The use of Behavior Coding to Analyze Response Quality in Establishment Surveys

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What determines response quality?

individual respondent

_____   **= Response Quality**

Interview situation

What determines response quality?

individual respondent

$$\frac{\textit{Motivation * Ability}}{\textit{Task Difficulty}}$$

Interview situation

= **Response Quality,**
*i.e. Optimizing
instead of Satisficing*

What determines response quality?

Establishment's informant
individual respondent

= *Response Quality*

Interview situation
Establishment situation

What determines response quality?

Establishment's informant
individual respondent

→ *Inf. needs to be capable (knowing)
and authorized to access, to publish*

$$\frac{Motivation \ * \ (Ability + Capacity + Authority)}{Task \ Difficulty \ of \ items \ and \ tools}$$

Interview situation
Establishment situation

= **Response Quality,**
*i.e. Optimizing
instead of Satisficing*

→ *Tools need to be
available, accessible, accurate*

- Three extensions of the Satisficing-Model:

$$\frac{Motivation * (Ability+Capacity+Authority)}{Task\ Difficulty\ of\ items\ and\ tools} + tools = Response\ Quality$$

individual action

External to
individual action

What follows?

- *Methodological design* is needed that allows to observe: Motivation, Capacity, Authority, and Tools

- *Hypotheses* can be derived about the influences of organization and informant characteristics on these factors, such as:

  1. Establishm. size (+) → task difficulty → more use of tools and knowledge problems

  2. Informant's tenure (+) → capacity → less use of tools and knowledge problems

Behavior Coding

- Observing the response process in detail

- behaviors shown according to one question-answer-sequence are coded
  - Examples: I reads question exactly as scripted, probes neutrally or suggestively; R responds adequatly or requests clarification

- Stats: prevalence rates, correlations

- Reason behind: departures from the standardized interviewing rules are considered problematic

Behavior Coding – Data

- Coding scheme, 37 codes
    - interviewer codes: question reading, responding, repairing, commenting
    - respondent codes: reacting to the question (comprehension, **knowledge**, authority, sensitivity), responding (commenting, **use of tools**)

- 31 audio-recorded interviews of the establishment survey SOEP-LEE (f2f, 2012/2013, N=1708)

→ *So far: **11 items** (of 145) have been coded*

no. of behaviors showing quality problems

Behavior Codes	% of question-answer-sequences
I: minor/major meaning change in question reading	31% (100 of 325)
I: Not probed neutrally	13% (42 of 325)
R: did not respond directly, showed other behaviors	37% (120 of 325)
R: Inadequate or Invalid response *without* (neutral) repair	6% (21 of 325)
R: knowledge or comprehension issues *without* (neutral) repair	8% (27 of 325)

Data: SOEP-LEE 2012/2013, N=31 audio-recorded interviews, 10/11 sequences per interview (one item was filtered)

no. of knowledge and tools related behaviors

Behavior Codes	% of Q-A-sequence	at least one event per interview
R: qualified responses	11% (35 of 325)	19 of 31
R: additional comments	19% (63 of 325)	24 of 31
R: Knowledge issue	11% (34 of 325)	18 of 31
Tools:		
R: use of external sources (records, colleagues)	3% (9 of 325)	6 of 31
More than one respondent present during the f2f interview	10% (33 of 325)	3 of 31

Data: SOEP-LEE 2012/2013, N=31 audio-recorded interviews, 10/11 sequences per interview (one item was filtered)

bi- and multivariate results

- It was expected:
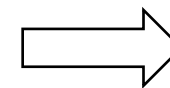 - Establishment's size (+) → more use of tools, knowledge problems
  - Informant's tenure (+) → less use of tools, knowledge problems

- Findings so far:

	use of tools	knowledge issues
directions	size ✓ tenure ✓	size ✓ tenure ✓
significance	size ✓ tenure no	size ✓ tenure ✓

Departure from the standardized interviewing

Low capacity

⇒ **Low response quality**

Discussion and Outlook

- BC as a tool to observe the response process, but
  - statistical analysis possibilities depend on number of observations
  - interpretation of prevalence rates as quality criteria depend on expert's opinion, only

- Next steps:
  - Coding more sequences, multilevel analysis
  - doing qualitative analysis
  - combining with other types of data
    - interviewer debriefings, editing information, raw data

thank you very much for your attention

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Backup

items

- age
- independency Status (branch, headquarter, franchise, …)
- unit's sovereignity in/of hiring decisions (filter)
- unit's sovereignity of income policies/wage policies (filter)
- no. of departments
- last year's change in demand (increase, stability, decrease)
- turnover
- job vacancies last year
- last year's change in employment (increase, stability, decrease)
- no. of hierarchy levels

sample

sumrwiss

		Freq.	Percent	Valid	Cum.
Valid	0	13	41.94	41.94	41.94
	1	9	29.03	29.03	70.97
	2	4	12.90	12.90	83.87
	3	3	9.68	9.68	93.55
	4	1	3.23	3.23	96.77
	5	1	3.23	3.23	100.00
	Total	31	100.00	100.00	

tenure

		Freq.	Percent	Valid	Cum.
Valid	1	2	6.45	6.45	6.45
	2	4	12.90	12.90	19.35
	3	5	16.13	16.13	35.48
	4	8	25.81	25.81	61.29
	5	12	38.71	38.71	100.00
	Total	31	100.00	100.00	

kmg

		Freq.	Percent	Valid	Cum.
Valid	1 klein	12	38.71	38.71	38.71
	2 mittel	14	45.16	45.16	83.87
	3 gross	5	16.13	16.13	100.00
	Total	31	100.00	100.00	

suminfdritt

		Freq.	Percent	Valid	Cum.
Valid	0	25	80.65	80.65	80.65
	1	6	19.35	19.35	100.00
	Total	31	100.00	100.00	

sample

esize — Establishment size(categorial)

		Freq.	Percent	Valid	Cum.
Valid	1 1-5	1	3.23	3.23	3.23
	2 6-9	3	9.68	9.68	12.90
	3 10-19	2	6.45	6.45	19.35
	4 20-49	6	19.35	19.35	38.71
	5 50-99	5	16.13	16.13	54.84
	6 100 - 199	5	16.13	16.13	70.97
	7 200-249	1	3.23	3.23	74.19
	8 250-499	3	9.68	9.68	83.87
	9 500 und mehr	5	16.13	16.13	100.00
	Total	31	100.00	100.00	

e57 — beschäftigungsdauer in diesem betrieb in jahren

		Freq.	Percent	Valid	Cum.
Valid	.5	1	3.23	3.23	3.23
	1	1	3.23	3.23	6.45
	2	1	3.23	3.23	9.68
	3	2	6.45	6.45	16.13
	4	1	3.23	3.23	19.35
	5	3	9.68	9.68	29.03
	7	1	3.23	3.23	32.26
	8	1	3.23	3.23	35.48
	10	1	3.23	3.23	38.71
	11	1	3.23	3.23	41.94
	13	4	12.90	12.90	54.84
	16	2	6.45	6.45	61.29
	20	2	6.45	6.45	67.74
	21	1	3.23	3.23	70.97
	25	2	6.45	6.45	77.42
	26	1	3.23	3.23	80.65
	27	1	3.23	3.23	83.87
	30	1	3.23	3.23	87.10
	32	1	3.23	3.23	90.32
	33	1	3.23	3.23	93.55
	36	1	3.23	3.23	96.77
	40	1	3.23	3.23	100.00
	Total	31	100.00	100.00	

regression model: knowledge

Source	SS	df	MS
Model	15.6887807	2	7.84439035
Residual	37.7950903	28	1.34982465
Total	53.483871	30	1.7827957

Number of obs = 31
F(2, 28) = 5.81
Prob > F = 0.0077
R-squared = 0.2933
Adj R-squared = 0.2429
Root MSE = 1.1618

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tenure	-.3534556	.1678626	-2.11	0.044	-.6973066	-.0096046
esize	.2742794	.0911659	3.01	0.005	.0875345	.4610242
_cons	.9766249	.7611751	1.28	0.210	-.5825716	2.535821