

Comparing Qualitative and Quantitative Methods

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Steffen Niemann, M.A., Research Associate
s.niemann@bfu.ch – www.bfu.ch

Contents

- Some remarks on the relation of qualitative and quantitative methods: overcoming a needless discussion?
- Focus groups
- Surveys by questionnaire and questionnaire design
- Computer assistance in survey research
- Software for qualitative and quantitative research

Qualitative and quantitative research methods...

Number validators

VS.

Alpha defenders

Example from German Sociology...

- In 2003 the section „Qualitative methods in Social Research” was founded in the German Sociological Association
- The chairman and some members of the section “Methods in Social Research” tried to prevent the founding by any means
- Until today, cooperation of both sections is out of question

Qualitative research

- Hermeneutics
- Content analysis
- Grounded Theory

➔ Understanding (and not explaining) behaviour

Grounded theory...

- Is not a theory, its a method to generate theories...
- Founded in 1967
- Grounded theory is the systematic generation of theory from systematic research (Grounded Theory Institute).

Conducting a grounded theory study

- Methods:
 - Sampling of units, theoretical, purposive
 - Observation, conversation and interviews
 - Coding, transcription, comparing data and linking data to theory at the same time
 - Building up categories of theoretical propositions (memoing)
 - Iterate
 - Sorting and writing up

Comparison of both methods

Criteria	Qualitative approach	Quantitative approach
Purpose	Understanding and interpretation	Test hypothesis, cause and effect, prediction
Sampling	Small	Large
Sampling methods	Purposive/theoretical sampling	Random sampling
Type of data	Words, images, objects	Number and statistics
Data analysis	Pattern identification	Statistical relationships
Results	Specialised findings	Estimation to populations
Method	Exploratory	Confirmatory
Final report	Narrative report	Statistical report

The best known approach in qualitative research:

- Focus-groups
 - Widely used in market research
 - Definition: a group of individuals selected and assembled by researchers to discuss and comment on, from personal experience, the topic that is the subject of the research (Powell, 1996)
 - “Organised discussion” with 4 to 10 people (theoretical sampled) and a researcher
 - Preparation: only few questions on the research topic
 - Main goal: insight and data produced by the interaction between participants

Focus groups...

- can be used at every stage of research
- can be used in combination with other methods or exclusive
- can be used to generate hypotheses, to develop questionnaires (identify the use of language, cultural aspects, values and beliefs of target groups)

Focus groups

- The role of the moderator is critical: he must...
 - provide clear information on the purpose of discussion
 - help people feeling comfortable
 - support discussion of group members
- The discussion will be recorded (sound/video)
- Recordings will be transcribed and analysed by the means of qualitative research

- Results of focus groups can not be generalised to populations

Questionnaire modes

- Face to face interviews
- Telephone survey
- Self-administered survey (incl. web- and mail-surveys)

The concept of representativeness

- What does “representativeness” mean?

Questionnaire design (1)

- “Ice-breaker” and warm-up questions: easy to answer and of interest to respondent
- “Sensitive questions” near the end (but not as last question)
- Group questions by topic
- Order questions so that a response already made will not influence the response to a question yet to be asked.
- Use already-developed questions with known reliability and validity (if available)

Questionnaire design (2)

- Avoid questions that have a “right” answer
- Avoid multiple or double-barreled questions
- Keep questions brief
- Use simple terms (avoid “scientific” language)
- Avoid ambiguous or value-laden words
- Response options must be mutually exclusive
- Response options must be exhaustive

Questionnaire design (3)

- include “Don’t know” and “Refused” as response options
- Limit the number of response options
- Scale response options to create equal distribution of responses
- Include only questions serving your research questions

Pre-test!

- Always pre-test new questions
- If necessary, more than one pilot
- Test the entire questionnaire

Surveys with computer assistance: CASIC

- **CASIC**

Computer Assisted Survey Information Collection

CATI

Computer-Assisted Telephone Interviewing

CAPI

Computer-Assisted Personal Interviewing

CASI

Computer-Assisted Self Interviewing

CASI Computer-Assisted Self Interviewing

- **Including:**
 - PDE (Prepared Data Entry) Respondents use a PC or terminal themselves to fill out interactively the survey questionnaire
 - TDE (Touchtone Data Entry) Respondents answer computer generated questions by pressing buttons on a telephone
 - VRE (Voice Recognition Entry) Respondents answer questions by speaking directly into a telephone

CATI Computer-Assisted Telephone Interviewing

- Interviewers generally cluster at one or more central locations and contact telephone respondents, Interviewer reads questions displayed by a computer, and enters the answers into the computer.

CAPI Computer-Assisted Personal Interviewing

- Interviewers go to the respondents home or offices with a laptop PC and read the questions from, and record the answers into the computer.

Advantages of computer assisted interviewing (1)

- Routing controlled by the computer
- More complex questionnaires possible
- Questions cannot be skipped inadvertently
- Out-of-range responses are eliminated
- Customized wordings possible
- Visual aids incorporated into the instrument

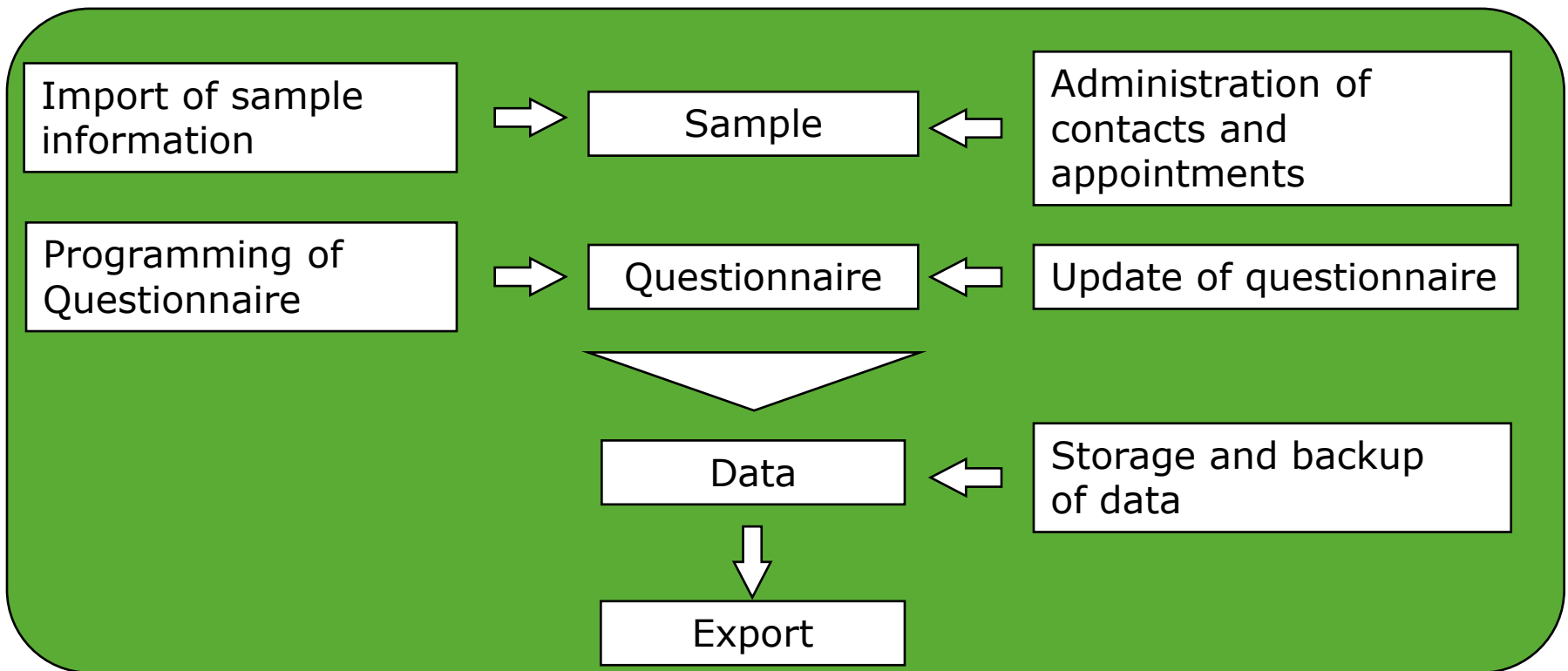
Advantages of computer assisted interviewing (2)

- Integration of databases (ICD, ISCO)
- Multiple languages
- Support for random sampling procedures (RDD, Kish-Grid)
- Support for stratification
- Sample and appointment administration
- Monitoring of fieldwork (response rate/interviewer productivity/
data)

Features of a CATI system

Preparation

Fieldwork



Data analysis

Comparison of methods (1)

	Postal	Face-to-face	Telephone	Web
Response rate				
Refusals				
Two stage sampling				
Open-ended questions				
Sensitive questions				
Complex questions				
Use of scales				

Comparison of methods (2)

	Postal	Face-to-face	Telephone	Web
Interview length				
Supervision of interviewers				
Human resources				
Time resources				
Costs				

Which method is best?

- Depending on study design (definition of population) and research topics
- “mixing Methods”: combination of different modes
 - CATI-survey with covering letter
 - Postal survey with initial telephone call
 - CATI with TDE for sensitive questions
 - Mixing web-, postal- and telephone interviews
- TDM: Tailored Design Method (Don Dillman)

Requirements for qualitative research software

- Handling of large text-, sound-, image-, and video-files
- Handling of different file types (doc, rtf, pdf, wma, wav, mpg...)
- Multilingual capabilities
- Transcription, annotation, grouping, visualisation, retrieval...

Software packages for qualitative research



Software packages for quantitative research



Comparison of some statistical packages

	SPSS	SAS	STATA	R
OS support	Windows, Mac OS, Linux	Windows, Linux, other	Windows, Mac OS, Linux, other	Windows, Mac OS, Linux, other
USD	1 600 per module	6 000	1 500	Free
Time series	+	+++	+++	+++
Tables/graphs	++/-	+++/>+++	-/>+++	++/>++
GUI-driven analysis	+++	++	+	-
Syntax driven analysis	+	+++	+++	+++