Survey Modes and Survey Design
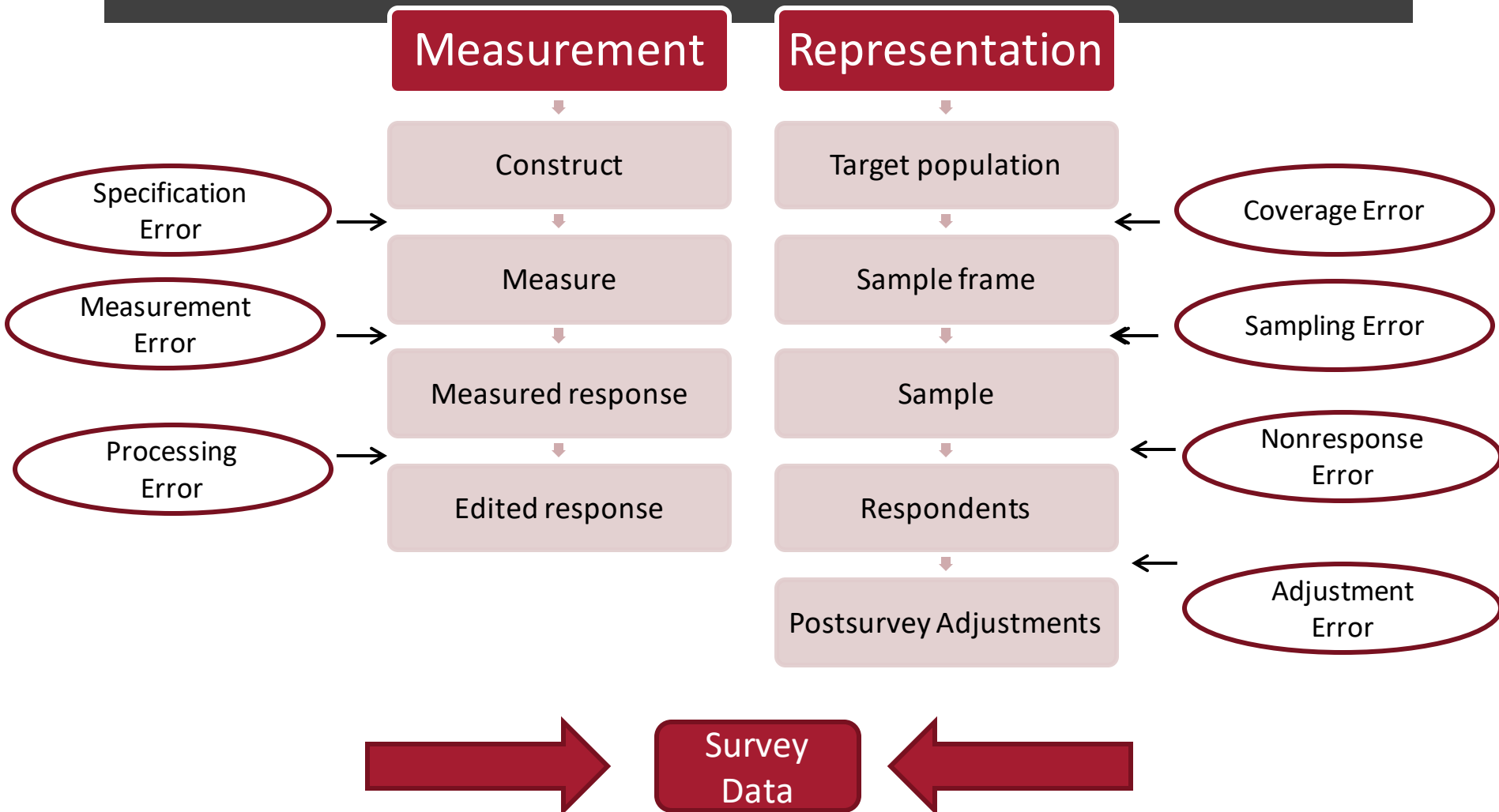
GOV 1010

Survey Design Perspective

Design of Surveys

Problem Specification & Population Definition

Select Mode ←→ **Select Mode**

Design Instrument | **Sample Design Specifications**

Specify Procedures | **Develop Sampling Frame**

Recruit, Hire, Train Staff | **Sample Selection**

Data Collection

Data Processing

Analysis, Reporting, Presentation, etc.
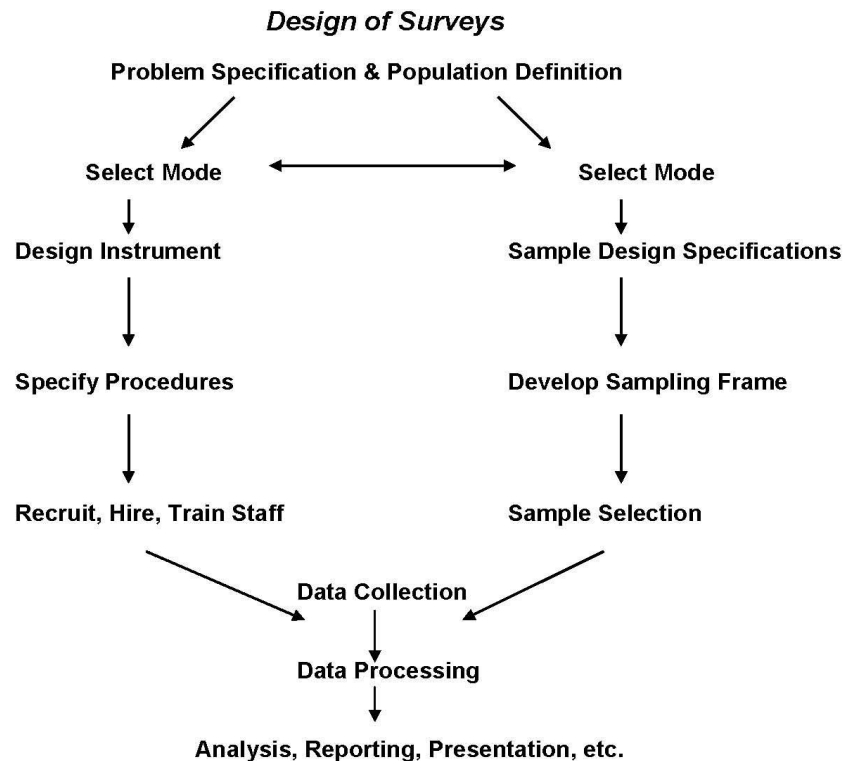
Note: Adapted from Groves (1989)

Survey Error Perspective

Measurement	Representation
↓	↓
Construct	Target population
↓	↓
Measure	Sample frame
↓	↓
Measured response	Sample
↓	↓
Edited response	Respondents
	↓
	Postsurvey Adjustments

Specification Error →

Measurement Error →

Processing Error →

← Coverage Error

← Sampling Error

← Nonresponse Error

← Adjustment Error

→ Survey Data ←

Traditional Approaches

Traditional Survey Modes

Mode	Sample	Questionnaires
Face-to-Face	❖ Enumerated by interviewers ❖ Often sampled at household level	❖ Interviewer administered in-person
Telephone	❖ Randomly generated telephone sample ❖ Landlines and mobile ❖ Lists of persons with telephone numbers	❖ Interviewer administered telephone survey
Mail	❖ Household addresses ❖ Named persons	❖ Self-administered paper questionnaire
Internet	❖ Listed people with e-mail	❖ Self-administered web questionnaire

Centralized Facilities

Generalizations

Mode	Strengths	Weaknesses
Face-to-Face	❖ Enumerating and identifying populations ❖ Encouraging cooperation	❖ Expensive
Telephone	❖ Centrally supervised	❖ Declining response rates
Mail	❖ Convenient for respondents	❖ Difficult to route complex questions
Internet	❖ Inexpensive	❖ Validation of responses ❖ Population coverage

New Electronic Modes Sustaining Technologies

- CAPI / CASI / CATI
  - Computer Assisted Personal/Self/Telephone Interviewing

  - ACASI Audio Computer Assisted Self Interviewing
  - VCASI Video Computer Assisted Self Interviewing
  - IVR Interactive Voice Response
  - TDE Touch Tone Data Entry

Adapting Technologies

New Electronic Modes Emerging Technologies

New communications protocols

Number portability / VoIP / Skype

New communications practices

Land-line ➔ Mobile Phone ➔ SMS ➔ WhatsApp ®

Social networks as communications tools

The Internet

Web 1.0 ➔ Web 2.0 ➔ Smartphone Web ➔ Apps

Emerging Survey Technologies

New Electronic Modes Disruptive Technologies

- The smartphone:
  - GPS + Camera + Microphone + Accelerometer
- Wearable devices
- Biometric data / Facial recognition
- The return to "unobtrusive" measures
  - Passive electronic measures (big data)
  - Video surveillance
  - Face recognition
  - GPS monitoring
  - Satellite imaging
- Administrative records (big data)

Let's think about

- A survey of commercial truck drivers…..

- To measure fatigue………

- Based on miles driven………

- And road conditions…….
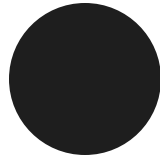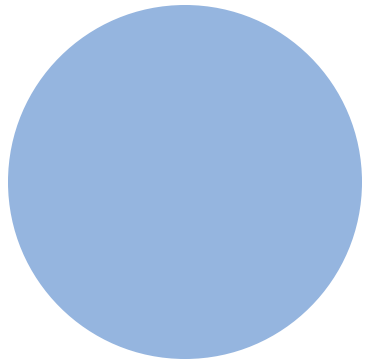
Dimensions of Approaches

Dimensions of Approaches

Level of Interviewer Involvement

Degree of Human Contact

Channel of Communication

Locus of Control

Degree of Privacy

Use of Technology

Level of Interviewer Involvement

Fully Involved

- Enumerating respondents, administering protocols, reading questions, recording answers, etc.
- FTF – Phone, etc.

Significantly Involved

- Group administration
- Using supplementary materials
  - Show cards, video, etc.

Selectively Involved

- Use for selective features
- Recruitment, screening, hand-off, etc.

Not Involved

- Fully self-administered interview
- Fully passive

Degree of Human Contact

High Contact

- Two-way nonverbal communication
- Complex verification possible (e.g. verify badges)
- Interventions (blood, samples, etc.)
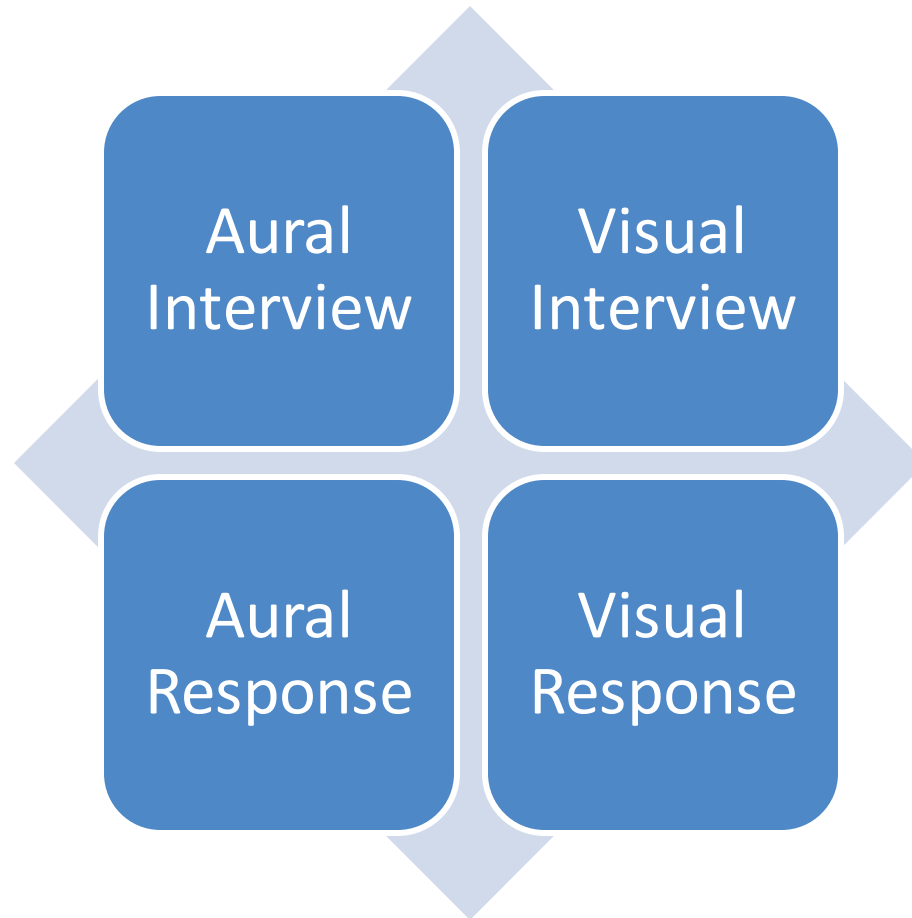- Interviewer observations

Hybrid Contact

- Video of interviewers
- Automated avatar agents
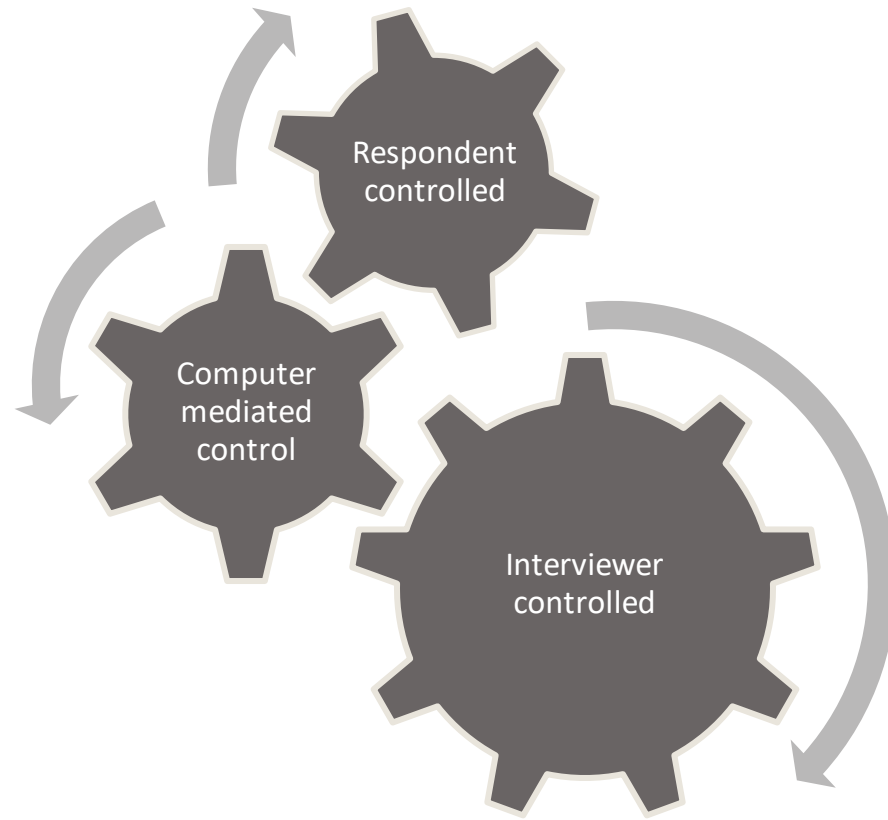- Text-messaging, chat, etc.

Low Contact

- No human observations, interactions, or presence
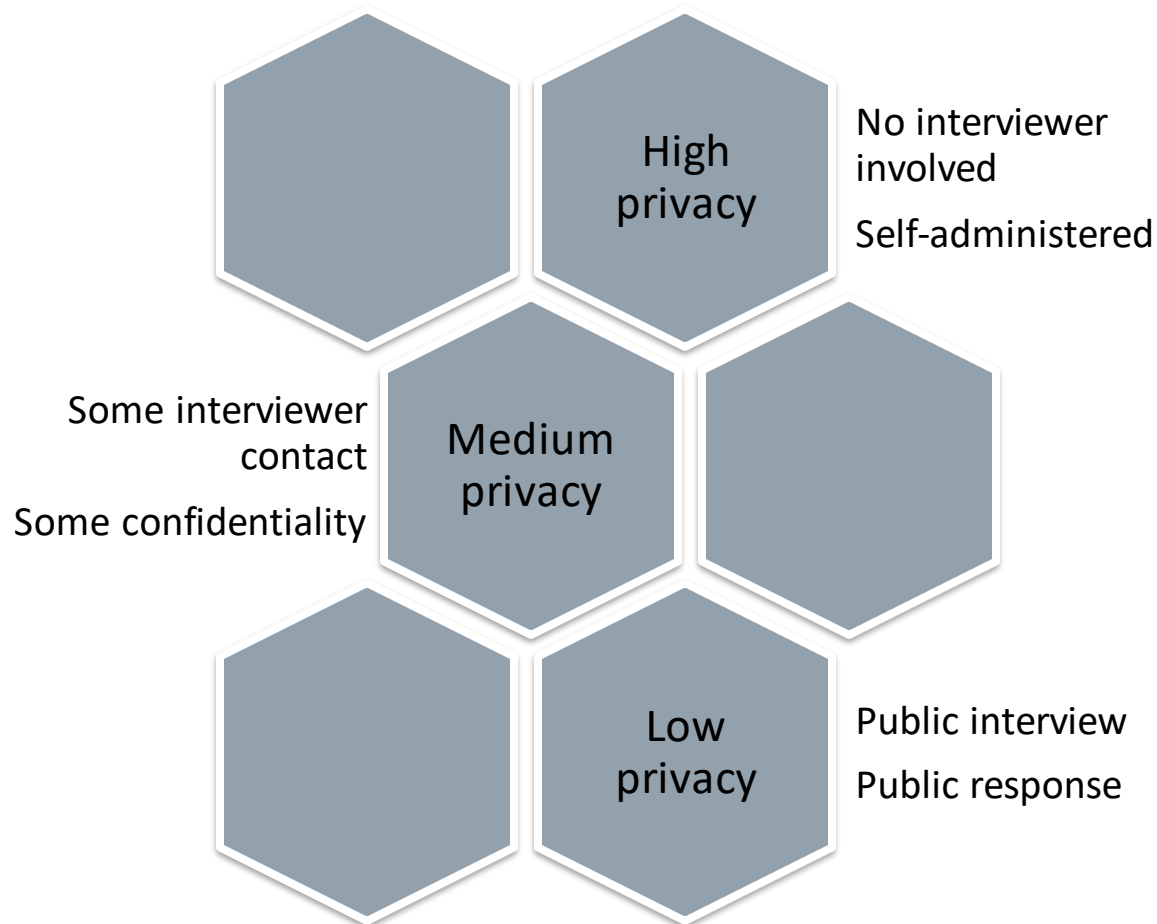
Channel of Communication

Traditional Survey Modes

MODE	AURAL	VISUAL
Interviewer Administered	*Telephone* *In-Person*	*Hand Cards* *CAPI Video*
Self Administered	*Audio CAPI* *IVR*	*Web survey* *Mail Survey* *Paper Survey*

Locus of Control

Degree of Privacy

High privacy

No interviewer involved

Self-administered

Medium privacy

Some interviewer contact

Some confidentiality

Low privacy

Public interview

Public response
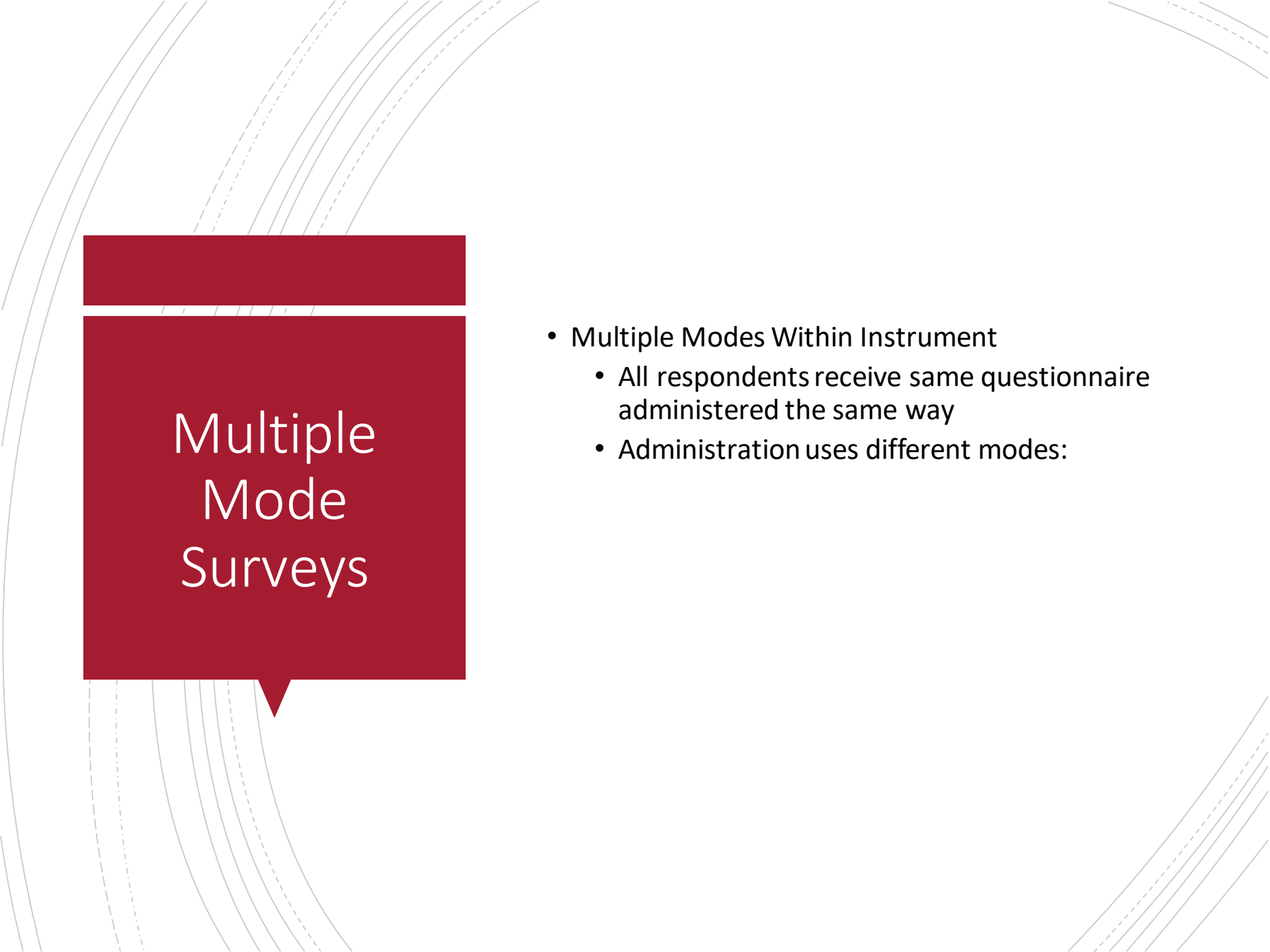
Use of Technology

Putting it All Together

Multiple Mode Surveys

- Multiple Modes Within Instrument
  - All respondents receive same questionnaire administered the same way
  - Administration uses different modes:

Common Multiple - Mode Surveys

- Multiple Modes For Recruitment or Follow Up
  - Mail pre-notification letters for phone
  - Telephone reminders for mail or web

Mixed Mode Surveys

- Multiple Modes For Different Respondents
  - Contact method varies by respondent preference
  - Contact method varies by difficult of contact
  - Sub-sampled respondents with expensive modes

Mixed Mode Surveys

- Multiple Modes For Different Strata or Waves
  - Different investigators
  - Different frames or groups
  - Different countries
  - Different Waves of Same Panel

Mode Effects

Generally focus on differences between aural and visual modes

Problems are greater if different respondents complete same questions using different modes

Stages in Data Collection

	Mail	E-Mail	Passive Web	Live Phone	Face-to-Face
Frame-Enumeration	-		-		+
Pre-Notification	+		-		
Initial Contact/ Invitation	+		-	+	
Follow-up / Reminder	+	+	-	+	
Screening	-	-		+	+
Interview		-	+		+
Supplemental Data	+		+		
Additional Waves					
Validation	-		-		+

+ Particularly good at this aspect; - Generally poor in this aspect

Considerations in Selecting Approaches