Impetus

Innovative Measurement Tool towards Urban Environmental Awareness
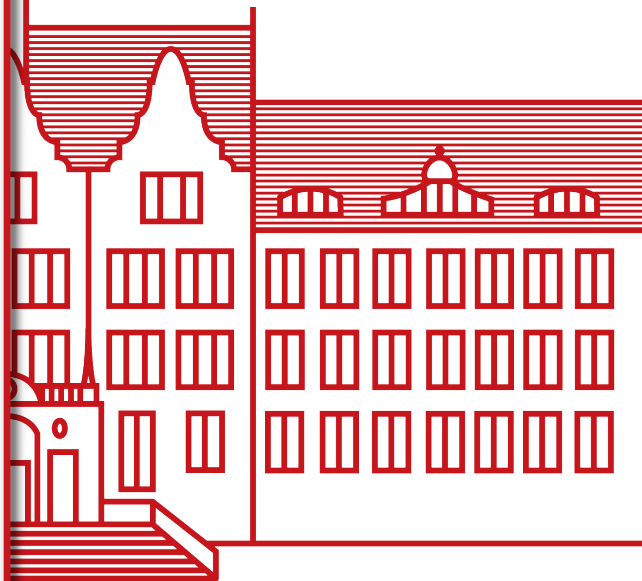
Geo-Questionnaire

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1.1   Introduction

The research on human behavior can be conducted by interviews, discourse analysis open-ended questionnaires, documents, participant observation, and others. Questionnaire is one of the information-gathering techniques used frequently in mixed-method research that draws on quantitative and qualitative data sources and analysis.

- **Quantitative research deals with numbers and statistics,** and help to answer the question: HOW MUCH or HOW MANY? It is used to test or confirm theories and assumptions to establish generalizable facts about a topic. Ex. How many (approximately) people among alter people are afraid of climate change effects...
- **Qualitative research deals with words and meanings** and not numbers. It is used to understand concepts, thoughts or experiences and enables to gather in-depth insights on topics that are not well understood. Ex. How people perceive their social realities...

Questionnaire as the methods for gathering the feedback, opinion has several advantages such as:

- access to direct feedback,
- saving the time spent on surveying opinions in a different way, e.g. conversation, telephone, interview,
- possible online research,
- big respondents group.

But it very often happens that it takes a long time to collect the expected number of answers as it is not an easy task to encourage people to fill the questionnaire.

The geo-questionnaire combines the benefits of a standard questionnaire and a map, that is devised to provide information on the available space (spatial data). Responses to a geo-questionnaire may contain point, line, and polygon objects sketched by participants on a map or they can be used in the reversed method that the external questionnaire is linked to the map. So that the answers can be searched by the location using maps. For simple questionnaires the map can be also the way of visualization of the information gathered via the questionnaire – usually the location of the selected objects. There are also a very advanced systems for questionnaires using geographical information systems which combine different methods for acquiring the information via map sketching or marking on the map and by answering questions that are triggered by map interactions.

The research on human well- being can be conducted on the large scale [4,5], but also on smaller scales such as streets, districts or revitalized areas. In this case the usage of the questionnaire as the method of collecting information, next to field interviews, is more and more popular. Individual perception of citizens is one of the factors taken into account while shaping the local neighborhoods and designing them not only to make them economically attractive but also human friendly. The city developers collect public preferences and behavioral patterns to develop land plans, in the revitalization processes or adaptation of the areas to climate change. This spatially-explicit local knowledge is also used for academic research to find the rules and correlations between different elements of the space and human habits, choices and general well-being or health [1,2,3,6].

1.2 IMPETUS questionnaire

The IMPETUS geo-questionnaire is the tool to collect public preferences, behavioral patterns, and spatially-explicit local knowledge. "Neighborhoods are big enough to aggregate the interrelated components and give way to a coherent urban fragment, yet small enough to reduce some of the complexities of system integration and to see results in a shorter time period"[1]. Thus, the diagnosis of the neighborhood's condition and knowing the citizens' perception or well – being level can help to define the problems and find solutions. This knowledge can be used in the revitalization processes or land development design. It can be also used for research in the correlation between human well-being and specific locations designs of just to monitor different aspects of city life.

The aim of this ready to use questionnaire is to learn about citizens' perception of the neighborhood in terms of their well-being, awareness of climate change issues, environmental issues and urban design. As the definition for the well- being is still challenging, and the terms such as "happiness", "life satisfaction" or "quality of life" are often used in the same context, here for the questionnaire the

The questionnaire consists of sections devoted to different topics:

- Section 1 – Perception of living area. This part refers to your perception of neighborhood design. Good neighborhoods are the cornerstone of sustainable communities and the fundamental scale of people-centered urbanism. A good neighborhood is a place where people are willing to spend time and interact with their neighbors. To encourage this physical presence, it should be well connected, furnished in an attractive way, build the identity of the society and integrate it. Well-designed Area can strongly improve the well-being and health of people.
- Section 2 – Perception of subjective well-being. This part refers to your perception of your well-being.
- Section 3 – Neighborhood environmental condition. This part refers to your perception of pollution and disturbances you may experience in your neighborhood.
- Section 4 – Awareness of climate change effects. This section refers to your perception of climate change and exposure to climate change effects and your actions.
- Section 5 – Respondent's data.

For the research one can use the whole set of sections, preferable when respondents can answer the questions for example at home and have enough time or use the ready short set available via the app, preferable in field research when interviewing the respondents. better adjustment to the respondents' capabilities: the survey does not take much time, it is clear and easy to fill. You can also access it virtually anywhere via the app using your smartphone, tablet or computer.

When conducting a survey research and after the collection of the completed questionnaires, it is essential to interpret this information. We do this to estimate the magnitude and direction of effects which exist out there in the real world. The data from the survey research are complementary to the data we collect through the Climate Cafes in different cities in the scope of the IMPETUS project. For that reason, in order to add spatial data of the questionnaires on a map, the survey research data were combined with the rest of the data.

To do that, developments were made in the already existing website tool ClimateScan. The questionnaire is added to the ClimateScan data base via the app. You can also add this

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[1] https://www.neighbourhoodguidelines.org/why-neighbourhood-design

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questionnaire to google disc and collect information by google questionnaire and then add it to the database via https://www.climatescan.nl/ by creating a new project or joining an already defined project.

1.3 External materials

See: https://impetus.aau.at/outputs/

Folder: Geo-Questionnaire

- GG instruction.pdf
- GG questionnaire.doc

1.4 Literature

[2] Kothencz G, Kolcsár R, Cabrera-Barona P, Szilassi P. Urban Green Space Perception and Its Contribution to Well-Being. International Journal of Environmental Research and Public Health. 2017; 14(7):766. https://doi.org/10.3390/ijerph14070766

[1] Czepkiewicz, Michał & Jankowski, Piotr & Zwolinski, Zbigniew. (2018). Geo-Questionnaire: A Spatially Explicit Method for Eliciting Public Preferences, Behavioural Patterns, and Local Knowledge – An Overview. Quaestiones Geographicae. 37. 177-190. 10.2478/quageo-2018-0033.

[3] Sanna Ala-Mantila, Jukka Heinonen, Seppo Junnila & Perttu Saarsalmi (2018) Spatial nature of urban well-being, Regional Studies, 52:7, 959-973, DOI: 10.1080/00343404.2017.1360485 https://doi.org/10.1080/00343404.2017.1360485

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[5] Frey, B.S., Stutzer, A. The use of happiness research for public policy. Soc Choice Welf 38, 659–674 (2012). https://doi.org/10.1007/s00355-011-0629-z

[6] McGuirk, P. M. & O'Neill, P. (2016). Using questionnaires in qualitative human geography. In I. Hay (Eds.), Qualitative Research Methods in Human Geography (pp. 246-273). Don Mills, Canada: Oxford University Press.