

# Foresight Technologies in the Region: From Identifying Problems to Developing Solutions

A Yantranov<sup>1</sup>, N Atanov<sup>2</sup>, F Khandarov<sup>3</sup>, S Yantranova<sup>4</sup>

<sup>1</sup>Banzarov Buryat State University, 24a Smolin st. Ulan-Ude, 670000, Russia

E-mail: yantran@mail.ru , ni.atanov@yandex.ru, fedor.khandarov@gmail.com, yantranova@mail.ru

**Abstract.** Global change and connectivity require new management approaches. First of all, the business sector adapted to the new conditions, actively implementing modern flexible approaches to management. It is also becoming important for States and their administrative-territorial associations to identify and implement new approaches to strategic management that increase the involvement in decision-making processes and implementation of plans of various actors of socio-economic processes. It is the flexible formation of communities involved in the implementation of state strategies that is one of the areas that improve the quality of management processes. Such opportunities are provided by foresight technologies. A session was held in the Republic of Buryatia to test foresight opportunities for regional management, the results of which are presented in this article.

## 1. Introduction

The high rate of change, the global connectivity characteristic of the modern world, generate a huge amount of change, having a greater impact on local subjects than it was before.

And if the impact on the operations of business organizations components of VUCA: volatility, uncertainty, complexity and ambiguity – it is quite clear and is a subject of active research [1], the activities of States and their administrative-territorial entities in such conditions is a challenge and presents a wide field for research [2].

It is worth noting that the functions of power as the main factor influencing the socio-economic processes are undergoing serious changes: as a result of evolutionary changes, the system of rigid state hierarchical management is inferior to the tools of soft power and indirect management [3].

## 2. Relevance of the study

In such circumstances, and taking into account the limited powers of the authorities, it becomes relevant to select scientific and methodological approaches to management that ensure the implementation of the developed scenarios of the future by involving participants-"actors" of the process to flexible network and vertical interaction.

The approach must meet at least two conditions:

1) Together with the prognostic and have a design character, which describes the picture of the future, the parameters of which are achieved by planning, starting from the current position.

One of the advantages of foresight approach in forecasting [4] is prognostic possibilities due to separation from the current perception patterns typical for problem-oriented approaches.

2) Contribute to the formation of a plurality of vertical-horizontal links "actors" processes that ensure the implementation of project ideas in the implementation of the picture of the future.

This is an important aspect that allows us to overcome the mismatch of interests of subjects of different economic sectors and segments of society, focusing on consensus interaction.

One such method that satisfies the criteria is Foresight.

### **3. Theoretical base of the study**

Foresight is primarily a process of actively exploring the medium - and long-term future and creating a common vision of the prospects by the participants of the process in order to support the adoption of joint decisions [5]. In this case, the specific boundaries of the future are set by the organizers of the process. However, it is worth noting that the debate over the definition of foresight-continues [6].

Initially, Foresight was successfully used to determine the priorities of development in the scientific and technological sphere. In the future, the tool began to be used to address a wide range of issues of socio-economic development. Foresight is widely used in the European Union, in particular, it is a tool for the development of Framework programs for research and technological development of the EU, in Japan to determine the priorities of scientific and technological research of the state and business. In Russia foresight became widespread in the late 2000s. The greatest distribution in Russia received the Rapid Foresight. Among the most important practices in the application: "Foresight Education 2035", which gave rise to Russia's participation in World Skills, "Foresight National Technology Initiative (NTI)", which initiated a state program of measures to support the development in Russia promising sectors so called NTI and many other.

Therefore, Rapid Foresight technology was chosen as the basic methodology, which proved to be a tool that allows to build a qualitative forecast and unite participants in the implementation of their forecasts with minimal use of resources [7].

### **4. Purpose of the study**

The aim of the study is to identify the main problems in the development of the Republic of Buryatia by the expert community, generate project initiatives and launch the creation of activity communities using foresight technologies.

### **5. General presentation of the study**

Participants of the foresight session were 41 people who meet the criteria of expertise in their field, active life position, determined by active participation in public activities, proactivity in social networks (number of subscribers and content of posts calling for action). The distribution of participants was as follows:

**Table 1.** Distribution of participants by field of activity.

Field of activity	Persons	Share,%
Business	17	41,5
Power	9	21,9
Science and education	6	14,6
Public	5	12,2
Healthcare	2	4,9
Media	2	4,9
Total	41	100,0

According to the modified Rapid - foresight technology, the participants identified the most acute problems experienced by them in public and professional environments, on which a subsequent rating vote was held. According to the conditions, everyone could name one problem.

The list is given below. The column "Final rating", and indicated values represent the rankings generated by the participants based on shared personal and professional beliefs. Each of the participants had the opportunity to put 3 marks weighing 3, 2 and 1 point to any problems. That is, from the entire list of pains formed earlier, each participant selected the most important, in his opinion, pain, and assigned it 3 points. The next most important pain he assigned 2 points, and 1 point-the third important pain. The sum of the points placed by all participants opposite each pain forms a rating of ten problems with the highest final rating reflected in the last column:

**Table 2.** Top 5 problems of the Final ranking.

№	Problem (author's formulation)	Area	Final rating
1	Environmental problem	Ecology	31
2	Lack of transparency in the system of selection of personnel for the authorities and the system of their training	Authority	22
3	Inertia of the region's population at the level of mentality	Social	19
4	Low level of education of children and youth	Education	17
5	Business support is not thought out and inefficient	Business	14

Then the participants were divided into working groups according to the rated issues. The distribution of activities in the working groups was as follows:

**Table 3.** Distribution of activities in the groups.

№	Problem (author's formulation)	Business	Power	Public	Science and education	Healthcare	Media
1	Environmental problem	2	3	0	2	1	1
2	Lack of transparency in the system of selection of personnel for the authorities and the system of their training	3	0	3	0		1
3	Inertia of the region's population at the level of mentality	4	3	0	0	1	
4	Low level of education of children and youth	3	1	2	3		
5	Business support is not thought out and inefficient	5	2	0	1		

Thus, business representatives formed the majority in the group "Inefficiency of business support", representatives of science and education worked in the groups "Education" and "Environmental problems".

Each of the groups further worked on the technology of SWOT-analysis, which identified threats, opportunities for the region in the context of upward and downward trends, stimulating and neutralizing measures necessary to use the opportunities or leveling threats: institutions and regulations.

Ultimately, this was reflected in several projects that could enhance or mitigate threats/opportunities to region society over a time line of 5 to 35 years.

## 6. Conclusion

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The introduction of foresight technologies in the practice of regional strategic management will improve the mechanism of implementation of strategic plans at least through the participation of the main actors of the processes in the selected areas, the creation of a network of highly qualified and interested partners.

As a result, the foresight session showed that the mechanism of forming groups for carrying out policies and measures of necessary changes can work with a certain degree of efficiency and without the active participation of the authorities. This is confirmed by the formation and subsequent work of groups in the thematic areas and after the session: the community of participants of the first foresight transformed into a network of "foresight-the movement "Buryatia 2020-2035" [<https://www.facebook.com/groups/Buryatia2035/>], experts on business and Economics continued the work of the expert community of the Strategic Initiatives Agency in the Republic of Buryatia, commending the work of the authorities in the framework of the National investment rating of the regions, experts on tourism united in the framework of the "Project of 100 villages of Buryatia" for the development of rural tourism, experts on education – in the framework of the educational project to launch a specialized educational and scientific center on the basis of the Buryat state University.

However, the mechanism of shaping the future of the region, expressed in specific events and embedded in national plans of the respective level must be reinforced by political will for implementation of projects developed during the foresight sessions that require direct support by the regional authorities.

Foresight technology as a tool for identifying problems is not only of scientific and methodological interest, as a "nervous" system of society, which gives an understanding of the structure and nature of the problems with a high degree of reliability. This thesis makes it significant in the development of electoral strategies, as well as the involvement of local activists in nuclear groups of transformation and, accordingly, involvement in the mainstream of the policy.

## 7. Acknowledgments

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