HOW TO APPROACH CSO AND IDENTIFY SOCIETAL PROBLEMS?

ANNEX 3.

GUIDELINES

2019

As a rule, implementation of science shop projects starts with an analytical overview of the situation of the environment or a pilot study, this way identifying problems relevant to the society. Still, there are cases when researchers gather to solve issues that have already been identified. This usually happens when a problem is registered with *a problem bank*, and researchers are approached by non-governmental organisations, other stakeholders, or individuals with specific problems. In such cases, communication with the potential clients helps to clarify, refine the problem, determine the target groups, distinguish the direction of research or solution, at the same time transforming the problem into research question that will be addressed in science shop project.

In case a relevant problem is not registered in the problem bank, and/or there is no potential client, or when the problem is not clear enough, research team has to conduct a pilot study to generate ideas and gather information needed for formulation of the problem. An analytical review of the environmental situation (pilot study) can also be conducted when researchers require to get a deeper insight into the problem issue, to substantiate the hypothesis, identify research priorities or needs, and so on.

A variety of research methods and techniques, such as analysis of various sources, expert interviews, etc., can be employed to carry out the pilot study. Their nature and diversity depends on the problem, on the of research team, and on many other criteria or aspects. The most commonly used pilot study methods are presented in Figure 1.
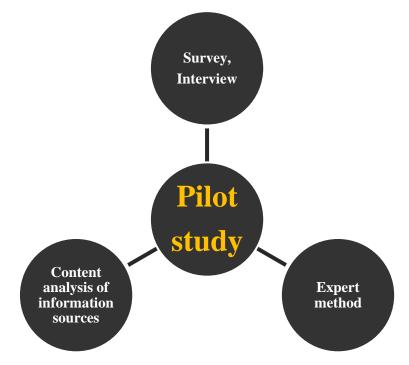

Fig.1. Methods of identification of publicly relevant issues

CONTENT ANALYSIS OF INFORMATION SOURCES

Analysis of scientific publications and of results of applied research, as well as a focused study of current issues in the daily press or social networks can facilitate identification of the issues relevant to society. Having performed analysis of the content of the information sources, it is recommended to prepare a short summary (photo of the daily study). Here, a problem issue can be discussed by a specific research team, so that the relevance of the problem and direction of the solution were identified. For instance, out of all the identified issues researchers choose the most relevant one. Each member of the research team then represents a different party that is solving or can solve a particular problem, and argues for as many ways as possible in which each interested party (e.g. municipality, NGO, university, private entity, etc.) would contribute to the problem. decision.

To analyse various sources, when the initial problems are clear in advance, it is recommended to perform a data suitability verification. For example, the following questions should be considered:

- Is the information compliant with the objectives of the proposed research or of science shop project?

- Can the information be used to identify the problem, or can it be the focus of research?

- Is the information relevant to today's society?

- Does the information reflect all the aspects required for the study?

- How reliable are the sources of information?

- Is the methodology used to collect the information appropriate?

SURVEY AND INTERVIEW

An individual (group / collective) oral or written survey, interview method is another way to identify issues relevant to society. Surveys or interviews can involve different groups of respondents: from the members of the research groups themselves, as representatives of a particular community group, to volunteers, employees of various organizations, and so on. For example, an interview of researchers with passers-by on the street about the issues they think are most relevant to society at the moment is one of the ways in which it is not necessary to prepare long and complex questionnaires.

Questionnaires prepared for interviews can be of several types: *unstructured* (survey or interview conducted in a free form, without any prior preparation or questions), *semi-structured* (survey, interview conducted according to pre-arranged questions, also discussing aspects other than those foreseen), *fully structured* (the survey or interview is conducted strictly according to the advance plan and the questions in the questionnaire).

EXPERT METHOD

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As a rule, expert method is chosen to identify specific problems in a certain area, as well as searching for specific solutions, i.e., essential decisions are made drawing on many years of experience in a particular field.

Only those with professional experience, certain achievements in their field are selected as experts, since their recommendations and suggestions can not only determine the relevance and focus of the science shop project, but also be the key element in making final technical or artistic decisions.

SURVEY, INTERVIEW PROCEDURES

1. Development of a plan for a survey, interview (expert as well);

2. Preparation of a questionnaire;

3. Selection of respondents, organization of the research;

4. Data analysis and conclusions.

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Composition of the questionnaire	Students compose a questionnaire to identify problems faced by organisations – the questionnaires are sent to interviewees (organisations,, experts, etc) via various channels (mail, social networks) or placed on an online survey website (e.g., www.manoapklausa.lt, www.apklausa.lt www.apklausk.lt, etc.). Feedback is observed.
Interview	After selecting experts and organisations, designing the questionnaires, students set interviews with experts, heads of the organization, employees. For instance, each student can opt for two experts or organisations.
Problem bank	Drawing on the responses to the questionnaires and interviews, students identify the problems, briefly describe them and place them onto the electronic database on the website www.vtdko.lt and/or start tackling them in the further stages of the science shop.

IDENTIFYING THE POTENTIAL CLIENT FOR A SCIENCE SHOP

Apart from the possibility to identify potential clients for the future science shops while analysing various information sources, participating in the meetings with social partners, conducting mini interviews in the streets, among the core tools for finding a client for science shop project is non-governmental organisation (NGO) atlas (https://nvoatlasas.lt/). It allows an easy and quick search for NGOs, public institutions registered in Lithuania, associations, charity and support funds, presents information on activities they do, where they operate, whether they take in volunteers, who finances them.

NGO ATLAS. ELECTRONIC SEARCH FOR NON-GOVERNMENTAL ORGANISATION

Selection of organisations
(a list of organisations is compiled (e.g., each student chooses a field (in case the problem is not identified in advance) and selects 5 organisations active in the field)

Analysis of the organisation
(data of every organisation is collected and analysed: Size; Line of business; History; Weaknesses and strengths)

Problem identification
(a questionnaire is compiled, methods of data collection from representatives of the organisations are selected (electronic post, social networks, telephone, interview during face-to-face meeting, etc.)

EXAMPLES OF BEST PRACTICES

Students are divided into groups. Every group then discuss different ways of identifying relevant societal problems:

1. The first group set to identify problems in social networks (Facebook, Twitter, Instagram).
   Result: a link was established between students and parents' association, foresters' association, computer specialists' association (Science shop – *„ Designing Smart Pedestrian Crossing", „Analysis of Deforestation Damage in Lithuania")*.

2. The second group analyses problems faced by acquaintances, friends, former school.
   Result: a link was established between students and Association of Lithuanian Automibilists, Alfa Romeo club, Ozas gymnasium, Vilnius Lazdynai School (Science shop – „Visualisation of a Sport Hall on Premises of Ozas Gymnazium", „Design of Eco-Friendly Classroom on the Premises of a School", „Design of Racing Circuit in the Suburbs of Vilnius ").

3. The third group establish link with elderships and municipalities.
   Result: a link was established between students and Naujoji Vilnia Eldership (Science shop – „Design of Environmentally-Friendly Car Wash Station in Naujoji Vilnia").