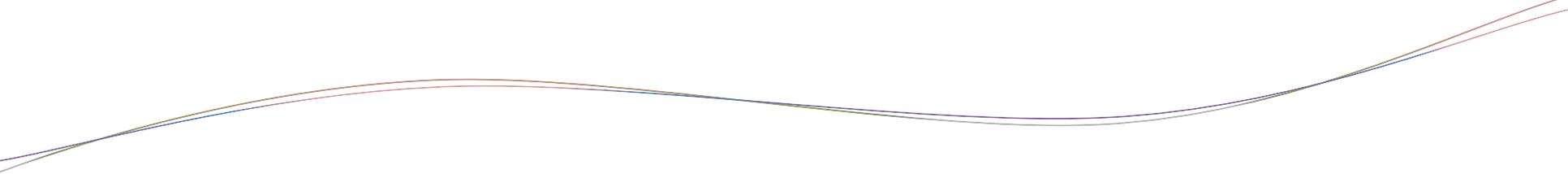


# Chapter 8

## **Understanding Measurement, Developing Questions, and Designing the Questionnaire**

# Learning Objectives

- To understand the basics of measurement regarding people, places, and things
- To recognize the three types of measures used by marketing researchers
- To examine three scale formats commonly used by marketing researchers
- To see other scale formats commonly used in marketing research

- 
- To appreciate the basic functions of a questionnaire
  - To learn the dos and don'ts of question wording
  - To learn the basics of questionnaire organization
  - To understand the advantages of computer-assisted questionnaire design software
  - To comprehend coding of questionnaires

## "WHERE WE ARE"

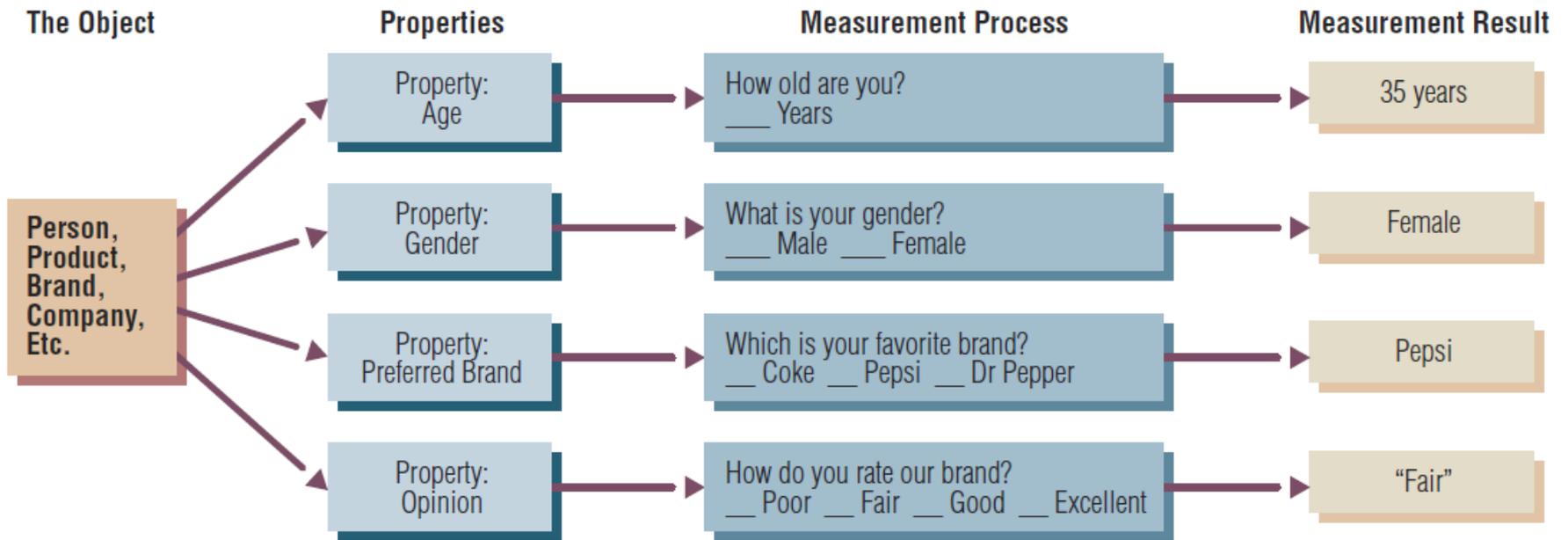
- 1 Establish the need for marketing research.
- 2 Define the problem.
- 3 Establish research objectives.
- 4 Determine research design.
- 5 Identify information types and sources.
- 6 Determine methods of accessing data.
- 7 Design data-collection forms.
- 8 Determine the sample plan and size.
- 9 Collect data.
- 10 Analyze data.
- 11 Prepare and present the final research report.

# Basic Concepts in Measurement

- **Measurement:** determining how much of a property is possessed by an object.
- **What are we really measuring?** We are measuring properties sometimes called characteristic, attributes or qualities of object.
- **Object** include consumers, brands, stores, advertisements, or what ever construct is of interest to the researcher working with a particular manager.

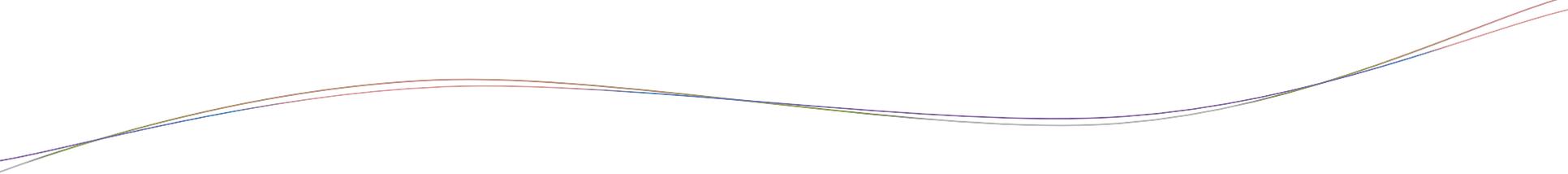
- 
- **Properties:** specific features or characteristics of an object that can be used to distinguish it from another object.

-**Objective properties** are physically verifiable characteristics such as age, gender, or number of bottles purchased.



**FIGURE 8.1** How Measurement Works in Marketing Research

- 
- **Subjective properties** cannot be directly observed because they are mental constructs such as a person's attitudes, opinions, or intentions.
  - **Subjective properties** are mental constructs.
  - Subjective properties are unobservable and intangible.
  - For subjective properties, researchers must translate mental constructs onto an intensity continuum.

- 
- **Scale development** is designing questions and response formats to measure the subjective properties of an object.

# Types of Measures

- We will describe three measures used by SPSS;

**1-Nominal scales:** those that use only labels

- Such as are you Married? –Yes( ) –No( )
- What is your brand name of TV at home?
- Sony ( ) –LG( ) -Samsung( )

**2-Ordinal scales:** those with which the researcher can rank-order the respondents or responses

- Such as “If you are manager in OSN company you will make the price of monthly payment
- Higher than ----
- About the same -----
- Lower than ----

**3-Scale measures:** those in which the distance between each level is known.

**-There are two types of scale measures;**

**a)Interval scales:** those in which the distance between each descriptor is equal

-such as “Make your evaluation of each item listed to our product”

				strongly	
	agree			agree	
Low pickup	1	2	3	4	5
Low price					

**b)Ratio scales:** ones in which a true zero exists

-Such as “Please indicate your age?”

----- year. \*Go to p.206 for Example

# Interval Scales Commonly Used in Marketing Research

- Marketing researchers use standard scales rather than inventing new ones for each research project.
- Marketing researcher often measure subjective properties of consumers.
- There are various terms and labels given to these construct, including attitudes, opinions, evaluations, beliefs, impression, perceptions, feeling and intentions, because these constructs are unobservable. The marketing researcher must develop some means of allowing respondents to express the direction and intensity of their impression in a convenient and understandable manner.

# 1-Likert Scale

- An interval scale commonly used by marketing researchers is the **Likert scale**, in which respondents are asked to indicate their degree of agreement or disagreement on a symmetric agree–disagree scale for each of a series of statements.

**TABLE 8.3** Example of a Likert Scale

Indicate the degree to which you agree or disagree with each of the following statements.

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Levi's Engineered jeans are good looking.	<input type="radio"/>				
Levi's Engineered jeans are reasonably priced.	<input type="radio"/>				
Your next pair of jeans will be Levi's Engineered jeans.	<input type="radio"/>				
Levi's Engineered jeans are easy to identify on someone.	<input type="radio"/>				
Levi's Engineered jeans make you feel good.	<input type="radio"/>				

## 2-Lifestyle Inventory

- A special application of the Likert scale question form called the **lifestyle inventory** takes into account the values and personality traits of people as reflected in their unique activities, interests, and opinions (AIOs) toward their work, leisure time, and purchases.
- Go to p.209 for example

# Lifestyle Inventory ( Likert scale)

Statement	Strongly disagree	disagree	Neither agree nor disagree	agree	Strongly agree
- I shop a lot for specials	1	2	3	4	5
- I sometimes influence what my friends buy	1	2	3	4	5

# 3-The Semantic Differential Scale

- A **semantic differential** scale contains a series of bipolar adjectives for the various properties of the object under study, and respondents indicate their impressions of each property by indicating locations along its continuum.
- A concern with this type of scale is the halo effect, in which a general overall feeling about a brand or store could bias responses on its specific properties.
- It is good way to measure a brand, company or store image.

**TABLE 8.4** Example of a Semantic Differential Scale

Indicate your impression of *Red Lobster* restaurant by checking the bubble corresponding to your opinion for each pair of descriptors.

High prices	<input type="radio"/>	Low prices						
Inconvenient location	<input type="radio"/>	Convenient location						
For me	<input type="radio"/>	Not for me						
Warm atmosphere	<input type="radio"/>	Cold atmosphere						
Limited menu	<input type="radio"/>	Wide menu						
Fast service	<input type="radio"/>	Slow service						
Low-quality food	<input type="radio"/>	High-quality food						
A special place	<input type="radio"/>	An everyday place						

Presentation of the Results

High prices	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Low prices
Inconvenient location	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Convenient location
Not for me	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	For me
Cold atmosphere	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Warm atmosphere
Limited menu	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Wide menu
Slow service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fast service
Low-quality food	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High-quality food
An everyday place	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	A special place

 Red Lobster  
 Jake's Seafood Restaurant

# 4-Stapel Scale

- The **Stapel scale** relies on positive and negative numbers, typically ranging from +5 to -5.
- The **Staple scale** is easier to construct than the semantic differential scale because the researcher does not need to come up with bipolar adjectives for each attribute.

# More Interval Scales Used in Marketing Research

- Should the scale include a neutral point?
- Should the scale be symmetric or nonsymmetric?

- **A symmetric interval scale** is “balanced,” as it has equal amounts of positive and negative positions, and typically it has “no opinion” or “neutral” separating the negative and positive sides.
- **A nonsymmetric interval scale** has mainly degrees of positive positions and would be more appropriate because most people do not think in degrees of negative importance.

**TABLE 8.5** Commonly Used Interval Scales for Selected Constructs

Construct	Response Scale
Brand/Store Image	Semantic differential (with 5 or 7 scale points) using a set of bipolar adjectives Example: <i>Refer to example on page ____.</i>
Frequency of use	Labeled (Never, Rarely, Occasionally, Often, Quite Often, Very Often) OR # times per relevant time period (e.g., month) Example: <i>How often do you buy takeout Chinese dinners?</i>
Importance	Labeled (Unimportant, Slightly Important, Important, Quite Important, Very Important) OR numbered rating using 5 scale points Example: <i>How important is it to you that your dry cleaning service has same-day service?</i>
Intention to purchase	Labeled (Unlikely, Somewhat Likely, Likely, Quite Likely, Very Likely) OR 100% probability Example: <i>The next time you buy cookies, how likely are you to buy a fat-free brand?</i>
Lifestyle/Opinion	Likert (Strongly Disagree-Strongly Agree with 5 scale points) using a series of lifestyle statements Example: <i>Indicate how much you agree or disagree with each of the following statements.</i> <ol style="list-style-type: none"><li><i>I have a busy schedule.</i></li><li><i>I work a great deal.</i></li></ol>
Performance or Attitude	Labeled (Poor, Fair, Good, Very Good, Excellent) OR numbered rating scale using 5 scale points OR Stapel scale using -3 to +3 Example: <i>Indicate how well you think Arby's performs on each of the following features.</i> <ol style="list-style-type: none"><li><i>Variety of items on the menu</i></li><li><i>Reasonable price</i></li><li><i>Location convenient to your home</i></li></ol>
Satisfaction	Labeled (Not at all Satisfied, Slightly Satisfied, Somewhat Satisfied, Very Satisfied, Completely Satisfied) OR 10-point satisfaction scale where 1 = "not at all satisfied" and 10 = "completely satisfied" Note: If there is reason to believe that an appreciable number of respondents are not satisfied, the recommendation is for a symmetric balanced scale to measure the degree of dissatisfaction (Completely Dissatisfied; Slightly Dissatisfied; Neither Dissatisfied nor Satisfied; Slightly Satisfied; Completely Satisfied) Example: <i>Based on your experience with Federal Express, how satisfied have you been with its overnight delivery service?</i>

# Reliability and Validity of Measurement

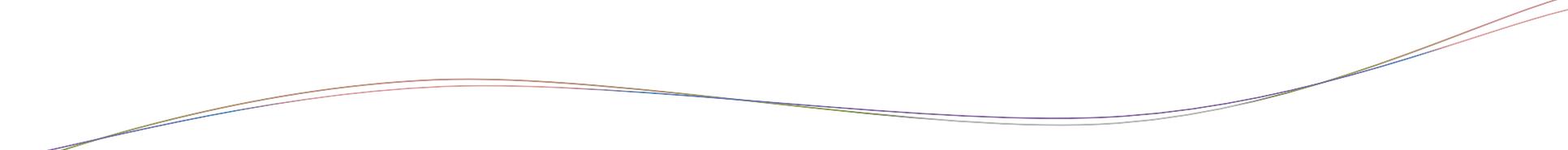
- A measurement used by marketing researcher should be;

**1-Reliability:** respondent responds in the same or a similar manner to an identical or nearly identical measure.

**2-Validity:** accuracy of the measurement

# Designing A Questionnaire

- A **questionnaire** is the vehicle used to present the questions the researcher desires respondents to answer.
- **A Questionnaire serves six key functions;**
  - 1-Translates the research objectives into specific questions asked of respondents.
  - 2-Standardizes those questions and the response categories so every participant responds to identical stimuli.



3- By its wording ,question flow, and appearance, it fosters cooperation and keeps respondents motivated throughout the interview.

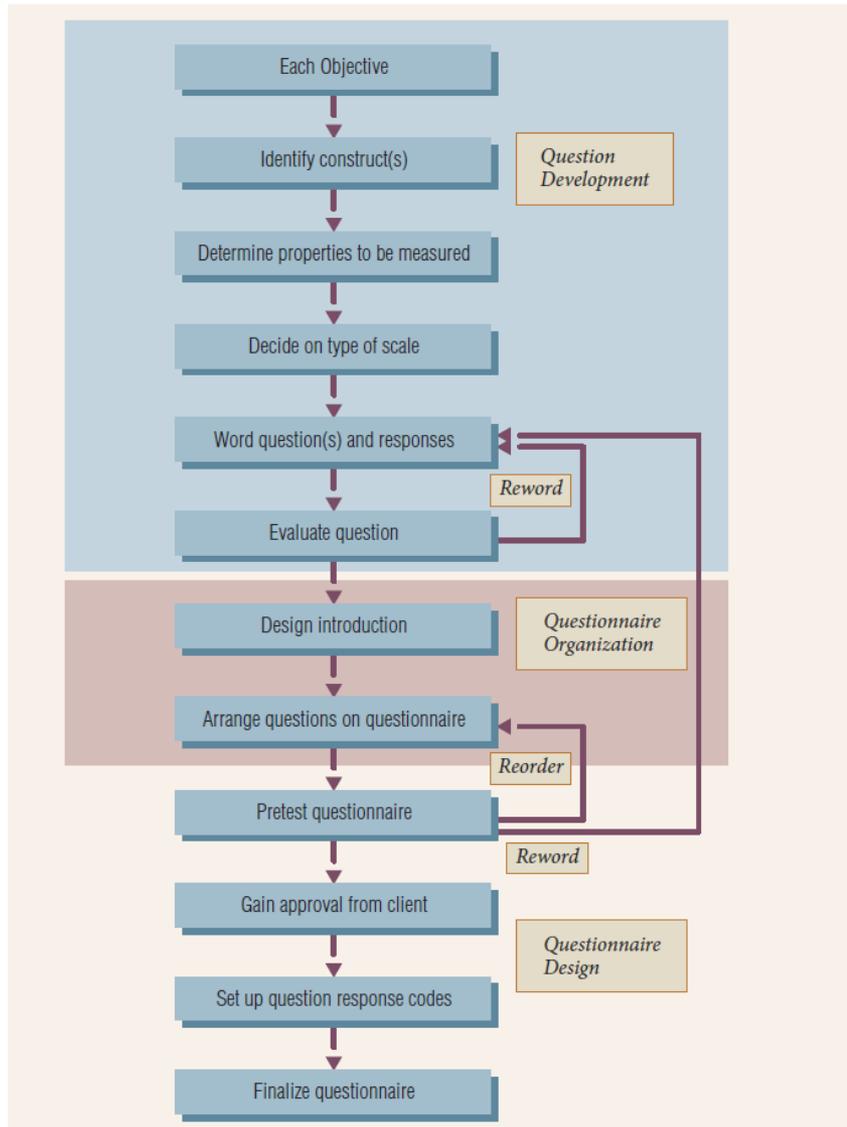
4-Serves as an enduring record of the research .

5-Depending on the data collection mode used, such as online, can speed up the process of data analysis.

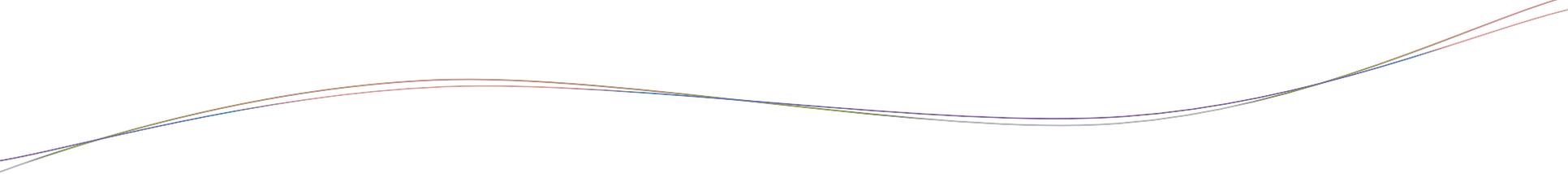
6-Contains the information on which reliability and validity assessments may be made.

# Questionnaire Design Process

- **Questionnaire design** is a systematic process in which the researcher contemplates various question formats, considers a number of factors characterizing the survey at hand, ultimately words the various questions carefully, and organizes the questionnaire's layout.



**FIGURE 8.2** Question Development and Questionnaire Design Process

- 
- The researcher should strive to minimize **question bias**.
  - Question bias is the ability of a question's wording or format to influence respondents' answers.

# Developing Questions

- **Questionnaire development** is the practice of selecting appropriate response formats and wording questions that are understandable, unambiguous, and unbiased.
- **Marketing researchers take great care in developing research questions that measure the following:**
  - 1-Attitudes
  - 2-Beliefs
  - 3-Behaviors
  - 4-Demographics

# Words to Avoid in Questionnaire Development

- All
- Every
- Never
- Ever
- Always
- Any
- Anybody

# Why Avoid These Words?

- These words: all, any, anybody, best, ever, every, never, etc. are all **EXTREME ABSOLUTES....**
- They place respondents in a situation where they must either fully agree or they must completely disagree with the extreme position in the question.
  - *Do you always observe traffic signs?*
  - *Would you say all cats have four legs?*

# Four “Dos” of Question Wording

- **Question evaluation** is scrutinizing the wording of a question to ensure that question bias is minimized and that the question is worded so that respondents understand it and can respond to it with relative ease.

- **We strongly advise ensuring that ;**

1. The question should be **focused** on a single issue or topic.  
“What type of hotel do you stay in on a trip?” Pleasure or business trip? En route or final destination?
2. The question should be **brief.**
3. The question should be **grammatically simple, if possible,** by using only simple sentence structure-even if two separate sentences are necessary to communicate the essence of the question.
4. The question should be **crystal clear.**

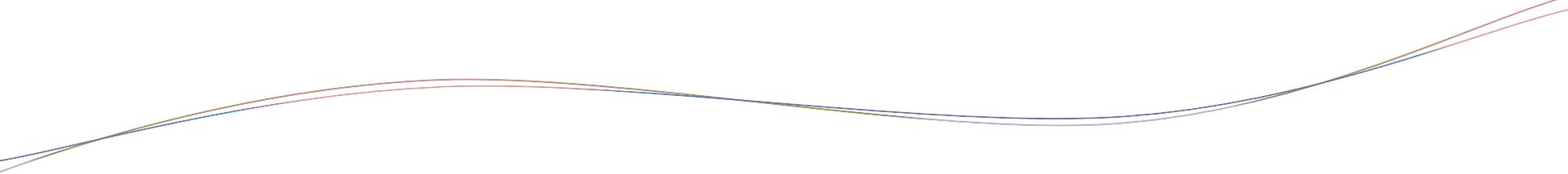
-such as “How many children do you have?”

And your study need the children under 18 years so the clear questions is

“How many children under the age of 18 years live with you?”

# Four “Dont’s” of Question Wording

1. The question should not “**lead**” the respondent to a particular answer. “Don’t you see any problem with using credit cards for online purchases?”
2. The question should not have “**loaded**” wording or phrasing. Use universal beliefs...Since our Founding Fathers gave us the right to bear arms....

- 
3. The question should not be “**double-barreled**” , that ask two questions at the same time>
  4. The question should not use words that overstate the condition...do not use “**dramatics.**” “Would you buy sunglasses that protect your eyes from harmful ultraviolet rays that cause blindness?”

**TABLE 8.6** Examples of Dos and Don'ts for Question Wording

Do or Don't Guideline	Problematic Question	Improved Question
<b>Do: Be focused.</b>	How do you feel about your automobile's GPS system?	Please rate your automobile's GPS system of each of the following features. (Features are listed.)
<b>Do: Be brief.</b>	When traffic conditions are bad, do you or do you not rely on your automobile's GPS system to find the fastest way to work?	Does your automobile GPS system help you arrive at work on time?
<b>Do: Be simple and structured.</b>	If you needed to find your child's best friend's house that was over 10 miles from your house for your child to attend a birthday party, would you rely on your automobile GPS system to get you there?	To what extent would you rely on your automobile GPS system to find a friend's house?
<b>Do: Be crystal clear</b>	Is your automobile GPS system useful?	How useful is your automobile GPS system for each of the following occasions? (Occasions are listed.)
<b>Don't: Lead.</b>	Shouldn't everyone have a GPS system in their automobile?	In your opinion, how helpful is an automobile GPS system?
<b>Don't: Load.</b>	If GPS systems were shown to help us decrease our depletion of world oil reserves, would you purchase one?	How much do you think an automobile GPS system might save you on gasoline?
<b>Don't: Double-barrel</b>	Would you consider purchasing an automobile GPS system if it saved you time, money, and worry?	Would you consider buying an automobile GPS system if you believed it would reduce your commuting time by 10%? (Separate questions for money and worry savings.)
<b>Don't: Overstate</b>	Do you think an automobile GPS system can help you avoid traffic jams that may last for hours?	To what extent do you believe an automobile GPS system will help you avoid traffic congestion?

# Questionnaire Organization

- **Questionnaire organization** is the sequence of statements and questions that make up the questionnaire.
- **It is important because** the questionnaire appearance and ease of flow affect the quality of the information gathered.
- We should started with introduction and then actual flow of questions on the questionnaire.

# Two critical aspects of questionnaire organization

## First; The Introduction

- The introduction sets the stage; it is what a potential respondent reads or hears before he or she begins answering survey questions.
- **We discuss five functions that are accomplished by the introduction;**
  - 1- the interviewer introduces himself at the beginning of a survey there are two options
    - a) an undisguised survey, the sponsor is identified
    - b) but with a disguised survey, the sponsor's name is not divulged to respondents.



- The decision about whether to use a disguised survey depends on the survey's objectives, possible undue influence with knowledge of the client, or desire not to alert competitors of the survey.

2- The general purpose of the survey should be described clearly and simply.

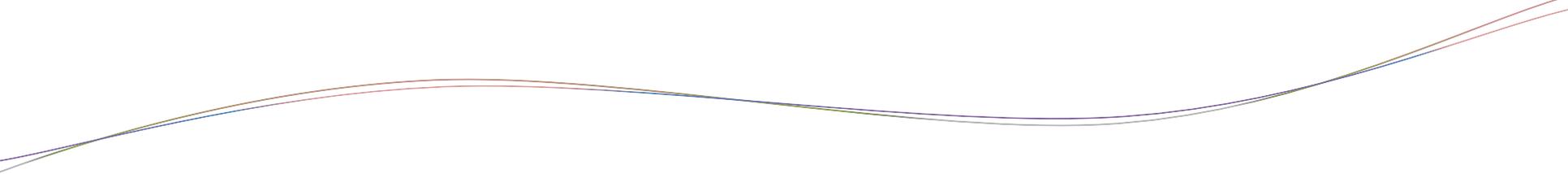
3- Prospective respondents must be made aware of how and why they were selected.

4-Prospective respondents must be asked for their participation in the survey.

**-Incentives** are offers to do something for the respondent to increase the probability that the respondent will participate in the survey.

**-Two methods tend to reduce anxieties and, therefore, increase participation;**

- The first is ensuring **anonymity**; means the respondents is not known and, there for, may not be identified.
- The second method is **confidentiality**; means the respondents identify is not to be divulged to client or any other third part.



5- Last function of introduction is to qualify prospective respondents if they are to be screened for their appropriateness to take part in the survey.

## Second; Question Flow

- **Question flow** pertains to the sequencing of questions or blocks of questions, including any instructions, on the questionnaire.
- Once the individual qualifies to take the survey, the next questions may serve a “warm-up” function.
- **Warm-up questions** are simple and easy-to-answer questions that are used to get the respondents’ interest and to demonstrate the ease of responding to the research request.

- **Transitions** are statements or questions used to let the respondent know that changes in question topic or format are about to happen, such as “Now, I would like to ask you a few questions about your family “TV viewing habits”
- Response to a **skipped question** affects which question will be answered next.

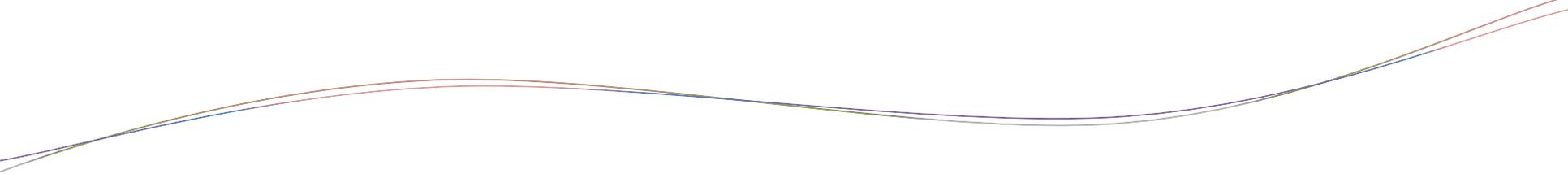
- 
- The final section is **Classification questions** are used to classify respondents.
  - Demographics questions, sometimes called classification questions, are used to classify respondents into various groups for purposes of analysis.

**TABLE 8.7** Logical Sequence of Survey Questions

Question Type	Order	Examples	Rationale
<b>Screens</b>	First questions asked	“Have you shopped at Old Navy in the past month?” “Is this your first visit to this store?”	Used to select the respondent types desired by the researcher to be in the survey
<b>Warm-ups</b>	Immediately after any screens	“How often do you go shopping for casual clothes?” “On what days of the week do you usually shop for casual clothes?”	Easy to answer; shows respondent that survey is easy to complete; generates interest
<b>Transitions (statements and questions)</b>	Prior to major sections of questions or changes in question format	“Now, for the next few questions, I want to ask about your family’s TV viewing habits.” “Next, I am going to read several statements and, after each, I want you to tell me if you agree or disagree with this statement.”	Notifies respondent that the subject or format of the following questions will change
<b>Complicated and difficult-to-answer questions</b>	Middle of the questionnaire; close to the end	“Rate each of the following 10 stores on the friendliness of their salespeople on a scale of 1 to 7.” “How likely are you to purchase each of the following items in the next three months?”	Respondent has committed himself or herself to completing the questionnaire; can see (or is told) that there are not many questions left
<b>Classification and demographic questions</b>	Last section	“What is the highest level of education you have attained?”	Questions that are “personal” and possibly offensive are placed at the end of the questionnaire

# Computer-Assisted Questionnaire Design

- **Computer-assisted questionnaire design** refers to software that allows users to use computer technology to develop and disseminate questionnaires and to retrieve and analyze data gathered by the questionnaire.
- **The functions of computer-assisted questionnaire design programs:**
  - 1- **Question creation**; the typical questionnaire design program will query the user on , for example “What type of question to use-how many response categories to include.

- 
- Usually, the program offers a selection list of question types such as closed-ended, numeric. Or scaled-response questions.
  - The program may even have a question library feature such as demographics, importance, satisfaction, usage or performance.

## 2-Skip and Display Logic

- **Skip logic** lets the questionnaire designer direct the online survey to ask questions based on previous answers.
- **Display logic** is similar to skip logic. The survey displays or asks questions that are appropriate based on the respondent's prior answers.

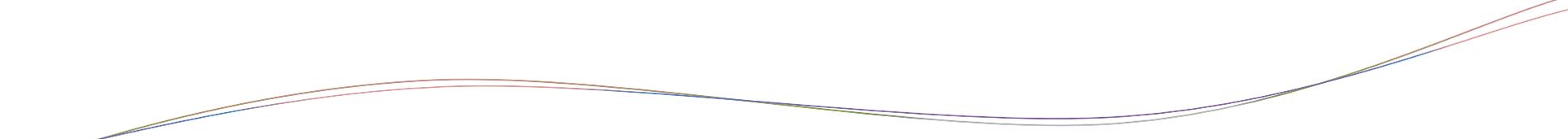
### 3-Data collection and creation of data files

### 4- Data Analysis and Graphs

- Many of the software programs for questionnaire design have provisions for data analysis, graphic presentations and report formats of results.
- **Advantages:**
  - Easier
  - Faster
  - Friendlier
  - More flexibility

# Coding The Questionnaire

- A final task in questionnaire design is **coding**.
- **Codes** are numbers associated with question responses to facilitate data entry and analysis.
- **Here are the basic rules for questionnaire coding;**
  - 1- Every closed-ended question should have a code number associated with every possible response.
  - 2- Use single-digit code numbers, beginning with 1.
  - 3- Use the same coding system for questions with identical response options regardless of where these question are positioned in the questionnaire.

- 
- 4- Remember that a “check all that apply” question is just a special case of “yes” or “no” question, so use 1(=yes) and 0(=no)
  
  - 5- Whenever possible, set up the coding system before the questionnaire is finalized.

# Pretesting The Questionnaire

- A **pretest** is a dry run of a questionnaire to find and repair difficulties that respondents encounter while taking the survey.



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