Stakeholders and Their Participation in Foresight Projects

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Abstract

With the expansion of the scope of foresight research, the role and importance of various participants in the relevant projects and the users of their results - stakeholders - simultaneously increase. Whereas previously a significant part of foresight projects were carried out with the involvement of professional experts, in many recent studies the circle of their participants is becoming more diverse and an increasing role belongs to members of the public and other potential beneficiaries. This article explores the theory and best practices of applying the stakeholder analysis method in foresight projects, and an attempt is made to systematically characterize this approach. The place and role of various stakeholders in foresight projects are considered, the main problems, opportunities, and recommendations for using the method are assessed, and the features of its application in conjunction with other foresight methods are characterized.

Introduction

According to the most commonly accepted definition, foresight is a systematic participatory process designed to integrate all knowledge and build visions of medium-to-long-term future, and aimed at informing present-day decisions and mobilising joint actions (European Commission, 2002). Interacting and engaging with experts, representatives of various governmental, social and business institutions, and creating networks are the most important features of foresight projects (Miles et al., 2016; Gokhberg et al., 2016; Saritas et al., 2013).

Foresight studies are not exclusively expert-based, they allow for an inclusion of a wider audience upon whom depends the solution of problems under the scope — the stakeholders. Mutual knowledge exchange, training and joint action by all foresight participants are necessary to expand the project's scope and find common ground on existing challenges and possible scenarios of the future. In recent years, the stakeholders' role in such projects has been growing as their involvement contributes to the used knowledge base, the validity and practical implementation of the results (European Commission, 2015).

Stakeholder analysis has been used for a rather long time in addressing different aspects of selecting and involving foresight projects' participants. It was initially applied in 1930s during studies of corporate social responsibility (Lindborg, 2013). In 1963, the Stanford Research Institute suggested a term "stakeholders" for "groups without whose support the organisation would seize to exist" (SRI, 1963). However, such interpretation did not include questions of strategic management which were reflected in the book by Robert Freeman "Strategic Management: A Stakeholder Approach" (Freeman, 1984). The author noted that business solutions which do not take ethics into account might possibly lead to negative consequences, and was looking for an opportunity to include ethical aspects into organisational strategy.

After Being integrated into the strategic management agenda, stakeholder analysis helped formulate principles of stakeholders' interaction and management (Harrison, John, 1996). This approach works as a set of instruments for managing stakeholders that includes descriptive and instrumental methods, but does not fall into one theory (Donaldson, Preston, 1995).

In recent years, the stakeholder analysis has been used on a larger scale. According to Scopus-based publication analysis for 2010–2022, for keywords "stakeholder analysis", the major areas of its application include corporate management, sustainable development, urban development, regional planning, information systems, agriculture, healthcare, etc. (Fig. 1). In these and many other areas, stakeholder analysis method is used for solving various tasks in many socio-economic spheres, which examples are provided in Tab. 1.

Stakeholder analysis is applied not only to study the present-day situation, as shown in the examples provide above, but to build foresight-based visions of long-term future. Such application of this approach is explored in the article. Although experts and stakeholders are posing as key participants of foresight projects, their roles are often overlooked, they are simply made note of in a list of other items of the process. Further, an attempt has been made to give a systematic assessment of this approach, analyse stakeholders' place and role in foresight projects, evaluate major risks and opportunities related to involving them.

Stakeholder analysis method

In the most widely accepted definitions stakeholders are seen as parties interested in the project, who can affect or are affected by its results (Freeman, 1984; Body, Paton, 2004; UNECE, 2021). In further analysis, we will use these definitions as the ones which most fully reflecting different roles and positions of stakeholders when implementing projects, including foresight. With the help of this method the following stakeholder features are considered: legitimacy, necessity, agility (Mitchell et al., 1997; Tsipes, Shadaeva, 2015; Mainardes et al., 2012); nature of influence on the organisation (threatens or facilitates its activity) (Savage et al., 1991); absence or presence of formal ties (Clarkson, 1995), etc.

Stakeholder analysis studies groups interested in implementing the project (participating in project development or affecting it), with a goal of adopting decisions that consider their opinion. Such groups may represent organisations form different spheres and areas of science, economy, government and society. Results of applying this method are the identification of key stakeholder groups, their mapping[1] and making recommendations to interact with them and achieve desired outcomes.

The implementation of this method is a complex multi-stage process, where number and types of participants depend on the objectives, tasks, and resource base of the project. Usually, the majority of projects try to involve a broad spectrum of participants subdivided into following types (Andersen et al., 2021):

1. Experts having professional knowledge and experience in implementing the project.

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[1] https://www.stakeholdermap.com/stakeholder-theory-freeman.html, accessed 17.03.2023.

2. Representatives of organisations interesting in project results (policy makers, potential beneficiaries of various project effects).

3. Citizens and members of a wider audience with various degrees of affecting project results.

4. Personal stakeholders — various individuals interested in the project.

5. Remarkable people having expertise, creativity, knowledge but not necessarily participating in the project directly.

In the majority of projects, the first two or three types of stakeholders are taking part, a composition designed to reflect all possible spectrum of representatives of socio-economic and other spheres of society. In some cases, attracting personal stakeholders is highly advisable, for example, opinion leaders.

Stakeholders may work as experts and vice versa, but sometimes their roles differ. If the qualities of the former traditionally depend on their interests and often intellectual rights on project results, the second are identified by formal qualification, knowledge, and experience. However, these two categories could partially coincide, interchanging roles. Their specific place in the project depends on the works where they are being involved.

The implementation of this method usually requires specific supporting resources (finances, equipment, etc.) at all stages — from short-listing candidates for participation to analysing results received from collaboration with stakeholders. Involving the latter to a specific project helps in building a tailored structurisation of problems at hand, outline possible solutions, develop measures to achieve stated objectives on the level of individual projects, or on sectoral or governmental level depending on the scale of the problem.

Key stages of a stakeholder analysis are provided in Fig. 2.

Stakeholder selection and modes of working with them (workshops, interviews, surveys, etc.) is a labour-intensive process implemented under the guidance of a project's working group and formed at its initial stage. Let us take a closer look on each stage.

Preparation

The initial stage sets objectives of stakeholder analysis and areas of applying achieved results; a working group is formed; members of a working group receive training; an action plan is composed. To prevent possible distortion of results, the working group must represent interests of various institutions. Larger objectivity of results is secured by including members who do not have vested interest in project results. The working group develops specific stages and actions which are required for the analysis and works out an execution schedule.

On this stage a list of candidates to stakeholders is formed, where communication with many participants requires considerable efforts. Preparatory organisational work is conducted to prepare to workshops, interviews, and surveys. Going forward, members of the working group will coordinate arrangements with stakeholders and process achieved results.

Identification of potential and priority stakeholders

Depending on the objective of the project and available resources, the working group decides on the maximum number of stakeholders. Based on the corresponding sources of information, a first selection round is being conducted to choose potential candidates who may be interested in the project. Then, after consulting with experts, the most relevant stakeholders are short-listed. Candidates are ranked by preliminary assessment of their influence, and then following features are compiled:

- position and organisation;
- affiliation with internal or external stakeholders (directly or indirectly related to project);
- understanding of the subject area of the project;
- stakeholder's interest in the project and the level of influence of project results on the stakeholder;
- access to resources;
- level of stakeholder's influence on the implementation and results of the project;
- leadership qualities.

Interaction with stakeholders

There are different foresight methods to receive necessary information. The most widespread tools are workshops, interviews, and surveys; Delphi method is used rarely.

When getting ready for the workshop, working materials include a detailed description of discussion issues, the workshop scenario is also provided. After that invitations to participants are sent out and their presence is secured. This helps receive a more detailed information from participants and achieve consensus among stakeholders in the course of their direct interaction.

Before conducting the interview, its format is established — open discussion or formal questions. The duration of the interview — from 20 minutes to 2 hours. The protocol which interviewer is required to follow is adopted by the working group. The questionnaire is tested on the candidates that were not included in the final list of stakeholders.
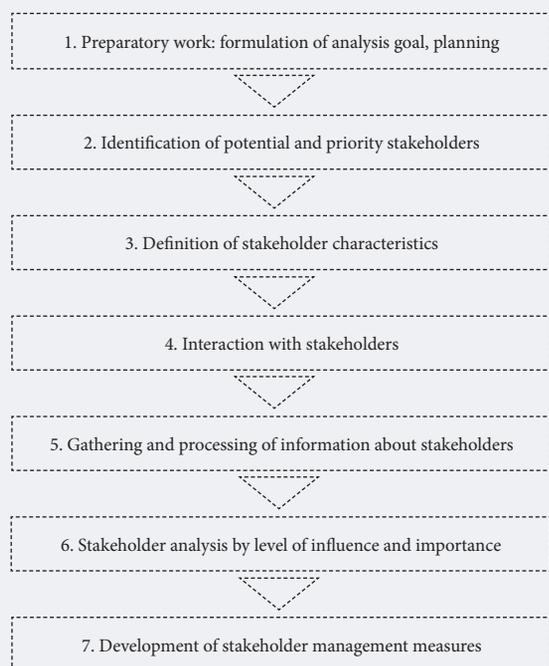
The survey is superseded by making a formalised questionnaire, and the gathering of information is conducted either in a form of interviews, or by sending out questionnaires in paper or electronic form and the following processing of received data.

Figure 1. Subject areas of publications related to stakeholder analysis

Source: built by authors with the use of VOSviwer based on Scopus publication analysis for 2010–2022, for "stakeholder analysis" keywords.

Gathering and processing of information about stakeholders

Before starting an interview, a survey, or a workshop, gathering and studying of secondary data about stakeholders takes place. Then, the working group communicates to all participants that they were selected in the order of their priority and invites to talk through the details of conducting an interview, a survey, or a workshop. All information is gathered in a unified database of the project for further analysis.

Stakeholder analysis

At this stage the level of influence and interest of stakeholders is assessed. The results are shown in a stakeholder matrix (Tab. 2).

Under "Influence" we understand here a possible stakeholder's input into the achievement of stated objectives, and its influence on decision-makers. Under "Interest" we imply a subjective value of project results to the stakeholder from the point of stakeholder's satisfaction of interests and needs.

Apart from key indicators of influence and interest, the following additional information about stakeholders may be evaluated and analysed:

- degree of awareness about the project;
- attitude towards the project;
- suspected pros and cons of the project;
- potential alliances among stakeholders, etc.

Development of stakeholder management measures

Based on the conducted analysis, a stakeholder management mechanism is being developed based on their ranking by level of Influence and Interest. If a stakeholder is either influential or motivated, then it is appropriate to engage him/her in implementing the project. If both attributes are present, he/she is considered a key stakeholder and should be involved in coordination and implementation of the project to the fullest extent possible. Specific events to interact with stakeholders are organised bearing specifics of each group in mind (Tab. 3).

Stakeholder analysis helps identify persons capable of affecting the achievement of stated objectives; define potential barriers on this path; evaluate means, order, and principles of communication in the course of implementing the project; make an action plan to get rid of possible negative influence of stakeholders. In doing so, it is easier to optimise the implementation process itself, as well as fulfil planned events after its completion.

Then, we follow through a case where a stakeholder matrix is built within a foresight study of the ship-building industry (Slunge et al., 2017). There are 12 key stakeholders in the matrix that are being analysed — governmental institutions, associations, groups of interests, research teams within and outside the country, companies, trade association, etc. They are distributed by level of Interest and Influence (Fig. 3). In this regard, ship classification societies[2], for example, constitute interested and influ-

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[2] Institution registering vessels and assessing their quality with the help of "ship surveyors" according to shipbuilding rules of various types.

Table 1. **Areas where stakeholder analysis is applied**	
Application	**Literature**
Organisation management, corporate responsibility	
Corporate diversity management	Maj, 2020
Management of strategic decision-making	Slabá et al., 2020
Sustainable development, climate change	
Prioritisation of sustainability management measures in the socio-ecological system of a particular region	Guaita-García et al., 2022
Upgrading land resource management and environment conservation	Shantiko, 2021
Studying social aspects of sustainability in renewable energy sector	Afshari et al., 2022
Urban and regional development	
Formation of a transdisciplinary agenda through inclusion of citizens, experts, and stakeholders, which enables comprehensive consideration of aspects and possibilities of developing various urban economy sectors and formulation of a long-term strategy	Gudowsky et al., 2017
Optimisation of urban resource management and achieving higher living standards of the population	Pramono et al., 2022; Olander, Landin, 2005
Information systems	
Interactive use of management systems in IT projects	Mir, 2021
Innovation activity	
Study on the role of stakeholders in creation of new products by science and technology-based startups	Iglesias-Sanchez et al., 2022
Analysis of relationships between stakeholders and technological entrepreneurs in R&D-based startups	Kalayci, 2017
Agriculture	
Study on roles, organising capabilities, and forms of cooperation of stakeholders in the African agricultural innovation system	Chinseu, 2022
Healthcare	
Building long-term scenarios and forming key strategies of transferring to sustainable healthcare with multiple-stakeholder participation	Pereno, 2020
Source: composed by authors based on materials from provided articles.	

Figure 2. **Key stages of stakeholder analysis**

1. Preparatory work: formulation of analysis goal, planning

2. Identification of potential and priority stakeholders

3. Definition of stakeholder characteristics

4. Interaction with stakeholders

5. Gathering and processing of information about stakeholders

6. Stakeholder analysis by level of influence and importance

7. Development of stakeholder management measures

Source: authors, based on (Schmeer, 1999; Andersen et al., 2021; Reed et al., 2009).

ential stakeholders which ought to have maximum involvement in the project. National and open vessel registers have a high level of Influence, but low Interest, that is why their opinions are to be considered on individual basis. Ship passengers and carriers have the lowest level of Influence on shipbuilding, so it has to be enough to simply keep them informed.

Apart from the stakeholder matrix, there are other data visualisation tools possible to be used, in particular when it comes to Influence on and Interest in project results (tables, stakeholder circles, etc.).

In most cases it is expected that the role and meaning of stakeholders in the course of implementing the project remains unchanged. This is usually applicable to projects short in duration, where stakeholders' roles are outlined well enough and connected to fulfilling a limited scope of tasks. However, when it comes to large national or business projects related to acute socio-economic issues or topical business issues, the Influence and Interest of any given stakeholder at different stages of the project may vary significantly.

We will illustrate this point by using a case of the Malmö–Gothenburg railway transformation from one-rail to two-rail (Olander, Landin, 2005). Its route passed through several settlements, including the city of Lund. Three stages of this project that su-

perseded the beginning of its implementation were undergone from 1990 to 2003. Main project's stakeholders are given on Fig. 4, as well as assessments of their Interest and Influence — on a scale from 1 (min) to 10 (max). As we see from the reviewed stages both the composition of stakeholders, and their indicators have been changing. The most interested were local residents and the national railway administration, and most influential — national railway administration, municipalities and Sweden government.

Since large long-term projects diversify the composition of stakeholders, their knowledge and requirements, attitudes to expected results and preferable communication strategies, an additional or multiple stakeholder analysis may be required for considering possible dynamics of their features until full completion of the project.

Role and place of stakeholders in foresight projects

The most important outcome of foresight projects is applying their results in decision-making to achieve objectives of socio-economic and science and technology (S&T) policy. The stakeholder analysis method enables choosing those participants who affect not only the development of possible recommendations but their implementation as well.

The key factor of successful project implementation consists in active involvement of stakeholders with a high level of Influence. They are typically executives of professional agencies under public authorities, largest firms or research institutes and their deputies. Stakeholder's influence may manifest itself in the use the project results, raising awareness about the project, promotion of legal solutions facilitating its successful development.

The stakeholder analysis method and its individual components are effective during all stages of fulfilling foresight projects — from setting an objective to preparing recommendations after receiving results. Only those capabilities that fully adhere to desired results may be used: forming the vision, building scenarios, making a roadmap, etc. In large foresight projects stakeholders usually participate during all stages. Depending on the subject and objectives of a research they can be representatives of science, education, business, public authorities, or civil society.

Methods of working with stakeholders within foresight projects help:

- outline a circle of involved persons, including experts, and evaluate their role in the project;
- motivate stakeholders to achieve stated objectives and engage them in making conclusions about project results and following up with recommendations afterwards;

Level of influence	Level of appeal	
	N/A / Low	Medium / High
High / Medium	C	A
Low / N/A	D	B

Table 2. **Stakeholder Matrix**

Source: authors.

- evaluate input of certain stakeholders' actions in implementing recommendations.

In order to successfully implement a foresight project, it is necessary to answer the following questions: when, how, and in what measure various project participants need to be involved during certain stages? what stimuli enable their involvement and increase Interest in success? what materials are required to be provided? how to promote project results to all stakeholders (Saritas et al., 2013). The method under review in combination with workshops, interviews and surveys, scenario planning, roadmaps, etc. helps answering the majority of these questions.

Stakeholder selection

Any foresight project starts with selecting its potential participants and contacting them. Both recognised experts well acquainted with existing challenges and trends, as well as potential addressees of received results or developed recommendations may be engaged. At the stakeholder pre-selection stage the reviewed method may be combined with a deep analysis of literature, bibliometric indicators, or patent analysis. Such comprehensive approach enables identification of key authors of publications and patents who could potentially participate as project stakeholders.

At the preparatory stage of the project stakeholders may make a considerable input into forming the information base of the project, scanning outside environment, identifying challenges and trends, choosing the focus of the research subject, etc.

Involving and communicating with stakeholders

At the main stage of the foresight project implementation, working with participants and gathering necessary information also suggests combining stakeholder analysis with workshops, interviews, and surveys. Stakeholders may participate in one or several workshops, and their number may vary from 10 to 30 people, in individual cases reaching the number of 50 and more people. The interviews may be conducted in an open or structured format, which gives a higher flexibility in getting information from participants that have no exchange of information between them. Surveys are more formal. Receiving questionnaires from stakeholders usually

Table 3. **Interaction mechanisms with various stakeholder categories**		
Degree of Interest / Influence	**Common interaction strategy**	**Set of measures**
High / High	Maximum involvement	Key stakeholders contributing the most to achieving stated objectives. It is advisable to constantly increase the Interest of this group and satisfy its basic needs using partnership principles.
Low / High	Consulting	Coordination of important strategic decisions about the project using principles of consulting participation.
High / Low	Receiving support	Casual participation in the project that does not suppose obligatory direct involvement, only discussion of possible issues and support of important decisions.
Low / Low	Notifying	Informing and minimal involvement in the achievement of required tasks.
Sources: composed by authors.		

requires more time and efforts, and the efficiency from the data gathering point of view is lower, than when conducting interviews. Often stakeholder interviews (surveys) are conducted simultaneously with workshops: for example, before the first session, in-between them or after they have ended — to assess the results.

Involving stakeholders helps enlarge the base of existing knowledge on the subject of the project and receive new knowledge. Working with stakeholders is a most important element when creating a vision, building scenarios, choosing alternative future variants, developing strategy, and receiving other end results. At the final stages stakeholders may help with providing recommendations after the results of the project and facilitate their implementation.

Stakeholder's input into foresight project results considerably depends on the affiliation with a particular group: decision-makers, key experts, and business representatives lead in creating the common vision; experts make a contribution into developing possible results and their effects; ordinary members of business communities evaluate these results; and citizens discuss possible socio-economic effects. Specific forms of stakeholder participation depend on the type of tasks at hand and desired results. For example, when forming scenarios, the efficient form of reaching consensus among stakeholders with opposing interests are workshops. Thanks to professional moderators the uncodified knowledge of workshop participants is formalised during such sessions and there is a transfer from the clash of opinions to developing a common vision reflecting various values and interests.

Below you will find a brief showcase of main possibilities of stakeholder analysis in combination with other foresight methods, structuring and optimising the project implementation process itself, as well as the implementation of stated objectives after its completion.

Creating a vision and an image of the future in working groups

The advantage of doing working groups, and not interviews or surveys is in the direct interaction of

stakeholders that facilitates their common training, exchange of information, and creates a feeling of co-creation of the received results. There is a series of workshops (on average from 2 to 4) that are often conducted during the project implementation to develop, receive, and check the necessary information and jointly develop the image of the future.

The constructive case of utilising such method is a foresight study of applying blockchain technology in industry transformation (Pólvora et al., 2020), implemented in 2017 under the order of the European Commission. There, the stakeholder analysis was applied in a combination with workshops and several other methods.

At the beginning of the project, there was a round of selecting a wider circle of stakeholders with different experience and interests, including of technical experts and developers, researchers from socio-economic sciences and law, blockchain-related business representatives, civil society, analytical centres, authorities of city, regional, national and supranational levels, including various services of the European Commission, European Parliament, UN, OECD, and WEF. After mapping, 270 individual and collective stakeholders have been selected for the subject area
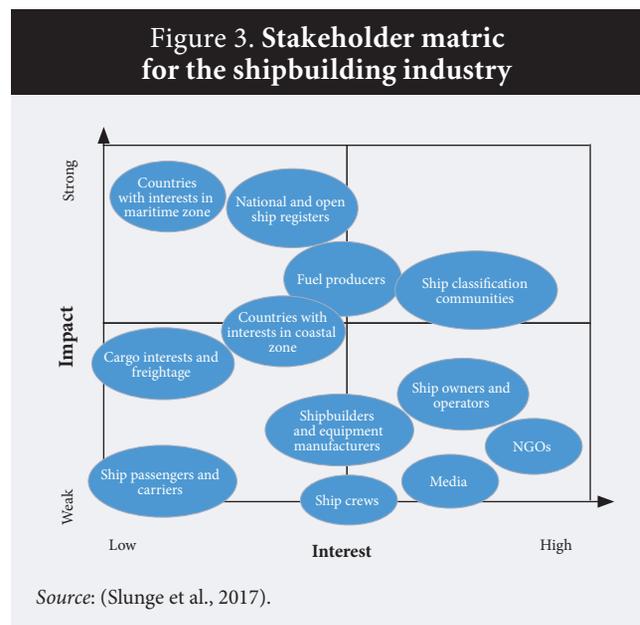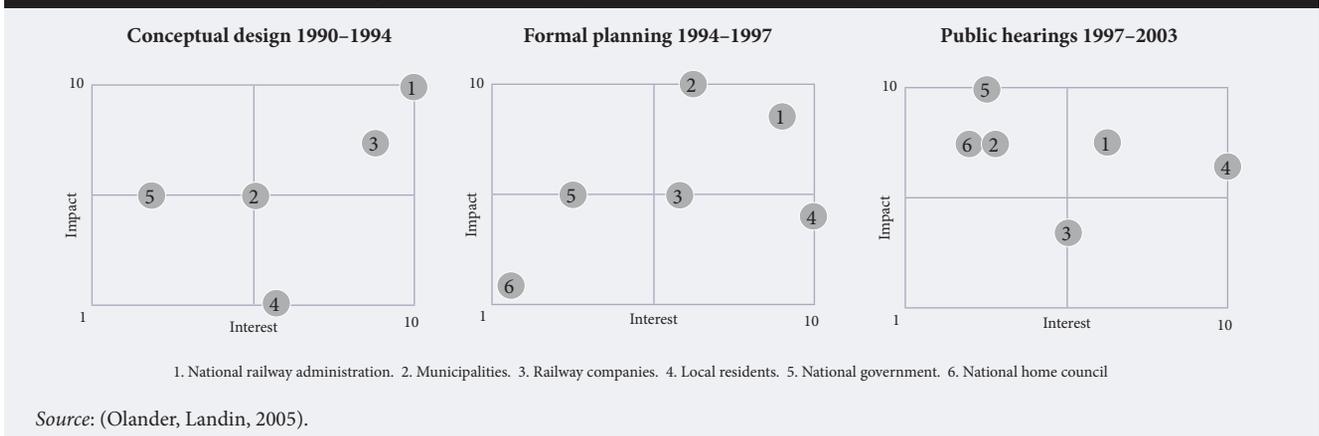

Figure 3. **Stakeholder matric for the shipbuilding industry**

Source: (Slunge et al., 2017).

Figure 4. **Trends in project's stakeholder positions**

| Conceptual design 1990–1994 | Formal planning 1994–1997 | Public hearings 1997–2003 |

1. National railway administration. 2. Municipalities. 3. Railway companies. 4. Local residents. 5. National government. 6. National home council

Source: (Olander, Landin, 2005).

of "blockchain", to whom invitations have been sent out to participate in offline workshops and online surveys. Communication with them was performed in a series of three working workshops with same objectives and tasks, which helped to study and create a vision of future possibilities and applications of blockchain. The assignment to a particular workshop depended on the field of expertise and competence of participants.

The first workshop with 34 participants was dedicated to outlining actual and future challenges and possibilities of blockchain with consideration of political, economic, social, technological, legal, and environmental aspects. The second workshop with 25 participants was dedicated to scenario planning for the manufacturing, dissemination, and use of blockchain applications in five sectors chosen at the first stage. At the final workshop with 23 participants, results from preceding stages have been integrated with a focus on providing policy strategies for the digitalisation of manufacturing and business processes and on implementing technologies and innovations by small and medium-sized enterprises.

The key project deliverable was obtaining a common vision, design, and creation of five prototypes implementing blockchain in advanced manufacturing, energy sector, transportation, logistics, health sector, and creative industries in short-term and long-term perspectives.

Scenario planning and stakeholders' role

Common vision and other information received during workshops with stakeholder participation may work as tool for building scenarios immediately during sessions or when implementing a project. Moreover, scenarios may be verified at additional workshops, interviews or surveys with stakeholder participation.

During scenario planning stakeholders may be performing various functions, the main of which are presented in Tab. 4.

As an example of scenario planning with involvement of various groups of stakeholders in combination with other methods (for example, panels of citizens and experts), we could use a case of studying new governance models within the horizon of 2030 (JRC, 2019). It was focused on possible social, technological, and economic changes and factors prompting the appearance of new forms of governmental and societal management. A moderated dialogue between stakeholders was conducted in a format of working groups, where the base, structural elements, and development scenarios of future governments were being discussed, as well as in a format of a game that helped to build and analyse participant interaction to evaluate possible forms of governance.

Prioritisation, development of roadmaps and support mechanisms with stakeholder involvement

At the final stages of foresight projects stakeholders may be engaged to draw up a system of priorities, to develop roadmaps and support measures for the solution of existing problems, and to choose a trajectory of further development. Here, interacting with stakeholders is also done by way of workshops, interviews, and surveys.

Thus, in 2020–2023, the European Commission implemented a project evaluating the potential of key enabling technologies (KETs) and stakeholder preferences in this sphere. KETs are capable of significantly changing daily lives of people, that is why it is important to engage a wider spectrum of participants into discussing them at various stages of innovation process. Around 50 stakeholders have been engaged in the project from the manufacturing and public sectors, from spheres of business, innovation, research and development, and politics. The public was represented by citizens, NPO employees, trade unions, consumer rights protection organisations, and media. New technologies have been discussed with them during interviews, as well as their influ-

Table 4. **Functions performed by stakeholders within scenario planning**	
Scenario planning stages	**Stakeholder functions**
Scanning of environment	• Assessment of the present-day situation • Providing information about main challenges, trends, and factors influencing the future development
Ranking (prioritisation) of trends and challenges	• Identification of criteria for prioritising trends and factors • Defining most important development trends and factors
Creation of storylines, scenario generation	• Providing information to create storylines and develop scenarios • Participation in creating storylines and scenarios
Building scenarios	• Discussion of preliminary scenarios • Adjustment of preliminary scenarios • Prioritisation of scenarios
Formulation of methodology	• Identification of criteria to choose the measurement system • Determination of possible measures in accordance with identified criteria
Source: (Andersen et al., 2021).	

ence on various spheres of life, as well as products created using KETs.

A foresight study dedicated to working out plant protection measures and food manufacturing development with conservation of biodiversity and stable revenue for farmers has been conducted by the European Parliament in 2020 (European Parliament, 2021). During the project plant protection measures (PPMs) analysis was conducted with the consideration of main stakeholders' opinion to develop support measures. Interests of various stakeholders interested in implementing PPMs were studied: consumers (private consumers, retail merchants, representatives of food industry), manufacturers (farmers), suppliers (PPMs producers), the public (citizens and NPOs). The analysis of stakeholders in any way related to PPMs was driven down to assessing the influence on them of current protection measures, potential transfer to alternative methods with consideration of existing and potential challenges in crop farming.

In 2014, the HSE University conducted a project with involvement of leading experts and decision-makers to update priority areas and the list of critical technologies of the Russian Federation under the commission of the Russian Ministry of Science and Higher Education, within which recommendations were prepared to adjust the current lists of such areas and technologies (Sokolova et al., 2018). A preliminary list was formed with active participation of experts of the highest calibre — participants of federal executive authorities (FEAs), the Russian Academy of Science, development institutions, leading research centres, national research universities, and business communities.

At the next stage a survey was conducted on the priority areas of science and technology, selected in accordance with the current list and top-level priorities of leading foreign countries. Among its participants were the representatives of all FEAs responsible for the support of the development of main economy sectors and the decisions of most important social tasks. The results of the survey and other expert procedures were brought up for the discussion in working groups for each subject area and were summarised by an interdepartmental working group. After that the updated lists were cross-referenced with key stakeholders — representatives of FEAs and the Government.

In the study (Sajadi, 2019), there is a case on preparing a roadmap for the Iranian healthcare sector. Nine projects were being implemented simultaneously in different areas, one of which had two stages and a stakeholder analysis. The first stage consisted of identifying the barriers and drivers of the sector with the help of a focus group and brainstorming with research team members and several profile experts. At the second stage some interests were identified that should be considered when implementing measures reflected in the roadmap. To study the Influence, position, and Interest of stakeholders a specialised survey in a form of interviews was conducted. The selection criteria were: the level of stakeholders' expertise, their influence, and experience in participating in events dedicated to healthcare development. Results of the survey helped create a stakeholder matrix (based on parameters of Interest and Influence). At the final stage some interaction strategies for each stakeholder group were proposed.

Conclusion

The reviewed cases and opportunities of attracting stakeholders into foresight projects prove that their participation adds to the importance of results and quality of adopted decisions, as it provides for a wider range of questions being discussed and a higher completeness of information at the hand of (often in a nonformal way) governmental institutions, academia, business, and civil society. Such discussions enable predicting and softening of possible drawbacks. Other than that, the transparency of project implementation procedures, including due to pleth-

ora of stakeholders' opinions, increases the level of trust to obtained results and the relevance of developed recommendations.

In order to implement a project effectively, it is prudent to attract stakeholders at all stages of the project, especially those characterised by the lack of information and a high level of uncertainty of consequences of adopted decisions. Involving stakeholders of various types allows to formulate tasks more accurately and choose optimal consensus-based approaches to solving them, as well as to increase chances for successful implementation of the project.

Along with that, one should have in mind several peculiarities of this method. First of all, there is a hazard chance of corrupting the results by improperly selecting representatives from any group of stakeholders: the guarantee of a high quality of end results is representativeness of analysis participants. The prevalence of some stratas or their opinions increases the risk of shifting focus when assigning tasks, creating (prioritising) visions of the desired future, and developing practical recommendations. For example, the views of economic efficiency argued by experts may conflict with the claims of social responsibility coming from members of the civil society. And if some group of stakeholders is underrepresented, their interests and needs may not be reflected in project recommendations.

When organising foresight projects, it is important to avoid the pressuring by experts and opinion leaders on other stakeholders or allowing for a lack of experience or the level of qualification of separate participants. Experts' flaunting of their opinions, for example, in front of members of the public, may lead to the corruption of results. That is why when organising stakeholders' communication, it is nec-essary to make provisions for special mechanisms minimising that pressure. The problem may worsen if stakeholders lack experience in discussing important informative or technical issues, so it is necessary to outline the list of topics prior to discussing them, with consideration of the background and interests of various participants. Stakeholders often lose interest in the project, if it is badly organised or if the actual possibility of influencing the outcome of decision-making seems insufficient to them. All mentioned aspects should be taken into consideration when working with various groups of stakeholders.

As shown above, the stakeholder analysis is usually applied in combination with other foresight methods. Most popular include: working groups, interviews, surveys, and scenario planning, which secure a relevant selection of stakeholders and organisation of effective communication with them to receive targeted results. The methods of working with stakeholders are constantly advancing. Participants are subjected to an increasingly closer analysis according to various criteria (above all, by the level of their interest and influence), their coverage is increasing, which promotes and strengthens of practice-oriented aspect of foresight projects while maintaining their analytical and expert potential.

Reviewed cases and publication analysis of recent years, including with a high citation index, demonstrate the expansion of objectives and possibilities of applying stakeholder analysis. For example, in a study of ecosystem services it helps to optimise natural resource management mechanisms (Zhuang et al., 2019). No less effective may be to study stakeholders' interest and influence on the corporate social responsibility (Farmaki et al., 2020).

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