



Manual Data Capture

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Manual Data Capture

Data can be found in multiple places: systems, the internet, devices and sensors, and can also be manually captured.

When data is captured manually, it can be obtained in a number of ways.

Data can be obtained by observation, such as counting traffic, or observing activities.

It can also be obtained through **interviews**, although this is quite time consuming if aiming to acquire multiple data points.

It can also be obtained by **reviewing individual documents**.

The most efficient way to manually capture information is through **surveys or questionnaires**.



Surveys

TYPES OF SURVEY

- ❑ **Cross-sectional:**
view of responses from a population at a point in time.
- ❑ **Longitudinal:**
the same population is followed over a period of time.
- ❑ **Retrospective:**
responses about events in the past.

DELIVERY METHOD

- ❑ **Face to face/telephone:**
questions asked directly to respondent. High cost.
- ❑ **Postal:**
paper form filled in remotely. Low response rates. Need to transcribe to digital format.
- ❑ **Internet:**
Web-based survey. Cheap and fast.

EXAMPLE SURVEY TOOLS

Google Forms (dataed.in/GForms):
Free.
Results stored in a Google sheet.

Microsoft Forms
(dataed.in/MSForms):
Free.
Results stored in Excel.

SurveyMonkey.co.uk
Free to capture.
Pay to download results.

Typeform.com:
Paid for product.

Survey Question Types

OPEN-ENDED QUESTIONS

- ❑ Allows respondent to answer in their own words, so captures greater detail in responses
- ❑ Enables an understanding of why?
- ❑ Difficult to analyse

CLOSE-ENDED QUESTIONS

- ❑ Limited responses capture quantitative information
- ❑ Simpler analysis approaches
- ❑ Nuanced responses can be lost

Types of closed questions

Dichotomous: two responses; limited ability to capture neutral responses

Multiple-choice: a closed list of possible responses. Important to include all the possible answers

Likert scale: a 5- or 7-point scale normally from Strongly Agree to Strongly Disagree. Powerful, but data captured is ordinal, so averages should not be calculated.

Rating scales: 5- or 10-point scale. Similar to the Likert Scale

Personal Data in Surveys



Does personal data really need to be captured as part of the survey, or could the same outcomes be achieved anonymously?



If personal data is needed, a privacy notice is legally required to tell the respondent how their data will be stored and managed.



This should be provided before any data is captured to allow the respondent to withdraw from the survey if they wish.



Sensitive data should never be requested in a survey.



Important: Tell the respondent

The personal data that is being captured

Whether the data will be shared with a third-party and if so whom

How respondents can access their responses

The plan for using the data including how long it will be held

How respondents can contact you



Avoiding Bias

Bias can easily creep into even the most carefully designed survey, leading to inaccurate responses, resulting in incorrect insights.

Discuss BIAS with another person or two

There are different types of bias that should aim to be reduced, as much as possible, by the design of the survey...

Avoiding Bias

SAMPLING BIAS

The individuals surveyed do not match the target population. Some demographic groups will be missed out.

Explicit sampling methods should be used to avoid this.

NON-RESPONSIVE

Similar to sampling bias, groups of individuals may be either unwilling or unable to respond.

Personal invites and inclusive language can help this.

RESPONSE BIAS

Getting truthful and accurate responses is a challenge. Human tendency is to agree, or to provide the expected “right” answer.

Careful question wording can reduce this.

ORDER BIAS

The order of questions can influence responses with answers to earlier questions affecting later responses.

Randomising the question order or grouping by topic can minimise this.

Best Practice ideas
How many can you think of?



Survey Best Practice 1



Design: define a goal for the survey and ensure every question adds value and insight.



Ordering: start with the more straightforward questions and keep the personal questions until the end. Structure into logical sections.



Length: make it as short and simple as possible.



Question type: focus on closed-ended questions.



Incentives: carefully word the email invitation to maximise response and encourage feedback.



Leading questions: avoid asking leading questions and allow for neutral responses.



Balance: keep answer choices balanced.

Survey Best Practice 2



Compound questions: only ask one question at a time.



Test it out: pilot the survey on a small population before sending out more widely.



Language: use simple, unambiguous language.



Answer grids: avoid grids of answers as they are not mobile-friendly and tend to lead to similar responses for all.



Privacy awareness: be aware of data protection responsibilities.



Data quality: aim to capture high quality data by putting checks in place around allowed input values.



Feedback: if possible, communicate back the outcome to make the respondent feel involved.

PPDAC reminder

Use the PPDAC framework to analyse surveys.

The PPDAC cycle is a framework to follow when asking and answering real-world problems using data.

1. Problem: Identify the question being solved
2. Plan: Decide how to answer the question
3. Data: Collect, store and secure data
4. Analysis: Look for patterns and insights
5. Conclusion: Interpret, communicate and implement findings



Analysing Surveys - PPDAC

Problem:

Focus on the survey purpose

Plan:

Design the questions to test the hypothesis

Data:

Collect and store the data securely

Analysis:

1. Frequency by category
2. Cross-tabulate between questions
3. Create derived variables
4. Visualise the information

Conclusion:

Draw conclusions and communicate findings

A divergent stacked bar chart

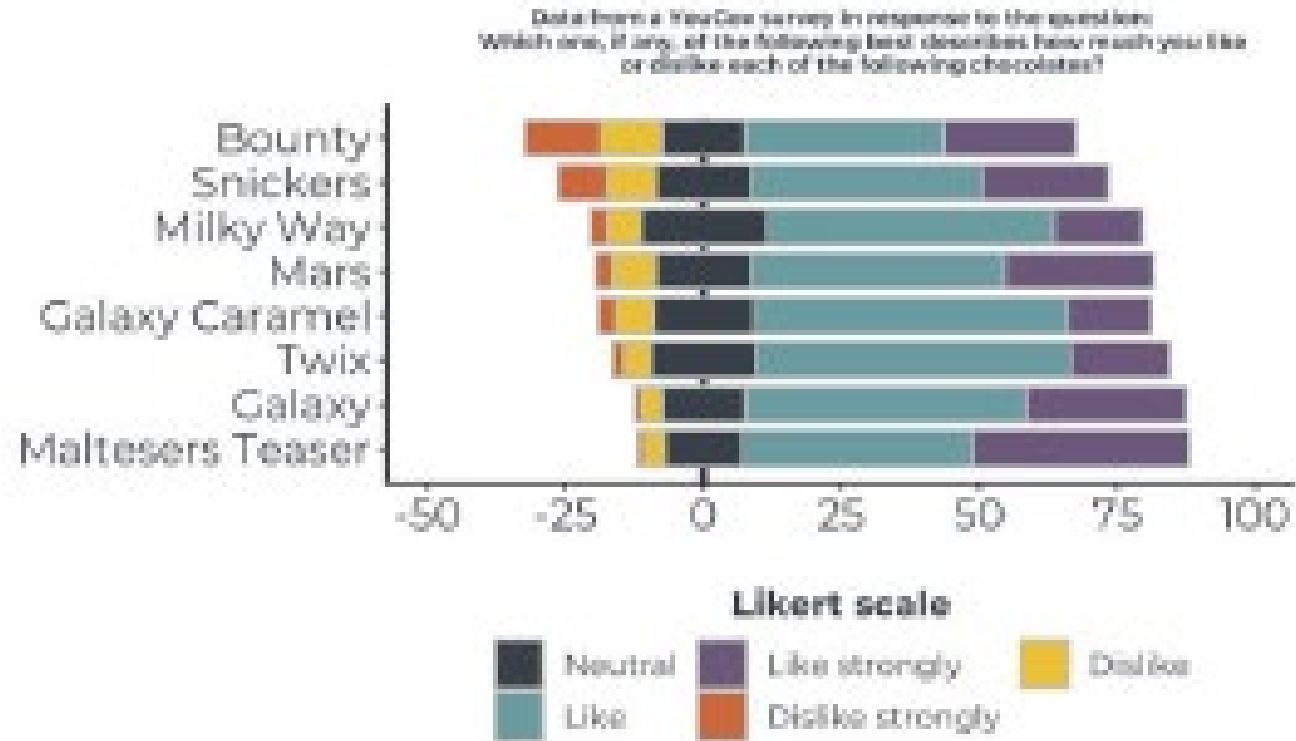


Illustration ... of
a survey