Evaluating computer-assisted questionnaire usability: the case of Permanent Census of Population and Housing

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The case study: the Permanent census of population and housing

SAMPLE
Since 2018 the Census no longer involves all the Italian households, but only a sample every year: about 1,400,000 resident households in 2,800 Italian municipalities

DATA COLLECTION DESIGN
A sequential mixed-mode data collection design, starting with CAWI and including CAPI after a month. CAWI remains available until the end

CA QUESTIONNAIRE
The questionnaire consists of:
• the list of the household members
• individual forms to collect information on each member
• a familiar section to collect the characteristics of the dwelling
2503 Heads of the Municipal Census Offices (HMCO) reported at least one difficulty on questionnaire usability from fieldwork staff (88.9%) and from households (79.5%).

Almost 40% of the difficulties were related to the final submission of the questionnaire, and around 10% were about the transition from one part to another.
2,276 out of approximately 48,000 tickets, were about the functionality and usability of the CA questionnaire:

3/4 were about the final submission

1/4 concerned other issues:
  - access to individual forms
  - filling in the members list
  - partial data saving

Final submission: 76.7%
Access to individual form: 13.2%
Filling of the member list: 5.7%
Partial data saving: 4.4%
Usability improvements: simplified questionnaire navigation

The navigation menu guides the completion. The color changes as the completion progresses and new sections are activated. The gray line gradually turns blue.

Buttons have been graphically standardized and made more intuitive.
Usability improvements: guided completion (final submission)

Lighter graphic
Standardized button
Optimization of redundant text
Usability improvements: guided completion (access to individual forms)

- Simplified access to the individual forms
- Simplified operations to add or delete family members forms
- Less buttons and more intuitive labels
Fieldwork staff debriefing and help desk tickets analyses (year 2021)

Access to the preview of the questionnaire 98.5%

Warning prompts 96.8%

Questionnaire navigation 95.3%

Access to the individual forms 98.5%

Filling in the family members list 98.4%

Tooltip use 98.0%

Navigation menu 97.3%

Final submission 97.9%

Visualization of the sections summary 98.6%

Almost all fieldworkers (8207 respondents) reported no difficulties with any of the usability aspects of the CA questionnaire

Only 500 out of the 100,000 tickets collected by the CC were related to completion difficulties.
The percentage of households responding in **CAWI** has increased from 51.4% in 2019 to 53.1% in 2021

**from 44.5% to 45.7% if elderly**

The percentage of households in which the **reference person** or another person belonging to the household completes the questionnaire **has increased** from 86.9% in 2019 to 87.7% in 2021

**from 57.9% to 60.5% if elderly**

The percentage of **households not needing any help at all** (not from friends or relatives, not from help desk, not from Municipal Census Offices, etc.) **has risen** from 78.2% in 2019 to 79.9% in 2021

**from 50.0% to 52.0% if elderly**

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**Difficulties reported in 2021**

- Difficulty with the final submission: 8.6%
- Difficulty with the navigation: 21.7%
- Difficulty with some of the questions: 24.4%
- Difficulty to access the questionnaire: 42.1%
Next steps

In the future...

Questionnaire redesign for smartphone completion

Usability testing - mouse tracking

From 19.1% in 2019 to 23.3% in 2021
Thanks for listening!

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