

YOUNG RESEARCHERS

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Typology of employees as a tool of labour behaviour management

The article describes the features of labour behaviour of the region's population on the basis of empirical research conducted by ISEDT RAS in the Vologda Oblast in 2012. The article analyzes the main socio-demographic and socio-economic characteristics of different types of labour behaviour. In addition, it proposes a differentiated system of measures aimed at labour efficiency enhancement.

Labour behaviour, types of labour behaviour, typology of employees, work motivation, needs.



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At present, labour productivity in Russia is extremely low. It lags behind developed countries (Norway, the USA, France, Japan), and developing countries (Estonia, Hungary) as well. Thus, labour productivity in Russia in 2011 amounted to 21.5 U.S. dollars per 1 employee, which is comparable to such countries as Chile (20.9 dollars) and Turkey (17.3 dollars)¹. This could be also caused by technology challenges, the employees' attitude to labour, and the ability to bring out their physical and mental potential.

Each employee has a specific attitude to work and certain employment behaviour. Some individuals work to gain material well-being;

¹ OECD data base. Available at: <http://stats.oecd.org/Index.aspx?DatasetCode=LEVEL>

others – for pleasure, or desire to achieve high performance and gain praise and managers' favour; others are interested in enhancement of professional skills and creativity, etc. Therefore, employees with different types of labour behaviour have different productivity.

Since the early 20th century, many scientists (E. Mayo, R. Likert, D. McGregor, D. McClelland, etc.) have been investigating the possibilities of applying management methods and creating conditions in which every employee could achieve high professional results. However, the heterogeneity of motives and incentives to work led to the emergence of various behavioural concepts that, in essence, implied arrangement of employees into different groups.

In the Soviet period, employees typology according to their attitude to labour was mostly made up by evaluating their “positive” and “negative” characteristics. The dominating role of social determination and abandonment of psychological approaches led to the fact that employees were considered mainly as an object rather than subject of management. These approaches include the one proposed by V.A. Smirnov who distinguished three groups: *top performers, average performers and underperformers*; and the one proposed by B.G. Proshkin who distinguished five groups: *the best, good, average, bad and worst*, etc. The methodologies were, as a rule, based on the employees performance evaluation by their immediate superiors, which made it difficult to reveal the reasons for some behaviour or other [6, p. 65-66].

We consider that labour behaviour is determined primarily by motivation, therefore, prior to relating an employee to a certain type, it is necessary to consider the composition, diversity and motivation force of labour activity.

Labour motivation is a combination of internal and external driving forces that induce people to act and that orient them toward achieving the goals [1, p. 145].

S.A. Naumova proposes to distinguish types of employees based on the combination of strong groups of labour motives (labour as an inherent worth and labour as a means). It resulted in allocation of 16 motivation types, each corresponding to a certain worker group: from the “harmonious” and “artisans” to “sybarites” and “robots” [5, p. 61]. This methodology, despite its flexibility and management capacity, is, on the one hand, too simplified, and on the other, rather cumbersome, which casts doubt on the practical relevance of the research.

Due to the fact that objective quantitative estimation of employees’ needs is unfeasible, we used a methodology that, on the basis of A. Maslow’s hierarchy of needs, allows

indirect assessment of labour motivation of the region’s population. The study was carried out on the basis of the labour potential quality monitoring².

The article is aimed at the development of methodological approaches to the typology of employees and the analysis of their labour behaviour types. The research results can be used for the improvement of mechanisms of population’s labour behaviour management.

Employees’ labour behaviour types were determined on the basis of the survey “For you, your work is, primarily, the way to...”. The population’s labour activity was evaluated on a five-point scale (from absolute disagreement to absolute consent) according to various motivation aspects.

Table 1 shows that the list of motives proposed for evaluating was formed in accordance with A. Maslow’s hierarchy of needs and was expanded according to labour motivation peculiarities. Thus, the total number of components is ten.

The systematization of variables was carried out using factor analysis; as a result, three factors were determined that had the values more than unity. Their sum frequencies explain 73% of the variance.

The use of mathematical tools³ has shown that the selected factors can be arranged in the following sequence.

The first factor combines the following variables: ‘to bring out one’s personality potential’, ‘to achieve success’, ‘to build a career’, ‘to gain a sense of accomplishment’ and ‘to acquire new knowledge’. Thus,

² ISED T RAS has been carrying out the monitoring of labour potential quality of the Vologda Oblast population since 1997. The object of research is the able-bodied population of the Vologda Oblast. Polls are held annually in August – September in the cities of Vologda and Cherepovets and in eight districts of the oblast (Babayevsky, Velikoustyugsky, Vozhegodsky, Gryazovetsky, Kirillovsky, Nikolsky, Tarnogsky and Sheksninsky). The method of survey is questioning at the respondents’ place of residence. Sample size is 1500 people, sampling error doesn’t exceed 3%.

³ Orthogonal varimax rotation with Kaiser normalization was used.

Table 1. Question template: "For you, your work is, primarily, the way to..."

Components (variables)	Answer option				
	Completely agree	Agree	Difficult to answer	Disagree	Completely disagree
1. Fend for myself (provide for my family)	5	4	3	2	1
2. Feel secure	5	4	3	2	1
3. Earn love	5	4	3	2	1
4. Earn respect, recognition	5	4	3	2	1
5. Bring out one's personality potential	5	4	3	2	1
6. Achieve success	5	4	3	2	1
7. Make money	5	4	3	2	1
8. Build a career	5	4	3	2	1
9. Gain a sense of accomplishment	5	4	3	2	1
10. Acquire new knowledge	5	4	3	2	1

Source: hereinafter – Monitoring of the quality of labour potential of the Vologda Oblast population, ISED T RAS.

an important message, which these components bear, allows this factor to be identified as 'the motives for development'.

The second factor comprises such components as 'feel secure, 'earn love, respect and recognition'. This indicates the need for stability and public recognition. This factor is named 'the motives of stability'.

The third factor includes the following variables: 'fend for myself (provide for my family)' and 'make money', which testifies to the high importance of financial factors and corresponds to the notion of 'the motives of enrichment' (*tab. 2*).

The hierarchical cluster analysis of factors has allowed for the arrangement of respondents into layers (clusters) and define the types of labour behaviour (*tab. 3*).

The number of clusters is determined by finding the difference between the total number of observations and the number of steps in the course of agglomeration, after which the coefficient (squared Euclidean distance)⁴ is increasing very rapidly. The process of unification into new clusters stopped at step 1325 (the total number of observations being 1327), where the measure of the distance between two clusters increases from 17.9 to 31.5.

⁴ Used to add greater weights to the objects more distant from one another.

This means that after the three clusters have been formed, there is no necessity for us to make any subsequent unifications, and the result of the three clusters is optimal.

When assessing the cluster centres, it should be noted, first of all, that here we speak about the mean values of the factors ranging approximately from -3 to +3. Besides, one should bear in mind that, according to the coding of responses (1 – completely disagree, 5 – completely agree), the factor's high negative value indicates a low degree of its manifestation, i.e. shows low competence, and, on the contrary, the factor's high positive value implies a high degree of its manifestation (*tab. 4*).

The final results of the cluster analysis⁵ indicate the presence of distinct layers.

Having considered the quantitative indicators of each of the clusters, we can conclude that the defined layers represent the employees typology (*tab. 5*).

The formation of workers typology under the presented approach gives an opportunity not only to identify the particular types of population's labour behaviour on the basis of the strong and weak groups of labour motives, to determine their characteristics related to social status, but also to point out structural changes in social development in future.

⁵ Result of summarizing the iterative process data.

Table 2. Rotated component matrix (the value of loadings > 0.4)

Component (variable)	Factor		
	Motives of development	Motives of stability	Motives of enrichment
1. Fend for myself (provide for my family)			0.874
2. Feel secure		0.794	
3. Earn love		0.824	
4. Earn respect, recognition		0.616	
5. Bring out one's personality potential	0.783		
6. Achieve success	0.798		
7. Make money			0.805
8. Build a career	0.810		
9. Gain a sense of accomplishment	0.755		
10. Acquire new knowledge	0.788		

Table 3. Simplified overview of agglomeration process

Step	Unification into clusters		Coefficient	Step, at which a cluster first appears		Next step
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	1386	1392	0.000	0	0	3
...						
1317	43	303	6.037	1308	1287	1321
1318	2	17	7.137	1314	1315	1323
1319	115	436	7.171	1295	1309	1320
1320	62	115	9.920	0	1319	1325
1321	43	371	10.049	1317	1289	1323
1322	19	116	10.988	1316	1305	1324
1323	2	43	12.413	1318	1321	1324
1324	2	19	16.091	1323	1322	1325
1325	2	62	17.869	1324	1320	1326
1326	2	1266	31.544	1325	1254	0

Table 4. Cluster centres of ultimate decision

Factor	Labour behaviour type (cluster)		
	Economic ('materialists')	Innovative ('innovators')	Adaptive ('adapted consumers')
Motives of development	-1.178	0.790	0.069
Motives of stability	-0.300	-0.941	0.600
Motives of enrichment	0.813	0.209	-0.432

Table 5. Indicators of the number of observations relating to each of the clusters

No.	Cluster	Number of persons	Share, %
1.	'Materialists'	278	20.9
2.	'Innovators'	355	26.8
3.	'Adapted consumers'	694	52.3
Total number of respondents		1327	100.0

The first type of employees comprises individuals seeking to improve their financial welfare (enrichment motives loading is 0.813). The motives of stability and development are insignificant for them, which makes it possible to identify them as ‘materialists’ (their share in the total population is 21%).

Representatives of the second type are characterized by aspirations for personal development and realization of their potential. The enrichment motives are also of some importance (0.209), which may be a reflection of aspirations to build a career. The components related to reasons of stability have a negative loading and don’t exert any significant influence on the respondents. Let us designate them as ‘innovators’.

The third type comprises the majority of employees (52%). A significant component of this type of labour behaviour is the motive of stability (0.600). ‘Adapted consumers’ are least of all interested in material values (-0.432), and motives of their development are not stated clearly (0.069).

Judging by the socio-demographic characteristics of these types, the most significant differences between them are observed in the level of education. The majority of ‘innovators’ and ‘adapted consumers’ have higher or incomplete higher education (47% and 38%, respectively; *tab. 6*).

‘Materialists’ are mostly represented by the working population with a low level of education, and especially the representatives of trade occupations (54%; *fig. 1*).

It is noteworthy, that ‘innovators’ are dominated by young people (65%) and urban population (59%). Thus, ‘innovators’ are a group of young intellectuals with a wide range of different professions working mainly in urban areas.

Assessment of the quality of labour potential of the considered types of workers illustrates their hierarchy (*fig. 2*). So, the ‘innovators’ possess high-quality labour potential, which is reflected by the integral index (social capacity index), equal to 0.705 units.

‘Materialists’, on the contrary, have the worst values of labour potential components (except for mental health index). ‘Adapted consumers’ reflect the general state of the working-age population and occupy an intermediate position between ‘innovators’ and ‘materialists’.

As the survey results prove, the second and third types of employees show the best level of labour potential realization than the first one (*tab. 7*). It is necessary to note that in their labour activity ‘adapted consumers’ use such qualities as physical health (37%), knowledge, erudition, qualification (37%) and creativity (28%) to a greater extent, and ‘innovators’

Table 6. Comparison of the types in view of the socio-demographic characteristics (in % of the number of respondents, 2012)

Criterion	Group	‘Materialists’	‘Innovators’	‘Adapted consumers’
Territory	Vologda	24.1	23.1	25.8
	Cherepovets	30.2	36.3	22.6
	districts	45.7	40.6	51.6
Sex	male	50.0	45.6	49.9
	female	50.0	54.4	50.1
Age	under 35	46.0	65.4	50.7
	over 35	54.0	34.6	49.3
Education	lower than secondary	40.7	22.7	32.0
	specialized secondary	29.5	30.6	29.7
	higher and incomplete higher	29.8	46.7	38.3

Figure 1. Distribution of employees by the type of employment (in % of the number of respondents, 2012)

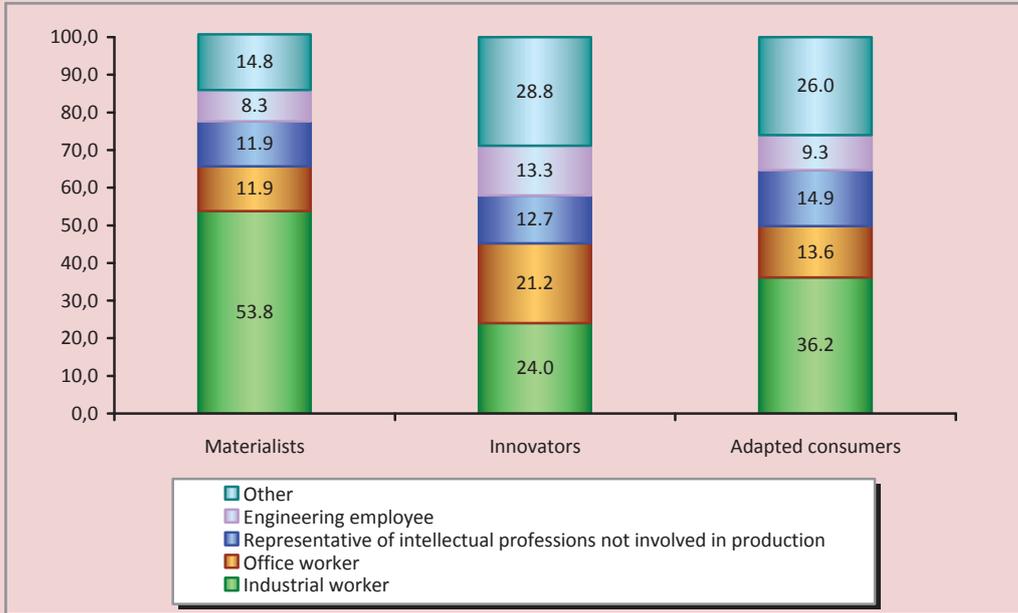
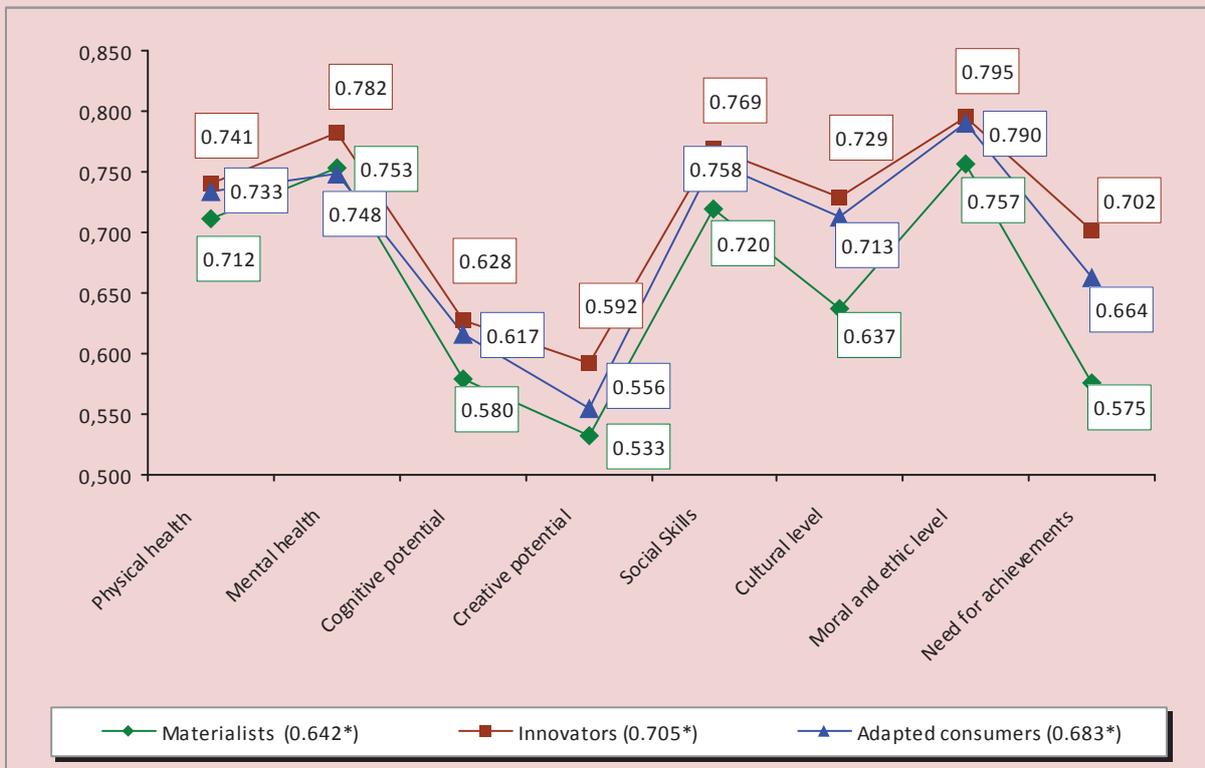


Figure 2. Quality of labour potential (2012)



* Social capacity index, units.

Table 7. Distribution of answers to the question: 'How much do you 'extend yourself' at work? To what extent do you use your qualities and abilities?' (answer option: 'to the fullest') (in % of the number of respondents, 2012)

Answer option	'Materialists'	'Innovators'	'Adapted consumers'
Physical abilities and health	33.3	32.4	37.3
Psychological resistance	25.7	38.6	38.9
Knowledge, erudition, qualification	19.7	34.8	37.5
Creative abilities	11.4	23.4	27.9
Sociability, interpersonal skill	32.8	47.4	41.0
Manners and behaviour in general	28.0	40.3	38.2
Moral and ethic qualities	32.5	39.9	38.4
Desire to be promoted	12.5	30.0	30.5
<i>Average level</i>	<i>24.5</i>	<i>35.9</i>	<i>36.2</i>

use such qualities as sociability (47%), good manners and behaviour (40%) and moral and ethic qualities (40%). This may be conditioned not only by specific features of the performed functions, but also by the working conditions at a particular workplace.

Among the qualities, most often used by 'materialists', one can point out physical health (33%), sociability (33%) and moral and ethic qualities (32%). This is likely explained by the essence of their employment. Only 11% of representatives of this type use their creative abilities to the fullest.

The analysis showed that the employees, who have adapted to the modern economic environment, bring out their potential to a greater extent. Thus, 'consumers' and 'innovators' are very eager to 'extend themselves' at work, which is reflected in their labour contribution in the region's economy (the average level of labour potential implementation is 36%).

Considering wages and salaries as a measure of employees' labour input compensation, we can point out that 'adapted consumers' are the lowest-paying group. Their earnings reach the top in about 11 – 15 years and account for 13015.6 rubles (*fig. 3*). 'Innovators', on the contrary, are distinguished by the greatest earnings (peak falls on the employment term of 6 to 10 years). The change in earnings with an increase of employment term, as in the case

of 'consumers', doesn't show any significant negative deviations, i.e. the salaries and wages tend to grow.

The remuneration of 'materialists' is determined in many respects by the load of the work performed. By realizing their physical health potential to the greatest extent, they are able to earn more in the beginning of their career, than the representatives of other groups. However, as the health deteriorates, they find it more and more difficult to cope with labouring work; consequently, the amount of earnings at the end of their career accounts for 11889.5 rubles, which is the lowest figure among all the types of employees. Therefore, the issue of proper working conditions for 'materialists' is a priority one [9, p. 609].

Having studied the characteristics of work activities, we can state that 'innovators' show the greatest labour activity. They hold the leading positions by all the indicators reflecting labour efficiency (fulfillment of performance standards, production quality, labour-saving activities) (*fig. 4*).

'Materialists' and 'adapted consumers' are less active. The former are characterized mostly by the in-time fulfillment of their tasks (53%) and high-quality performance of their work (44%), and the latter are distinguished by the over-fulfillment of performance standards (30%) and introduction of rationalization proposals (14%).

Figure 3. Dependence of remuneration on the total employment term (2012)

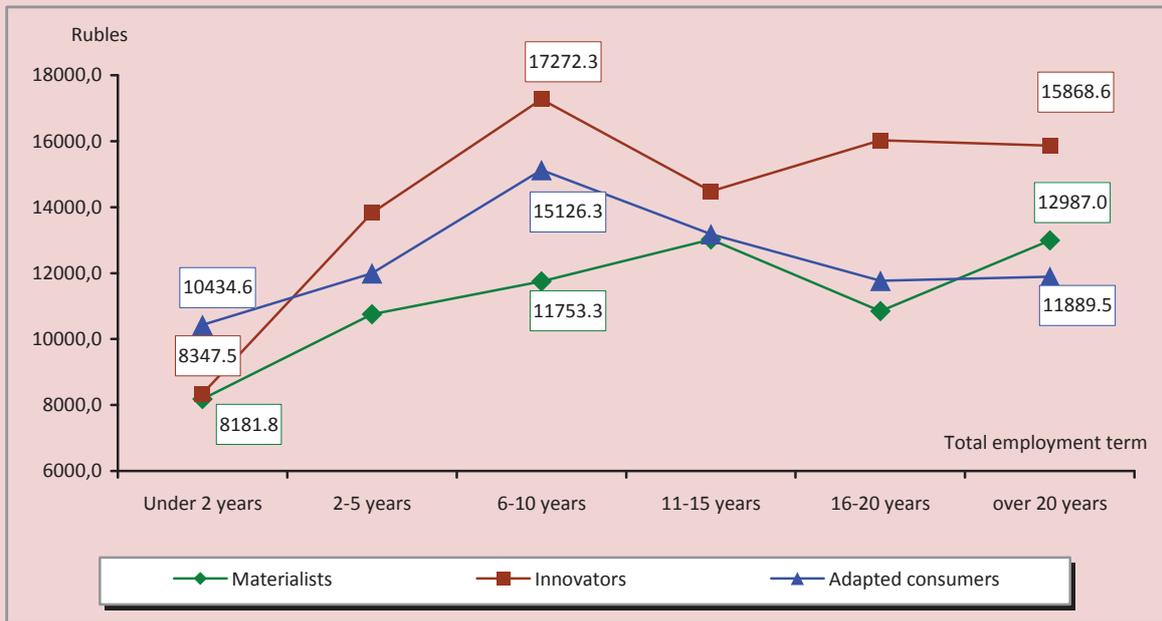
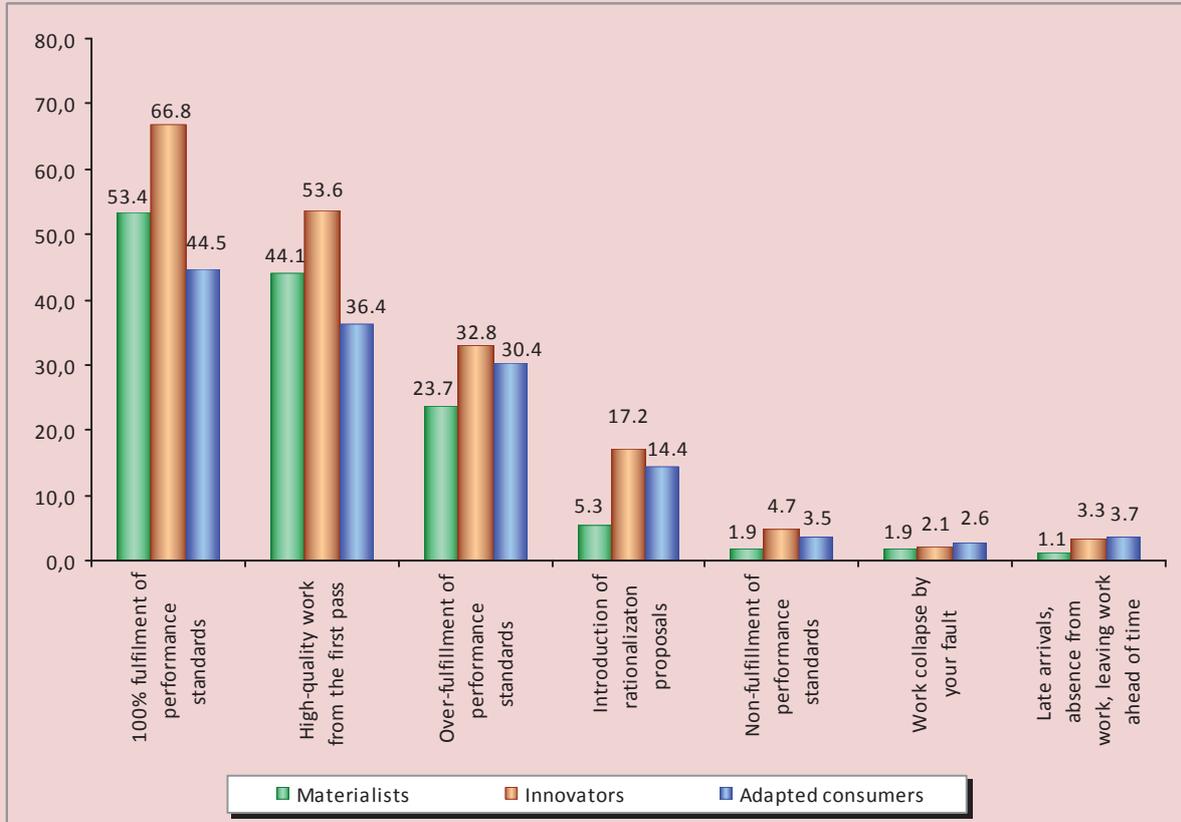


Figure 4. Distribution of answers to the question: 'Which of the following characterizes your work most accurately?' (answer option: 'it happens frequently') (in % of the number of respondents, 2012)



It is worth noting that ‘materialists’ are characterized by the best discipline among all the types of employees.

The current labour activity can in many respects be conditioned by the fact that some of performed functions don’t correspond to the professional qualities of employees. Among the ‘materialists’ the majority of respondents point out that they don’t work within the specialty, which they had obtained at professional education institutions (48%; *tab. 8*). The given circumstance is less typical for the remaining two types of employees (their share in the total population is 41%).

This can be explained by the fact that ‘materialists’ don’t work within their specialty because of the poor working conditions offered by employers; as for ‘innovators’ and

‘consumers’, there is a lack of demand for their professions on labour market (33% and 38%, respectively).

In general, we can point out that the jobs of a great number of employees don’t correspond either to their vocation, or their personal qualities that are the subjective conditions of successful labour activity (*fig. 5*).

It is ‘adapted consumers’ who find labour market conditions most suitable to themselves. Representatives of this group (60%) believe that they work by vocation (this share is 48% among ‘innovators’ and 40% - among ‘materialists’).

Despite the importance of financial factors when choosing a job (labour remuneration, the company’s stability and social benefits; *tab. 9*), the incentives of the different types of employees vary considerably.

Table 8. Distribution of answers to the question: ‘Do you work within the specialty, obtained at a professional education institution (university, technical school, college)?’ (in % of the number of respondents, 2012)

Answer option	‘Materialists’	‘Innovators’	‘Adapted consumers’
Yes	42.2	47.9	47.0
No	47.7	41.5	41.4
Didn’t obtain a specialty	10.1	10.6	11.6

Figure 5. Compliance of the profession (main activity) with a person’s abilities, inclinations and vocation (in % of the number of respondents, 2012)

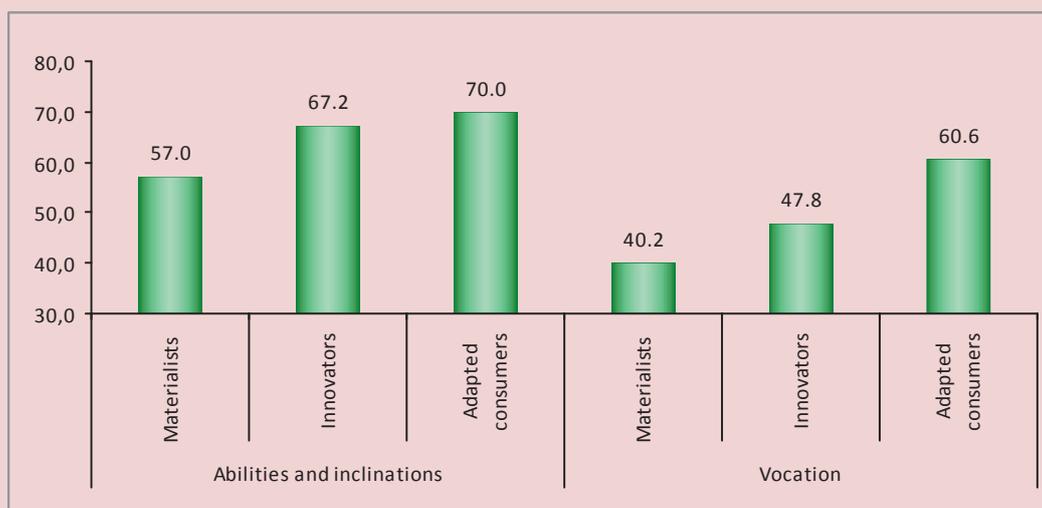


Table 9. Distribution of answers to the question: 'Which of the following is important to you?' (answer option: 'very important'; in % of the number of respondents, 2012)

Answer option	'Materialists'	'Innovators'	'Adapted consumers'
High remuneration	63,3	65,4	40,8
Company's stability	39,7	48,2	34,8
Decent social benefits	37,5	47,0	32,5
Proximity to one's place of residence	19,6	17,3	20,2
Promotion opportunities	10,5	34,4	22,9
Acquisition of new experience and knowledge	9,8	37,9	24,0
Opportunities to self-realization	8,7	38,4	23,3
High intensity of work	8,0	16,1	19,6
Self-sufficiency and responsibility of decisions	7,6	20,8	23,0
Company's size	5,1	13,7	16,6
Company's credibility / image	5,1	16,7	18,5
Participation in management issues	4,0	18,3	18,2

Note. The degree of relevance of each factor is marked in colour (green – high, yellow – moderate, red – low).

As table 8 shows, financial factors play a decisive role for 'materialists' and, in fact, explain the choice of a job.

'Innovators' prefer to have the opportunity for self-realization (38%), acquisition of new experience, knowledge (38%) and promotion (34%).

For 'adapted consumers' financial factors are less important and non-material factors are gaining importance as well as for 'innovators'. However, they point out a greater role of independence and responsibility of decisions (23%), the company's proximity to the place of residence (20%), the intensity of work (20%), etc.

No doubt, the relevance of certain factors for different types of employees is reflected in their views of the future as well (*fig. 6*).

Thus, 'innovators' possess high willingness to entrepreneurial, creative and other activities, which is expressed in the desire for spiritual growth (33%), for establishing partner relations in the work sphere (32%), for acquiring new knowledge (29%), etc.

'Adapted consumers', as well as 'innovators' seek to make their work useful to people (22%), work for the country's welfare (18%) and improve their qualification at the expense of their own means (14%).

'Materialists', in turn, are distinguished by labour passivity, which is reflected in the pessimistic views on the prospects of professional activity (*tab. 10*). Only 40% of the respondents appreciate their relevance in the profession, 28% - the improvement of their qualification, 25% - decent salaries, etc.

'Innovators' and 'adapted consumers' are in more favourable conditions. The development of personal qualities leads to the fact that nearly one person in two is confident in professional growth.

Thus, the socio-status characteristics of different types of labour behaviour have been determined using the analysis of empirical data. It has been revealed, that a large part of working population in the Vologda Oblast are conservative in their views and they require sustainable, consistent development. Vologda residents, which include the representatives of all socio-demographic groups, have low financial demands and, given comfortable working conditions, are ready for professional growth.

But not everyone is able to disregard the amount of remuneration in favour of personal development. 'Materialists' try, in general, to satisfy their priority needs: to earn money and

Figure 6. Distribution of answers to the question: 'How eager are you to...?' (answer option: 'to the fullest') (in % of the number of respondents, 2012)

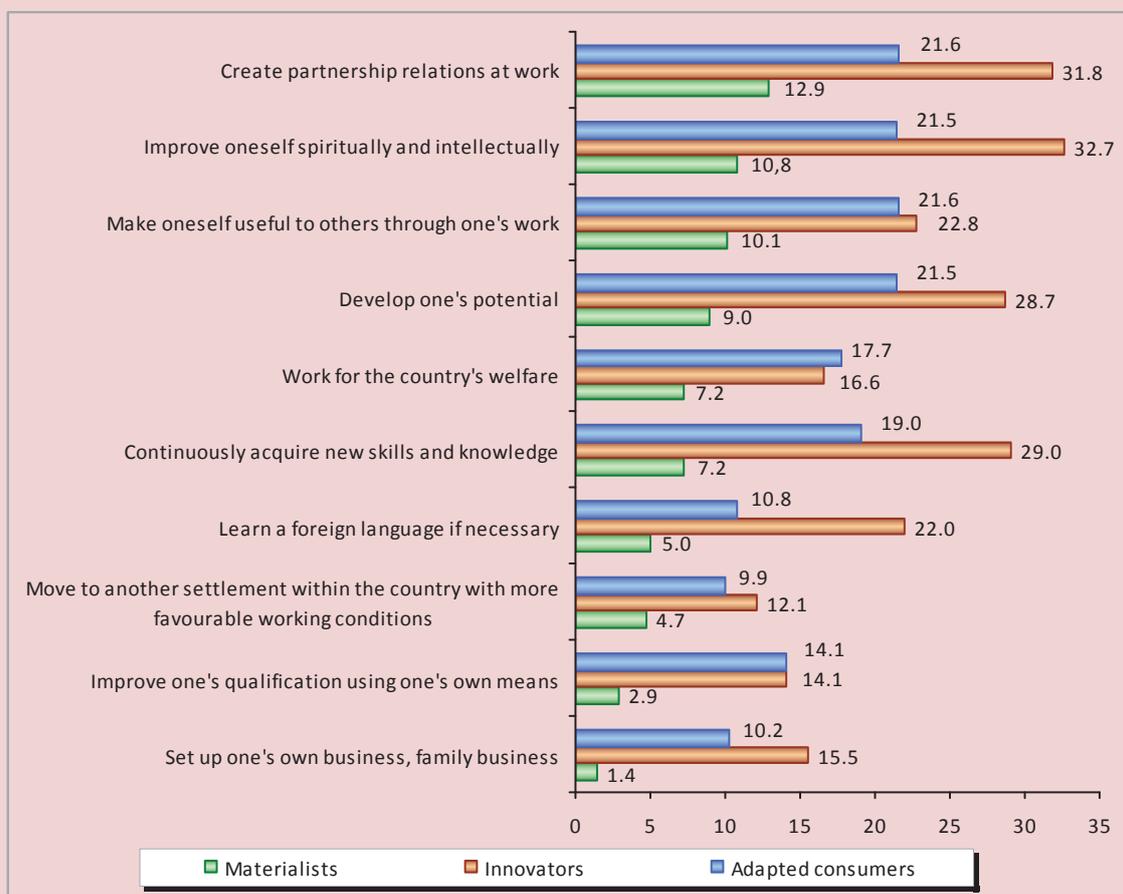


Table 10. Distribution of answers to the question: 'How do you evaluate your professional prospects?' (answer option: 'highly'; in % of the number of respondents, 2012)

Answer option	'Materialists'	'Innovators'	'Adapted consumers'
Demand for the profession	39.6	55.8	55.2
Improvement of one's professional qualification	27.7	52.1	54.3
Decent remuneration	25.5	45.6	44.8
Self-realization in the profession	22.3	52.4	47.0
Promotion prospects	17.3	45.9	41.4

provide for their families. As a rule, they are the representatives of trade occupations with basic and secondary education.

At the same time, the society has a layer of highly motivated, enterprising people who can sustain the region's economy modernization. These are mostly young, highly educated urban intellectuals [2, p. 123].

The assessment of the actual situation and prospects for each type of employees requires consideration of their strong and weak points, as well as opportunities and threats on the basis of SWOT analysis (tab. 11).

Proceeding from the obtained results, a differentiated system of measures for labour intensification can be developed.

Table 11. SWOT analysis of employees typology

'Materialists'	
Strengths	Weaknesses
Mental stability Moderate labour activity Consent to do 'any' work with an appropriate remuneration	Low creative activity Priority of financial factors Low level of education and general self-development Low self-esteem and lack of interest in personal development Absence of clearly formed plans for the future
Opportunities	Threats
Creation of the layer of highly qualified personnel in trade occupations	Poor professional prospects in labour sphere Deterioration of economic situation in the region (country as a whole) can result in marginalization of 'materialists'
'Innovators'	
Strengths	Weaknesses
Comprehensive development, high education level High labour activity Innovative / labour-saving approach to work Desire for personal growth and well-being of the country as a whole	High material incentive due to personal ambitions
Opportunities	Threats
Excellent professional prospects: promotion, high level of labour remuneration, etc.	Inability of the country (of the economy in particular) to meet the requirements of 'innovators' may cause their migration to developed countries
'Adapted consumers'	
Strengths	Weaknesses
High adaptability to modern economic conditions Rationalization activities Conformity of the chosen profession with their abilities and vocation Interest in work for the benefit of the country and society	Negligence in work Significant part of their labour potential is in a state of 'conservation'
Opportunities	Threats
Wide employment opportunities (mainly due to the fact that remuneration doesn't play a decisive role) Actual measures aimed at stimulating professional growth can become a factor of transforming 'consumers' into 'innovators'	Destabilization of economic, political and other spheres can lead to disorders (strikes, protest actions, etc.) Absence of actual measures of personal activity stimulation may become a factor causing the development of labour passivity

'Materialists':

- modernization of personnel training system;
- maximum balancing of the demands of labour market and professions that specialists get; enhancement of activities of employment agencies and career guidance systems for young people;
- establishment of safe working conditions, health care and work efficiency of employees;
- improvement of the system of labour remuneration in the private sector of economy (the possibility of increasing salary depending on labour efforts, fairness in payment, conformity of payments with the labour contribution of an employee, etc.) [7, p. 172].

'Innovators':

- assistance in the establishment of labour performance standards and the creation of favorable conditions for the realization of population's creative potential, especially in the fields of science, culture and education;
- provision of decent financial conditions to the representatives of creative professions (teachers, researchers), promotion of rationalization activities, social guarantees and measures for copyright protection;
- creation of favorable conditions for the development of small and medium-sized businesses, promotion of innovation entrepreneurship [3, p. 54].

‘Adapted consumers’:

- provision of continuing professional education, which implies multi-level stage-wise training;
- standard increase of the importance of a practical part in the training for all education levels;

- promotion of actual participation of employees in production management;
- adoption of a regional policy of quality management, aimed at improving the quality, of both the outcome and process of work.

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