

Introduction to Survey Design

- Data collection methods
- PAPI, CATI, CAPI and other methods
- Advantages and Disadvantages

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Data collection methods

Data collection is the process of gathering the required information for each selected unit in the survey.

- Expensive, time consuming, requires extensive resources
- Contributes to the image of the statistical agency
- Has a broad impact on the agency's relevance and on the quality of its data.

Regarding the method of data collection, many decisions must be made

- ✓ Should the questionnaire be administered by an interviewer?
- ✓ Should a combination of methods be used?
- ✓ Should the questionnaire be paper or computer-based?
- ✓ Should administrative data be used to collect some of the survey data?
- ✓ Should data collection for several surveys be combined?

Data collection methods

The method of data collection should be chosen to

- + Achieve high participation rate
- + Collect data as complete and accurate as possible
- + Minimize the response burden
- + Manage budget and operational constraints.

The other factors to consider are:

- Complexity of topic and nature of questions;
- Respondent preference;
- Sampling frame and target population;



The basic methods of data collection are:

- Self-Enumeration (PAPI, CASI)
- Interviewer-assisted (PAPI, CAPI, CATI)

Table 2.2 Taxonomy of Computer Assisted Interviewing methods¹ (de Leeuw and Nicholls, 1996)

Specific method	Computer assisted form
Face-to-face interview	Computer Assisted Personal Interviewing (CAPI)
Telephone interview	Computer Assisted Telephone Interviewing (CATI)
Self-administered form	Computer Assisted Self Interviewing (CASI), Computerized Self-administered Questionnaire (CSAQ)
Postal survey	Disk by Mail (DBM), Electronic Mail Survey (EMS)
Panel survey	Computer Assisted Panel Research (CAPAR), Teleinterview
Interviewer present	Computer Assisted Self Interviewing with Interviewer Present (CASI or CASIIP) Question Text on Screen: Visual (CASI-V) Text on Screen and on Audio (CASI-A)

¹ General name: CADAC (Computer Assisted Data Collection), CASIC (Computer Assisted Survey Information Collection), CAI (Computer Assisted Interviewing).

Source: Quality Guidelines for Official Statistics (2002)

PAPI, CATI, CAPI and other methods

Personal Interviews

The interview is implemented face-to-face with the respondents. (PAPI, CAPI)

Advantages of personal interviews :

- + Often have the highest response rates
- + High success rate to convert refusals
- + Interviewers may inspire confidence to respondents
- + Enable to make direct observations
- + Longer interviews than telephone

Disadvantages of personal interviews :

- Usually the most expensive method
- Difficult to find respondents at home or work
- Challenges for employing qualified interviewers
- Potential interviewer bias

PAPI, CATI, CAPI and other methods

Telephone Interviews

Interviewer assists the respondent by telephone. (PAPI, CATI)

Advantages of telephone interviews :

- + Are usually cheaper than personal interviews.
- + May be used for sensitive questions
- + Quality control of interviewing process may be implemented
- + Call-backs for people "not answering"



Disadvantages of telephone interviews :

- Restrictions for complexity and the number of questions
- Non-response may be higher than personal interviews
- Potential bias because of frame imperfections about phone numbers
- Confidentiality may be a problem

Computer-Assisted Data Collection

PAPI is still sometimes used, however it is more common to implement computer-assisted methods.

Advantages of **paper based** methods:

- + Are cheaper
- + Require less time to get ready

Disadvantages of **paper based** methods:

- Require one more step as data entry process
- The questionnaire should not have complicated skip patterns
- Confidentiality of the questionnaire forms

Computer-Assisted Data Collection

Computer-assisted methods have the main advantage of data collection and data entry simultaneously.

Advantages of **computer-assisted** methods:

- + Easier to monitor and control the quality of the data
- + Take advantage of automatic editing
- + Questionnaire may be more complex
- + Reduce response error for panel surveys

Disadvantages of methods:

- Require extensive and costly development work
- Basic knowledge of software application
- Confidentiality of respondent data
- Technical difficulties and problems



Other methods of data collection

- Direct observation
- Electronic Data Reporting
- Administrative Data
- Combining Methods



Question

What is the most used data collection method in your Statistical Office?

- | | |
|-----------------------------------|---|
| • PAPI (Face-to-Face) | 1 |
| • PAPI (Telephone) | 2 |
| • CAPI | 3 |
| • CATI | 4 |
| • Postal Survey | 5 |
| • Other (Please write the method) | 6 |

Operational process of data collection

Data collection process must be organized efficiently since it has the greatest cost in the survey..

Main components of the operational process and actions should be made

- ✓ Gain respondent co-operation (Good public relations get better reputation)
- ✓ Work with qualified interviewers
- ✓ Organization of the head and regional offices
- ✓ Preparation of data collection procedures
- ✓ Conducting interviews
- ✓ Monitoring quality and performance

References

Franklin, S., & Walker, C. (2010). Survey methods and practices. Statistics Canada. *Social Survey Methods Division, Ottawa*. (Originally published in October 2003)

Laiho, J., & Hietaniemi, L. (2002). Quality Guidelines for Official Statistics. Statistics Finland.