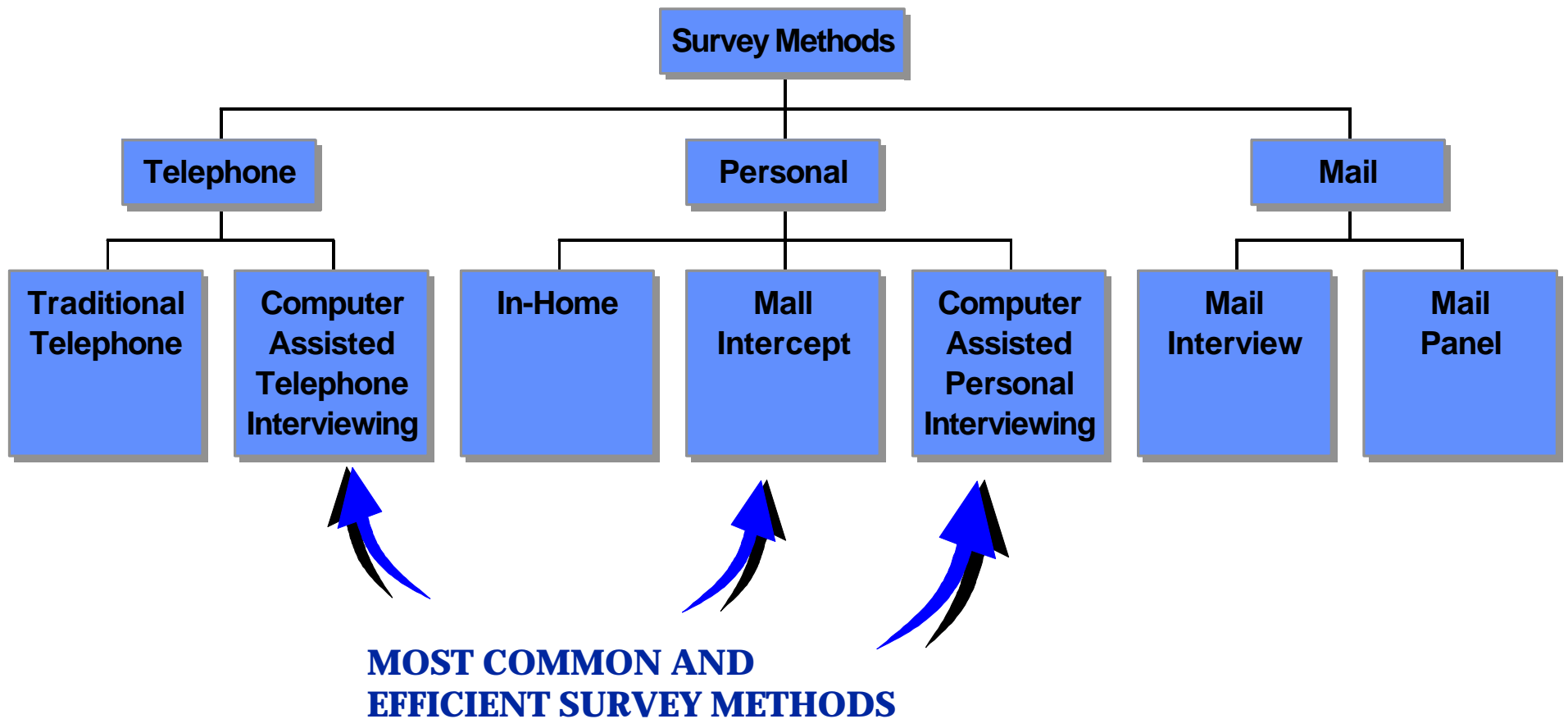


# Descriptive Research

**Figure 7.1 A Classification of Survey Methods Based on Method of Administration**



**TABLE 7.4****Different Survey Approaches Commonly Used in Marketing Research**

<b>TYPE OF INTERVIEW</b>	<b>DESCRIPTION</b>
Door-to-Door	Interviewer interviews consumer in consumer's home
Executive Interview	Interview industrial product user (e.g. , engineer, architect, doctor, executive) or decision maker at place of business regarding industrial product.
Mall Intercept	Interviewer interviews consumer in shopping mall or other high-traffic location. Interviews may be done in public areas of the mall or the respondent may be taken to a private test area.
Central Location Telephone Interview	Interviewing is conducted from a telephone facility set up for that purpose. These facilities typically have equipment that permits the supervisor to unobtrusively monitor the interviewing while it is taking place. Some of these facilities have Wide Area Telephone Service (WATS) to permit national sampling from a single location. An increasing number have computer-assisted interviewing capabilities. At these locations the interviewer sits in front of a computer terminal attached to a mainframe or a personal computer. The questionnaire is programmed into the computer. The interviewer enters responses directly.
Direct Computer Interview	Used increasingly, particularly in the mall environment. The consumer is seated at a computer terminal or personal computer. The questionnaire is programmed into the computer and the consumer is, in essence, interviewed by the computer.
Self-administered Questionnaires	Most frequently employed at high-traffic locations such as shopping malls or in captive audience situations such as classrooms and airplanes. Respondents are given general information on how to fill out the questionnaire and are left to fill it out on their own. Computers are being used in this area by sending software-driven questionnaires on diskettes to individuals who have personal computers.
Ad Hoc (one-shot) Mail Surveys	Questionnaires are mailed to a sample of consumers or industrial users. Instructions are included. Respondents are asked to fill out the questionnaire and return it via mail. Sometimes a gift or monetary incentive is provided. The same comment regarding computers under self-administered questionnaires applies here. We have not heard of questionnaires sent by fax, but why not?
Mail Panels	Several companies, including Market Facts, NPD Research, and National Family Opinions Research, operate large (more than 100,000 households) consumer panels. There are several important differences between mail panels and ad hoc mail surveys. First, people in the panel have been precontacted. The panel concept has been explained to them. They have agreed to participate for some period of time. In addition, participants are offered gratuities to participate in mail panels. Mail panels typically generate much higher response rates than do ad hoc mail surveys.

**TABLE 7.10****Strengths and Weaknesses of Various Data Collection Techniques in Terms of Quality of Data Produced**

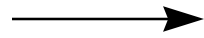
<b>METHOD</b>	<b>STRENGTH</b>	<b>WEAKNESS</b>
Door-to-Door Executive	Respondent is at ease and secure in home; face-to-face contact; can observe respondent's home, etc.; interviewer can show, explain, probe, etc.	Cannot readily monitor interviewing process; may have distractions from other family members, telephone, etc.; greater chance for interviewer bias; sampling problems
Mall Intercept	Interviewer can show, explain, probe as in door-to-door	May have many distractions inherent in mall environment; respondent may be in a hurry--not in proper frame of mind; more chance for interviewer bias; nonprobability sampling problems
Central Location Telephone	Can monitor the interviewing process readily; can have excellent sample; interviewers can explain and probe	Respondent may be distracted by things going on at the location; problems in long interviews and interviews with many open-ended questions
Self-administered	Elimination of interviewer and associated biases; respondent can complete the questionnaire when convenient; respondent also can look up certain information and work at own pace	No interviewers to show, explain, or probe; poor sample because of nonresponse; no control of who actually completes the questionnaire.
Mail Questionnaire	Same as for self-administered	Same as for self-administered questionnaire; sample quality is better with mail panel

## **Factors that Determine the Selection of a Particular Survey Method**

- \* Sampling precision/control**
- \* Budget available/cost**
- \* Need to expose respondent to various stimuli**
- \* Quality of data required**
- \* Length of questionnaire/quantity of data**
- \* Necessity of having respondent perform certain specialized tasks**
- \* Incident rate (incidence of target respondent in population)**
- \* Degree of structure of questionnaire**
- \* Time available to complete survey/speed**
- \* Potential for respondent/interviewer bias**

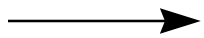
# Quick Summary on Three Basic Data Collection Methods

## PERSONAL



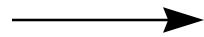
Can adapt questioning and provide clarifications  
P.S./S.D. bias  
Can use visual aids, cards, etc.

## TELEPHONE



Fast, cost efficient, good sample representativeness  
Limit on amount of information  
No visual aids, cards, etc.  
Can monitor interviewers  
“Irresistible intruder”

## MAIL



Don't know who filled out questionnaire  
Easy to throw away  
Cannot clarify questions  
Low cost, slow  
Can collect “sensitive” information due to respondent anonymity

**TABLE 13.3****The 1994 20 Metropolitan Statistical Areas with the Highest Incidence of Unlisted Phones**

MSA <sup>a</sup> NAME	TOTAL MSA HOUSEHOLDS	PERCENT HOUSEHOLDS WITH PHONES	PERCENT ESTIMATED UNLISTED HOUSEHOLDS	MSA RANK BASED ON PERCENT UNLISTED HOUSEHOLDS
Sacramento, CA PMSA <sup>b</sup>	554,876	97.5	68.3	1
Oakland, CA PMSA	810,042	98.0	67.3	2
Fresno, CA	275,265	95.6	67.0	3
Los Angeles-Long Beach, CA PMSA	3,066,785	96.7	66.7	4
San Jose, CA PMSA	532,580	98.8	66.6	5
San Diego, CA	941,365	97.8	65.0	6
Orange County, CA PMSA	871,081	98.5	62.8	7
Riverside-San Bernardino, CA PMSA	987,309	96.0	62.3	8
San Francisco, CA PMSA	662,913	98.3	61.3	9
Bakersfield, CA	205,719	94.8	61.2	10
Ventura, CA PMSA	226,001	98.4	60.4	11
Las Vegas, NV-AZ	417,940	95.8	59.6	12
Jersey City, NJ PMSA	210,884	93.5	48.0	13
Tacoma, WA PMSA	239,190	97.1	44.5	14
Portland-Vancouver, OR-WA PMSA	659,017	97.2	44.1	15
Detroit, MI PMSA	1,615,658	96.7	41.1	16
Tucson, AZ	285,849	94.2	39.8	17
Honolulu, HI	280,953	98.0	39.7	18
El Paso, TX	197,062	91.6	39.3	19
Phoenix-Mesa, AZ	929,991	94.3	37.8	20

SOURCE: Courtesy of Survey Sampling, Inc. Copyright Survey Sampling, Inc., 1994

<sup>a</sup> Metropolitan Statistical Area

<sup>b</sup> Primary Metropolitan Statistical Area

# Issue of Sample Precision/Control

## Exhibit 7.1 Random Digit Directory Designs

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### ***Addition of a Constant to the Last Digit***

An integer between 1 and 9 is added to the telephone number selected from the directory. In Plus-One sampling the number added to the last digit is one.

Number selected from directory: 953-3004 (exchange-block). Add one to the last digit to form 953-3005. This is the number to be included in the sample.

### ***Randomization on the $r$ Last Digits***

Replace the  $r$  ( $r=2, 3, \text{ or } 4$ ) last digits with an equal number of randomly selected digits.

Number selected from directory: 881-1124. Replace the last four digits of block with randomly selected numbers 5, 2, 8, and 6 to form 881-5286.

### ***Two-Stage Procedure***

The first stage consists of selecting an exchange and telephone number from the directory. In the second stage, the last three digits of the selected number are replaced with a three-digit random number between 000 and 999.

### ***Cluster 1***

Selected exchange: 636

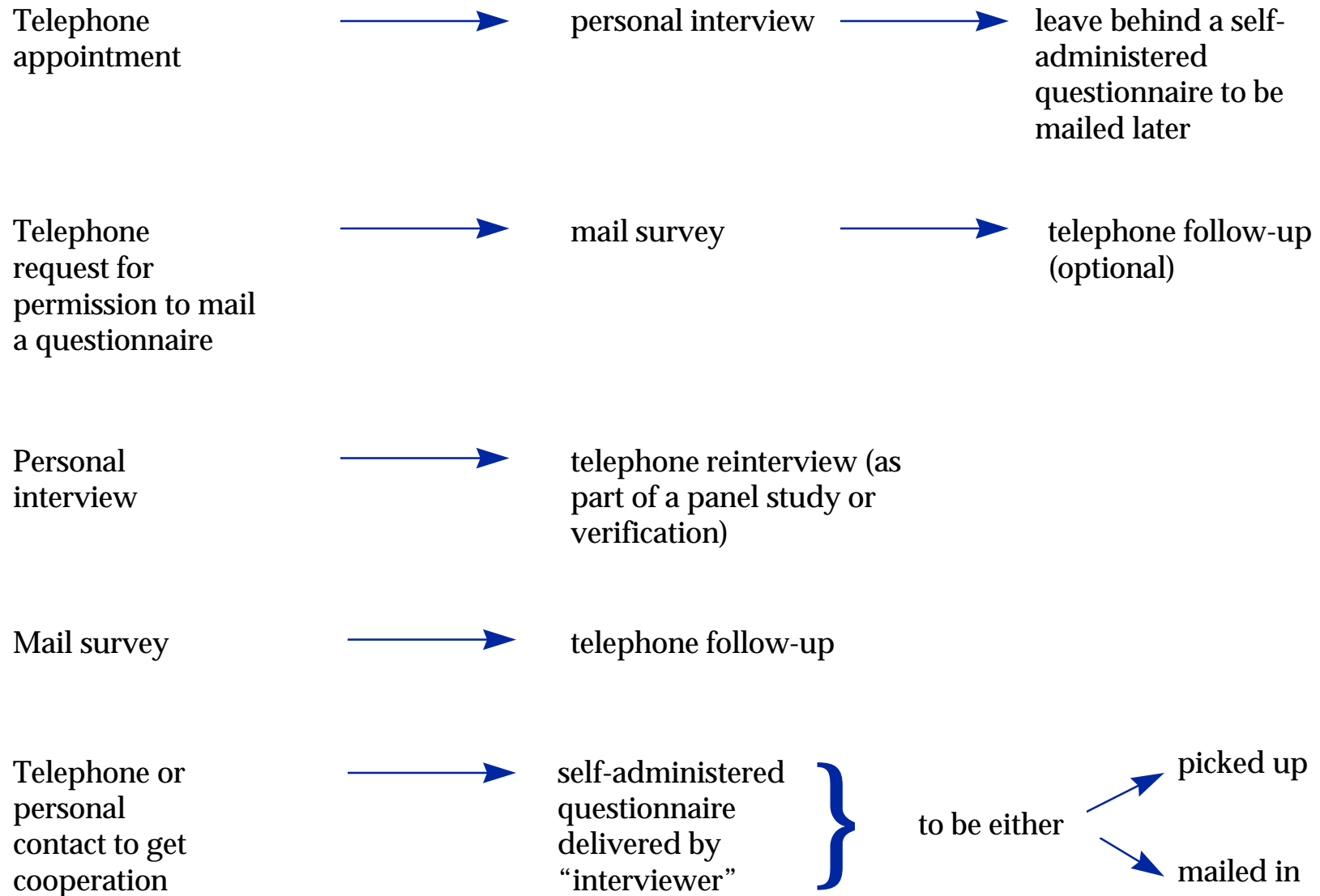
Selected number: 636-3230

Replace the last three digits (230) with randomly selected 389 to form 636-3389.

Repeat this process until the desired number of telephone numbers from this cluster is obtained.

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# Exploiting the Advantages of all Three Survey Media



# Total Survey Error and Its Components

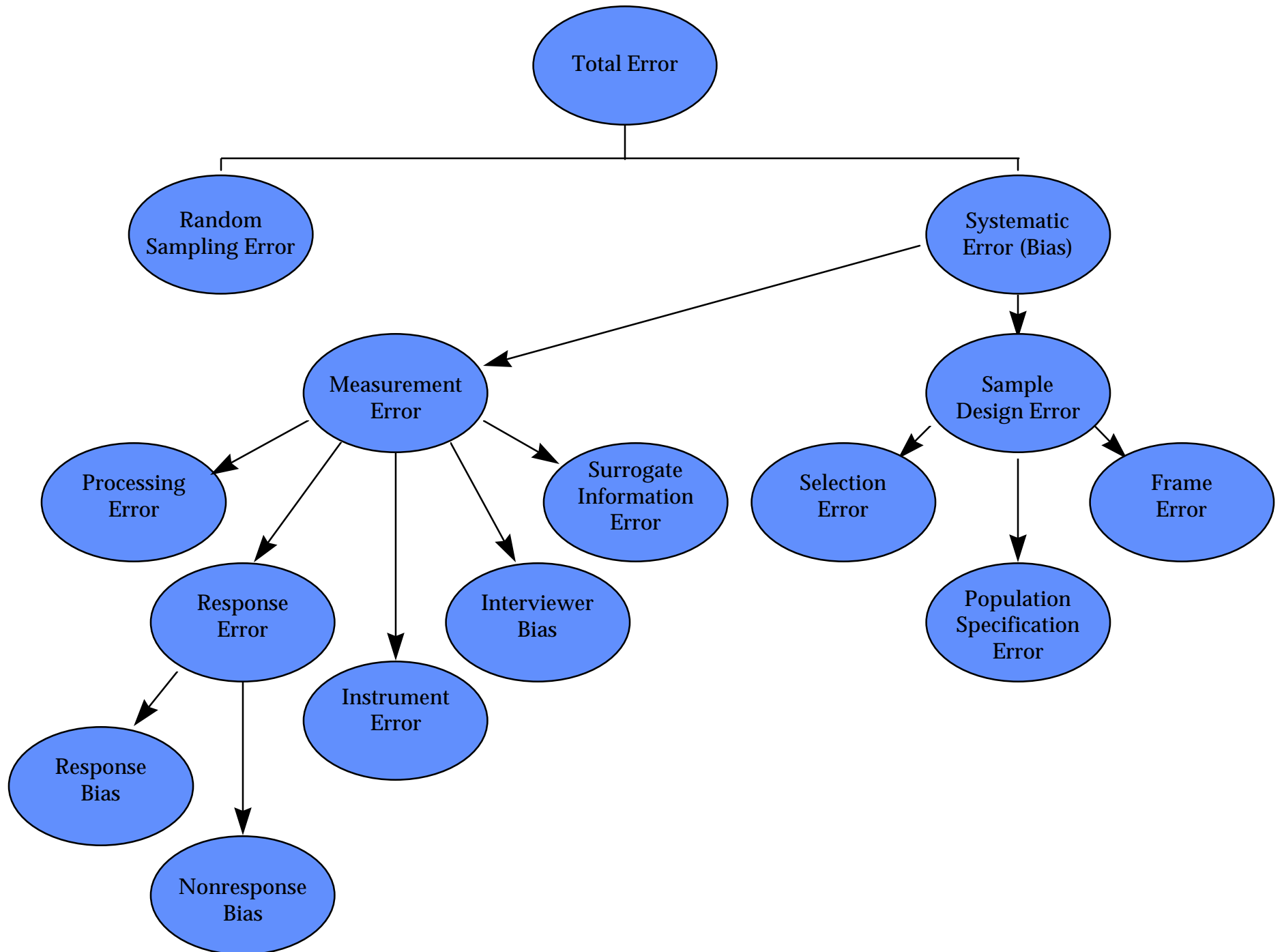


TABLE 7.3

## Types of Errors and Strategies for Minimizing Errors

### I. RANDOM ERROR--RANDOM ERROR CAN BE REDUCED ONLY BY INCREASING SAMPLE SIZE.

### II. SYSTEMATIC ERROR--MINIMIZE SAMPLE DESIGN AND MEASUREMENT ERROR.

#### A. Sample Design Error

Frame Error	This error can be minimized by getting the best frame possible and doing preliminary quality control checks to evaluate the accuracy and completeness of the frame.
Population Specification Error	This error results from flaws in research design (e.g., incorrect definition of population of interest). It can be reduced or minimized only by means of more careful consideration and definition of the population of interest.
Selection Error	This error results from the use of incomplete or improper sampling procedures or when appropriate procedures are not followed. It can occur even if we have a good sample frame and an appropriate specification of the population. It is minimized by developing selection procedures that will ensure randomness and by developing quality control checks to make sure that these procedures are being followed in the field.

#### B. Measurement Error

Surrogate Information Error	This error results from seeking and basing decisions on the wrong information. (The New Coke example was cited in the text.) It results from poor design and can be minimized only by paying more careful attention to specification of the types of information required to fulfill the objectives of the research.
Interviewer Error	This error occurs because of interactions between the interviewer and respondent that affect the responses given. It is minimized by more careful interviewer selection and training. In addition, quality control checks that involve unobtrusive monitoring of interviewers to ascertain whether prescribed behavior is being adhered to should be employed.
Measurement Instrument Bias Nonresponse Bias	Also referred to as <i>questionnaire bias</i> , it is minimized only by careful questionnaire design and pretesting. This error results from the fact that people chosen for the sample who actually respond are systematically different from those who are chosen and do not respond. It is particularly serious in connection with mail surveys. It is minimized by doing everything possible (e.g., shorten questionnaire, make questionnaire more respondent friendly, callbacks, incentives, contacting people when they are most likely to be at home, etc.) to encourage those chosen for the sample to respond.
Response Bias	Response bias occurs when something about a question leads people to answer it in a particular way. This type of error can be minimized by paying special attention to questionnaire design. In particular we must be sensitive to questions that are hard to answer, might make respondent look uninformed if she cannot answer, or deal with sensitive issues. Questions should be modified to deal with these problems (see Chapter 10).
Processing Error	These errors can occur in the process of transferring data from the questionnaires to the computer. This error is minimized by developing and following rigid procedures for transferring data and supporting quality control checks.

**TABLE 7.5**

## **Emerging Survey Approaches**

<b>APPROACH</b>	<b>DESCRIPTION AND COMMENTS</b>
Point of Service Touch-Screen	Kiosks, equipped with touch-screen monitors, provide a new way to capture information from individuals in stores, health clinics, and other shopping or service environments. Although this approach is currently being used on a limited basis, little is known definitively about its advantages and disadvantages.
Fax Surveys	This technique has emerged as a viable way to collect data from business firms in recent years. It has many of the same features of mail surveys. The major advantage is the speed with which information can be obtained in that the time required to get the survey in the hands of target respondents and to get it back from them is greatly reduced. There is some evidence that, in this early stage when the approach is still novel, response rates are higher than with mail surveys of comparable length.
On-Line Surveys	Appeared for a time on America On-Line. Have recently disappeared from that venue. As the number of individuals connected to on-line services increases above the current estimates of nine to 10 million, we will see this approach become increasingly attractive. It is possible to administer fairly complex surveys via computer bulletin boards. The approach has been successfully used by DSS Research of Arlington, Texas, in a number of business applications.
E-mail	There are a few reported instances of surveys being done via E-mail. Texas Instruments has used this approach for a number of employees. Unfortunately, current technology limits the types and complexity of information that can be obtained in this manner. This approach will become more widely used as E-mail platforms become more flexible and user-friendly.
Voice Mail	Sophisticated IVR (interactive voice response) systems make it possible to complete automated surveys over the telephone by having respondents dial local or 800 numbers and respond to voice prompts (multiple-choice questions) by using the buttons on their touch-tone telephones. This approach has not been widely used. However, it has been successfully used with physicians and some other difficult-to-reach populations. This approach gives them the opportunity to call when it is convenient for them 24 hours per day, 365 days per year.