

Module 5: Computer-Assisted Telephone Interviewing

Video 1 of 3: Module Overview and CATI Overview

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At the End of the Module Participants Should...

- ...know about computer-assisted methods of phone interviewing
- ...learn about how to test a CATI system
- ...be familiar with complementary methods for data collection via mobile phones (such as text messaging)

CATI Overview

Computer-Assisted Telephone Interviewing



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Computer-Assisted Telephone Interviewing (CATI)

- Phone interviewer uses a computer-based instrument rather than a paper instrument
 - Computing device displays questions on the screen
 - Interviewer read them to respondent over the phone and enters respondent's answers directly into the computer
- Commonly used in phone surveys worldwide

Technology Requirements

- Infrastructure at home for decentralized interviewing
 - Electricity
 - Good phone coverage
 - Adequate and stable internet connection
- Equipment
 - Phone with mobile airtime to make calls
 - Headset to enable hands-free calling and improve sound quality
 - Computing device to load CATI survey instrument (tablet or laptop)

Adapted from Amankwah et al. (2020)

Range of Available Software for CATI

- Most programs support data collection in CATI as well as other modes and will work in offline settings
- Examples
 - Survey Solutions: developed by the World Bank
 - Excel spreadsheets formatted for CATI
 - Blaise: developed by Statistics Netherlands
 - SurveyCTO: mobile data collection platform

CATI Software Program: Functions at Two Levels



Management

Interviewing staff

Preloaded Sample Information

- Must include:
 - phone numbers for reaching sample units
 - household identifiers (IDs)
- Potential enhancements:
 - Household information including the household roster
 - Preferred language of household
 - Interviewer who conducted previous survey(s), if a panel survey

Interface for Recording Call Attempts

(1 of 2)

- Should display information necessary to make call:
 - Phone numbers for a household
 - Call history for a household, if available
 - Introductory script

Interface for Recording Call Attempts

(2 of 2)

- Should capture information about the call:
 - When the contact attempt was made
 - Which number was dialed
 - Outcome of the attempt (answered and available, answered but unavailable, no answer, wrong/invalid number, refused, etc. If answered, who answered. If a refusal, why refused.)
 - When to call back (specific date and time or preferred contact times)
 - Notes

Interface for Survey Questions (1 of 2)

- Important components of the computerized instrument:
 - Full questionnaire with data entry fields
 - Scripted introductions to survey and individual survey sections
 - Interviewer instructions and protocols
 - Ability to switch between languages as needed

Interface for Survey Questions (2 of 2)

- Possible for instrument to replicate features of a Web instrument
 - Tools for inputting answers (radio buttons, check boxes, drop boxes, grids)
 - Automated skips
 - Edit checks for data entry errors
 - Tailored introductions and questions
 - Ability to randomize question order, response options, etc.
 - Questions can appear one at a time or in blocks of similar questions

CATI Training

- It is essential that interviewers are trained to use CATI system
- Should address how to use the survey software to:
 - send/receive numbers
 - record call attempt records and notes
 - navigate through the questionnaire
 - enter data
- May cover special circumstances, including:
 - resuming partial interview
 - resolving computer/software technical problems
 - Interruptions in necessary services (power, cellular signal, Internet)

Management



Interviewing staff

Assigning Sample Units

- Sample unit can be assigned to interviewers all at once or on an on-going basis
- Can be done manually by survey management
- Example criteria by which to make assignments
 - Respondent's language or region of origin (as proxy for language)
 - Gender
 - Respondent's expected/known availability
 - Interviewer's availability/workload
 - Previous interviewer for the respondent (if a panel survey)

Adapted from Amankwah et al. (2020)

Call Scheduling

- Calling rules may determine when to call a number
- Example criteria by which to make calling rules
 - delays from the previous call
 - certain times of day or parts of week
 - maximum number of calls
- Simple rules may be easier to implement
 - 3 calls per day at different times, then a day off, then repeat (Suri, 2020)

From the Literature

- ❑ Research from Canada shows that contact rates in CATI surveys are higher in the evenings than during the day, and higher on weekends than weekdays (Laflamme, 2008)

Example Calling Rules

- First call
 - If a household's preferred time is known, call at that time
 - If a respondent's preferred time is not known, call during the optimal time window for a particular locale (e.g., evenings)
- Subsequent calls
 - Wait a fixed amount of time (e.g., 1 day) after non-successful contact before making another call
 - For call #2, call at a different time window than before (e.g., morning)
 - For call #3, call on a different part of the week than before (e.g., weekend)
 - Repeat cycle up to two times (stop after 9 calls)

Advanced Call Scheduling in CATI

- In call centers, computerized systems often deliver sample on an on-going basis
- More advanced rules may be appropriate
 - Use of algorithms to scatter calls across time slots
 - Real-time delivery of a number to call at a specific time based on outcomes of prior contact attempts
 - Assigning priority scores for all numbers based on call histories, for example, assigning a higher priority to households who have received a fewer number of calls

Adapted from Hansen (2008)

Other Advanced Features in CATI Call Centers

- *Auto-dialing* systems to improve calling efficiency
- *Predictive dialing* handles unproductive calls (unanswered numbers) and passes calls to interviewers only when a call connects with a human being
- Automatic assignment of case outcomes based on calling rules (non-contact status after a maximum number of call attempts)

Progress Reports

- Call attempt data and final outcome codes can be analyzed
- Useful for survey management of sample and interviewers
 - When are most successful call attempts being made?
 - Which interviewers have an especially high/low response rate?
 - What are the main reasons that households are not reached?
 - How much of the sample is yet to be called?
- Status reports can be generated at different levels
 - Study: overall metrics across interviewers and households
 - Interviewer: metrics for individual interviewer
 - Household: metrics for individual household

Common Metrics

- Contact attempts: percentage of assignments that have been attempted
- Contact rate: percentage of attempted assignments that resulted in contact with the household
- Conversion rate: percentage of assignments with successful contact that resulted in a completed interview

Practical Tip

- ❑ Consider computing these metrics for different days of the week (weekday vs. weekend), different calling windows (morning, afternoon, evening, night), and computing them over time to examine trends.

Adapted from Amankwah et al. (2020)

Example – Raw Data

Case ID	Call ID	Date	Time	Outcome
10011	1	6/1/2012	3:12 PM	3130
10011	2	6/2/2012	10:34 AM	2111
10011	3	6/5/2012	6:23 PM	1000
10012	1	6/2/2012	11:42 AM	3140
10012	2	6/6/2012	4:31 PM	4700
10013	1	6/1/2012	9:31 AM	4510
10014	1	6/2/2012	10:04 AM	3130
10014	2	6/4/2012	9:42 AM	3130
10014	3	6/5/2012	7:07 PM	3130
10014	4	6/8/2012	5:11 PM	1000

1000 Completed interview
2111 Refusal
3130 No answer
4510 Business, government
office, other organization
4700 No eligible respondent

Source: Kreuter and Olson (2013)

Example CATI Report

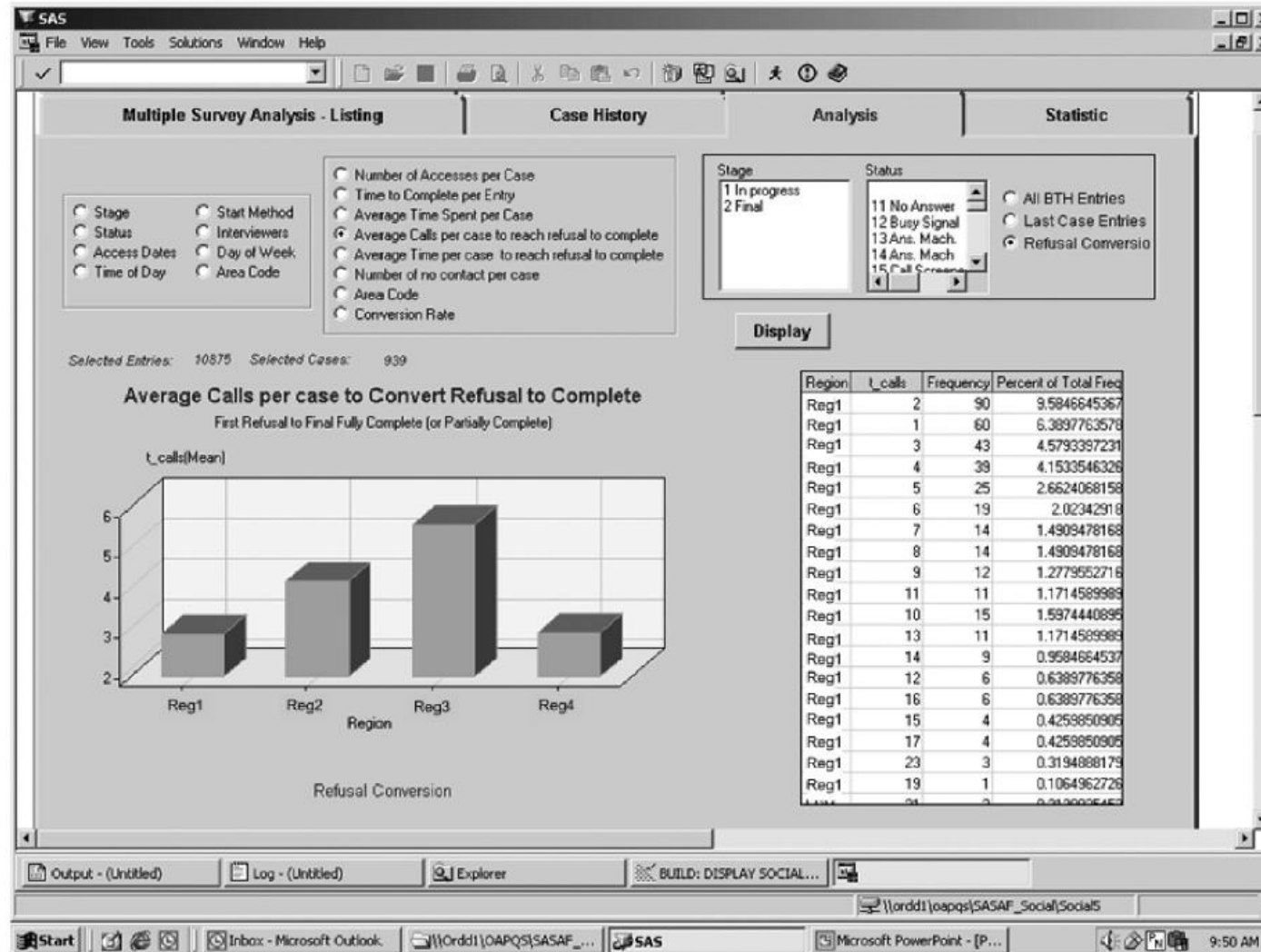


Figure 16.1 Statistics Canada report: average calls per case to convert refusals (by region). Hansen, S.E., *CATI Sample Management Systems*; © Statistics Canada, 2006.

In-Video Exercise

Reflect on the following questions for your own locale:

- What are the optimal time windows for calling?
- What are the optimal parts of the week for calling?
- If these *are not* known, what reports would help you determine this?
- If these *are* known, what are some simple calling rules that could be implemented to guide phone interviewers?

END OF VIDEO 1