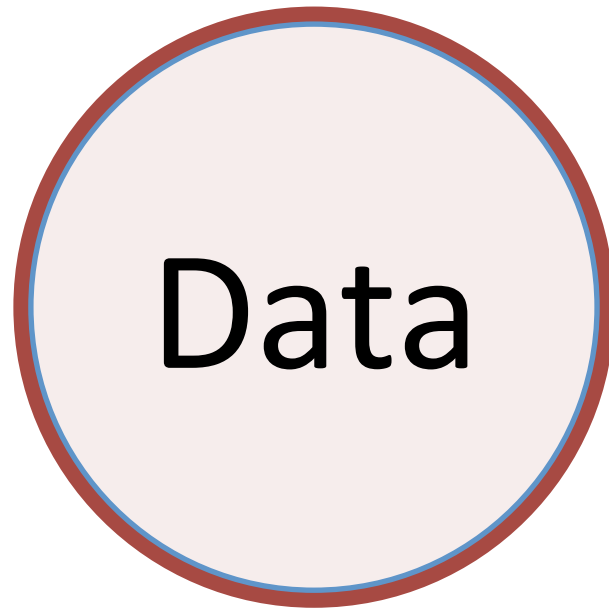


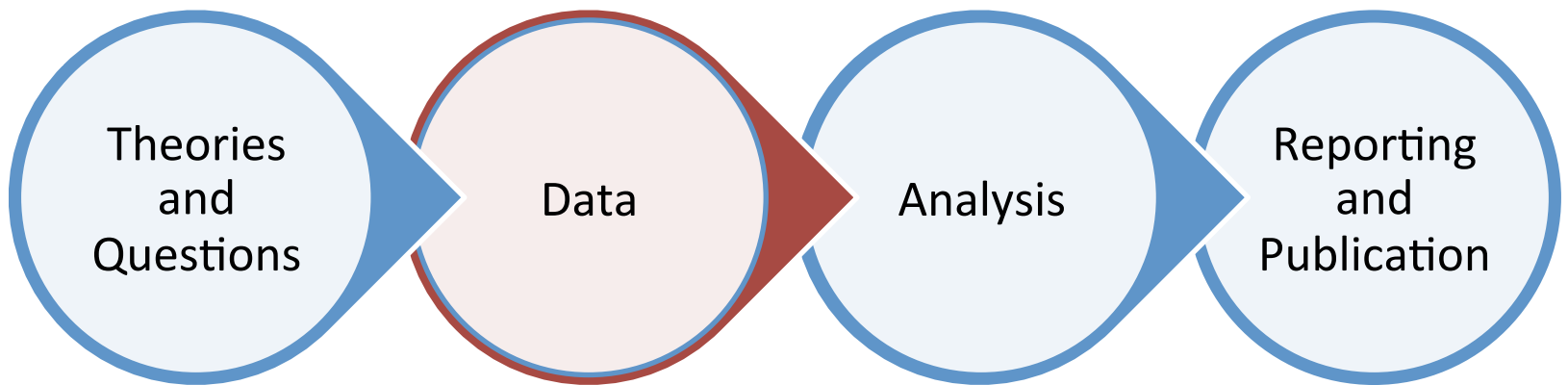
# **WHERE DOES DATA COME FROM?**

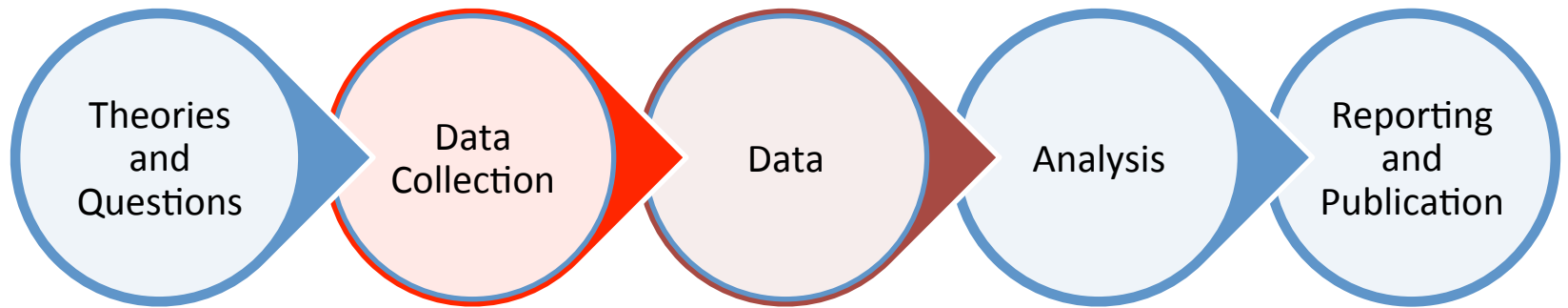
How Survey Researchers Define, Measure, and  
Create Things Around Us

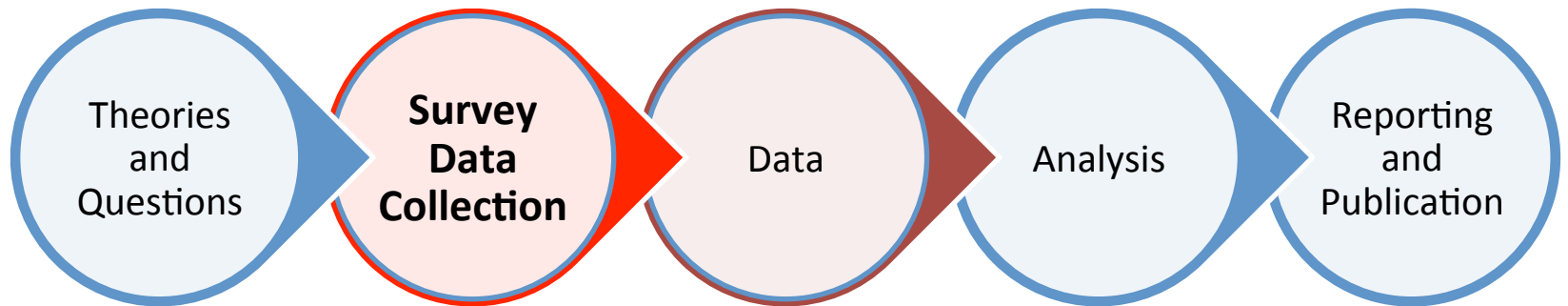
Chase H. Harrison  
Program on Survey Research (IQSS)  
Department of Government (FAS)

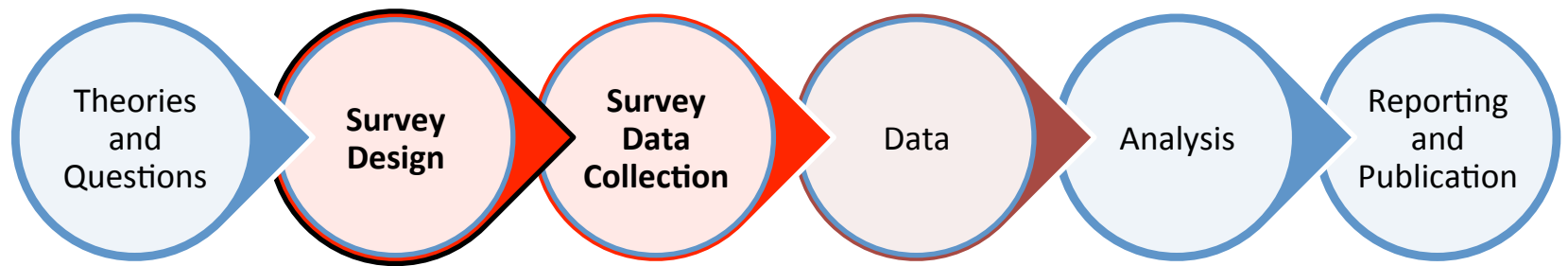
[charrison@gov.harvard.edu](mailto:charrison@gov.harvard.edu)











What kind of data comes from surveys....

# Population statistics.....

Population Statistics	<ul style="list-style-type: none"><li>• Decennial Census</li><li>• American Community Survey</li></ul>
Crime	<ul style="list-style-type: none"><li>• National Crime Victimization Survey</li></ul>
Substance Use	<ul style="list-style-type: none"><li>• National Survey of Drug Use and Health</li></ul>
Health	<ul style="list-style-type: none"><li>• National Health Interview Survey</li></ul>
Energy Use	<ul style="list-style-type: none"><li>• Residential Energy Consumption Survey</li></ul>
Employment	<ul style="list-style-type: none"><li>• Current Population Survey</li><li>• American Employer Survey</li></ul>
Health Care Costs	<ul style="list-style-type: none"><li>• Medical Expenditure Panel Surveys</li></ul>



# Other things surveys are used for ...

Election  
Predictions

Time Use

Field  
Experiments

Consumer  
Confidence

Customer  
Satisfaction

Attitudes  
and Values

Public  
Opinion

Program  
Effectiveness

Social  
Surveys

Consumer  
Expenditures

TV Ratings

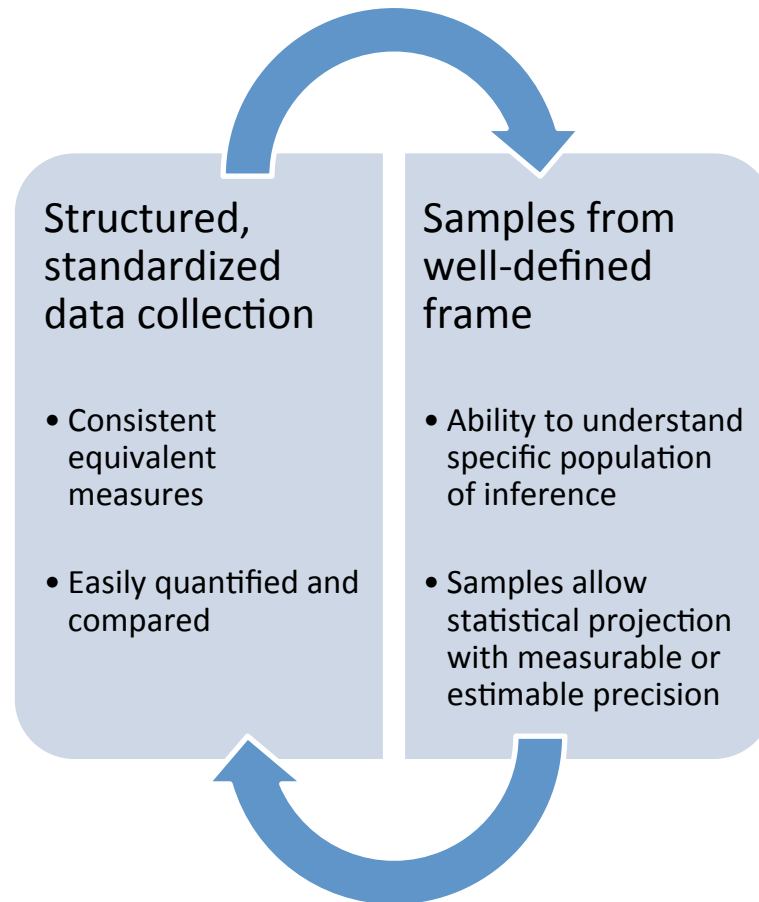
Market  
Research

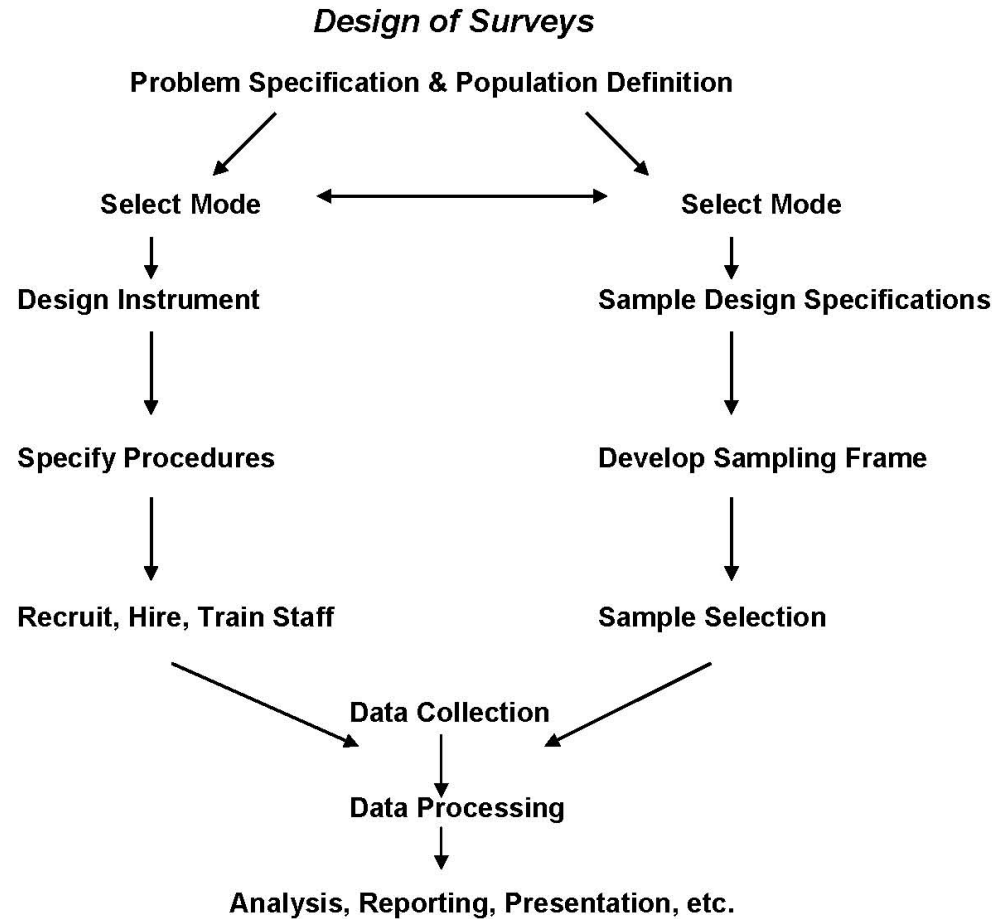
# What is a survey?

# Surveys

- Systematic method of data collection
- Usually use samples
- Designed to measure things
  - Attitudes
  - Behaviors
- Create statistics
  - Descriptive
  - Analytic

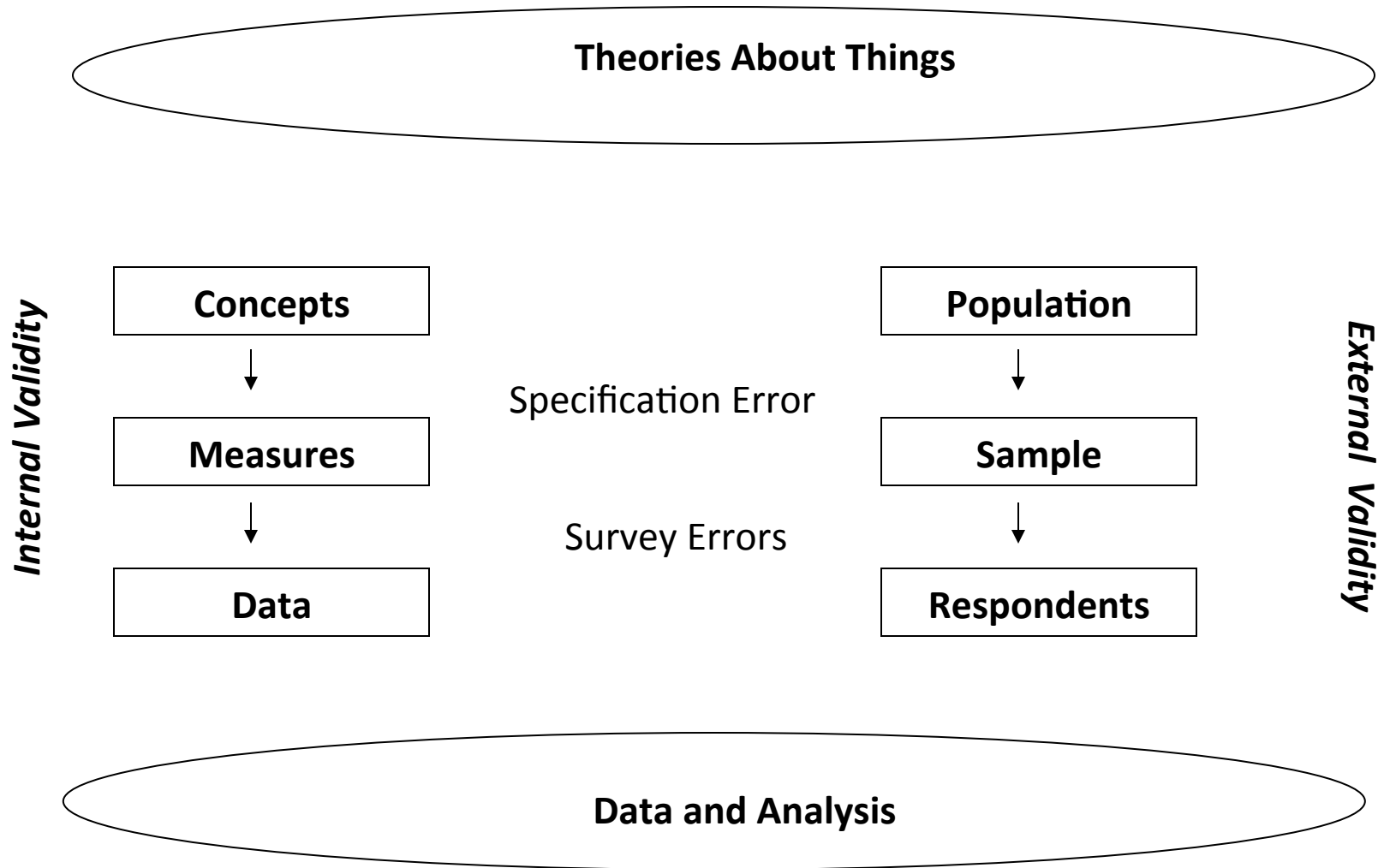
# Survey research generally does two things well.....





Note: Adapted from Groves (1989)

## A Rough Overview of Surveys



# *Survey Research:*

*Sampling, Coverage and Nonresponse*

Inferential Population



Target Population



Sample Frame



Random? Or not?

Sample Records



Respondents



*Survey Research:*

*Questionnaires and Questions*

# Theories and Surveys

- Concepts/Constructs (Theoretical Ideas)
- Measures (Questions or Scales)
- Responses (i.e. Data)

# Constructs

- Underlying attribute we want to measure
  - An element of information
  - Sometimes composed of multiple discrete elements of information
- Can end up referring to either a single survey question or a set of questions
  - Questionnaires or batteries attempt to cover all aspects of a topic or concept
  - Individual items have to consistently measure the discrete thing they are intended to measure

# Questions

- Think of as *Instruments*
  - Can end up referring to either a single survey question or a set of questions
  - Questionnaires or batteries attempt to cover all aspects of a topic or concept

Another way of thinking about a  
survey.....

I'd like to ask  
you a question

Are you a  
Statistician?

# SURVEY

Are you a Data  
Scientist?

Are you a  
Researcher?

# How a survey methodologist thinks of a survey question....

- Respondent receives some *stimulus* during the interaction
- Respondent reacts to *stimulus*
  - *This is data*

# What Respondents Do to Answer a Question

- Comprehend Question
- Retrieve Information from Memory
- Summarize Information
- Report an Answer



# Modes of Survey Data Collection

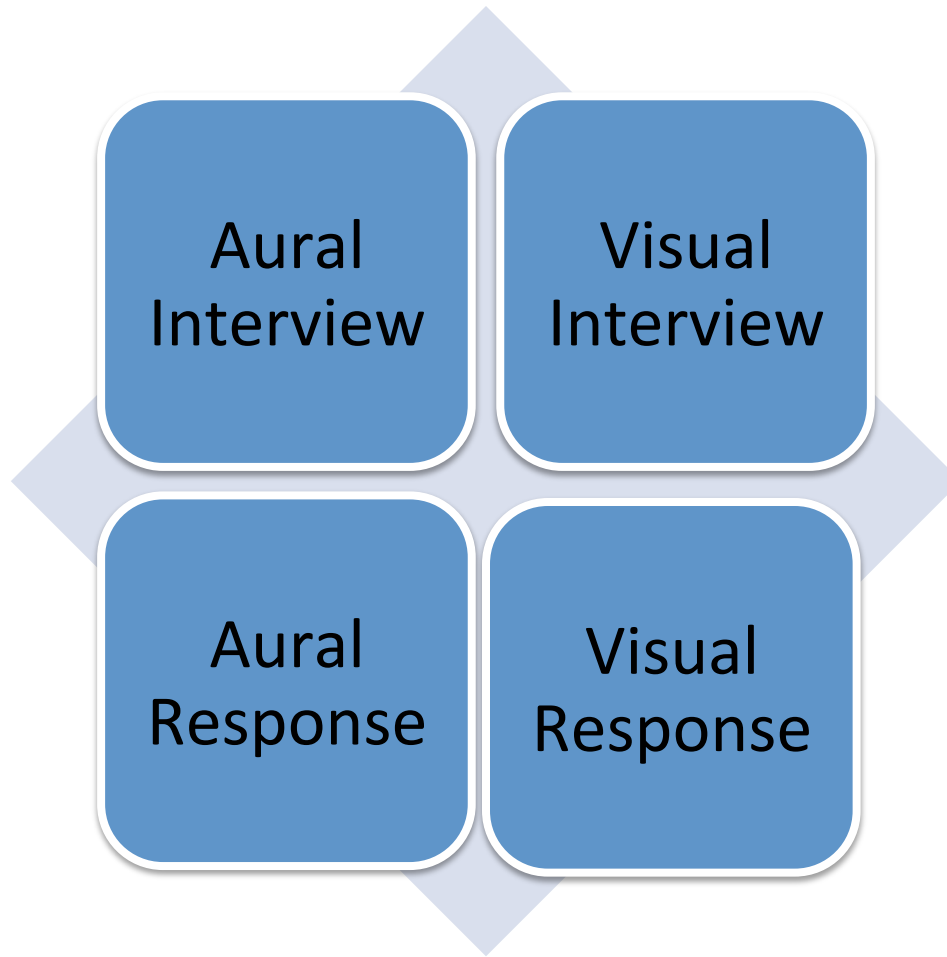
# Traditional Survey Modes

Mode	Sample	Questionnaires
Face-to-Face	<ul style="list-style-type: none"><li>❖ Enumerated by interviewers</li><li>❖ Often sampled at household level</li></ul>	<ul style="list-style-type: none"><li>❖ Interviewer administered in-person</li></ul>
Telephone	<ul style="list-style-type: none"><li>❖ Randomly generated telephone sample</li><li>❖ Landlines and mobile</li><li>❖ Lists of persons with telephone numbers</li></ul>	<ul style="list-style-type: none"><li>❖ Interviewer administered telephone survey</li></ul>
Mail	<ul style="list-style-type: none"><li>❖ Household addresses</li><li>❖ Named persons</li></ul>	<ul style="list-style-type: none"><li>❖ Self-administered paper questionnaire</li></ul>
Internet	<ul style="list-style-type: none"><li>❖ Listed people with e-mail</li></ul>	<ul style="list-style-type: none"><li>❖ Self-administered web questionnaire</li></ul>

# New Technologies

- IVR
- SKYPE
- SMS
- WhatsApp<sup>®</sup>
- Social networks
- Twitter
- Smartphones
- Apps

Large measurement differences between....



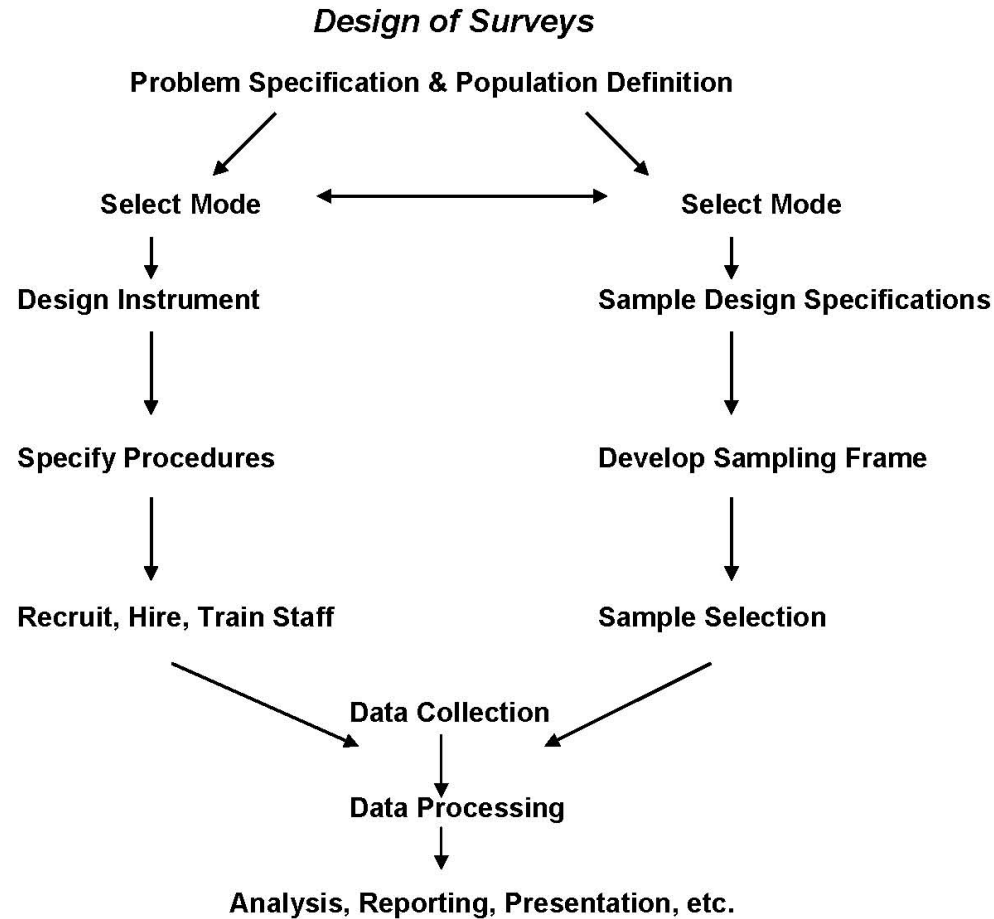
# New Electronic Modes

## 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)

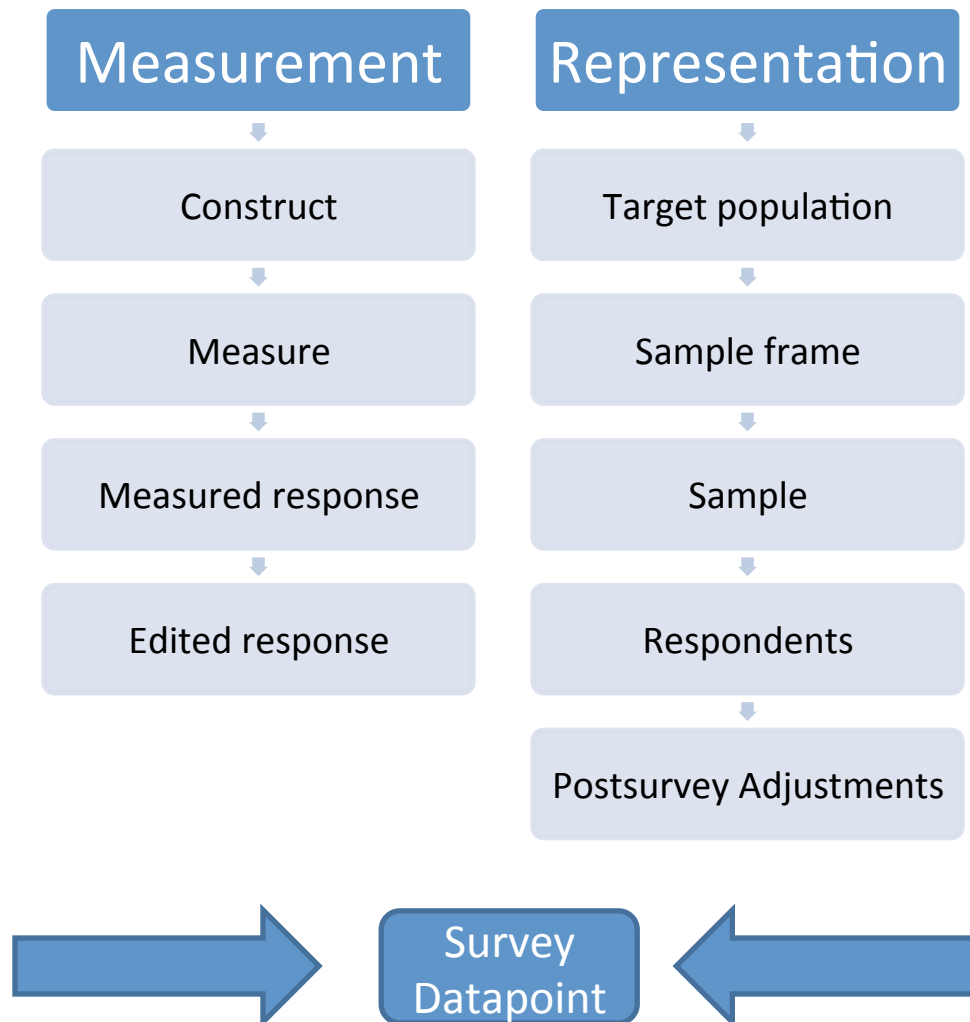
# Dimensions of Approaches

- Level of Interviewer Involvement
- Degree of Human Contact
- Channel of Communication
- Locus of Control
- Degree of Privacy
- Use of Technology



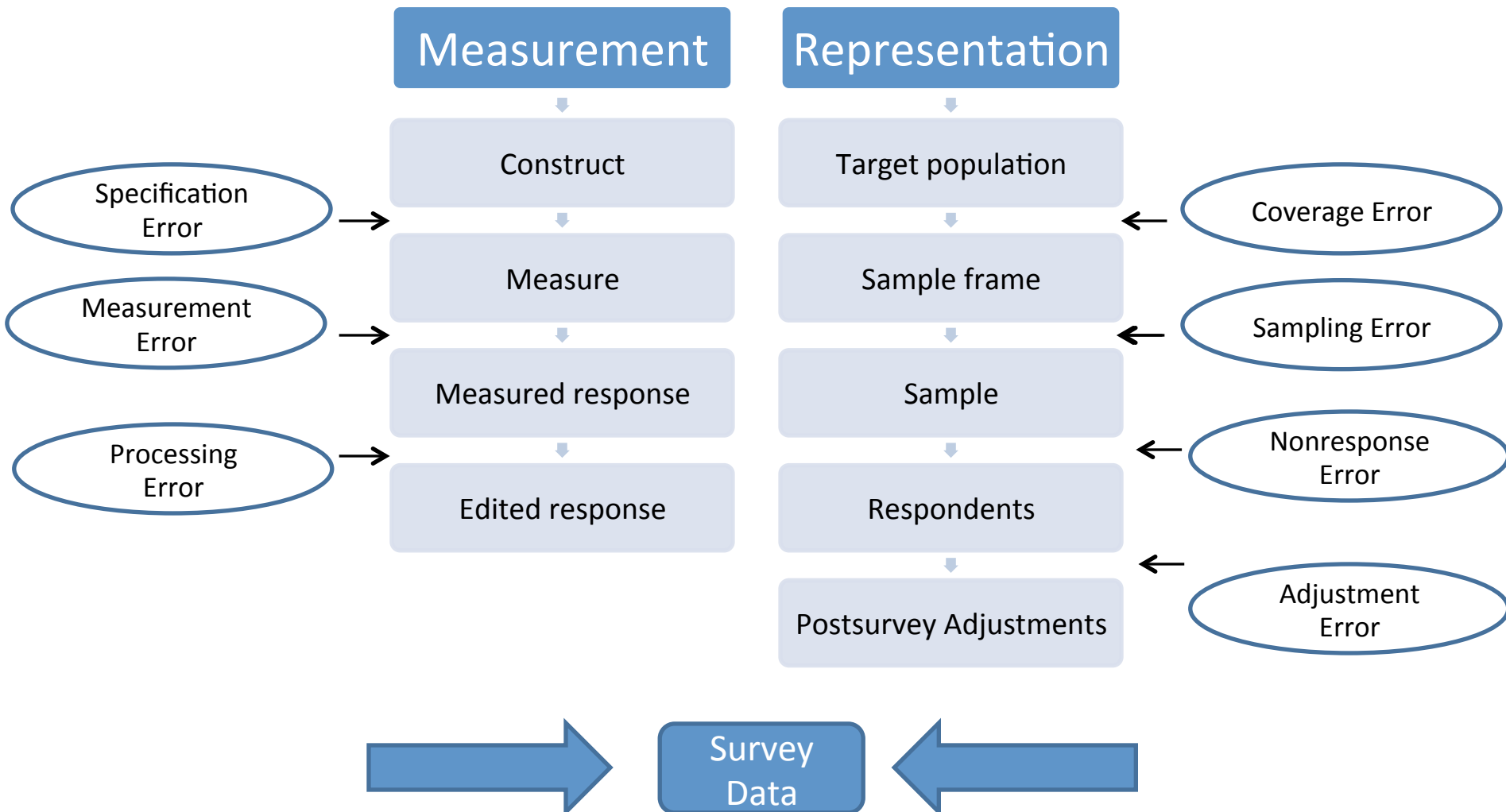
Note: Adapted from Groves (1989)

# What is survey data.....





# What is survey data.....



Thank you for your time...

Chase H. Harrison  
[charrison@gov.harvard.edu](mailto:charrison@gov.harvard.edu)