INNOVATIVE POTENTIAL OF YOUTH OF INDUSTRIAL REGIONS OF RUSSIA

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Abstract

Despite the ongoing reforms, the Russian economy maintains a low demand for innovation from private and public sector. The level of innovation activity of enterprises is inferior to the indicators of leading countries in this area. The transition of a society from a resource economy to an innovation one is associated with the development of human potential, primarily in the area of technology and innovation[1]. The most valuable human resource of transition – working youth of industrial regions of the country.

The main task of the authors is to assess the quality of the innovative potential of young people employed in regional enterprises and to identify institutional factors for increasing it.

In order to implement research tasks, a questionnaire of young workers (N = 1050), employed at industrial enterprises, was conducted in May-September 2018.

The results of the study recorded a gap between subjective (internal) and objective (external, institutional) characteristics of innovation potential. The achieved level of innovative activity of youth is largely limited to stage of initiation and development of innovative projects. Only a small part of working youth is attracted to design of innovative projects and their promotion.

Key words: working youth, region, innovation potential

JEL Code: O15**,** O32, R11.

Introduction

The study of the habituses of different social communities as dispositions in relation to innovation allows to identify innovative practices of these agents, which form the innovative potential of the region. The starting point in the development of a community-based approach to the innovative potential of young people is the idea of K. Mannheim about youth as a

[1] Order of the Government of the Russian Federation, 2011

hidden resource: “young people are one of the hidden resources that exist in every society and from which their viability depend” (Mannheim, 1994). The idea of a “hidden resource” reflects the dialectic of subject-object bases in the interaction of society and youth. On the one hand, young people act as an object of actual investment in its resource. By solving the current problems of young people, the society lays the foundation for its further development. On the other hand, the idea of "hidden resource" poses serious challenges to the young man himself (his resource is often hidden from himself), and to sociologists ("to open" youth resources for society and – on this basis – to determine the most optimal ways of their "mobilization").

1 Evaluation of innovative potential of working youth

Community components characterize the general features of the innovative potential of working youth and the specifics of its various groups that can become agents of the innovation process. The conceptual level was based on the understanding of potential in its various meanings: potential as a “reserve”, “resource”, “readiness”, “realized opportunity / ability”. According to the results of empirical research, four concepts of innovative potential can be interpreted in four relevant models - reserve, intentional, resource and actualized. Each model is filled with its own empirical indicators:

- intentional model reflects the desire of young people, their focus on creative activity, and their readiness to introduce innovations;
- reserve model reflects the innovation openness, the susceptibility of the subject, verified through the interest of youth in the innovation processes;
- resource model describes the real opportunities of working youth to participate in innovation activities;

actualized / achieved model determines the level and forms of innovation activity through different behavioral models (routine / household and / or professional innovation activity).

1.1 Intentional model

The intentional model of innovation potential was verified through:

- value bases of life strategies and plans of working youth;
- availability of personal qualities necessary for innovation activity, which determine the ability to innovate.

In the structure of life plans of young people, the focus on creative, innovative activity is quite high, readiness for it articulates every tenth respondent (Table 1). For comparison, the cumulative share of original solutions in adults is only 2%.

Tab. 1: Life plans of working youth

Characteristic	%
Good family, successful children	28
High economic status, income level	20
High professional achievements	16
Own housing	10
Career, achievement of high official positions	10
The opportunity to engage in creativity, to realize their ideas	9
Own business, independence from the employer	7
Total	100

Source: Didkovskaya, Y. V., 2018.

American psychologist J. P. Guilford, summarizing the results of many years of research, identified two types of thinking: "convergent, necessary to find the only accurate solution to the problem, and divergent, through which there are original solutions" (Guilford, 2001). Creativity and non-standard thinking are the backbone signs of divergence extrapolated to a survey on the status of the necessary personal qualities of achieving life success (Table 2).

Tab. 2: Assessment of personal qualities

Characteristic	%
Efficiency, hard work	23
Ambition, purposefulness	14
Quality education	13
Good offices, support of influential relatives and friends	10
Creativity, thinking outside the box	10
High level of professionalism (professional training)	11
Starting capital, money	7
Willingness to risk	6
Innate abilities, talents	4
Ability to disregard social foundations, morality and ethics	2
TOTAL:	100

Source: Didkovskaya, Y. V., 2018.

The proportion of respondents who chose these qualities is 10 % and coincides with the indicators of readiness to engage in creativity, to implement their ideas.

1.2 Reserve model of innovative potential

Innovative susceptibility and openness of respondents were identified through four temporal indicators:

- choice of perspective model of social development;

- social expectations for the next five years related to the transition of the Russian economy from the raw material model to the development of innovations and knowledge-intensive industries;
- assessment of actual measures of state support for innovation;
- interest of working youth in scientific discoveries and inventions.

The opinions of the respondents were divided when choosing models of social development that were offered to them as an ideal social structure. The prevailing attitude was towards a society with a high level and quality of life (25 %), based on technical and technological innovations (16 %) and a market economy (15 %). According to the respondents, the development of the sphere of high technologies requires appropriate measures of state support, both in the field of fundamental science (40 %) and applied research with fast and practical benefits (51 %) (Table 3). Young leaders demonstrate greater confidence in the need to develop fundamental science. They are well aware that fundamental scientific research, which is little accessible in the conditions of sectoral and enterprise science is priority for innovative processes. The main issue of the reserve model is related to the interest in scientific discoveries and inventions (Table 3).

Tab. 3: The level of interest of working youth to scientific discoveries and inventions

Evaluation parameters	Position				Average
	Qualified worker	Office worker	Specialist	Manager	
"Engaged" (read regularly, often)	33	39	38	40	38
"Interested" (read rarely, sometimes)	56	52	54	53	52
Uninterested	12	9	8	7	10
TOTAL:	100	100	100	100	100

Source: Didkovskaya, Y. V., 2018.

The survey does not record significant differences in positions. According to the generalized indicator, the level of interest of young people in four categories of respondents is approximately equal. Almost 40 % of respondents demonstrate active interest in innovations. Every second respondent (interested, but rarely) can be added to an innovative reserve that can be mobilized, put into action under appropriate conditions.

1.3 Resource model of innovative potential

In economic theory and management practice, reserves and resources have different meanings. Reserves characterize opportunities that are not used in the present tense, but are taken into account in the future. Resources represent the means and conditions that

characterize the current capabilities of the enterprise management activities, and Resources represent the means and conditions that characterize the current capabilities of the enterprise management activities, and define specific units of measurement. Table 4 shows how young respondents assess the real opportunities to participate in innovation activities in their enterprises and in their professional activities.

Tab. 4: Assessment of the possibility of participation in innovation activities (in %)

Characteristic	Average
Our company does not introduce innovations	6
My work itself does not involve the use of new technologies	15
At my work (enterprise) rarely introduced/ used new technologies	36
My work involves frequent introduction / use of innovations (high technologies)	30
My work requires a constant creative / close interaction with the innovation (development and implementation)	13
TOTAL:	100

Source: Didkovskaya, Y. V., 2018

42 % of respondents work in enterprises that belong to the old technological mode. Innovations are not introduced in them, or are used extremely rarely. Every sixth respondent does not deal with innovations due to the fact that his work is not directly related to the use of new technologies. 43 % can participate in innovation activities regularly due to the nature of their professional activities. The revealed contradiction of assessments (the company rarely or not implemented innovations, at the same time they are often introduced in the workplace) is explained not only by the peculiarities of the old industrial regions of the country, their heterogeneous composition. It can be argued that the contradiction is not explicit. First, we are talking about a possible, but not a real introduction of innovations. Secondly, the contradiction is removed due to official differences. The increase of official and professional status determines the buildup of innovative resources of the young worker. Technical specialists and managers demonstrate the highest marks for opportunities to participate in innovation activities. It is their professional activity “supposes the frequent introduction / use of innovations”, “implies close interaction with innovations”. In the aggregate, the share of such answers among specialists is 47 %, 52 % from managers (for comparison, there are 31 from workers; 40 % from office worker). In other words, the internal (official and professional) potential of each second of them is high.

The implementation of the resource characteristics of the innovative potential of employees largely depends on the motivational factors that can be used in the system of personal and corporate incentives for innovation. For skilled workers, material (receiving monetary

rewards) and existential factors associated with increasing the level of industrial safety and improving the environmental situation in the region are more important. The motivation of technical specialists is directly related to the content of their professional activities, their engineering duty is to improve the technical characteristics of products. Managers' personal motives are identified with corporate interests – the introduction of innovations, in their opinion, will contribute to improving the quality of products and, as a result, increase the competitiveness of the enterprise.

1.4 Actualized model of innovative potential

Its indicators:

- availability of innovative developments;
- scope of application of creative ideas;
- forms of innovation activity;
- factors affecting to the success of the implementation of innovative projects of youth.

The survey results show that 54 % of respondents have innovative ideas, designs, and projects in their portfolio (Table 5). The most active agents of the innovation process are young managers.

Tab. 5: Availability of innovations (creative idea, idea, project) for implementation (%)

Parameters	Position				Average
	Qualified worker	Office worker	Specialist	Manager	
Yes	50	51	53	69	54
No	50	49	47	31	46
Total	100	100	100	100	100

Source: Didkovskaya, Y. V., 2018

The branch / sphere range of innovative developments of young workers is unusually wide. The greatest innovative activity is shown in the sphere of industrial production, engineering. First of all, it is connected with the place of professional activity of our respondents – regional industrial enterprises. No less attractive is the sphere of management and business. The third ranking place is occupied by services and trade. Professional innovation activity occupies a significant place in the overall structure of innovation activity. Its share is 84 %. Every sixth respondent in our survey (15.8 %) realizes his creative abilities beyond the framework of work activity - education and upbringing of children, leisure activities, and everyday life. A

creative person sees opportunities to realize his creative potential everywhere. Psychologists call this feature stable creative thinking, which also applies to daily innovation.

The ratio of professional and everyday/household innovation activity depends on the professional and official status of the respondents. In the context of the official positions "qualified worker - office worker - specialist - manager", the share of professional innovation activity is respectively: 0.85 - 0.84 - 0.92 –0.90.

As known, the innovation process consists of several stages: the initiation and justification of the idea, product development, production, implementation, distribution. Analysis of the professional activity structure of young workers shows that 50 % of all efforts are spent on educational training. The second half is accounted for innovation activities, but with a clear shift towards the development of innovative ideas and projects (50 %). A third of them belong to everyday, household innovations. The situation with the authorization of ideas - the receipt of patents for inventions – is catastrophic (3 %). Only a third of young people are involved in the development of new technologies. Even less - in the process of promotion (20 %) and the justification of innovative projects (17 %). Young leaders are in a better position. They differ by an order of magnitude from other categories of young workers in all types of activity. Young managers, endowed with status, resources and a high degree of responsibility, are more informed, mobile and efficient. At the same time, the issue of additional incentives for their young colleagues with lower positions and status should become obvious and relevant for them. The main reason, which, according to young managers, negatively affects the success of innovative projects - lack of interest in business and production in innovation, the pursuit of owners of short-term profits. "Unwillingness, fear or indifference of the youth" takes the first place in the group of negative factors.

Results

The survey recorded a high level of intentional, reserve and resource characteristics of the innovative potential of working youth. A significant part of it shows an active interest in innovation sphere, has creative and non-standard thinking, ready for innovation in the framework of their professional activities. The most active agents of innovation development are young specialists and managers.

The existing gap between the subjective (internal) and objective (external, institutional) characteristics of innovation potential is due to the lack of necessary conditions in regional

enterprises to stimulate the readiness and ability of young people to innovate. Only 3 % will authorize their ideas (get patents for inventions). Only a small part of working youth of regional enterprises is attracted to the justification of innovative projects and their promotion. Young people are connected the lack of legal acts and state programs that support the innovative activity of young people at the macro level, and the absence of local stimulation systems at enterprises with a low level of professional and managerial training of those who make decisions about the introduction of innovations, as well as the lack of strategic thinking. The absence of significant differences in the estimates of four categories of our respondents once again confirms the transparency, evidence and mass character of all gaps in innovation policy at different levels of its development and implementation.

Conclusion

In Russian sociology the problem of innovative activity and innovative potential of working youth is practically not represented. At the same time, the study of innovative activity and innovative potential can be a very promising area of research of social factors of innovative economy development in the Russian society.

The resource approach proposed by the research group allows not only to identify the self-assessment of working youth of their innovative potential, its practical, real application, but also to identify institutional and corporate factors and risks of its development.

The results of the study clearly showed that in the regions under study, the younger generation has a fairly wide innovative potential – a set of properties, characteristics, abilities that help to perceive and develop innovations, to feel their need, to be ready for the development of innovations in technology and management. However, the innovative potential of young people under certain conditions can be successfully used, implemented, and may remain unclaimed.

Indeed, while the actual implementation of ideas and projects of young people is low. The study found that young people are more characterized by activities related to the development and implementation of ready-made innovations, improving their educational or professional qualification level, rather than activities for the development and presentation of their ideas and projects. In particular, we recorded low activity of young workers in the development and presentation of their creative professional and business projects, as well as little participation in inventive and innovation activities, in competitions for grants and scholarships.

The implementation of the innovative potential of young workers faces serious motivational and institutional obstacles. According to their estimates, there are many barriers to the promotion and implementation of creative ideas and developments of young people: lack of interest in business and production in innovation, the absence or lack of government programs to support youth projects, the lack of incentive system in enterprises for the development of innovation and others.

In this regard, we propose to develop and implement regional programs to support by the state and business youth innovation projects in the fields of industrial production and IT with the right to provide financial, legal, organizational, information support on a competitive basis.

Further prospects of the study may be associated with the expansion of its object, covering various categories of young people – young entrepreneurs, creative and scientific youth with appropriate clarification of research tools

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References (Times New Roman, 14 pt., bold)

Castells, M. (2000) *Information Age: Economy, Society and Culture.* Progress-Tradition. [ONLINE] Available at: https://www.gumer.info/bibliotek_Buks/Polit/kastel/index.php [Accessed 14 January 19].

Didkovskaya, Y. V. et al (2018). *Youth of Russian Industrial Regions: The Image of Social Future as a Factor in the Development of Innovation Potential*. [ONLINE]. Available at: http://hdl.handle.net/10995/66059 [Accessed 14 January 19].

Government of the Russian Federation (2011) *Order of the of 08.12.2011 N 2227-p “On approval of the Strategy of innovative development of the Russian Federation for the period up to 2020”* [ONLINE]. Available at: http://base.garant.ru/179112/#ixzz5Tskw2MRm [Accessed 14 January 19].

Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology*, 91, 481-510.

Manheim K. (1994) *Diagnosis of our time.* Yurist.

Shilo I. N. (2012). The innovative environment as object of the sociological analys. *Vesntik TSU. Sociology*, 8.. [ONLINE] Available at: https://vestnik.utmn.ru/upload/uf/425/vestnik_%E2%84%968_Sociologiya_2012.pdf [Accessed 14 January 19].

Tutushkina M. K. (Ed.) (2001). *Practical psychology*. [ONLINE] Available at: http://medznate.ru/docs/index-71916.html [Accessed 14 January 19].

Wernerfelt, B. (1995). A Resource-Based View of the Firm: Ten Years After. *Strategic Management Journal, 16*(3), 171-174.

Wernerfelt, B. (2016). *Adaptation, specialization, and the theory of the firm: Foundations of the resource-based view*. Cambridge: Cambridge University Press.

Yadov V. A. (2001). The social resource of individuals and groups as their capital: the possibility of using universal methodologies for the study of real stratification in Russian society. *Who is trying to lead Russia and where? Actors of macro, meso and micro levels of the modern transformation process*. 310–319.

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