

AdTrans 2023-1-PL01-KA220-HED-000158917



Questionnaire survey – basic principles

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Starting points for examining traffic behavior

Methodological individualism

- whole = the sum of the behavior of individuals

Rational choice (theory of rational behavior, G. Becker)

- utility maximization – assumption of stable preferences (human capital = personal and social capital)
- Homo economicus

Possibilities for investigating changes in transport behavior

- Random utility theory (utility maximization)
- Phases of traffic behavior change – e.g., regulated behavior change model
 - Determinants of change in the first stages of change (expression of intention)

QUESTIONNAIRE (QUESTIONNAIRE)

- Quantitative method
 - Large number of respondents, relatively inexpensive in terms of time and money
- Striving for representativeness and comparability of results
- High level of standardization of questionnaires
- **Procedure**
 - Selecting a research problem, breaking it down into observable variables, formulating hypotheses
 - Sample selection and data collection methods (online vs. paper questionnaires).
 - Preparing a questionnaire - given rules and pitfalls of formulating questions
 - Data collection
 - Detailed data analysis, including the possibility of using statistical methods
- Internet surveys – can be linked to other tools – e.g. with an interactive map

BEFORE CREATING THE QUESTIONNAIRE

- It is necessary to plan well.
 - What is the aim of the questionnaire? What do we want to find out?
 - Who do we want to ask?
 - How will we distribute the questionnaire?
- The questions in the questionnaire are based on formulated hypotheses!

QUESTIONNAIRE STRUCTURE

- Introduction - it is necessary to "bait" respondents
 - A brief introduction to the issue
 - Who is administering the questionnaire and why?
 - What is research for?
 - Information about maintaining anonymity
 - Time range of completed questionnaire (realistic estimate)
- Questions – what we find out
 - It is recommended to start with what is most important and at the same time most interesting for respondents.
- Identification
 - Questions regarding age, gender, income, size of place of residence, etc.
 - Usually at the end of the questionnaire

QUESTIONNAIRE STRUCTURE

- General recommendation
 - Start with lighter questions, more appealing, with an effort to attract and not discourage the respondent
 - In the middle – more challenging questions, less interesting
 - Finally – factual questions, not difficult
- Create logical units from questions – group similar questions into thematic blocks
- The fewer questions, the better.

TYPES OF QUESTIONNAIRE QUESTIONS

Open questions

- ▶ Respondent answers in his own words
- ▶ It is very important that everyone understands the question in the same way and answers what the researcher is asking.
- ▶ Possible problem with evaluation

Semi-closed questions

- ▶ The respondent is offered the most common answer options and is allowed to add their own opinions, attitudes, statements, etc.
- ▶ For example, the option "Other, specify what..."

Closed questions

- ▶ Prepared, standardized answers to questions
- ▶ The response categories must be
 - ▶ Exhaustive – must cover all possible answer options
 - ▶ Exclusive – categories must not overlap, the respondent must be able to clearly classify themselves into one category
 - ▶ Bilaterally symmetrical – e.g. equal number of positive and negative reviews
- ▶ More detailed categories can then be grouped as needed.

HOW TO ASK

- Use simple language – beware of abbreviations, technical terms, slang, ...
- Ask clearly – always ask only one thing, clearly define the answers
- Ask about direct experiences rather than hypothetical events – not: How would you react if you were involved in a traffic accident?
- Do not prompt the respondent to answer – no: 9 out of 10 experts recommend... What do you think?
- For each question, information on how many answers are selected (e.g. select only one option x, you can select multiple options x ...)
- For questions where the respondent is asked to provide a number, always provide units (e.g. weeks, months... - choose wisely)
- Avoid negatively worded questions, especially double negations – no: I don't think there should be more investment in sustainable transport in cities.

HOW TO ASK

- Decision on the option "I don't know" ("I can't express myself", "I can't judge")
- Only where it is truly realistic that a situation will arise where the respondent does not know
- The decision to use the “middle option” (“neither yes nor no”, “half”, ...)
- Some expressions may be interpreted differently by each respondent – e.g. several, usually, sometimes, occasionally
- Too broad a question leads to too broad answers – e.g. What do you think about sustainable transport?
- Ask only things that the respondent may know and the researcher cannot find out otherwise – not: What is the average number of traffic accidents in your city over the last 5 years?
- It is not good to "test" the respondent - no: Name the last 10 ministers of transport of the Czech Republic.

HOW TO ASK

- The respondent answers some questions in a socially desirable manner, even though the questionnaire is anonymous.
- Use **filter questions** – they narrow the group of respondents, only those who are concerned by the topic answer
 - Filters at the beginning, filter out only those respondents who are relevant to me
- The wording of the items should be verified in a **preliminary study**.
 - Usually through conversation
 - The respondent explains how he or she understands the question.
 - Unclear items are then edited
 - It will allow you to find out why respondents did not answer some questions or answered "I don't know" - the proportion of such answers should not be higher than 5%
- **Piloting** (evaluating data on a small sample – am I getting the data I need and in a form that I can process?)

DISTRIBUTION OF QUESTIONNAIRES

- By own resources
- Using an agency
- Online
- Questionnaire return rate
- Response rate =
number of returned questionnaires/ number of sent questionnaires
- Always test questionnaires before sending them out!

Procedure

1. Research questions
2. Creation of a research tool – a questionnaire
 - ▶ each question in the questionnaire reflects a research question - always know why I am asking a given question
3. Questionnaire testing (pre-testing)
 - ▶ Friends, family – are the questions clear, are all possible answers offered?
4. Creating a questionnaire in an online environment, testing its functionality
 - ▶ SurveyMonkey -- <https://www.surveymonkey.com/>
 - ▶ Google forms --- <https://www.google.com/forms/about/>
 - ▶ Other – Survio, Canva, <https://freeonlinesurveys.com/>
5. The main wave of data collection
6. Evaluation using statistical methods
 - ▶ Data cleaning
 - ▶ Data encoding

Data cleaning in Excel

- ▶ Text response editing feature
 - ▶ "Clean" (non-printable characters - tabs, etc.)
 - ▶ "Clean" (without unnecessary spaces)
 - ▶ "Search"
- ▶ Check that all variables (columns) have the appropriate values!

Data encoding in Excel

- Create a code book (e.g. as another sheet in a data file)
- Work with a copy of the data (keep the original data as a backup so you can return to it at any time!)
- Missing data: on NA N/A 999
- Check that each column only has values it can take.

Rules for Working with Data

- Never start analysis without checking and cleaning the data!
- When working with statistical software, the following rule always applies:

GIGO = Garbage In, Garbage Out

- that is, if we overwrite incorrect data into the data matrix, the results of all analyses carried out with this data will also be incorrect!

LINKS, SOURCES, LITERATURE

DISMAN, M. (2014): How sociological knowledge is produced. Prague: Karolinum. ISBN 978-80-246-1966-8

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