



Questionnaire & Form Design





What is a Questionnaire?

- A questionnaire is a research instrument that consists of a set of questions or other types of prompts that aims to collect information from a respondent
- A research questionnaire is typically a mix of close-ended questions and open-ended questions



Questionnaire Examples

[Dataset\Questionnaire Examples\Q1.docx](#)

[Dataset\Customer Q.docx](#)

Characteristics of Questionnaire

Uniformity

- Questionnaires are very useful to collect demographic information, personal opinions, facts, or attitudes from respondents.
- One of the most significant attributes of a research form is **uniform design and standardization**. Every respondent sees the same questions. This helps in data collection and statistical analysis of this data.

Example : Reverberation of ERP Implementation in Manufacturing Enterprises Process Outcomes through IOT

Source: [10.1109/INDICON56171.2022.10040012](https://doi.org/10.1109/INDICON56171.2022.10040012)

Exploratory

- It should be exploratory to collect qualitative data. There is **no restriction on questions** that can be in questionnaire

Open-ended questions give you more insight and allow the respondents to explain their practices. A very structured question list could limit the data collection.

Example

1. Interview: How do you plan to use your existing skills to improve organizational growth, if hired?
2. Customer-facing: Please describe a scenario where our online marketplace helps you make day-to-day purchases.
3. Technical: Can you please explain the back-end Javascript code template used for this webpage?
4. Demographic: What is your age? (asked without survey options)
5. Personal / Psychographic: How do you typically deal with stress and anxiety?

Question Sequence

- It typically follows a **structured flow of questions** to increase the number of responses. This sequence of questions is :

1. Demographic questions
2. Lead-in questions
3. Qualifying questions
4. Warm-up questions
5. Specific questions

Structured Vs Unstructured

Structured Questionnaires: **Structured questionnaires collect quantitative data.**

- The questionnaire is planned and designed to gather precise information. It also initiates a formal inquiry, supplements data, checks previously accumulated data, and helps validate any prior hypothesis.

Unstructured Questionnaires: **Unstructured questionnaires collect qualitative data.**

- They use a basic structure and some branching questions but nothing that limits the responses of a respondent. The questions are more open-ended to collect specific data from participants.

Instructions: Group Activity

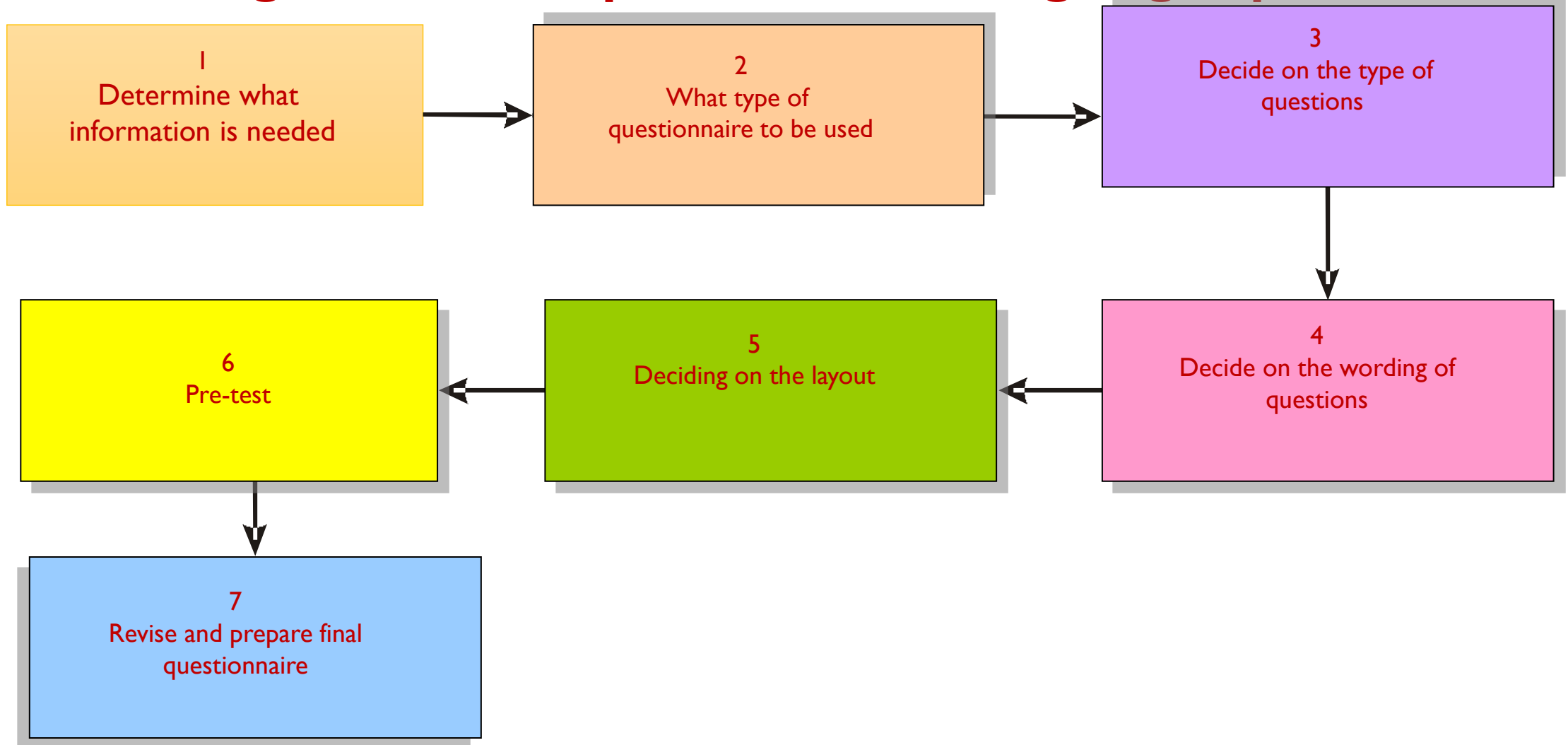
- Select a title from the list which is displayed
- Prepare a questionnaire as per the sequence
- Create a google form
- Collect data from 30 respondents

Class Activity

- a. Impact of Technology on Online Education**
- b. Impact of Technology on Social Media**
- c. Impact of Technology on Healthcare**
- d. Impact of Technology on Society**
- e. Impact of Technology on Consumer buying behavior**
- f. Impact of Technology on online shopping in India**
- g. Technology impact: Consumers move more towards digital**

Process Of Questionnaire Designing

The following are the 7 steps involved in designing a questionnaire:



Preliminary Decisions

Required information:

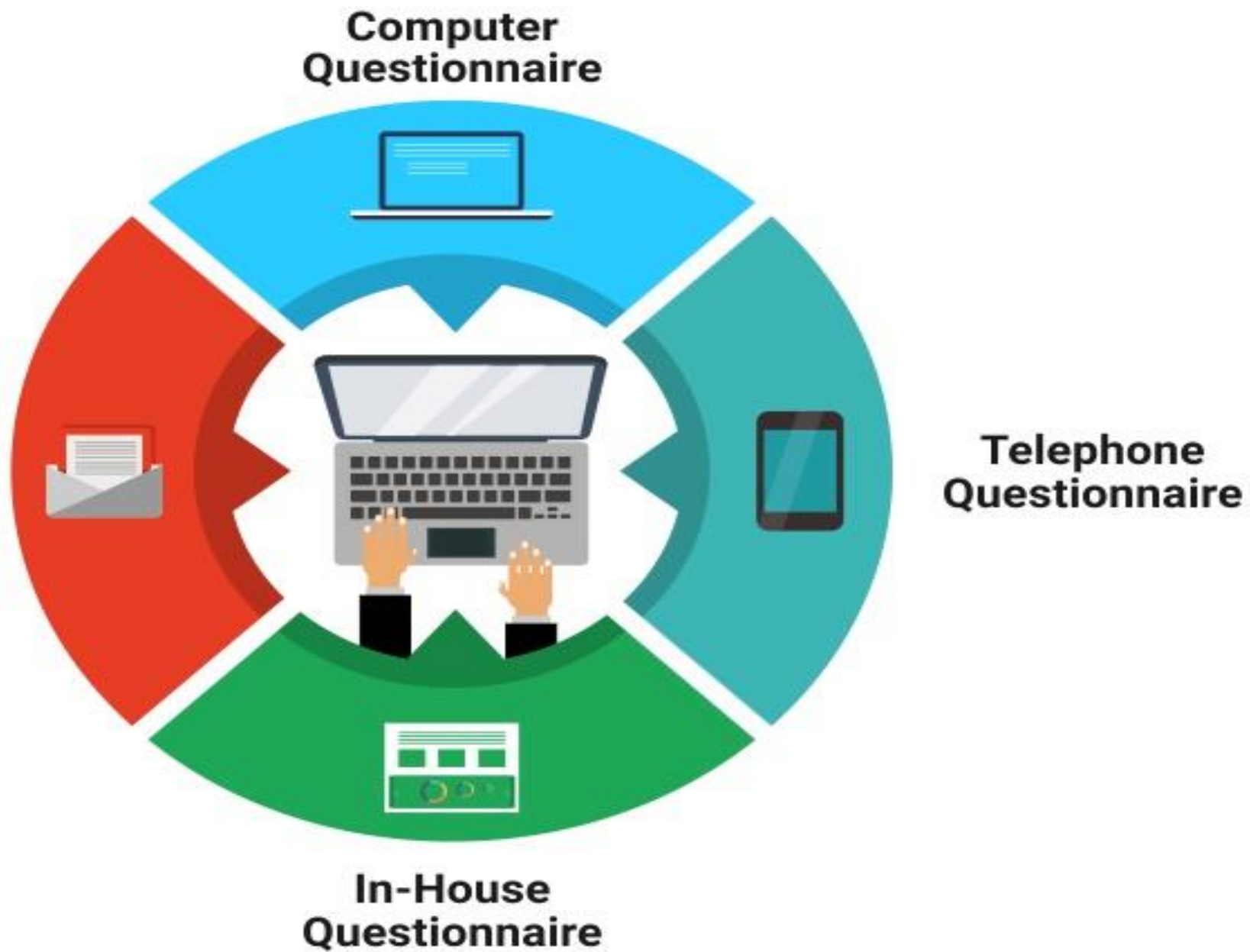
In framing a questionnaire, the researcher must ensure that the questions are designed to draw information that will fulfill research objectives.

Target Respondents:

The **target** population is “the entire aggregation of **respondents** that meet the designated set of criteria

Types of Questionnaires based on Distribution

Mail Questionnaire



Reducing Question Complexity by Providing Fewer Responses for Telephone Interviews

Mail Form:

How satisfied are you with your community?

- 1 Very satisfied
- 2 Quite satisfied
- 3 Somewhat satisfied
- 4 Slightly satisfied
- 5 Neither satisfied nor dissatisfied
- 6 Slightly dissatisfied
- 7 Somewhat dissatisfied
- 8 Quite dissatisfied
- 9 Very dissatisfied

Revised for Telephone:

How satisfied are you with your community? Would you say you are very satisfied, somewhat satisfied, neither satisfied nor dissatisfied, somewhat dissatisfied, or very dissatisfied?

- | | |
|------------------------------------|---|
| Very satisfied | 1 |
| Somewhat satisfied | 2 |
| Neither satisfied nor dissatisfied | 3 |
| Somewhat dissatisfied | 4 |
| Very dissatisfied | 5 |

Source: Don A. Dillman, *Mail and Telephone Surveys: The Total Design Method* (New York: John Wiley & Sons, 1978), p. 209.
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Five Major Questions while Deciding the Question Content

- What is the utility of the data collected?
- How effective is a question in eliciting the required data?
- Can the respondent answer the question accurately?
- Is the respondent willing to answer the question accurately?
- What is the chance of the responses being influenced by external events?

The Utility of the Data

- A researcher should ensure that each question in the questionnaire contributes to the survey. Every question needs to be screened before it is added to the questionnaire

Effectiveness Producing Data

- The question should be effective enough to extract the required information from the interviewee.

The Participant's Ability to Answer Accurately

It is necessary that respondents understand the question in a way that the researcher wants. This will eliminate the probability of potentially incorrect responses.

A respondent's inability to answer a question may arise from three sources.

- Genuine ignorance about the topic.
- Inability to recollect the answer.
- Inability to verbalize the response.

The Respondent's Willingness to Answer Accurately

A respondent's unwillingness to answer a specific question can result in item, refusal to complete the rest of the questionnaire or deliberate falsification.

Example:

“would you resort to stealing things in a supermarket if you knew there were no hidden cameras?”

Effect of external events:

Sometimes the respondent's answer to a particular question is exaggerated or understated due to the interference of external events.

Example:

A questionnaire designed to find the potential pitfalls for a big apparel showroom that is to come up in a business district investigated the shopping patterns of women by asking them **“how many times did you go shopping in the past one week?”** the survey was conducted just after a week of heavy rain in the particular city.

Guidelines for Constructing Questions

- Avoid complexity: Simpler language is better
- Avoid ambiguity: Be as specific as possible
- Avoid double-barreled items
- Avoid making assumptions
- Avoid burdensome questions that may tax the respondent's memory

Criteria for Questionnaire Selection

- ***Population characteristics***
- ***Population spread***
- ***Study area***

Response Format

Two popular response formats are:

- **Open-ended questions**
- **Close-ended questions**

Class Activity

- 1. Health Ministry Releases FAQs On Approved Vaccines**
- 2. ICICI Bank FAQs**
- 3. Swiggy Assist FAQs**
- 4. Toyota FAQs**
- 5. Amazon.in FAQs**

Open-ended questions

- A type of a question that requires participants to respond in his/her own words without being restricted to pre-defined response choices is known as an open-ended question
- They are also called infinite response type questions
- Open-ended questions act as memory prompts, as they at times require the respondent to recollect past experiences

Open ended questions are useful when the respondent is able to provide a narrative answer.

- Free Response
- Probing
- Projective

Free Response

- Free- response questions typically fluctuate in the degree of freedom they give to the interviewee. For example:
- What do you think of the performance of the Indian Cricket team players in the recent IPL Match?
- How would you evaluate Rohit Sharma performance in the test match?
- The second question seeks a more directive response about a particular member of the Indian Cricket rather than asking about the whole team

Examples of Open Ended Questions

- How can we improve your experience?
- Do you have any comments or suggestions?
- What would you like to see differently in our product or service?
- What are the challenges you have faced while using our product or service?
- How can we help you to grow your business?
- How can we help you to perform better?
- What did you like/dislike most about the event?
- How would you describe your personality?
- In your opinion, what is the biggest obstacle for productivity in remote work?

Open ended questions

- What is your age?
- How would you evaluate the work done by the present government?
- How much orange juice does this bottle contain?
- What is your reaction to this new custard powder?
- Which is your favorite TV serial?
- What training program have you last attended?
- With whom in your work group do you interact with after office hours?

Probing

Probing questions are questions that you ask to gain greater insight into what someone has just told you, helping you to uncover the reasons and emotions behind what they have said.

Probing

Which brand of soft drink do you like? Coke or Pepsi?

Ans. Pepsi

Why do you prefer Pepsi to Coke ?

Ans. I like the taste.

Probing –Customer Care

1. When did this situation begin?

- Establishing when the problem began is key to isolating the root cause. This will also give us great insight into how long the customer has been suffering from the problem, which will influence our next actions

2. Just to make sure I'm not missing anything, can you tell me what you were doing when the incident began?

- A key question to understanding whether or not the customer inadvertently created the issue themselves. We just need to be careful about how we frame it, so we do not sound accusatory

3. Has this happened before?

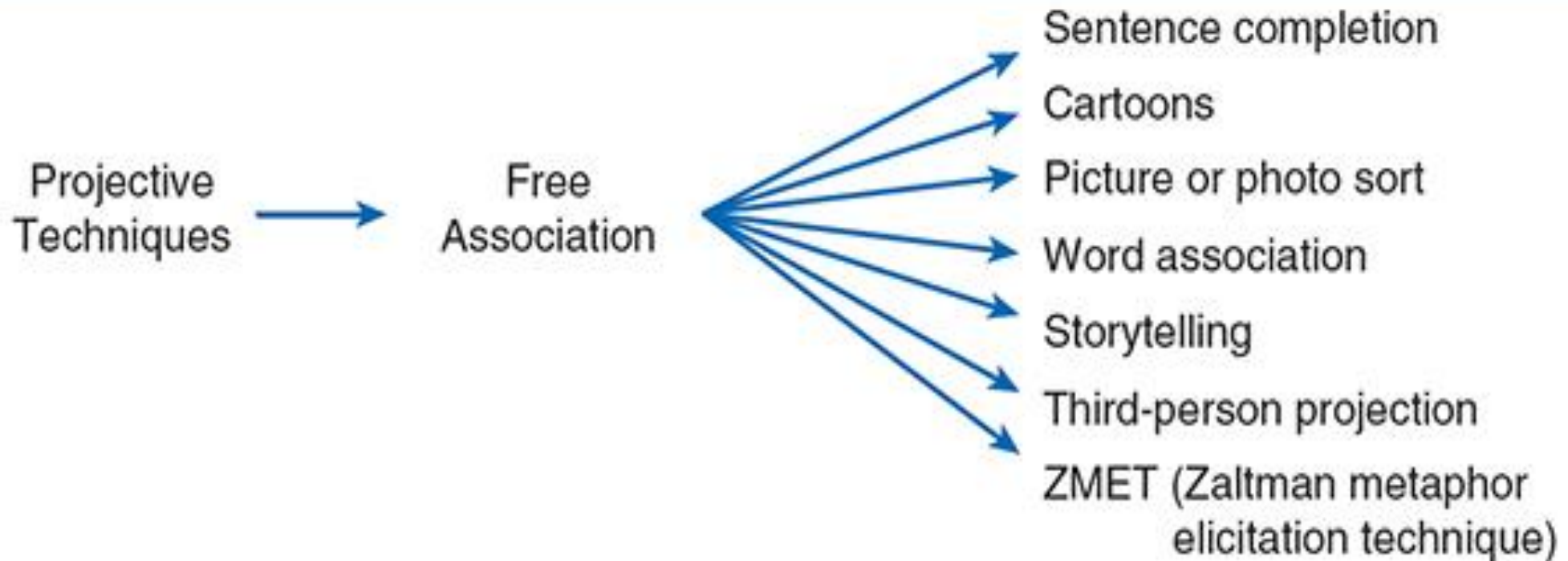
- Understanding whether or not this is a repeat problem will tell you whether the problem is a one-off incident or systemic

Sales Probing Questions

- How can we help?
- Do you have a budget in mind?
- What is your current situation?
- Why isn't your current product working for you?

Projective

A vague question or stimulus used by the researcher to project a person's attitudes from the responses is known as a projective open-ended question



Word Association

- A list of words or phrases can be presented in random order to respondents, who are requested to state or write the word or phrase that pops into their mind
- Respondents are asked for what word or phrase comes to mind immediately upon hearing certain brand names
- Similarly, respondents can be asked about slogans and what they suggest

Word Association

Stimulus

Person X

Person Y

washday
fresh
pure
scrub
filth
bubbles
family
towels

everyday
sweet
air
don't; husband does
this neighborhood
bath
squabbles
dirty

ironing
clean
soiled
clean
dirt
soap and water
children
wash

A group of tourism professionals working on establishing a strategic marketing plan for their community were asked to come up with personality traits or "human characteristics" for the villages as well as the cities within their area:

Villages

- Serene
- Conservative
- Quaint
- Friendly
- Accessible
- Reliable

Cities

- Brash
- Rushed
- Liberal
- Modern
- Cold

Sentence Completion

In the *sentence completion* method, respondents are given incomplete sentences and asked to complete the thought. These sentences are usually in the third person and tend to be somewhat ambiguous.

For example, the following sentences would provide striking differences in how they were completed depending on the personality of the respondent:

- "A beach vacation is..."
"Taking a holiday in the mountains is..."
"Golfing is for..."
"The average person considers skiing..."
"People who visit museums are..."

Story completion test

Here the respondent is given a story line focusing on the subject matter under study and will be asked to complete the story. Inferences are drawn based upon the responses.

Balloon Test or Cartoon Test

In this technique where a respondent is shown a cartoon with two characters in conversation. While the balloon over one of the character is filled up the balloon over the other respondent is left blank and the respondent is asked to fill up the blank balloon.

Strong

Swift

Wild

Cannot be tamed



???

Fast

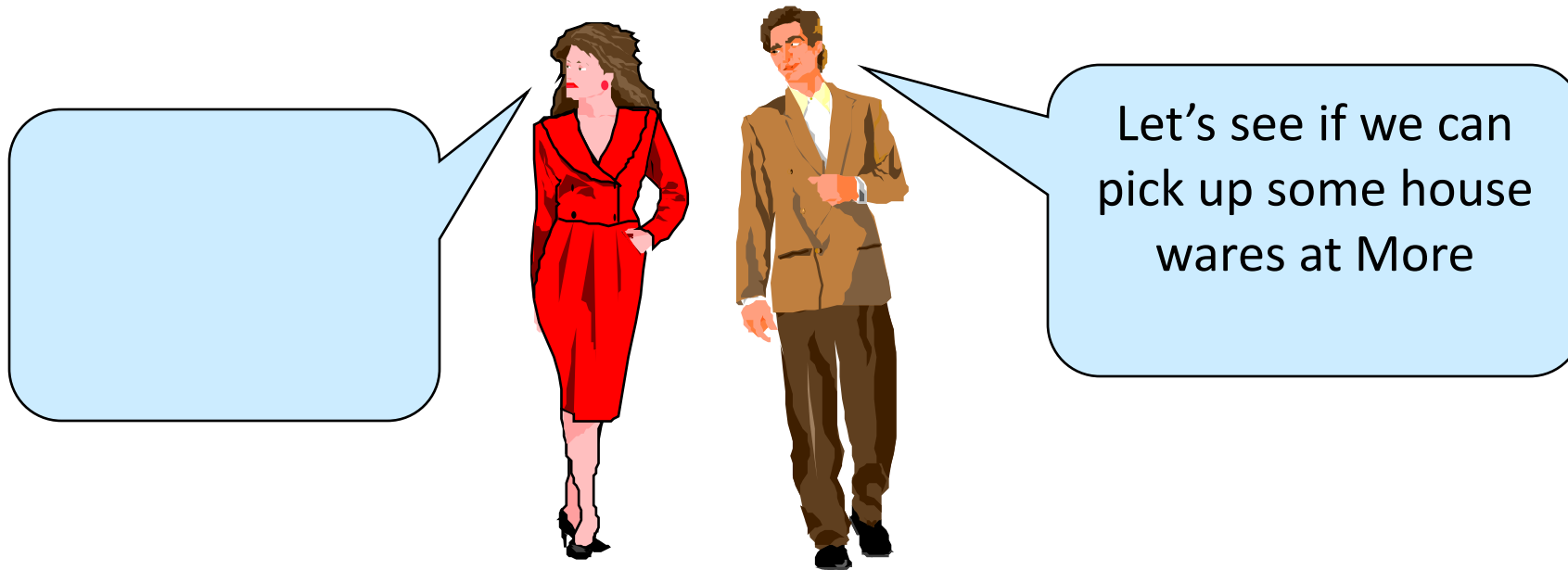
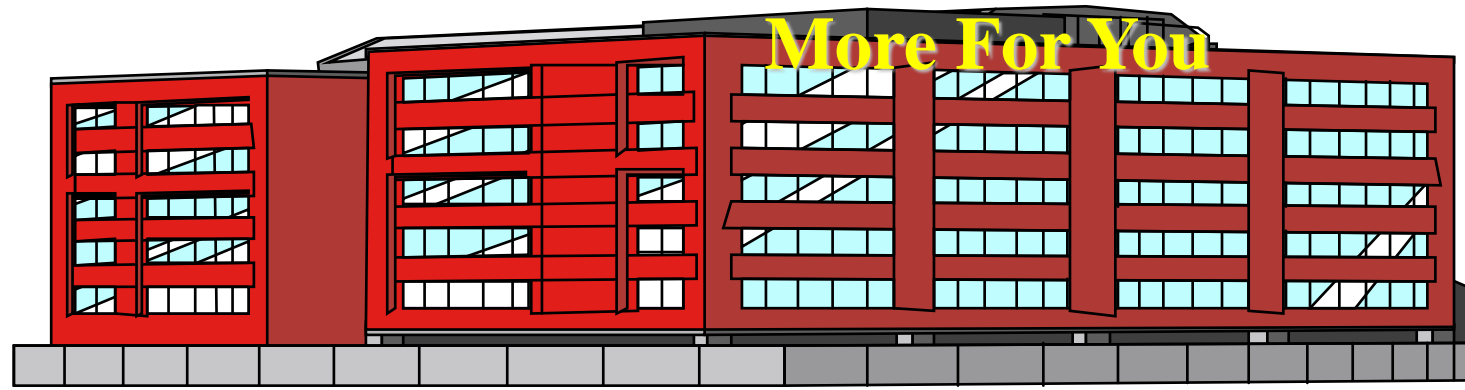
Swift

Agile

Not strong



A Cartoon Test



Zaltman metaphor elicitation technique

ZMET uses **visual and non-visual "images"** gathered and/or generated by consumers to elicit and probe the metaphors that represent consumers thoughts and feelings about a topic.

<https://louisvuittonbrand.wordpress.com/zmet/>



Suhailah



Cherlene



Hidayah



Jasmine



Amira



Nish



Lawrence



Julian



Robert



Cheryl



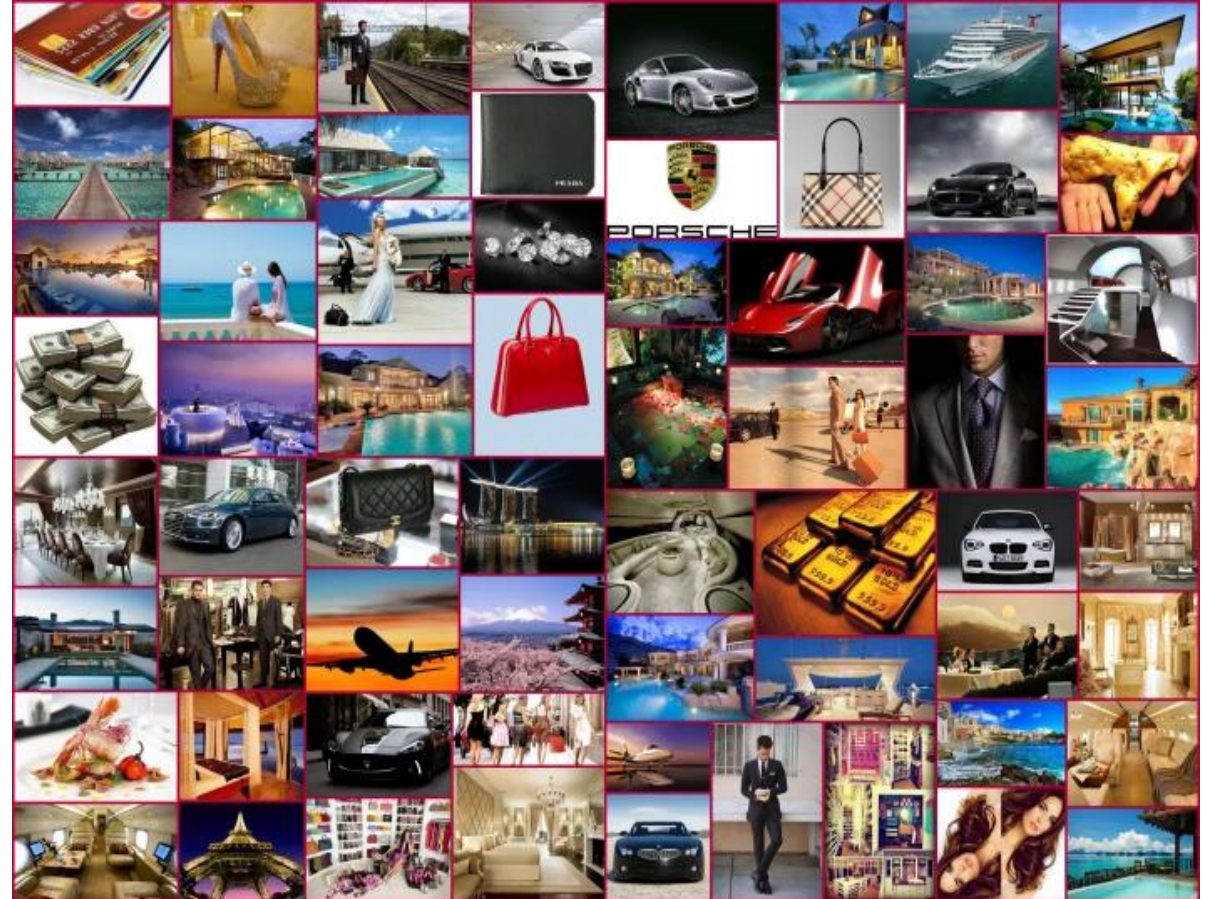
Ryan

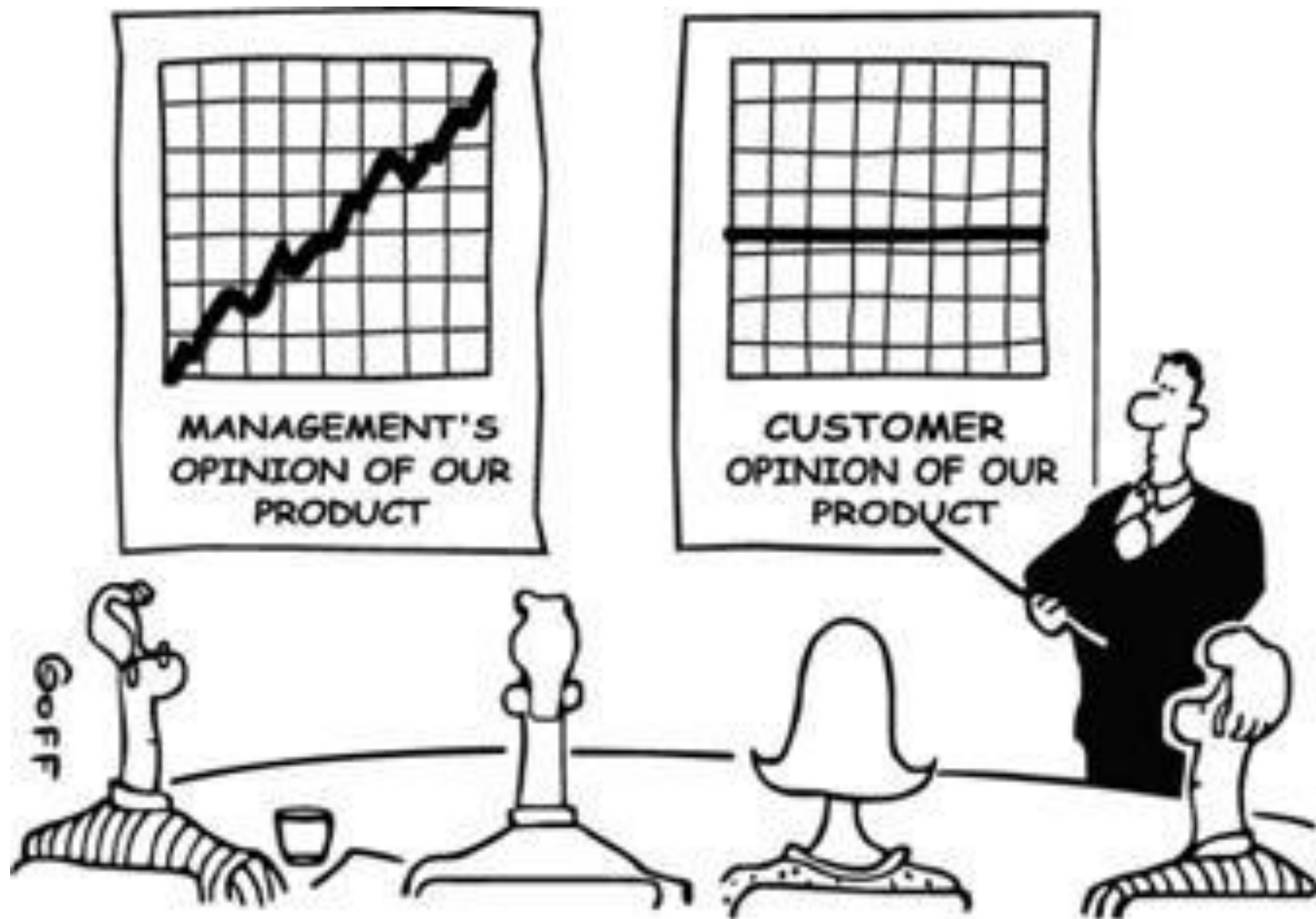


Sydney



Victor





HOW MANY
FEET IN A YARD?

DEPENDS ON HOW
MANY PEOPLE IN
THE YARD.



CARTOONSTOCK
.com

Search ID: mfln6388



David discards his measuring tape for the faster 'eyeballing' method of measuring.

Close-ended questions

- Questions, which restrict the interviewee's answers to pre-defined response options, are called close-ended questions
- Close-ended questions give respondents a finite set of specified responses to choose from. Such questions are deemed appropriate when the respondent has a specific answer to give (for example, gender), when the researcher has a pre-defined set of answers in mind

Close-ended questions

- Binary or Dichotomous Question
- Ranking questions
- Multiple choice
- Checklist

Dichotomous or Binary Questions - These close ended question are indicative questions that can be answered either in one of the two ways, “yes” or “no” or “true” or “false”.

Do you intend to buy a new car within the next six months?

_____ Yes
_____ No

Type of questions

Closed ended questions

Dichotomous questions

- Are you diabetic? Yes / No
- Have you read the new book by Dan Brown? Yes/no
- What kind of petrol do you use in your car? Normal/Premium
- What kind of cola do you drink? Normal/diet
- Your working hours in the organization are fixed/ flexible

Multiple choice question

A multiple choice close ended questions are easy and flexible and helps the researcher obtain data that is clean and easy to analyse.

It typically consists of stem - the question, correct answer, closest alternative and distractors.

Multiple-Choice Questions

Do you intend to buy a new car within the next six months?

- ☐ Definitely will not buy
- ☐ Probably will not buy
- ☐ Undecided
- ☐ Probably will buy
- ☐ Definitely will buy
- ☐ Other (please specify)

Multiple choice questions

You do not currently sell organic food products because

- You do not know about organic food products.
- You are not interested.
- You are interested but you do not know how to procure it.
- It is not profitable.
- The customer demand is too low
- any other-----

Types of Multiple Choice Questions

1. Likert Scale Multiple Choice Questions

These closed ended questions, typically are 5 pointer or above scale questions where the respondent is required to complete the questionnaire that needs them to indicate the extent to which they agree or disagree.

2. Rating Scale Multiple Choice Questions

These close ended questions require the respondents to assign a fixed value in response, usually numeric. The number of scale points depends on what sort of questions a researcher is asking.

3. Checklist type Multiple Choice Questions

This type of closed ended question expects the respondents to make choices from the many options that have been stated, the respondent can choose one or more options depending on the question being asked.

4. Rank Order Multiple Choice Question

These closed ended questions come with multiple options from which the respondent can choose based on their preference. From most preferred to least preferred (usually in bullet points).

Ranking Question

Please rank order the following department stores in order of your preference to shop at these stores. Begin by picking out the one store that you like most and assign it a number 1. Then find the second most preferred department store and assign it a number 2. Continue this procedure until you have ranked all the stores in order of preference. The least preferred store should be assigned a rank of 10. No two stores should receive the same rank number.

Store	Rank Order
1.Big Bazaar	_____
2.Food World	_____
.	
.	
10. Reliance Fresh	_____

Ranking Questions

Example: Rank the following attributes while choosing a restaurant for dinner. The most important attribute may be ranked **one**, the next important may be assigned a rank of 2 and so on.

Attribute	Rank
Food quality	
Prices	
Menu variety	
Ambience	
Service	

In the ordinal scale, the assigned ranks cannot be added, multiplied, subtracted or divided. One can compute median, percentiles and quartiles of the distribution. The other major statistical analysis which can be carried out is the rank order correlation coefficient, sign test.

Rating Question

A rating question asks survey respondents to compare different items using a common scale

The example below uses a rating scale of 0 to 5 to rate the aspects of service in a restaurant.

Using a scale of 0= Not at all important to 5=Very Important, please rate the following aspects of our service in the restaurant?

	Not at all important 0	1	2	3	4	Very Important 5	No Opinion
Speed of Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Friendliness of Staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Helpfulness of Staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Value for Money	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Checklist Question

please check all the departments from “which you purchased merchandise on your most recent shopping trip to a department store. (Tick as many of the following as apply)

- | | | |
|---------------------------|-------|-------|
| 1. Women's dresses | _____ | |
| 2. Men's apparel | _____ | _____ |
| 3. Children's apparel | _____ | |
| 4. Cosmetics | _____ | |
| 5. Jewelry | _____ | _____ |
| 6. Other (please specify) | _____ | |

Likert Scale

How do you feel today?

- ☒ 1 - Very Unhappy
- ☐ 2 - Unhappy
- ☐ 3 - OK
- ☐ 4 - Happy
- ☐ 5 - Very Happy

How satisfied are you with our service?

- ☒ 1 - Very Unsatisfied
- ☐ 2 - Somewhat Unsatisfied
- ☐ 3 - Neutral
- ☐ 4 - Somewhat Satisfied
- ☐ 5 - Very Satisfied

Questionnaire Sequence

- The structure of a questionnaire is an important aspect in questionnaire design.
- The questionnaire structure is framed depending upon whether it is self-administered or the administration is facilitated by an interviewer.
- Questionnaire structure pertains to proper sequencing for better and effective responses
- The sequencing tends to drive the interview through a 'funnel-shaped' process, starting with general questions and progressing to more specific ones.

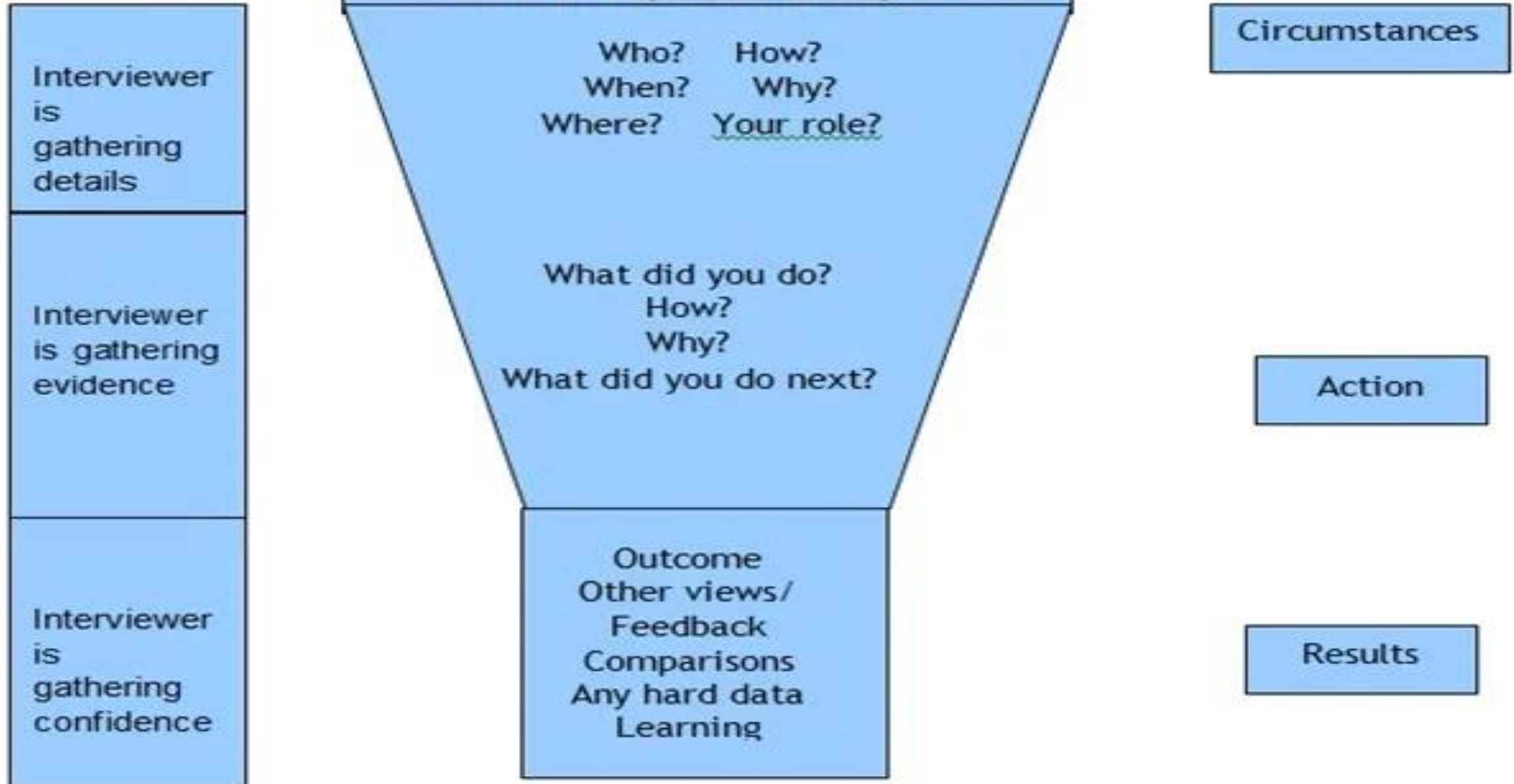
Questionnaire Sequence

1. Demographic questions
2. Lead-in questions
3. Qualifying questions
4. Warm-up questions
5. Specific questions

Use The Funnel Technique

- Structure your Questionnaire using what is called the “funnel” technique.
- Start with broad general interest questions that are easy for the respondent to answer

Questionnaire Sequence



Demographic Questions

These are a necessary part of every survey:

- Responses to survey questions cannot be analyzed until they are sorted out according to the different characteristics pertaining to the study
- These usually consist of a set of questions related to age, gender, location, occupation, Income , Marital Status, educational level, employment status ,etc
- These questions are kept to the end to avoid interviewee resistance and to prevent the interviewee's attention from being diverted

1. What gender do you identify as?"

A. Male

B. Female

C. _____ (Short Answer Space)

D. Prefer not to answer.

2. What is your age?"

- A. 0 - 15 years old
- B. 15 - 30 years old
- C. 30 - 45 years old
- D. 45+
- E. Prefer not to answer

Lead-in Questions

- This is the introductory phase of the interview and consists of tactfully designed ice-breakers.
- These can prove crucial in gaining the participation's confidence and co-operation. The questions should be simple, non-threatening and not too personal at question or a dichotomous question with two responses.
- These questions measure the respondent's interest and willingness to respond. The questions can be about hot topics of the day, where responses are of little importance to the survey. A typical lead-in question is given below.

- **Q:** It is often said that the economic condition in India is a by-product of the political situation. Do you agree with this?

Ans. YES/NO

Example:

1. Are you worried about the number of young people without jobs because of Covid-19?
2. Are you worried about the rise in crime among teenagers?
3. Do you think there's a lack of discipline in our society is the cause for increase in pandemic?
4. Do you think young people could use more authority and leadership in their lives?

Qualifying Questions

- These are questions that slowly lead to the survey's objective
- This stage is characterized by questions that evaluate the respondent and qualify him/her for further questioning
- Depending on the responses, the interviewer directs the interview towards a relevant set of questions
- Prior to this, it should be ensured that the interviewees are related to the survey in some meaningful terms

- A survey for estimating market potential for a new fluoride-based toothpaste brand should ask qualifying questions like the following

Q. Which type of toothpaste do you like?

Ans. Fluoride Herbal Calcium

Depending upon the interviewee's response, the interviewer can further give directions to the next questions

Example: Limit the survey to people who behave a certain way—whether it's related to how they spend their time or money.

1“How often do you watch TV?”

- Every day
- A few times per week
- Once per week
- Less than once per week
- Never

let's assume you want to compare your pet store to competitors. Your industry-specific screener can be:

“Do you or anyone in your family work in the following industries?”

- Cosmetics
- Pet food
- Household goods
- Restaurants
- Automobiles
- Insurance
- None of these

Warm-up Questions

- This stage plays on the respondent's mind by making him/her think of certain facts related to the survey questions
- **What social media platforms do you use?"**
- **What was the first social media you used?**
- Questions like,
 - “When was the last time you bought toothpaste?”;
 - “Was it fluoride content or herbal?”

“Looking back, can you recollect how many times you might have used fluoride toothpastes over the last one year?”

tend to make the respondent think and recollect past experiences.

- **A person who is straightway asked such questions may not be interested in answering or providing details, but after a series of lead-in and qualifying questions, the resistance slowly decreases and gives way to co-operation**

Specific Questions

- This stage consists of questions that are specific to the research objectives
- As such, they are asked of participants **who show a favorable response or are end users of the product, in this case, fluoride toothpastes**
- These questions tend to estimate the usage pattern and influential factors in using fluoride content toothpaste
- These specific questions play a major role in data collection and analysis
- After ensuring that enough rapport has been established, this section can probe to gain further insight into sensitive issues

How satisfied are you with your current job role?

- Very satisfied
- Somewhat satisfied
- Somewhat unsatisfied
- Very unsatisfied

Questionnaire Pre-Testing, Revision and Final Draft

- Pre-testing refers to testing the questionnaire on a small sample of respondents selected on a convenient basis that is not too divergent from the actual respondents.
- The aim is to identify and eliminate flaws and problems.
- Pre-testing includes testing all aspects of the questionnaire starting from the question content to question sequence.
- This helps reveal incomprehensible meanings, wrong order of questions, leading questions and awkward responses.
- No matter what the final mode of administration is, pre-testing should be done by personal interviews.

Contd....

- This will facilitate interviewers to observe respondents' reactions and attitudes, giving them a first hand experience of the potential problems and the data that can be expected from a questionnaire.
- The responses gathered from pre-testing are coded to facilitate analysis. Pre-testing enables the researcher to revise the questionnaire by identifying flaws and eliminating any ambiguous questions.
- It also helps researchers to verify if interviewers use proper sample selection procedures.

Sensitivity

- **Sensitivity refers to an instrument's ability to accurately measure variability in simultaneous responses.**

Sensitivity is not high in instrument's involving 'Agree' or 'disagree' types of response. When there is a need to be more sensitive to subtle changes, the instrument is altered appropriately.

- For example strongly agree, mildly agree, mildly disagree, strongly disagree, none of the above, are categories whose inclusion increases the scale's sensitivity.
- Increasing the number of items on the scale can improve scale sensitivity.

Recency Effect

The recency effect is a **cognitive bias in which those items, ideas, or arguments that came last are remembered more clearly than those that came first.**

Double-barrelled question

One of the most prevalent types of survey error is the double-barreled question. Whether intentionally or as a result of ignorance or carelessness, such questions frequently find their way into surveys and skew the results. It is a question that asks about two or more topics but only allows one response.

Several questions or single question

“Why do you like the serial------(the one you ranked/prefer watching most)?” ***(Incorrect)***

"What do you like about-----?"

“Who all in your household watches the serial?

and

"How did you first happen to hear about the serial?"
(Correct)