

**DOI: 10.12731/2218-7405-2013-8-59**

## **INFORMATION SUPPORT FOR INNOVATIVE PROCESSES IN THE TYUMEN REGION**

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The article presents the results from analyzing the use level of information services (diffusion channels) in the Tyumen Region and the quality of information on innovation technology provided to residents of the Tyumen Region by the regional print media and online sources. The idea of building an information support system for innovative processes in the region is substantiated.

**Keywords:** region, innovative processes, information resources, innovative policies, innovative environment.

## **ИНФОРМАЦИОННАЯ ПОДДЕРЖКА ИННОВАЦИОННЫХ ПРОЦЕССОВ В ТЮМЕНСКОМ РЕГИОНЕ**

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В статье изложены результаты анализа уровня потребления информационных услуг (каналов диффузии) в Тюменском регионе и качества предоставления информации об инновациях населению Тюменского региона в региональных печатных СМИ и интернет-источниках. Обосновывается идея построения системы информационного обеспечения инновационного процесса региона.

**Ключевые слова:** регион, инновационные процессы, информационные ресурсы, инновационная политика, инновационная среда.

In 2010, an initiative called the Regional Innovation Monitoring (RIM) was launched in the European practice of statistical surveys. It is funded by the European Union and aims to describe and analyze trends in innovation policy in different regions of the EU. The main purpose of RIM is to provide decision-makers and other innovators with an analytical framework and tools to assess the strengths and weaknesses of regional policies and regional innovation systems [1, p. 38].

The opinion that regional factors may influence the innovative development of enterprises is also being formed in the Russian practice. This has generated considerable interest in the study of innovations at the regional level. Regional differences in the levels of innovation activity can be substantial, so the identification of its main characteristics and the factors contributing to innovation activities at the regional level is especially important for a better understanding of innovative processes and the development of appropriate policies [1, p. 38].

Today, the thesis that the regional innovation policy must be comprehensive and cover all aspects of innovation activities is being substantiated. Moreover, it is necessary to shape a concept of the advanced information and analytical support for innovative processes that aims to create conditions for the use of the full range of information resources in the preparation, adoption and implementation of management decisions in the area of distribution of innovative technologies in the region [2].

The aim of our study was to assess the use level of information services (diffusion channels) in the Tyumen Region and the quality of information on innovative processes provided to residents of the Tyumen Region by the regional print media and online sources. The population survey and content analysis of print media and online sources were selected as information collecting methods. In the survey, we managed to detect the public use rate of information sources such as the Internet, newspapers, reference and legal systems. The content analysis of the texts allowed us to identify evaluating characteristics of innovative development in the Tyumen Region, determine the main directions for innovative development of the

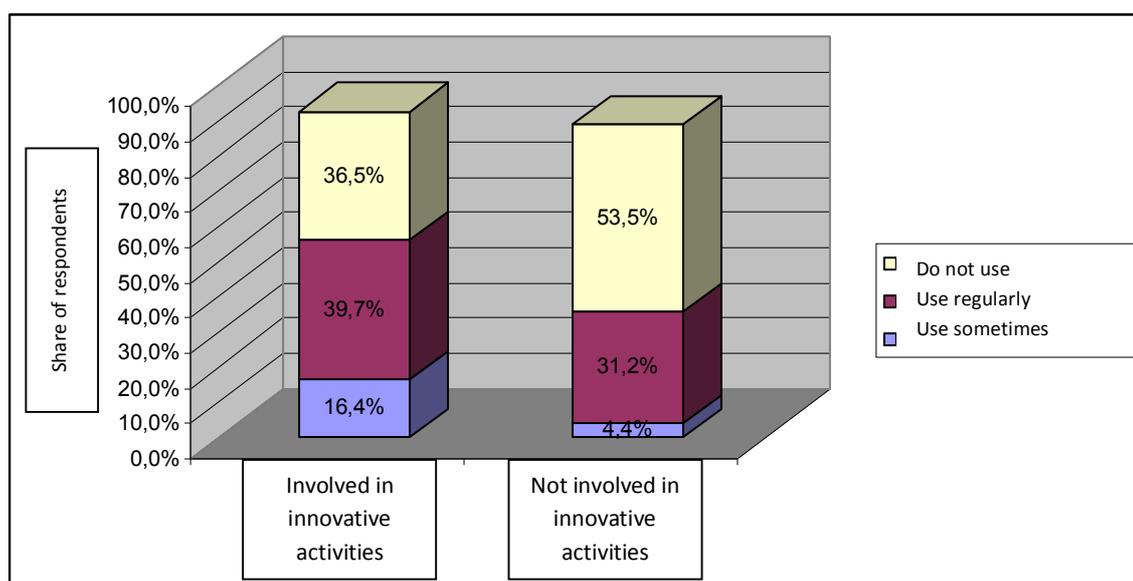
region reflected in print media and online sources, analyze major (from the point of view of various authors) factors and conditions for innovation activities in the region, and estimate the overall development level of the region's innovative environment and the extent of public participation in this process.

According to the survey results, in general, a little over a third of residents of the Tyumen Region (38%) use services of the central, district and city libraries of Tyumen and the Regional Scientific Library n.a. D.I. Mendeleev, and only 5.8% of them utilize information resources of the above libraries on a regular basis. 32.2% of respondents apply to the library facilities in search of the necessary information only once in a while. Half of the respondents (50.9%) do not use library services and receive the required information from other sources.

Undoubtedly, people visit libraries due to the urgent need for self-development, as well as to obtain missing information. Another significant reason why citizens use different sources of information is that they are interested in particular subjects that are of great practical significance and affect social interests of many people. At present, one such subject discussed at the state level is the issue of innovative development of the Russian society as a whole, as well as of individual regions and businesses. Therefore, it can be stated that the greater interest of respondents in the issue of innovation and innovative development will result in the higher use rate of library holdings. This is shown by the results of the survey: 51.1% of those who are very interested in this issue are library visitors, and 9.7% of them are active readers. Respondents showing little interest in the topic of innovation demonstrate lesser tendency to visit libraries – they constitute only 35.3% (regular visitors - 3%). Those who are not interested in the problems of innovation at all visit libraries even more rarely: in this group of respondents, only 16.6% of people use library services, and only 2.2% of them do it on a regular basis.

The attention to the issues of implementing innovations is not limited only to the interest in what is happening in this field, but also expressed in the creation and implementation of innovative projects. According to the questionnaire survey, 11.9%

of residents of the Tyumen Region are personally involved in the innovative activities, of whom 56.1% use library resources to obtain the necessary information. In addition, 16.4% of respondents use libraries regularly and 39.7% - from time to time. As can be seen in Fig.1, the number of users of library holdings among those who are not involved in innovative activities is lower by 20.5% (35.6% of respondents), and the number of regular users of library services – lower by 12% (4.4% of respondents).



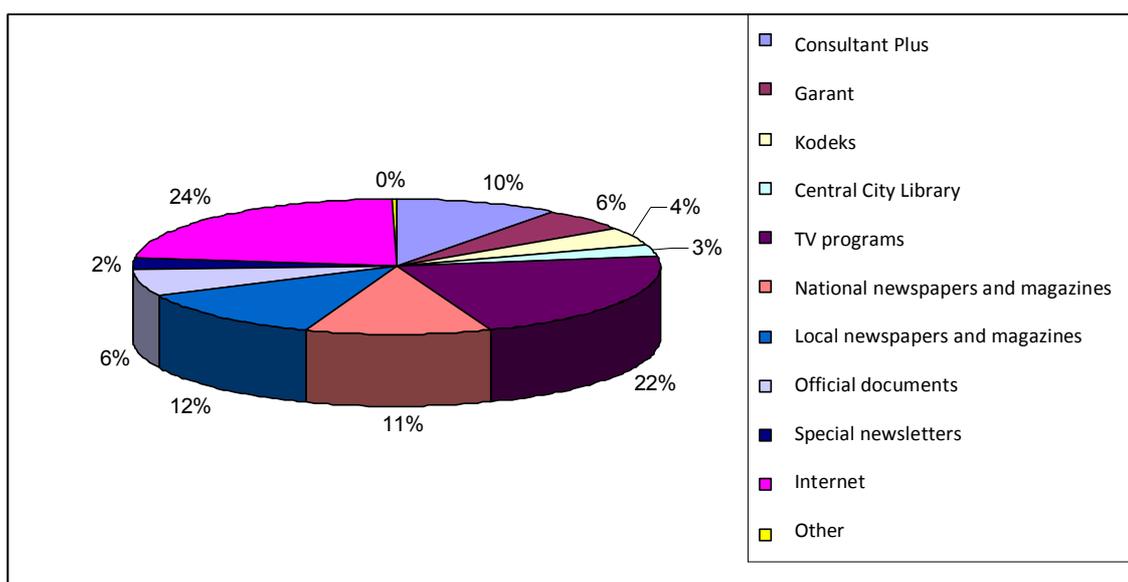
**Fig. 1.** Distribution of answers to the question "Do you use library services?" depending on the personal involvement of respondents in innovative activities

An important incentive to use library services is personal participation of citizens in the implementation of science and technology grants. The highest percentage of respondents using library holdings is found among the region residents who worked on grants in a group (65.2%). 20.8% of them visit libraries on a regular basis and 44.4% - from time to time. More than half of the respondents who worked on grants individually (59.7%) are library visitors, 22.4% of them being regular readers. Slightly less than half of the respondents (47.9%) who heard that their friends and acquaintances participated in grants apply for the library services. The lowest percentage of library visitors is observed in two categories of respondents:

those who do not have colleagues that participate in grants (32.2%) and those who do not know the meaning of the word "grant" (28.6%).

According to the study results, libraries are not the only source of information on the condition and development of innovative activities in the country and the region. Residents of the Tyumen Region obtain the information on the innovative development through the following (Fig. 2):

- Internet (74.1%);
- TV programs (69.7%);
- Publications in local newspapers and magazines (39.9%);
- Publications in national print media (36.6%);
- Computer program Consultant Plus (32.4%);
- Official documents (20.7%);
- Computer program Garant (18.0%);
- Computer program Kodeks (13.0%);
- Central City Library (9.3%);
- Special newsletters (8.0%);
- Other sources (6%).



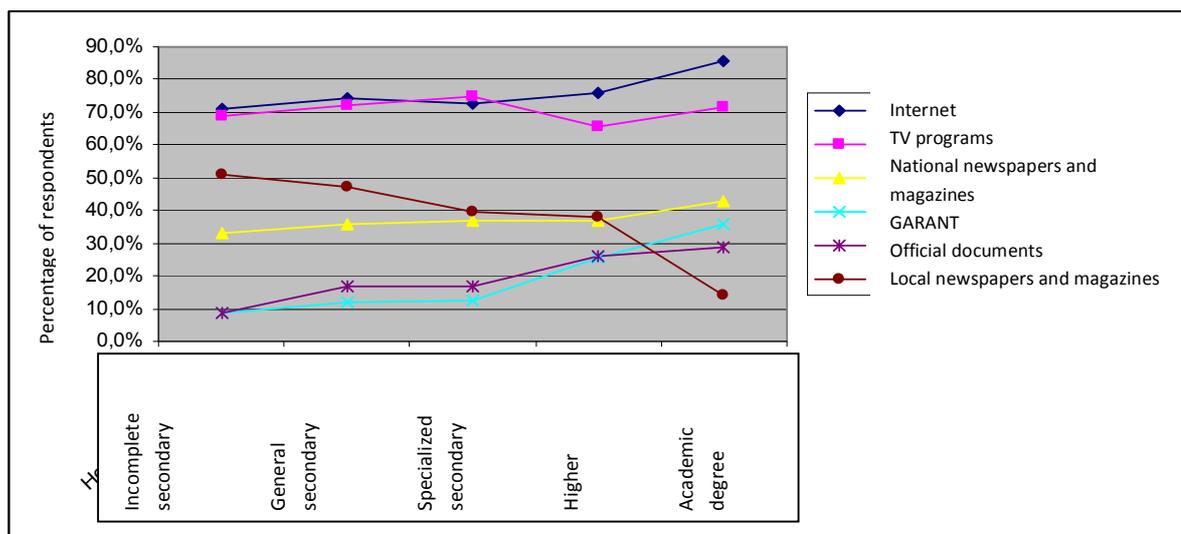
**Fig. 2.** Distribution of answers to the question "What source do you use to get the information about the condition and development of innovative activities?"

The distribution of answers shows that the most popular means to obtain information among the respondents are audiovisual media - TV and Internet. In our opinion, leadership of the Internet is obvious because this media is innovative itself and, in addition, it allows you to take advantage of a variety of reference and legal computer systems, information portals and programs, including Consultant Plus, Garant, Kodeks, etc., as well as websites of national and local print and electronic media. People often prefer television because of its accessibility, information value and timeliness. Another reason to choose TV is a high level of confidence in the national television (according to the All-Russian Center for the Study of Public Opinion (VTsIOM) more than 70% of Russians trust the information contained in TV programs) [3].

It is worthy of note that the Central City Library as a source of relevant information is one of the last in the ranking, which clearly illustrates the failure of this institution to provide visitors with the necessary information on topics of interest due to limited resources and an insufficient level of computerization.

The questionnaire survey revealed the correlation between the respondents' educational level and their preferences with respect to such sources as the Internet, national and local printed periodicals, official documents, and computerized legal system Garant (Fig. 3).

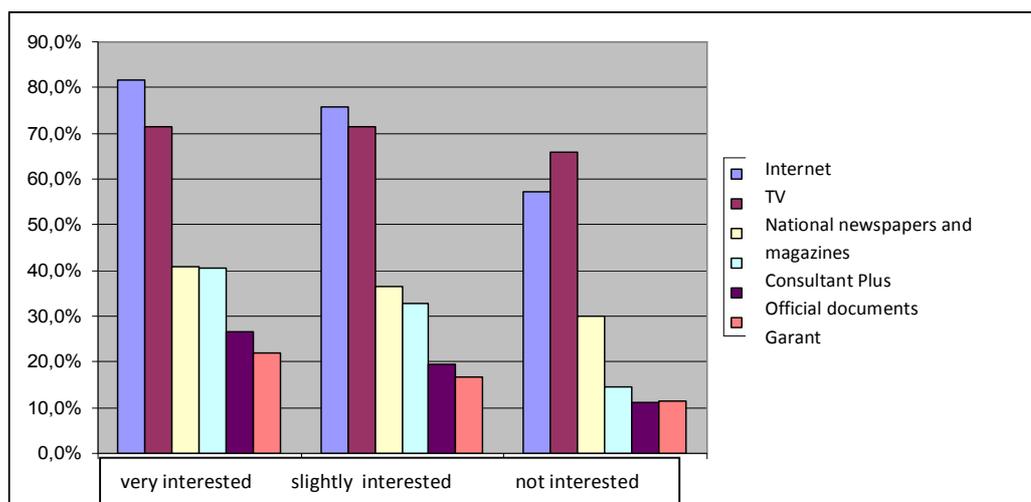
Thus, as the educational level increases, more and more respondents use the Internet (from 71.1% of respondents with incomplete secondary education to 85.7% of respondents with academic degrees), read national newspapers and magazines (from 33.3% of respondents with incomplete secondary education to 42.9% of respondents with academic degrees), use computer program Garant (from 8.9% of respondents with incomplete secondary education to 35.7% of respondents with academic degrees) and refer to official documents in search of information (from 8.9% of respondents with incomplete secondary education to 28.6% of respondents with academic degrees).



**Fig. 3.** Distribution of answers to the question "What source do you use to get the information about the condition and development of innovative activities?" according to the educational level

As can be seen from the chart, the growth of preferences according to different sources ranges from 9.6% to 26.8%. At the same time, as the educational level increases, less and less respondents refer to the materials of local print media (from 51.1% of respondents with incomplete secondary education to 14.3% of respondents with academic degrees). This fact may indicate that the local newspapers and magazines publish insufficient (in comparison with other sources of information) number of serious analytical articles on issues of innovative activities in the country and the region.

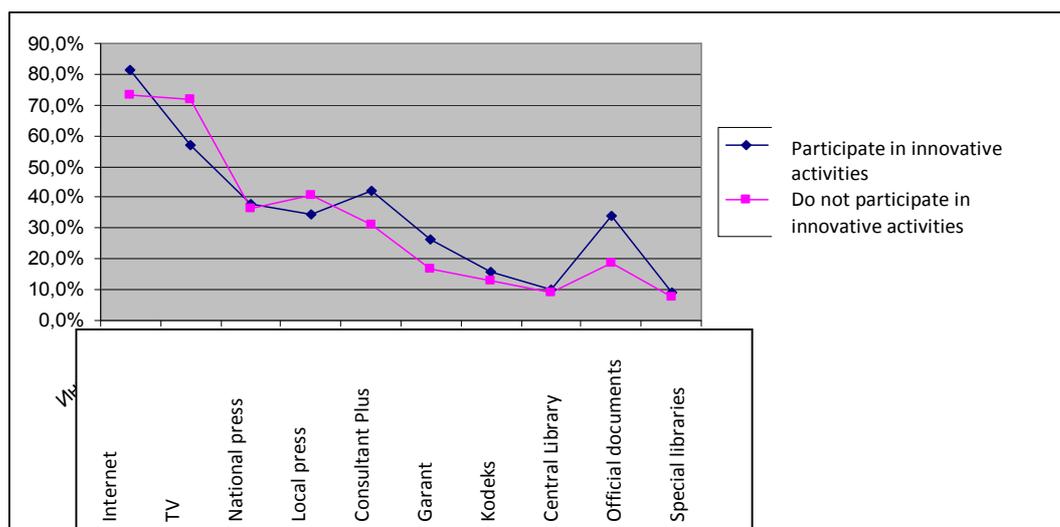
The study found that the growth of interest in the issue of innovation encourages respondents to make greater use of the Internet, television, national newspapers and magazines, reference and legal systems Consultant Plus and Garant, and official documents to obtain the necessary information (Fig. 4).



**Fig. 4.** Distribution of answers to the question "What source do you use to get the information about the condition and development of innovative activities?" depending on the degree of interest in the issue of innovation.

As the chart shows, the respondents who express interest in the issue of innovation refer to online sources more often (81.7% - very interested and 75.9% - slightly interested), but those who are not interested in the innovative process in most cases make a choice in favor of television (65.8% of respondents) using the Internet rarer by 8.6%. The respondents' answers reveal different activity rate when searching for the right information. In this case, the interest in the topic is a significant factor in the media use level: the more urgent the need for information, the more varied the arsenal of information sources and the higher the intensity of their use.

This relation is even more evident in the distribution of responses according to the criteria of participation in innovative activities (Fig. 5).



**Fig. 5.** Distribution of answers to the question "What source do you use to get the information about the condition and development of innovative activities?" depending on the participation in innovative activities

These charts show a direct relation between the fact of participation (non-participation) in innovative activities and the use rate of a variety of information sources. The largest number of respondents chooses the Internet: 81.2% of those who participate in innovative activities and 73.0 % of those who do not participate in such activities. The next most important source is television (56.9% and 71.6% respectively). National newspapers and magazines are in almost equal demand (with a difference of 1%), and the local press is more popular (6.5%) among the respondents who do not participate in the implementation of innovations. The most popular reference and legal system is Consultant Plus that won more votes than the others by 10.9% (42.2% of respondents). The information and legal base Kodeks is the least popular (15.6% of respondents involved and 12.8% of respondents not involved in innovative activities). Official documents are used as a source of information 1.8 times more often by the respondents involved in innovative activities (33.9%).

The respondents that are involved in the implementation of grants personally or in a group show slightly different distribution of answers regarding the preferred sources of information. They very actively use reference and legal systems

Consultant Plus, Garant and Kodeks, as well as city library holdings and official documents. However, they search for the necessary publications in the Internet, TV and local print media more rarely than people not involved in grants.

Thus, the general use level of information services among residents of the Tyumen Region can not be called high: less than half of the respondents (38%) use library services. Only half of those who are very interested in the topic of innovation visit libraries and most of them do it from time to time. To get the information of interest on innovative development, citizens mainly refer to the most readily available sources of information, such as the Internet, TV and print media. This distribution is preserved for both those who are interested in innovations and those who participate in innovative activities. The use rate of certain sources (Internet, print media, reference and legal systems) grows as the educational level, interest in the topic of innovation and involvement in innovation and grant activities increase.

The content analysis of regional print media for 2012 allowed us to determine the coverage rate of the issues of innovative development in the Tyumen Region, as well as number of issues that are often offered for the consideration of the public.

First of all, it should be noted that every sixth edition of the print media or online sources contains publications reflecting problems, trends or prospects of innovative development in the Tyumen region. Most often, the issues of innovation are contained in the online media. The leading online source is 72.ru that had 58 publications on innovation in 2012.

The subjects of publications that contain our selected units of analysis are quite extensive and affect the banking sector, culture and education, automobile industry, urban development, international cooperation of the Tyumen youth, heat supply of the city, aviation, army, and agriculture. The priority topics for discussion are issues of innovative development in the field of education, culture, medicine, oil-refining industry in the region, and online technology.

The authors of statements published in the regional media were mostly journalists, more rarely - administration of the city and the region, heads of private

enterprises, chairmen of Tyumen industrial parks, art critics, directors of major medical centers, cultural workers, and other members of the public.

Most publications that contained our selected units of analysis were targeted at promoting the newly established innovative enterprises and raising administrative funds of the city or region. However, there are some publications on setting up of innovative enterprises in the region with the support of leading countries such as Germany and the United States. The upside is that online sources reflect scientific achievements of young people in the development of innovative enterprises.

As for the indicators of innovative development in the region such as expected economic, managerial and environmental effectiveness of implementing innovations, provision of experts with the proposed innovative technology, effectiveness of the Tyumen industrial parks and business incubators, international scientific cooperation of the Tyumen industrial parks and business incubators, quality level of regional exhibitions and research project contests, and involvement of young people in the scientific activities of the region, the analysis revealed a predominance of positive ratings in the statements of the authors of publications. Thus, for example, the expected cost-effectiveness of the introduction of innovative technology was rated as very high and high in 72 out of 125 publications covering this issue and the expected managerial effectiveness was rated as very high and high in 58 out of 108 publications covering this issue. However, according to the authors of the vast majority of publications (41 out of 79 printed publications), the environmental effectiveness of innovative projects can not be estimated for today. Also the authors of statements have very positive attitude towards the provision of region with experts to implement the proposed innovations: 83 out of 91 publications related to this topic highly praised the expert situation in the region.

We conducted a quite interesting analysis of such indicator of innovative development in the region as a class of the proposed innovation. According to this criterion, we found publications that reflected the full range of proposed innovations in the region: from the system innovations that are associated with changes in all

subsystems of the organization and were not previously used in this field to the modification innovations that modify individual subsystems or business processes of the organization.

A very important indicator of the regional innovative development is the opening of innovation facilities in Tyumen such as West-Siberian Industrial Park - one of the most important innovation facilities in the region, Tyumen State University Industrial Park as an important element of the TSU innovation infrastructure, Innovative Research and Production Complex (Industrial Park) of the Tyumen State Oil and Gas University, and the Regional Business Incubator created by the Department of Investment Policy and State Support of Entrepreneurship in the Tyumen Region.

The analysis revealed assessments of the effectiveness of these facilities by regional media. It is significant in this regard that in the period under the analysis there were no publications containing negative reviews of their work. We selected 7 editions and each of them had at least one publication on the work of industrial parks or business incubators. In addition, 64 out of 73 publications on this issue highly praised these regional innovation facilities.

The authors of publications rate the international scientific cooperation of the Tyumen industrial parks and business incubators a little bit lower: with prevalence of high general assessment of international cooperation (32 of 62 publications covering this issue), a third of the authors of publications (24 of 62) state that there is no international cooperation at all. The same estimate is given to the organization of regional exhibitions and research project contests: half of publications (36 of 69) highly praise the organization, and just over a third of publications (24 of 69) state that almost no regional exhibitions and research project contests are conducted.

In general, the level of the innovative environment development in the region and the extent of public participation in this process are estimated in the regional print media as quite high.

In this article, we have reflected the results of using only one of the possible elements of the region's data map in the management of the regional innovative processes. This is a research element that amply demonstrates the strengths and weaknesses of innovation policy in the region. This kind of information in conjunction with other indicators of information support for innovative processes in the region allows making short-term, medium-term and long-term forecasts of innovative development in the region and specifically influencing weaknesses of the regional policy.

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