



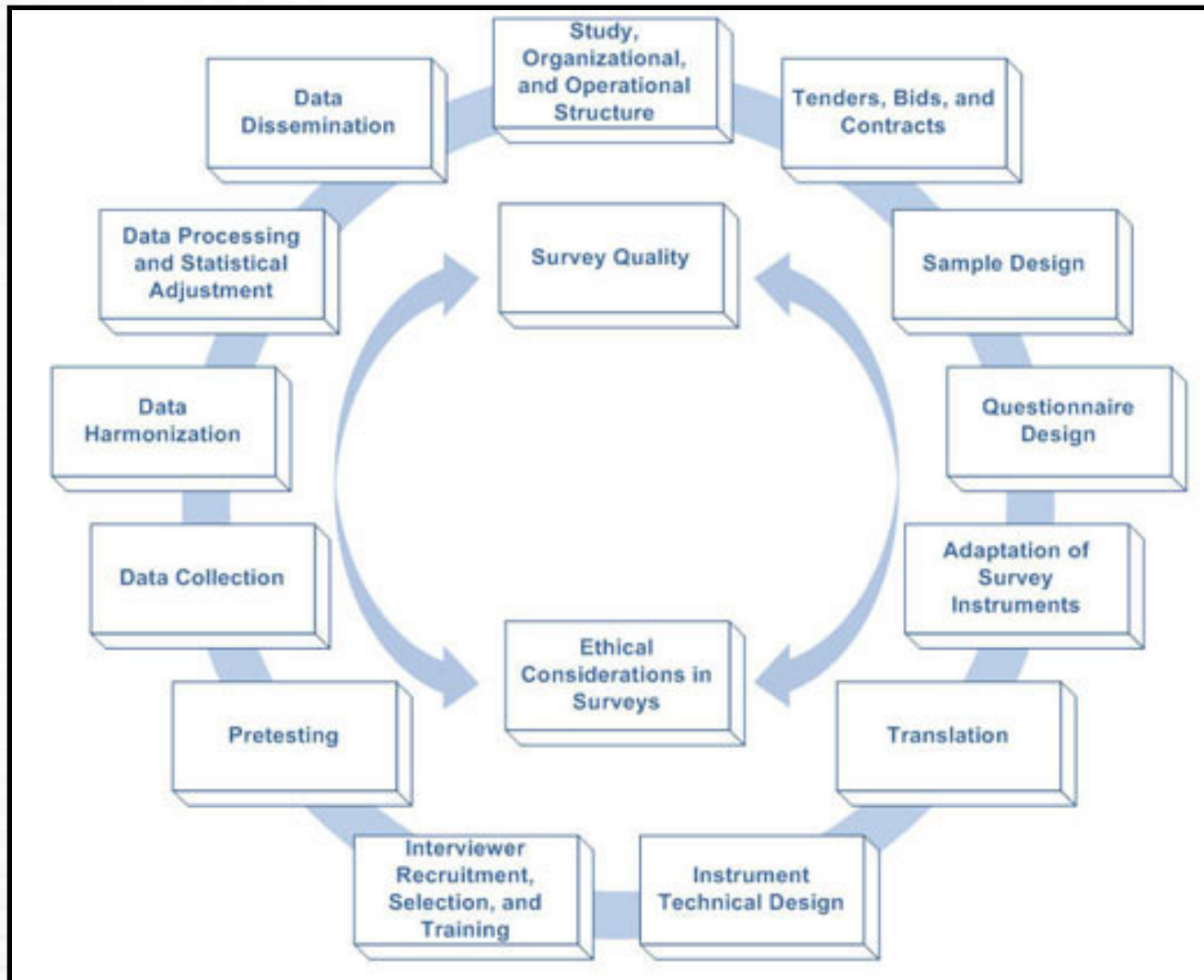
INSTITUTE FOR SOCIAL RESEARCH • SURVEY RESEARCH CENTER
SURVEY RESEARCH OPERATIONS
UNIVERSITY OF MICHIGAN

Social Survey Data Collection Challenges and Trends

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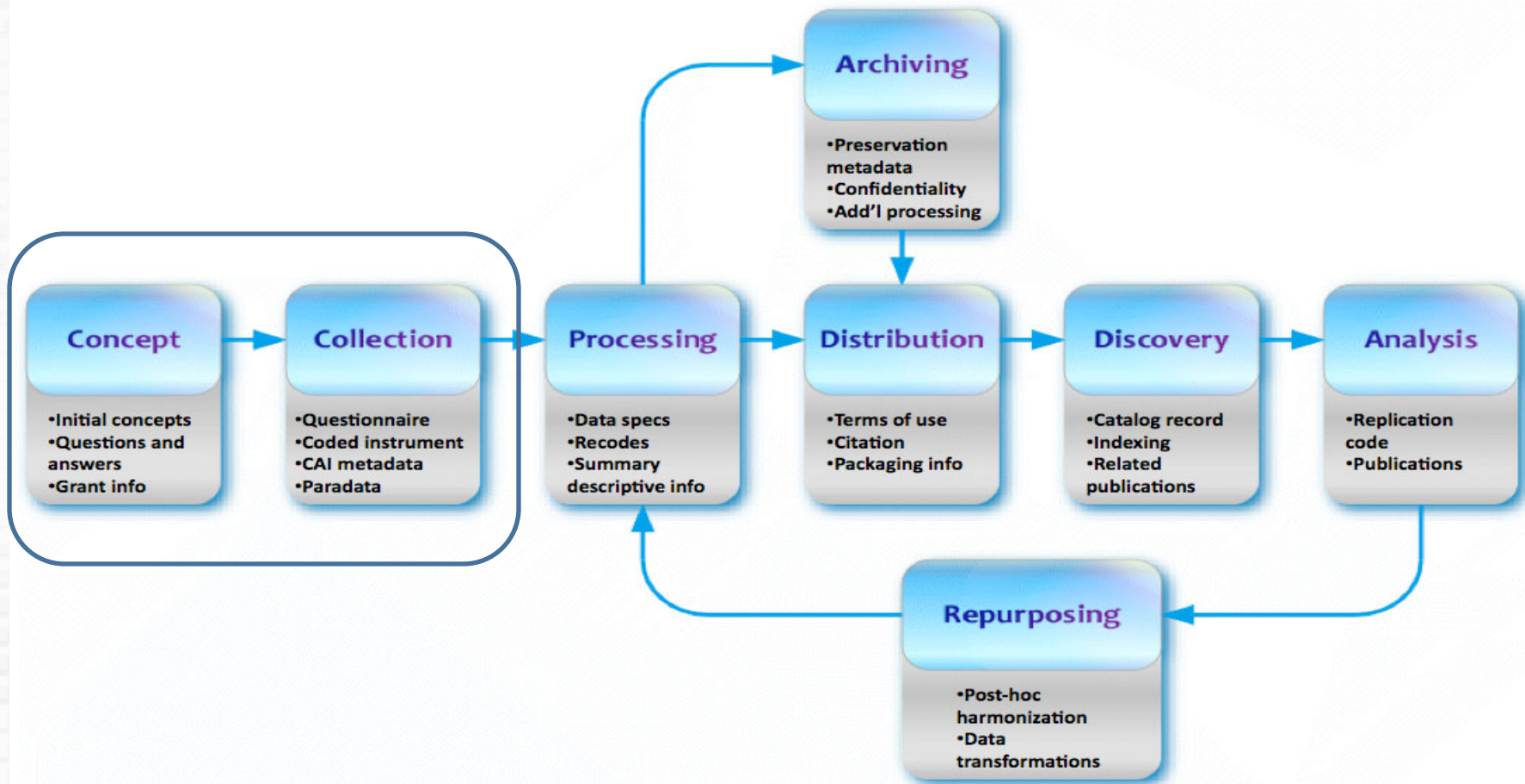
Survey Life Cycle



1. Questionnaire design
2. Questionnaire & SMS programming
3. Interviewer training
4. Field work
5. Data processing; coding
6. Quality assurance
7. Data dissemination



DDI Lifecycle





Agenda

- Questionnaire Design Challenges
- Survey Management Challenges
- “New” Technology Challenges



Agenda

- Questionnaire Design Challenges



Questionnaire Design

- Traditional Q-list questionnaire
- Word memory list
- Event History Calendar
- Computer assisted self-administered interview
- Neurocognitive tests
- Biomarker data collection and Consent form
- Traditional Web surveys
- Classes Room Observation/Coding/Tagging



How large is large? -- Examples

- Ghana Socioeconomic Panel Survey
 - Sample size of 5009 households, with approximately 18,000 individuals
 - Instrument variables ~ 65,000
- China Family Panel Study(CFPS)
 - Sample size: 13,000~ HHs, 50,000 ~ Individuals
 - 7 instruments total of 40,000 variables
- Mental Health Survey(WMHS)
 - 25+ counties and 30+ languages
 - Complex questionnaire design (World Health Organization's Composite International Diagnostic Interview CIDI)

SECTION N: HARVEST- TO BE ASKED OF R1 IN MAIN SURVEY, R2 IN R2 SURVEY

READ: Of course, I'd also like to know about the crops you harvested at the end of the farming season. ELECTRONIC VERSION PRELOADS R1 PLOTS IN MAIN SURVEY, R2 PLOTS IN R2 SURVEY PLOT A to J

N1.1	N1.2	N1.3	N1.4	N1.5	N1.6	N1.7	N1.8	N1.9		N1.10
Plot	Crop Type	Unit of measurement	Have you harvested CROP TYPE from PLOT A?	How many UNIT of CROP TYPE has been harvested from PLOT A?	In which month(s) did you harvest the CROP TYPE from PLOT A?	IF N1.4=2 or 3 How much do you expect to harvest from PLOT A (IF N1.4=2 do not include what has been harvested already)	While still in the field, was any of your CROP TYPE from PLOT A damaged by pests, rotting, or any other reason?	What was the crop lost to?		How much of your crop was lost in total?
	<i>Blaise preloads crop types</i>	UNIT OF MEASURE	1 Yes, fully (no CROP TYPE is remaining on PLOT A)→N1.5 2 Yes, partially (some of CROP TYPE is yet to be harvested from PLOT A)→N1.5 3 No (all of CROP type is yet to be harvested from PLOT A)→N1.7	If there has been more than one harvest from the plot, give the total quantity which has been harvested over the last 12 months	Blaise preloads months	Use units from N1.3	1 Yes 2 No (-> NEXT PAGE)	See codes to the right. Select all which apply.	(If OTHER, please specify.)	Enter Percentage (%)
A	Rice	Bag	1 Yes, fully 2 Yes, partially 3 No				1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Maize	Bag(dried without cobs and processed)	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Millet	Bag	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Sorghum	Bag	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Groundnut	Bag (without shell)	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Soya bean	Bag(without shell)	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Cassava	Bag	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Yam	Bowl (100 tubers)	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Cowpea	Bag	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Okra	Bag	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Pepper	Bag	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Water melon	Bowl	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Mangoes	Box	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Tomato	Box	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Salad Vegetables	Box	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Cotton	Bag (different from maize bag)	1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A	Other		1 Yes, fully 2 Yes, partially 3 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 Yes 2 No	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Codes for N1.9:

- 1 Rotting
- 2 Disease
- 3 Fire
- 4 Flood
- 5 Drought
- 6 Birds
- 7 Insects
- 8 Ants
- 9 Bees
- 10 Cockroaches
- 12 Grasshoppers
- 12 Locust
- 13 Termites
- 14 Caterpillars
- 15 Centipedes
- 16 *Saigu*
- 17 *Pandochirsi*
- 18 *Zunzuya*
- 19 *Tambepeigu*
- 20 Rodents
- 21 Mice
- 22 Rats
- 23 Grasscutters
- 24 Squirrels
- 25 Monkeys
- 26 Sheep
- 27 Goats
- 28 Cattle
- 29 Bandicoot
- 30 Other (SPECIFY)



Blaise 4.8 Data Entry - c:\blproj\ghana_p\work\householdsurvey

Forms Answer Help

HOUSEHOLD SURVEY Person Status Enterprise Status Agriculture

Name	Background	Employment	Education	Migration	Health	Womens Health	Mens Health	Children	Pysch/Social
ADAM K (AK)	Started	Done	Done	Done	Started	---n/a---	Not Started	---n/a---	Not Started
AMINA A (MINA)	Not Started	Not Started	Not Started	Not Started	Not Started	Not Started	---n/a---	---n/a---	Not Started
ABDUL A	Not Started	Not Started	Not Started	Not Started	Not Started	---n/a---	Not Started	---n/a---	Not Started
TANLIDOW A	Not Started	Not Started	Not Started	Not Started	Not Started	---n/a---	---n/a---	Not Started	---n/a---
YUSSIF A	Done	---n/a---	Not Started	---n/a---	Not Started	---n/a---	---n/a---	Not Started	---n/a---
LALATU A	Done	---n/a---	---n/a---	---n/a---	Not Started	---n/a---	---n/a---	Not Started	---n/a---

Blaise 4.8 Data Entry - c:\blproj\ghana_p\work\householdsurvey

Forms Answer Help

HOUSEHOLD SURVEY Person Status Enterprise Status Agriculture

Survey Status

S0Consent Forms

S01A: Consent Done S01B3: Consent for Under 26 Done

Rosters

S01B2: Household Roster Done Person Sections Started
 S04: Plot Roster Done Plot Sections Done
 S05: Non-Farm Enterprise Roster Done Non-Farm Enterprise Sections Not Started

Household Level Sections

S02B: Non-Resident Spouses Not Started S03Ai: Animals Done
 S02A: Non-Resident Relatives Not Started S03Aii: Tools Started
 S10C: Social Networking Started S03Aiii: Durable Goods Started
 S10D: Information Seeking Done S03Bi: Borrowing Not Started
 S11: Household Consumption Not Started S03Bii: Lending Done
 S12: Housing Characteristics Not Started S03Biii: Out-Transfers ---n/a---
 S04NN: Gathering Done S03Biv: In-Transfers ---n/a---
S03Bv: Savings Done



Major Aspects of Design and Implementation

- Questionnaire length
- Question type
- Response options
- Closed vs open-ended
- Use of visuals
- Screen layout
- Progress bar
- Slide bars, drop & drag



PAPI to CAI

- Transition from a well-defined paper & pencil (PAPI) questionnaire to a computer assisted interview (CAI) instrument
 - VERY Complex grid designs
 - No explicit consistency checks
 - Preload previous data collection
 - Question fills
 - Interviewer instructions
 - Question-by-question on-line help
 - Questionnaire translation



Agenda

- Questionnaire design Challenges
- Survey Management Challenges



Survey Data Collection “Mode”

- Computer Assisted Telephone Interview (CATI)
- Computer Assisted Personal Interview (CAPI)
- Computer Assisted Web Interview (CAWI)
- Computer Assisted Self-administrated Interview (CASI)
- Computer Assisted Data Entry (CADE)
- Paper Pencil Survey
- Mail Survey
- Group Administrated Survey (either by paper or by computer)



Survey Management System (SMS)

- Survey Management System differs between modes
- Major Common Functions are:
 - Sample assignment
 - Delivery of sample to interviewers/respondents
 - Launch survey data collection software
 - Administrate sample status and the outcome
 - Send interview data to central database
 - Merge all the individual interviewer's data files to a master data file



Context – Mixed Modes of Collection

“One of the most important challenges to survey researchers is deciding which data collection method or mix of methods is optimal...”

de Leeuw, E. 2005. “To Mix or Not to Mix Data Collection Modes in Surveys.” *Journal of Official Statistics*. Vol. 21. No.2:233-255



Pressures to use Mixed Modes of Collection

- Declining response rates
 - Complex human measurements
 - Increasing effort to collect surveys
 - Increasing burden on respondents
- Management information to inform decision making while fielding a survey; multi-mode or single-mode



Definition: Mixed Mode

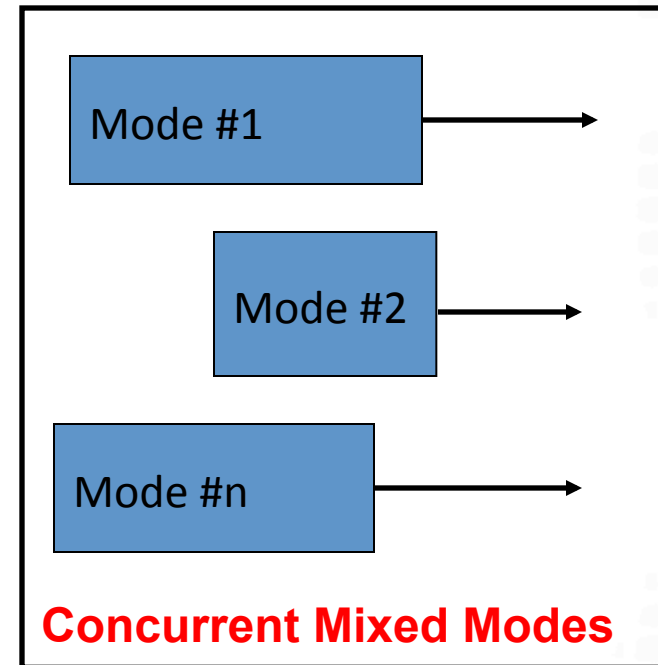
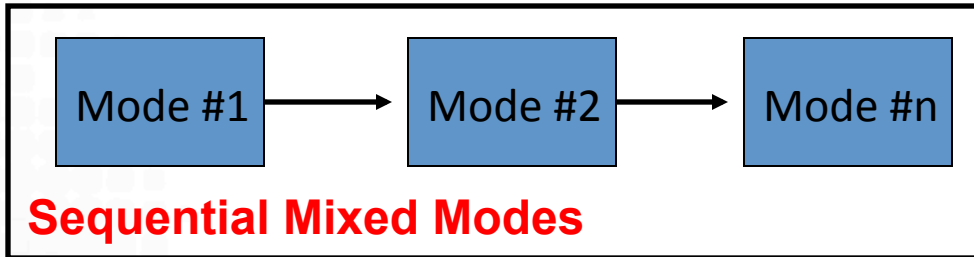
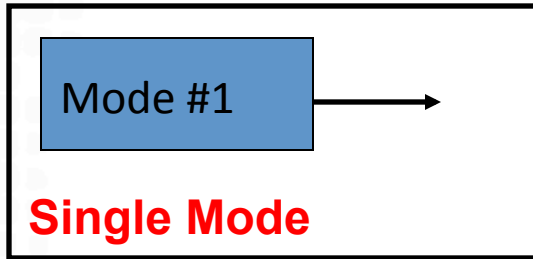
The use of multiple ways to access, obtain self-reports, collect observations, or measure attributes, within the same survey effort.

Mixed-mode designs can use multiple modes concurrently or sequentially on the same and different sample units.



Survey Design Modes Example

Data collection with multiple modes (sequential or concurrent) or single mode:





Mixing Modes

- Data collection often involves trade-off between the stronger and weaker points of each mode and method
- Mixed modes survey are appealing but have risks and inherent issues
 - measurement error
 - cost considerations
 - bias



Survey Management Considerations for Mixed Mode

- Survey Design
 - Multiple sample frames
 - Types of contact and modes
 - Sequence of modes
 - Switching modes
 - Propensity models and responsive design
 - Staffing and resource management
- Sample delivery
 - Parameter/rules-based
 - Often link sample to mode of collection
 - Sample element only available to one 'location' at a time



Agenda

- Questionnaire Design Challenges
- Survey Management Challenges
- **“New” Technology Challenges**





The Trends

- Rising smartphone and internet usage creates a viable mode for survey data collection and needs formal investigation (Buskirk and Andrus, 2012)
- Recent study found 23% respondents completed the internet survey via mobile, even though an attempt was made to redirected Rs (Wells, Bailey, & Link, 2012)
- The Pew Research Center Report (Smith, 2012)
 - Smartphone ownership grew 11% in just nine months to 46%
 - 17% of all adult mobile phone owners mostly access the internet via their device only
 - For 10%, their phone is their only option for online access
 - 31% of American adults own a tablet computer



More bad news than good news

- Optimizing design of web surveys for so many devices, OS versions, and browsers
- Usability of the survey instrument
- Connectivity (and efficiency)
- Mobile app programming
- Survey sample management
- Data transmission and security
- Survey preload and paradata collection
- Quality assurance procedures
- Optimizing other mobile components to enhance data collection
- Methodological implications of using mobile technology



Questions to ask us

- Will off-the-shelf “iCAPI” /”iCollector” type of survey development software provide capability to design effective, tailored instruments?
- Does the depreciation of the mobile devices present a cost-prohibitive driver for expanded use?
- Overcome all the usability's concerns for the field data collectors?



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Activity

22,500 steps taken	22% of goal of 100,000
11 floors climbed	22% of goal of 100
1.06 miles traveled	21% of goal of 100
1,038 calories burned	48% of goal of 2,184
197 active score	21% of goal of 5,000

Daily Step Badge: 25,000 steps / 20,000 steps goal

Daily Climb Badge: 10 floors / 10 floors goal

Today's activity breakdown (excluding sleep)

sedentary 17hrs 50min	active 1hr
light active 3hrs 50min	very active 1hr 20min





Social Media (Twitter, Facebook...)

- Purpose: Service for building & reflecting social connections & communications
- Current some uses in Survey Research:
 - ✓ Locating respondents
 - ✓ Question testing
 - ✓ Focus group recruitment
 - ✓ Study “Groups”
- **“Big Data”** is very hot topic!!!



Final Comments

- Rapid and continuous change: new technologies and new approaches to collect data making dramatic changes in our survey designs (multiple and mixed mode data collection)
- Face some old issues: COVERAGE, SAMPLING, MEASUREMENT ERROR, NONRESPONSE, DIFFERENTIAL NONRESPONSE
- New opportunities & challenges for social survey researchers



Thank you!

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