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**INFORMATION ACTIVITY OF THE SUBJECTS OF INNOVATION  
AND ANALYSIS OF STIMULATING MEASURES FOR INNOVATIVE  
DEVELOPMENT OF THE REGION  
(THE EXAMPLE OF THE TYUMEN REGION)\***

*SUMMARY.* The main indicators for the assessment of innovative development of the region and measures to support innovation are considered in this article. The survey data of the population of the Tyumen region (1600 respondents) serves as empirical data of the analysis. We study the information activity and equipment of the workplace, the activity of the population in the course-work training and retraining programs; the interest to innovation development in the region. The article focuses on the conditions for the intensive innovative development of the Tyumen region. The main results are the following. Every third respondent from among the residents of the Tyumen region is interested in the issue of innovative development. The interest in innovative development is closely related to sex and age of the respondent. Women display a greater degree of interest in various aspects of innovation. The younger people show a greater interest in innovation processes (both in terms of creation of innovations and their practical implementation). The Internet and TV are the main sources where the respondents receive information on the status and development of innovations from.

*KEY WORDS:* innovative activity, innovative environment, innovative performance, information activity, innovation, management of innovations.

The question of designing cities' innovative development index was a research topic for many scientists like I.M. Bortnik, G.I. Senchenya, N.N. Mihkeeva, A.A. Zdunov, P.A. Kadochnikov, A.V. Sorokina [1], V.N. Yakimets, I.L. Balezina, A.N. Valvashov, A.A. Shirobokova [2], S.G. Alekseev [3], I.N. Rykova [4], O.S. Moskvina [5], D.A. Kornilov, O.G. Belyaev [6], G.V. Anisimova [7], L.A. Goryunova, I.A. Sharaldayeva [8] and others. The index of innovative development stands for "complex assessment of innovative development capacity of the regions given the possible success and effectiveness of implementation of new innovative projects based on joint analysis of a region's potential" [9]. The Index of innovative development of Russian regions [IIDRD] consists of three frames [1]: 1) opportunity of creating innovations; 2) opportunity to commercialize innovations; 3) performance of innovation policy of municipal authorities. The common practice in the international community is to

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assess and compare innovative development of different countries and regions. In the international practices the main approaches to assess the innovative development of regions are Regional innovation scoreboard (EU) and Portfolio innovation index (USA) [10].

The scientists use different criteria as the main indicators for assessment of a region's innovative development capability. In our paper we introduce five principal criteria: level of people's interest in innovative processes (both constructing and implementation of them); most effective means of intensive innovative development of a region; media profile of the innovation process's actor; supplement of the innovator's working place with modern tools; duration and intensity of professional skills' improvement of a responder, including the tempos of improvement in the sphere of learning about innovative products in a particular field.

Let us have a look at the results of a questionnaire survey over the population of the Tyumen region which is a compound member of the Russian Federation (as it includes autonomous regions)\*. About 3/4 of the questioned are interested in the topics of innovations and development in different spheres (73.4%), and also one out of three respondents noted their high level of interest (31.3%). 15% are completely not interested in this matter. The population of the region is not very much involved in innovation activities: only one out of eight respondents claims to take part in innovative processes (11.9%), while other respondents are not involved in this sphere at all.

The respondents' interest in the innovative development is closely connected with such differentiating factors as age and sex. We shall begin our analysis with gender identity. Women show more interest in various aspects of innovative activity. In the Khanty-Mansiisk Autonomous District the innovation index\*\* is 1.19 (77.5% of women and 65.0% of men); in the South of the Tyumen Region it is 1.14 (76.6% of women and 67.3% of men). Only the Yamalo-Nenets Autonomous District shows us the opposite picture (the index equals 0.92; 76.7% of women and 83.6% of men).

In the Khanty-Mansiisk Autonomous District and in the South of the Tyumen Region the index of disinterest in innovations among the people is 0.42 and 0.61 accordingly, and it points at a low level of involvement in the innovative sphere among men. In the above-mentioned regions one out of five men is not interested in innovations (20.6% and 21.4% agreeably) and only one of ten women is not interested in innovations (8.6% and 13.1% agreeably). In the Yamalo-Nenets Autonomous District the index of disinterest is significantly higher: it is 1.33 (11.7% of men and 15.6% of women show absolutely no interest in the questions of innovative development and inventions in any industrial sphere).

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\* The survey is conducted by a research team from the Research and Development Center for Social Surveys and Innovations of the Tyumen State University (research director is a corresponding member of the Russian Academy of Sciences, Doctor of Philosophy, professor G.F. Shafranov-Kutsev) during November and December of 2012 (N=1600 of respondents); selection bias (calculated with V. Paniotto's formula) = 2.5%.

\*\* The index is calculated by division of women's answers by men's answers.

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Interdependence between the variables “respondent’s age” and “respondent’s interest in innovative processes” can be characterized as inversely proportional: *the older the person is, the less interest they show in the innovative processes* (both concerning creation of innovations and their practical implementation). In the Khanty-Mansiysk Autonomous District the highest level of innovative sphere interest is showed by the youth aged 18 to 30 years old (36.2%). Only one out of four respondents older than 51 is interested in innovations (25.0%), and this number is by half less than the number of positive answers from respondents younger than 30.

In the Yamalo-Nenets Autonomous District 33.1% of the youth show interest in the innovative sphere. The number of interested people older than 51 falls to 22.2%. In the South of the Tyumen Region the gap between age groups is much lower: from 31.0% to 24.9%. Nevertheless, the tendency is sustainable: the highest number of positive responses was given by the youth, while the people of preretirement and retirement age mostly give negative responses.

#### **Conditions for intensive innovative development of the Tyumen Region**

Let us analyze the respondents’ responses to the question “What measures referred below can contribute to the intensive innovative development of the Tyumen Region?” in order from highest to lowest. The first place is taken by “providing tax benefits” (60.6%) and “consultancy and material support (business plan, lease, loans, subsidies)” (60.5%). The second place is taken by “goal-oriented programs for small and medium enterprises” (56.9%), “economic interests protection for the authors of inventions” (54.9%) and “juridical protection of innovative property” (53.2%). After that with a small difference “development of small innovative enterprises in non-energy sectors” follows (49% of respondents). In the end of the list “the formation of mediasphere (special almanachs, magazines and publications, 43.0%)” and “carrying out the policy of import substitution” (27.9%) follow.

It is obvious that the respondents’ assessments depend on their participation in innovative processes. Let us look at the desired supportive measures of innovative activities expressed by respondents that actively participate in the innovative processes. A keen interest in their opinion can be explained by their competence and experience of practical activity in the innovative environment. So, they put “formation of mediasphere (special almanachs, magazines and publications)” atop: one in five respondents chose that variant (14.6% (KMAD - 14.4%, YNAD - 15.6%, the South of the Tyumen Region - 13.9%). The second place is taken by “juridical protection of innovative property” with the average share 13.7% (KMAD - 13.0%, YNAD - 14.0%, the South of the Tyumen Region - 14.0%). “Economic interests protection of the authors of innovations” takes the third place with the average share of 13.5% (KMAD - 12.7%, YNAD - 13.9%, the South of the Tyumen Region - 13.8%).

With a slight difference the fourth place is taken by “providing tax benefits”: one in seven innovators chose this variant - 13.3% (KMAD - 12.6%, YNAD - 15.9%, the South of the Tyumen Region - 11.4%). The fifth place is shared by three supportive measures: “consultancy and material support (business plan, lease, loans, subsidies)” (KMAD - 13.7%, YNAD - 13.2%, the South of the Tyumen Region - 12.0%),

“development of small innovative enterprises in non-energy sectors” (KMAD - 12.0%, YNAD - 13.8%, the South of the Tyumen Region - 13.1%), and “goal-oriented programs for small and medium enterprises” (KMAD - 12.6%, YNAD - 13.9%, the South of the Tyumen Region - 12.5%). The least popular supportive measure (6th place) is “carrying out the policy of import substitution” (KMAD - 14.5%, YNAD - 9.6%, the South of the Tyumen Region - 10.1%).

The distribution of prioritized supportive measures for innovative activity in KMAD, YNAD and in the South of the Tyumen Region is presented in Table 1.

Table 1

## Supportive measures for innovative activities

	KMAD		YNAD		The South of the Tyumen Region		Average number	
	%	Grade	%	Grade	%	Grade	%	Grade
Formation of mediasphere (special almanachs, magazines and publications)	14.4	2	15.6	2	13.9	2	14.6	1
Providing tax benefits	12.6	6	15.9	1	11.4	7	13.3	4
Consultancy and material support (business plan, lease, loans, subsidies)	13.7	3	13.2	5	12.0	6	13.0	5
Development of small innovative enterprises in non-energy sectors	12.0	8	13.8	5	13.1	3	13.0	5
Carrying out the policy of import substitution	14.5	1	9.6	6	10.1	8	11.4	6
Goal-oriented programs for small and medium enterprises	12.6	7	13.9	4	12.5	5	13.0	5
Juridical protection of innovative property	13.0	4	14.0	3	14.0	1	13.7	2
Economic interests protection for the authors of innovations	12.7	5	13.9	4	13.8	4	13.5	3

**Assessment of priority supportive measures for innovative activity in relation to the level of people’s education.** Let us analyze the assessment of priority supportive measures for innovative activity in relation to the level of people’s education. The respondents that have a post graduate degree generally used to give higher value to the majority of supportive measures listed in the questionnaire. “Providing the tax benefits” was marked as a measure boosting the innovative development of the region by 87.5% of respondents with a post graduate degree (the average number of positive responses to this question equals 64.5%). The variant “goal-oriented programs for small and medium enterprises” and “development of small innovative enterprises in non-energy sectors” was chosen by 62.5% of respondents with a post graduate degree (average number in given distribution equals 60.0% and 50.5% accordingly). It is

necessary to mention that concerning the goal-oriented programs for small and medium enterprises the respondents were almost consentaneous: the dispersion between differently educated people is relatively small. 37.5% of the respondents with a post graduate degree supported "carrying out the policy of import substitution" (the average number is 26.3%).

But some measures have different results with people that have a post graduate degree and people that do not. For example, "juridical protection of innovative property" is supported by 55.5% of people with a general secondary education and 50.5% of people with a post-secondary education, while only 37.5% of people with a post graduate degree support this measure. "Economic interests protection for the authors of innovations" was ticked mainly by people with a lower secondary education (61.5%), while only 50.5% of respondents that have higher education and only 56.2% of respondents that have a post graduate degree support this measure.

The revealed trend acts as an indicator of the growth of awareness about supportive measures for innovators and their direct ration influence on innovative processes in the region in connection with the level of respondent's education. The people that have a higher education or a post graduate degree in the vast majority of cases participate directly or indirectly in the innovative processes of regional and/or national innovative system and, due to this, usually are free from the stereotypes and myths which are shared by people not participating in the processes, connected with innovations.

**Media policy supporting innovative activity.** The respondents were offered to choose 5 major sources to get the information about the status and development of innovative processes. The lead was taken by the Internet (74.1%) and television (69.7%). The second place with a serious gap is taken by print media (39.9% for local press and 39.6% for national press) and legal reference system "Consultant Plus" (32.4%). One out of five named official documents as the main source of information about the innovative activity in the country and region (20.7%). The software products "Garant" and "Codex" have 18% and 13% accordingly.

A very small amount of residents of the Tyumen Region (including autonomous districts) use the facilities of the cities' central library and special bulletins to get the information about innovative processes (9.3% and 8% accordingly).

**Equipment of personal workplaces of the Tyumen Region population.** A personal workplace of 33.9% of respondents is equipment in a modern way (26.9% of respondents have imported equipment and 7.0% have equipment made in Russia). 26.0% of respondents have out-of-date equipment, 11.0% of them have equipment made in Russia and 15.1% have equipment made abroad.

The majority of respondents assess the perspective of re-equipment of obsolete working places positively. On the average in the Tyumen Region one third of the population (34.7%) chose the response "It is possible" to the question "Is there a perspective that your working place will be re-equipped in 2 or 3 years if its equipment is obsolete?". One out of five respondents (10.2%) emphasized that their enterprise already has concrete plans of working place re-equipment according to the recent scientific and technical developments.

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27.4% of respondents share the pessimism; 12.1% of them responded that there is no perspective for re-equipment, and 15.3% of respondents are convinced that it is hardly probable.

**Advanced training and occupational retraining of people.** Only 26.4% of the respondents that participated in the mass survey in the Tyumen Region (including autonomous districts) have received training during further education courses and/or occupational retraining from 2010 to 2012. The most activity was demonstrated by the inhabitants of the South of the Tyumen Region (26.1%) and KMAD (23.1%).

Only one out of a hundred respondents (!) in YNAD have received further education training during the last three years, though 36.2% of respondents have received further education training from 2006 to 2010.

Let us look at the period of time of the last further education training of respondents that live in the Tyumen Region: 0.6% of them received it before 1990; 2.1% - from 1991 to 2000; 2.9% - from 2001 to 2005; 14.1% - from 2006 to 2010; 6.1% received it in 2010, 9.0% - 2011, 10.9% - 2012. 59.2% of respondents have abstained from giving a response, which means that they did not get any further education training at all.

The distribution of responses to the question "How long did the courses take (days), if you had any?" shows that the majority of courses take two or three working weeks (11-15 working days): 9.5% of respondents ticked this. The courses that take about a month come next (21-30 days) with 7.3% of responses. Short courses taking less than 5 days were ticked by 5.9% of respondents. It is necessary to mention that the majority of respondents abstained from giving a response to this question (61.6%).

In the majority of cases the further education courses were taken at the expense of the regional budget or employing complany. The major source of funding for further education courses appears to be a budget of an enterprise where a respondent works (on the average 12.7% of all the distribution). The maximum percentage of expenses from this source comes from the South of the Tyumen Region (15.0%), and the minimal one comes from YNAD (9.7%).

Only 24.3% of KMAD, 21.9% of YNAD and 22.3% of the South of the Tyumen Region's employees had to pay for further education courses. About a half of all the respondents abstained from giving a response to this question, which means that they probably did not have any further education courses at all.

On the basis of the results of the empirical stage of survey conducted we can draw several key conclusions.

One out of three respondents from the Tyumen Region (including autonomous districts) is interested in the problems of innovative development.

The degree of respondents' interest in innovative development is closely connected with gender and age of a respondent. Women are interested in different aspects of innovative activities to a greater extent. The ratio between age and interest is inversely proportional: the younger the respondent is, the higher is the level of interest (both in the aspects of creating innovations and implementing them).

As the most effective measures respondents marked those that contribute to the intensive innovative development of the Tyumen Region: "providing tax benefits"

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and “consultancy and material support (business plan, lease, loans, subsidies)”. A half of the respondents consider “goal-oriented programs for small and medium enterprises”, “economic interests protection for the authors of innovations”, “juridical protection of innovative property” and “development of small innovative enterprises in non-energy sectors” to be effective as well.

The opinion of active innovators differs from the opinion of respondents that are not involved in innovative processes. Innovators chose the following measures: “formation of mediasphere (special almanachs, magazines and publications”, “juridical protection of innovative property”, “economic interests protection for the authors of innovations”.

The growth of awareness of the supportive measures for innovations and their influence on innovative processes in the region is directly connected with the level of respondent’s education. People with higher or post graduate education in the majority of cases are directly involved in innovative processes and assess them more objectively, taking into consideration the complex influence of the variety of factors, and it differs them from the people that are not directly involved in the innovative process.

The major media sources to get information about the status and process of innovative development are the Internet and TV (three out of four respondents have marked it). One out of three respondents gets the information from printed press (local newspapers and magazines and national printed media) or from the legal reference system “Consultant Plus”. One out of five respondents marked official documents and software products “Garant” and “Codex” as the main sources of information on the innovative activity in the country and region.

One out of three respondents has a personal workplace fitted with modern equipment. About a quarter of respondents have obsolete equipment. The majority of respondents expect their workplace with obsolete equipment to be re-equipped soon.

Concerning occupational retraining of the Tyumen Region residents we now know that only one out of four had further education courses or occupational retraining during the period from 2010 to 2012. More than a half of the respondents did not have further education courses at all. The most common courses take two or three weeks or less than a month.

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