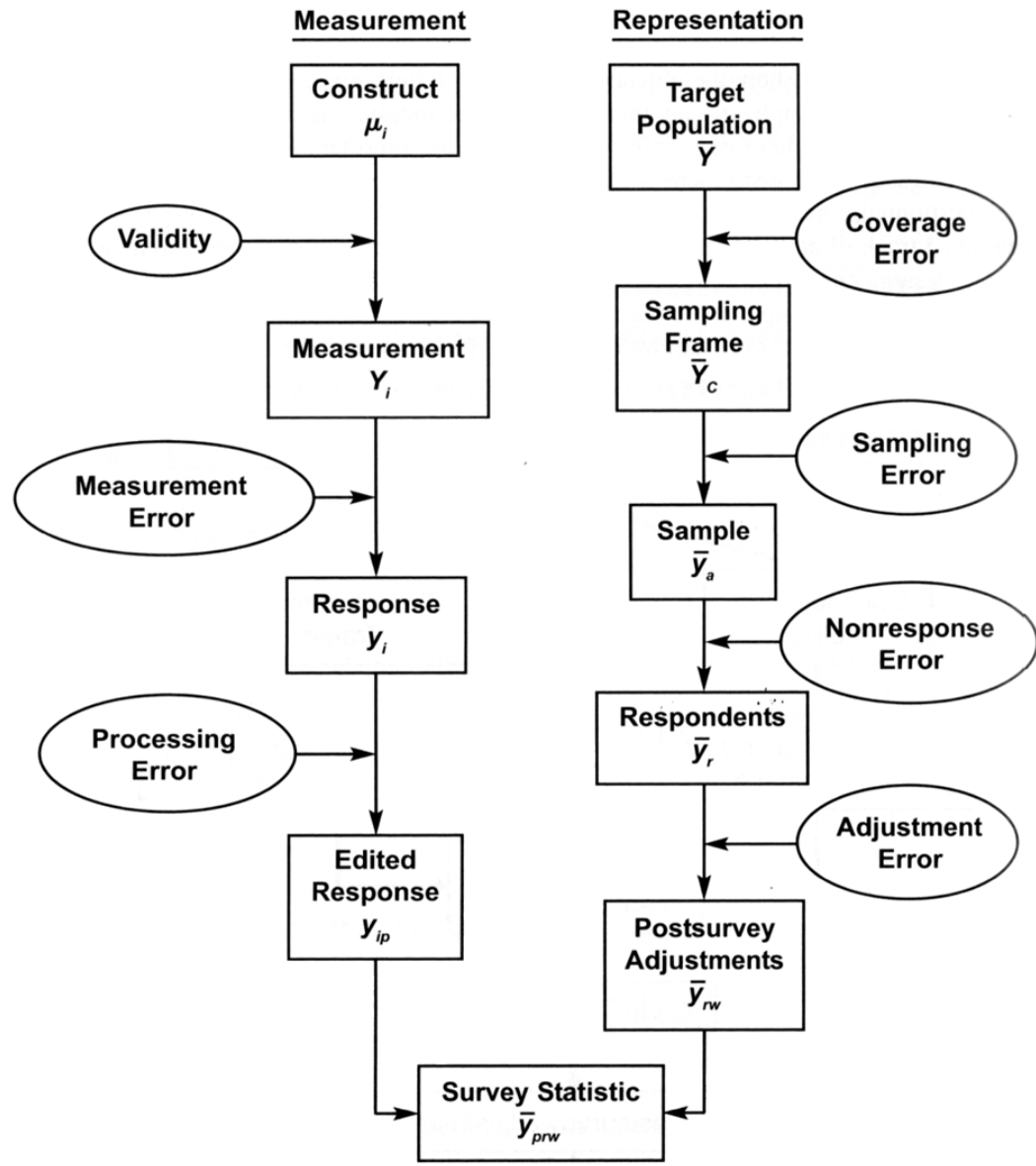Adjustments
$\bar{y}_{rw}$

Survey Statistic
$\bar{y}_{prw}$

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.

# Retro

How was that for you?

Caroline Jarrett   @cjforms

# Please write sticky notes for these categories

- What went well?

- What didn't go well?

- What would you like more of?

- What would you like less of?

- Anything else?

Caroline Jarrett   @cjforms

# Caroline Jarrett

- twitter  @cjforms
  [caroline.jarrett@effortmark.co.uk](mailto:caroline.jarrett@effortmark.co.uk)

- www.effortmark.co.uk