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The design and testing of questions for mixed-mode surveys: Lessons learned and considerations for the future

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Britain's leading independent social research institute



Presentation outline

- Mode terminology
- Why Mixed Modes
- Questionnaire design and testing for Mixed Modes
- A worked example
- Some lessons learned
- What next?

Defining 'Mixed Modes'

- 'Mode' refers to approach used to contact Rs or obtain survey data (F-2-F, Mail S/C, Telephone or Web)
- 'Mixed-mode' (also) used to refer to using one or more mode, in a survey, to collect **different** sorts of data from the same person
- 'Mixed-Mode' (or Multi/multiple mode): using one or more mode to collect the **same** data from different people



Advantages

- Tailor mode to specific populations
- Increase coverage
- Decrease cost
- Offering different modes can increase response:
 - Concurrent
 - Sequential

Disadvantages

- Measurement error
- Mode suitability for certain surveys/types of questions
- Even when using the same question wording, mode effects lead to different answers



Mode differences in surveys

1. The presence of a person (the interviewer):
 - Social desirability bias
 - Acquiescence bias
2. Different senses involved:
 - Self administered stimulus are visual
 - Interviewer Administered stimulus is aural
3. Control of question stimulus:
 - Primary and Recency effects
 - Non-differentiation

Mode effects likely to vary by type of question

Achieving equivalence when mixing modes

1. Mode Specific Design:
 - Optimise Q design in each separate mode
2. Unified Mode Design/ Uni-mode design:
 - Design Qs so that same stimulus exists in all modes
3. Generalised Mode Design:
 - Design Qs to be different in different modes while achieving cognitive equivalence of the perceived stimulus

Cognitive testing for mixed mode surveys

- Cognitive interviews in face-to-face settings
- “Communicative flexibility” (Beatty & Schechter, 1994) is greatest in F-2-F
- Appropriateness for Mixed Modes?
- Beatty & Schechter found ‘mode mimicking’ to be effective approach

Developing questionnaires for a Business survey tool-kit

- Department for Transport (DfT)
- Business' attitudes towards transport polices
- Three survey tool-kits for Local Authorities:
 - Transport
 - Congestion
 - Environment
- 'Open-minded' approach to data collection mode to allow flexibility of use
- Uni-modal questions
- Cognitive testing phases explored mode

What we did

- Phase 1: Interviewer Administered (IA)
 - Telephone survey/Face-2-face modes
- Phase 2: Self Completion (SC)
 - Paper self completion/Web survey modes
- For consistency, we:
 - Conducted equal number of interviews in each phase/mode
 - Tested the same questions in each mode
 - Provided interviewers with the same **scripted probes**
 - Briefed interviewers to **probe concurrently**



Cognitive phase assumptions

- Comprehension, recall, judgement and response problems would exist in both modes
- Most appropriate mode(s) would be identified
- We were 'testing' a telephone survey
- We were 'testing' a web self completion survey



Example 1

Interviewer Administered (IA)

In which of the following ways has congestion impacted upon (your business/this site) in the last 12 months? ...READ OUT AND PAUSE AFTER EACH OPTION...

CODE ALL THAT APPLY:

- 1 Loss of staff time (e.g. due to staff arriving late for work or meetings)?
- 2 Loss of staff time due to staff arriving too early for meetings/appointments etc?
- 3 Decreased business activity and profit?
- 4 Increased business activity and profit?
- 5 Late deliveries/distribution?
- 6 Failed deliveries/distribution?
- 7 Loss of business as a result of failed deliveries?
- 8 Unreliable journey times for customers?
- 9 Increased levels of stress amongst staff?
- 10 Customer difficulty getting to business premises?
- 11 Impact on staff health/sick leave levels?
- 12 Decrease in customer satisfaction?
- 13 Increase in customer satisfaction?
- 14 Other ways (please specify)?

Self Completion (SC)

Q6

In which of the following ways has congestion impacted upon this site in the last 12 months?

Tick one box on each line

	Yes	No
Loss of staff time (e.g. due to staff arriving late for work or meetings)	<input type="checkbox"/>	<input type="checkbox"/>
Loss of staff time due to staff arriving too early for meetings/appointments etc	<input type="checkbox"/>	<input type="checkbox"/>
Decreased business activity and profit	<input type="checkbox"/>	<input type="checkbox"/>
Increased business activity and profit	<input type="checkbox"/>	<input type="checkbox"/>
Late deliveries/distribution	<input type="checkbox"/>	<input type="checkbox"/>
Failed deliveries/distribution	<input type="checkbox"/>	<input type="checkbox"/>
Loss of business as a result of failed deliveries	<input type="checkbox"/>	<input type="checkbox"/>
Unreliable journey times for customers	<input type="checkbox"/>	<input type="checkbox"/>
Increased levels of stress amongst staff	<input type="checkbox"/>	<input type="checkbox"/>
Customer difficulty getting to business premises	<input type="checkbox"/>	<input type="checkbox"/>
Impact on staff health/sick leave levels	<input type="checkbox"/>	<input type="checkbox"/>
Decrease in customer satisfaction	<input type="checkbox"/>	<input type="checkbox"/>
Increase in customer satisfaction	<input type="checkbox"/>	<input type="checkbox"/>
Any other ways (PLEASE WRITE IN BELOW)	<input type="checkbox"/>	<input type="checkbox"/>

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THE WORDING OF THE TWO QUESTIONS IS SLIGHTLY DIFFERENT- NO MENTION OF 'THIS SITE' IN SELF COMPLETION? ARE THE LINES IN SELF-COMPLETION AS THEY WERE? WAS THERE A RATIONALE FOR THEIR SPACING?

DID YOU USE NO SHOWCARD SO THAT F 2 F AND TELEPHONE WOULD BE MORE SIMILAR? THIS MAKES f 2 f AND SELF COMP MORE DIFFERENT – SELF COMP CAN SEE ALL THE OPTIONS BEFORE THEY HAVE TO GIVE AN ANSWER.

mblake; 08.05.2009

Findings: Example 1

Both modes (IA & SC):

- Knowledge was not always available
- Use of positive and negative options confused Rs
- Confusing question wording
- Reference period not always considered

Interviewer Administered (IA):

- Too many answer options

Self completion (SC):

- Nowhere to record 'don't know'
- Inconsistent use of Yes/No answer boxes
- Possible primacy effect

Example 2

Interviewer Administered (IA)

Q1
Which of the following transport practices apply to your business? Do you... READ OUT AND PAUSE AFTER EACH ONE...

CODE ALL THAT APPLY:

- 1 Own a fleet of vehicles (cars/vans)?
- 2 Hire or lease vehicles (cars/vehicles)?
- 3 Have employees who use their own vehicles for business use?
- 4 Have your own road freight operations?
- 5 Or do you have none of the above?

Self Completion (SC)

Q1

Which of the following transport practices apply to your business?

Tick one box on each line

	Yes	No
Own a fleet of vehicles (cars/vans)	<input type="checkbox"/>	<input type="checkbox"/>
Hire or lease vehicles (cars/vehicles)	<input type="checkbox"/>	<input type="checkbox"/>
Have employees who use their own vehicles for business use	<input type="checkbox"/>	<input type="checkbox"/>
Have your own road freight operations	<input type="checkbox"/>	<input type="checkbox"/>

Have none of the above

Findings: Example 2

Both modes (IA & SC):

- No major difficulties detected
- Confusion over what to include/exclude at certain answer options

Interviewer Administered (IA):

- No mode problems found

Self completion (SC):

- Forced choice didn't always work as intended

Other issues highlighted

- Ranking tasks impossible in IA mode
- Routing problematic in SC mode
- Long lists of answer options difficult in IA mode
- Forced choice Yes/No format not always appropriate in SC mode
- Greatest preference for face-to-face and web survey
- Lowest preference for Telephone survey

Which mode?

	Face-to-face	Telephone	Postal	Web
Response rates	Fair	Fair	Poor	Poor
Cost	Most expensive	Fair	Low	Lowest
Length of survey	Up to 30 minutes - possibly longer	Up to 20 minutes – ideally 10-15minutes	Short as possible – under 10minutes	Short as possible – under 10minutes
Routing complexity	Can be very complex with CAI	Can be very complex with CAI	Simple only	Can be very complex with CAI
Showcards/list of visible responses	Yes	No	Yes	Yes

Lessons learned

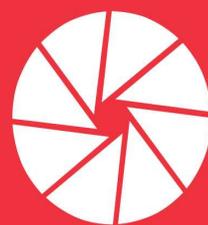
- Next time we might administer Qs over the phone and follow up with face-to-face (retrospective) probing
- Next time we would test a web questionnaire on screen
- Some 'uni-modal' questions were inappropriate for certain modes even before we began
- More modes, more mode effects
- Importance of fully considering mode at the outset

What next?

- ESRC funded mixed mode and measurement error project
- Cognitive interviews to explore how and why respondents process survey questions in different modes
- End product will be a set of principles for designing questions that are portable across modes

References

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