HOW AND WITH WHAT TO START

✓ Traffic research as scientific work – yes or no? YES!

✓ Values of quality research:
  ✓ responsibility
  ✓ objectivity
  ✓ reliability
  ✓ respect
  ✓ justice

HOW AND WITH WHAT TO START

- ✓ Influencing factors:
  - ✓ public interest
  - ✓ policy
  - ✓ environment
  - ✓ finance
  - ✓ partners
  - ✓ ….

HOW AND WITH WHAT TO START

✓ Influencing factors:

The main factor is motivation!

RESEARCH PROCESS

- ✓ Stages of research:
  - ✓ description of problem
  - ✓ research project planning
  - ✓ choice of methods
  - ✓ analysis and interpretation of results
  - ✓ presentation of results

RESEARCH PROCESS

- ✓ Research problem:
  - ✓ substance of the problem in the "small" and "large" picture
  - ✓ who is affected and how
  - ✓ theoretical background
  - ✓ hypotheses and assumptions
  - ✓ expected result

RESEARCH PROCESS

✓ Planning:

  ✓ purpose

  ✓ methods

  ✓ resources

  ✓ acceptance of ethical and legal requirements

  ✓ effects of research

RESEARCH PROCESS

✓ Research methods:

    ✓ quantitative:

        ✓ observations

        ✓ measurements

        ✓ results mainly in the form of tables, figures, etc.

RESEARCH PROCESS

- ✓ Research methods:
  - ✓ qualitative
    - ✓ polls
    - ✓ interviews
    - ✓ case studies
    - ✓ results mainly in text

RESEARCH PROCESS

✓ Analysis:

    ✓ how deep to go?

    ✓ systematisation of data

    ✓ reproducibility of data

    ✓ usability of data by other researchers

    ✓ data protection

RESEARCH RESULTS

- ✓ Forming

- ✓ Linguistic correctness and relevance

- ✓ Visual components (graphs, drawings, etc.)

- ✓ Presentation (in what form, to whom, where, etc.)

- ✓ Used sources (literature, articles, other researches, etc.)

- ✓ Plagiarism

RESEARCH RESULTS

✓ The results of the research must be:

    ✓ argued

    ✓ reliable

    ✓ actually used in practice

    ✓ can be used as a source for the following studies

RESEARCH RESULTS

✓ What to do if:

   ✓ set hypotheses not proven?

   ✓ the result of the reearch does not meet the set objectives?

   ✓ the result of the research does not meet the customer's expectations?

POSSIBLE TOPICS FOR TRAFFIC RESEARCH

- ✓ new residential areas *versus* mobility opportunities

- ✓ alternative modes of transport

- ✓ the impact of ITS on the economy

- ✓ use of urban space

- ✓ smart crosswalks

- ✓ smart traffic signs

- ✓ role of infotechnology in traffic safety

- ✓ compliance with traffic light requirements

POSSIBLE TOPICS FOR TRAFFIC RESEARCH

- ✓ traffic calming

- ✓ use and optimization of public transport

- ✓ land use and public transport

- ✓ possible applications of innovation in the transport sector

- ✓ vulnerable road user

- ✓ children in traffic

- ✓ elderly people in traffic

- ✓ effect of speed limits on traffic behavior

POSSIBLE TOPICS FOR TRAFFIC RESEARCH

- ✓ traffic behavior monitoring

- ✓ different attitudes and habits of road users

- ✓ risky behavior of road users

- ✓ drunk drivers

- ✓ repeat offenders in traffic

- ✓ use of vehicle safety equipment

- ✓ driver fatigue

- ✓ extraneous / disturbing activities while driving

POSSIBLE TOPICS FOR TRAFFIC RESEARCH

✓ implementation of speed limit measures

✓ impact of the automatic speed cameras on road safety

✓ traffic accident forecasting methodology

✓ the impact of the accident on society

✓ police surveillance

✓ locations of frequent road accidents

✓ safety of 2 + 1 roads

✓ road maintenance and road safety

POSSIBLE TOPICS FOR TRAFFIC RESEARCH

- ✓ reliability of driver assistances

- ✓ traffic management for slow and heavy vehicles

- ✓ urban air quality

- ✓ impact of emissions on the environment (including CO2)

- ✓ ....

PRACTICAL EXERCISE

1. Conduct traffic observation for a specified purpose (what? why? how?)

2. Group work (groups of 2-3 members)

3. Present the results to the entire study group

USEFUL LINKS

- ✓ https://guides.lib.vt.edu/researchmethods/design-method

- ✓ https://libguides.macalester.edu/c.php?g=527786/&p=3608643

- ✓ https://www.indeed.com/career-advice/career-development/types-of-research-methods

- ✓ https://www.t2-eng.com/traffic-studies-important/

- ✓ https://intrans.iastate.edu/app/uploads/2002/11/Handbook-of-Simplified-Practice-TrafficStudies.pdf

USEFUL LINKS

- https://www.nrel.gov/transportation/research.html

- https://ec.europa.eu/eurostat/cros/system/files/NTTS2013fullPaper_170_0.pdf

- https://datafromsky.com/trafficsurvey/?utm_source=google&utm_medium=cpc&utm_campaign=spring_search&gclid=CjwKCAiA24SPBhB0EiwAjBgkhqtxYKDnCJh1vSZC_4DlAqvyxvt781BjdXTWfZj0iyvMHmFULQAQYRoCOMkQAvD_BwE

Thank you for your attention!